The City of Saint John

Asset Management Road Map - Phase 1 Final Report

SAINT JOHN

City of Saint John AM Road Map
Phase 1 Final Report

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1.0 INTRODUCTION

1.1 Project Retainer

R.V. Anderson Associates Limited (RVA) was retained by the City of Saint John to prepare an Asset Management (AM) Road Map for the City's asset management program. RVA's approach to complete the project was based on the City's Request for Proposals (August 10th, 2016, Appendix 6) and detailed in the RVA proposal document submitted October 25th, 2016. We are pleased to submit this document which outlines the implementation and refinement of the City's AM program.

1.2 Project Objectives

The overall objective of the project is to define the improvement initiatives needed to move the City of Saint John towards best practice asset management (Phase 1). We have developed an Asset Management Road Map that maximizes the benefits of the asset management work done by City staff to-date, aims to tailor the asset management program to the City's way of doing business, and minimizes the staff and financial resources needed to develop and maintain the asset management program. This road map will be used as a guide for the development and implementation of an asset management program (Phase 2) and will include: an asset life-cycle management plan, defined capital investment requirements, a long-term financial plan, and an asset information management system.

Asset management is an evolving process for municipalities across Canada. As New Brunswick will move towards standardizing municipal asset management planning, and as asset management planning increasingly becomes a pre-requisite to access infrastructure funding from provincial and federal governments, it becomes important that municipalities – like Saint John – must prepare and keep pace with these processes. The short-term focus of the asset management program will be to ensure the pending Provincial Capital Asset Management Plan (CAMP) requirements for the federal gas tax funding are satisfied. In addition to meeting the federal gas tax funding requirements, the asset management program will:

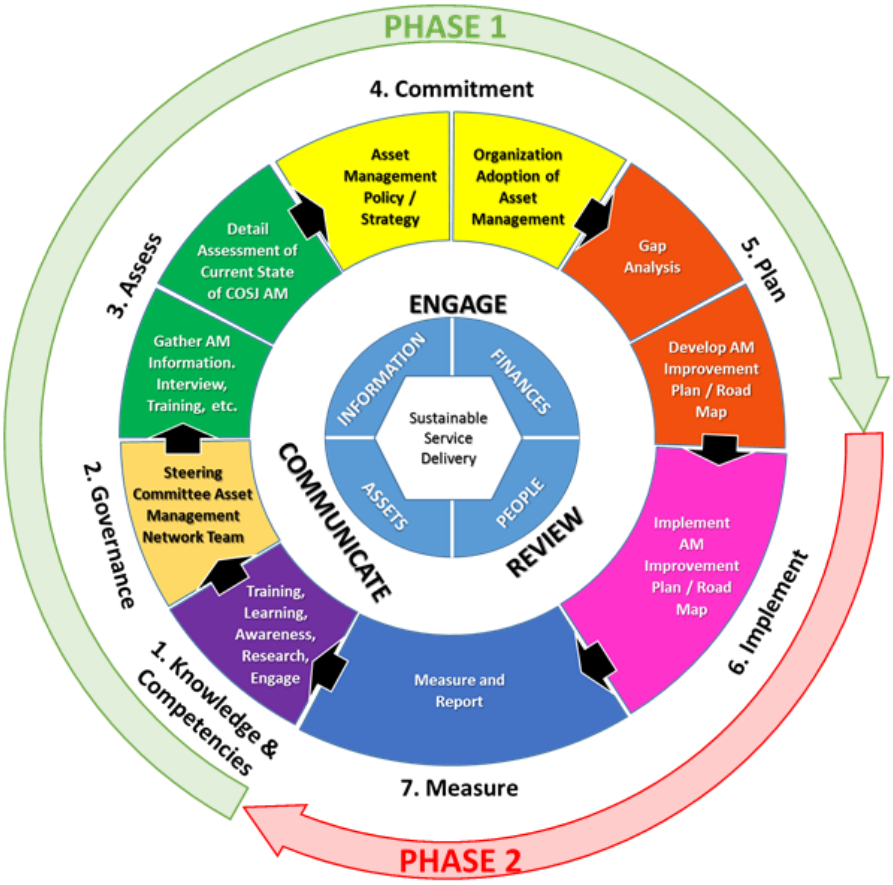
i. Facilitate securing infrastructure grants and funding;
ii. Manage the City's exposure to risks of reduced service delivery;
iii. Define the cost of providing services;
iv. Demonstrate investment accountability to residents and businesses; and
v. Improve decisions on when to add, replace, renew or decommission assets.

2.0 METHODOLOGY

RVA's approach to define the improvement initiatives for the City of Saint John's asset management program have followed the methodology outlined in Figure 1. The individual steps for Phase 1 are summarized as:

1. Develop knowledge and competencies
2. Establish a steering committee for the asset management network team
3. Gather AM information
4. Assess the current state of AM at the City of Saint John
5. Develop an AM policy and strategy
6. Organizational adoption of AM
7. Perform a gap analysis
8. Develop an AM road map

Figure 1 - Asset Management Program Methodology



3.0 ROAD MAP DOCUMENTS

3.1 Road Map and Task Tracking Documents

The Asset Management Road Map will serve as a guide for the development and implementation of an asset management program by the City of Saint John. The asset management strategies identified during the gap analysis (Figure 1) formed the basis for the Asset Management Road Map, and were combined into the following four asset management activity streams:

1. AM Life-Cycle Management
2. AM Workflow and Processes
3. AM Tools (Data Management)
4. AM Monitoring and Reporting

Each stream is also broken down by the asset management strategy addressed, the activities included, and the individual tasks required to complete an activity. The road map document is presented in pages 8 through 18.

In addition to the road map, a task tracking schedule is included. This task tracking document outlines the flow and duration of each activity over the course of Phase 2. It should be noted that, while the flow and sequence of activities is fixed, the duration of each activity is to be adjusted following the definition of the detailed scope of work for Phase 2. The task tracking document is presented in page 19 and 20, and is to be viewed in conjunction with the road map document.

3.2 Additional Documents

The road map and task tracking schedule are supported by several key documents and figures:

3.2.1 Asset Management Program Methodology

The Asset Management Program Methodology figure outlines the work flow for this project. The implementation of the activities presented in the road map document and the associated task tracking schedule are shown as the Phase 2 activities in Figure 1. The asset management framework presented below (in section 3.2.2), and shown graphically in the center of Figure 1, provides guidance for the continuous application of asset management principles in the future operation of the City of Saint John.

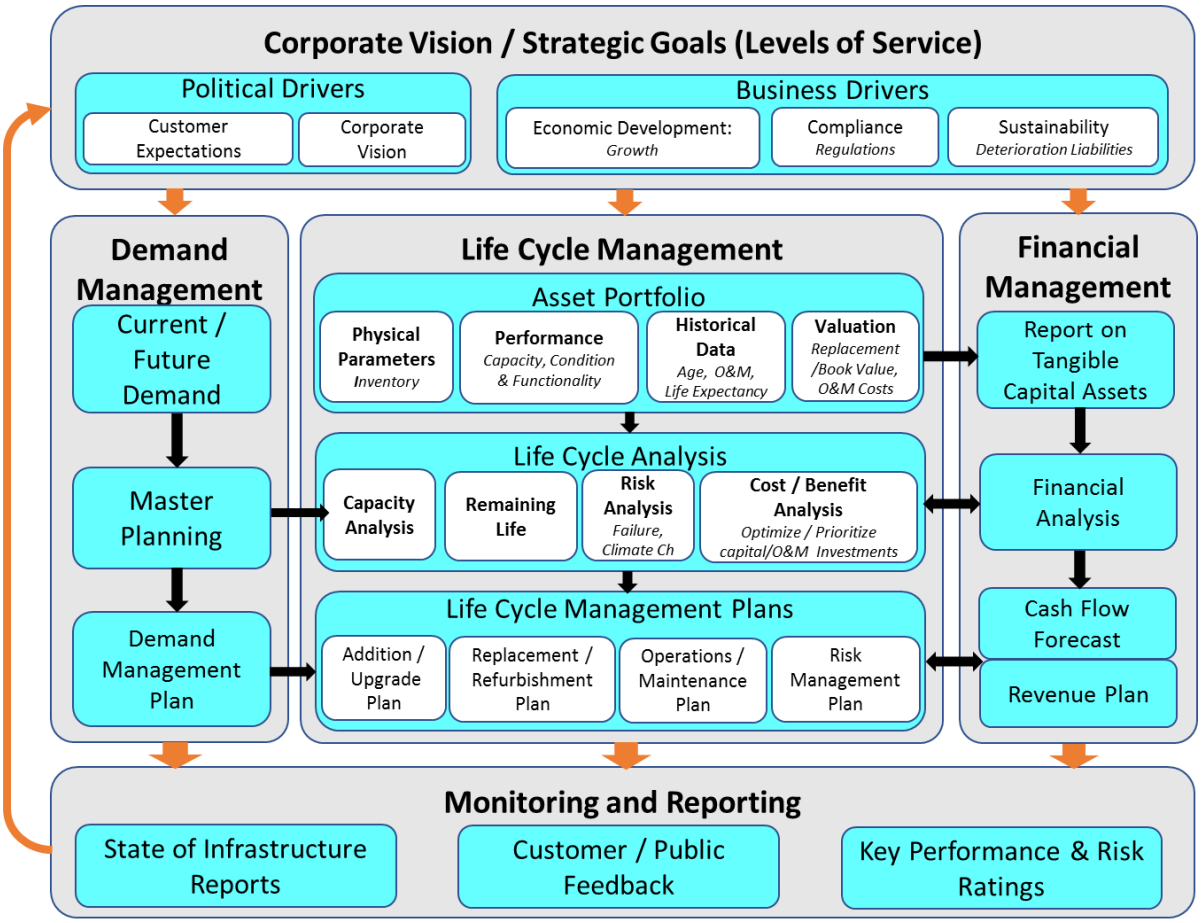
3.2.2 Asset Management Framework

The asset management framework graphically presents the asset management activities and their detailed interaction. The activities in this framework were developed based on the simple processes of asset management, as defined by answering the 6 basic questions of asset management:

1. What do you have?
2. What is it worth?
3. What condition is it in?
4. What do you need to do to it?
5. When do you need to do it?
6. How much money do you need?

The framework also recognizes the need for continuous improvement in the delivery of services by the City of Saint John’s owned and controlled infrastructure assets.

Figure 2 - Asset Management Framework



3.2.3 Asset Management Document Hierarchy

The Asset Management Document Hierarchy (as presented in Figure 3) provides context for the documents which guide the asset management program for the City of Saint John, including:

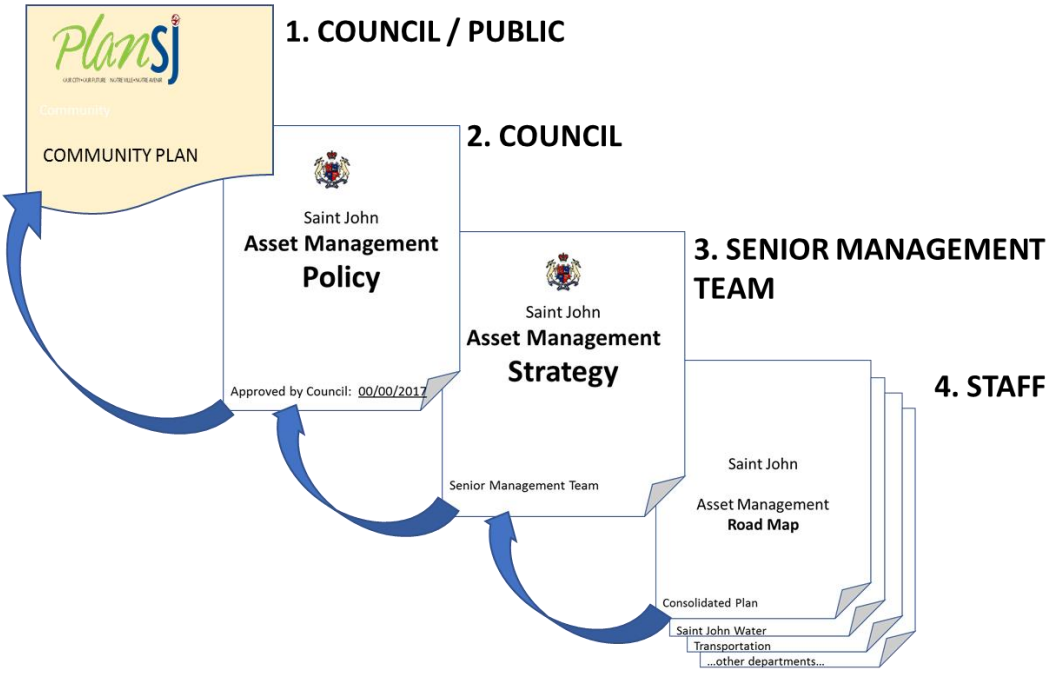
1. PlanSJ, a municipal plan developed by Council and the public, establishes the community vision for the City of Saint John and is the overarching guidance document for the management of the City's assets.

2. The Asset Management Policy, a tool to institutionalize asset management within the municipality (the "why" of asset management). This policy document articulates several key elements – Council's commitment to asset management, objectives Council wishes to meet with the policy and strategic guidance to the Senior Leadership Team.

3. The Asset Management Strategy (the “what” of asset management) is prepared by the Senior Leadership Team and provides direction to all Departments and staff to create an integrated approach to asset management.

4. The Asset Management Road Map (the “how” and “who” of asset management) is a document for staff to be used as a detailed implementation plan. This document will provide direction to all Departments and staff to ensure the City’s assets are properly managed and can continue to sustainably provide the services that are expected by the citizens of Saint John.

Figure 3 - Asset Management Document Hierarchy



Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 1 – AM Lifecycle Management									
Define Asset Risks (Strategy 4): *Strategy – Improve / increase the asset management activities and resources needed to prioritize asset renewals and replacements based on defined and quantified asset risks*	Lack of ability to articulate condition of assets and quantify risks	Strategy 6 Define Asset Renewal & Replacement Needs Strategy 7 Lengthen Planning Horizon	1. Prepare initial State of the Infrastructure (SOTI) report and investment profile	a) RVA to prepare initial SOTI and investment profile using existing (incomplete and imprecise) information.	Initial SOTI and investment profile report	**Lead** RVA/Asset & Energy Management **Participants** n/a **Support group(s)** Finance and GIS	**Financial Management: Cash Flow Forecast** Initial report will provide a snapshot of current state of affairs and will facilitate communication with Council and the Public. It will also serve as a benchmark to quantify future AM benefits.	2 Months	
			2. Confirm / Update Tangible Capital Asset (TCA) inventory – each group review their asset additions / updates since 2011 when the TCA inventory was completed under the PSAB exercise and ensure current TCA register is as complete as possible. Provide updates to Finance to update TCA Register	a) Finance to provide overview presentation of TCA Register inventory to all groups b) Discuss segmentation / componentization for horizontal and vertical assets to determine appropriate level of detail and how to roll-up asset information to the level of detail represented in the TCA Register c) Each group with assets to review their inventory data updates since 2011 and provide copy to Finance in format that relates to TCA Register d) Confirm related information – life expectancies, age and valuation – Asset & Energy Management/RVA can provide guidance on life expectancies for different assets – Date of installation should come from TCA and updated with recent contracts, etc for new additions to the system – Valuations, as a minimum determined from installment cost in TCA Register and the use cost index to update to current replacement value. Recent contract costs should be used to validate replacement costs	Updated database for AM data in all Departments based on a consistent structure including inventory, age and valuation integrated within single AM database (TCA Register)	**Lead** Finance and Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering and GIS	**Asset Portfolio** Solidify foundation of AM processes allowing for consistency in strategic planning and financing of infrastructure investments (required for next steps)	8 Months	
			3. Identify and/or update condition rating for all assets in the TCA inventory based on a common condition rating system (CRS) using best available information. Use surrogates if direct information not available (e.g. age)	a) Asset & Energy Management/RVA assist with preparation of CRS (based on 5 level aggregation) and methods for using surrogate data if direct assessment of condition has not been done. b) Individual groups complete review and assignment of condition rating for each asset based on adopted CRS	Condition ratings on all assets based on a consistent approach as a building block for AM process activities	**Lead** Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering	**Asset Portfolio: Performance** Condition is foundational data for AM processes. Initial assessment begins to demonstrate data needs strategic to future data collection processes (required for next steps)	1.5 Months	

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 1 - AM Lifecycle Management (continued)									
			4. Complete risk assessment for all assets at agreed level of detail with a common basis for identification of probabilities and consequences of asset failures for "first cut" assessment NOTE: This should be done at a relatively high level of assessment	a) Asset & Energy Management/RVA assist with preparation probability and consequence definitions (based on 5 level aggregation) and guidance on the application through a workshop discussion with all groups. b) All groups then undertake the risk assessment for their assets c) Results to be returned to Asset & Energy Management/RVA for analysis and summation – Assist individual groups in preparing reports on their assets (charts and graphs showing percentages of their assets that are at specific condition ratings and risk ratings demonstrating overall state of their assets in graphical representations)	Risk ratings on all assets based on a consistent approach as a building block for AM process activities.	**Lead** Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering	**Life Cycle Analysis: Risk Analysis** Ability to create a prioritized investment strategy as a first step towards developing a more strategic budget (towards sustainability)	1.5 Months	
Define Asset Renewal & Replacement Needs (Strategy 6): *Strategy – Implement asset management activities to define, quantify and prioritize asset renewal and replacement requirements*	Lack of well defined asset renewal and replacement needs	Strategy 7 Lengthen Planning Horizon Strategy 4 Define Asset Risks	1. Develop an initial lifecycle investment profile for each asset group based on updated asset inventory and risk assessments (per Strategy 4)	a) Asset & Energy Management/RVA assist with roll-out of an AM data tool (Excel) designed to accept the inventory, valuation and risk data created by each asset group. b) Each asset group to populate AM data tool with their specific information for their assets. c) Complete preparation of asset investment profile for each asset group with some guidance from Asset & Energy Management/RVA in terms of level of detail to be reported	Updated AM information documented within Asset Management Data tool (Excel spreadsheet) Initial lifecycle investment profiles for each asset group	**Lead** Finance and Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering	**Financial Management: Cash Flow Forecast** All groups become familiar with the operation the Asset Data Tool and the preparation of lifecycle investment profiles based on a common approach across all asset groups	2.5 Months	
Lengthen Planning Horizon (Strategy 7): *Strategy – Implement asset management activities to increase the depth (duration) of asset management and financial plans*	Lack of a long-term planning horizon for infrastructure resulting in reactive AM activities	Strategy 4 Define Asset Risks Strategy 6 Define Asset Renewal and Replacement Risks	1. Develop an initial combined lifecycle investment profile for all city assets based on investment profiles for each asset group utilizing the updated asset inventory and risk assessments (per Strategy 6)	a) Asset & Energy Management/RVA and Finance group review and consolidate investment profiles from each asset group into a citywide investment profile b) Asset & Energy Management/RVA and Finance group evaluate investment profile and risk assessments to create prioritized investments across all asset groups. c) Prepare summary report – State of the Infrastructure Report (first iteration) designed to report to Council / Public the state of the City's overall infrastructure systems	Initial consolidated lifecycle investment profile (based on best available information)	**Lead** Finance and Asset & Energy Management/RVA **Participants** City Manager and Senior Leadership Team (SLT)	**Financial Management: Cash Flow Forecast** Understand current holistic state of assets in managing budget priority planning processes for infrastructure systems	3 Months	
			2. Implement annual process for asset groups to submit long-term (LCA) investment profiles with priority investment ratings based on risk assessments as part of annual budget process	a) Senior management discussion about implementing Life Cycle Assessment investment profiles and priorities and integrating this process into the annual budgeting process	Revised AM workflow process for annual budget preparation		**"Arrow" from Life Cycle Management to Financial Management** Continuous improvement in budget process ('smart' spending)	On-going	

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 2 – Asset Management Workflow and Resources									
Improve Departmental AM Interaction (Strategy 1) *Strategy – Improve the work flow business processes between departments to increaser the integration of asset renewals and replacements between different asset departments as well as between these departments and finance*	Fragmentation of the organization limiting interactions between service groups and departments)		1. Finance Group / Senior Management Team (Corporate Planning & Continuous Improvement team) review "workflow" activities (e.g. budgeting process) to identify steps that incorporates more integrated feedback from Departments / Groups specific to Asset Management activities	a) Review annual budgeting process to discuss how proposed budgets from each group reflects prioritized needs based on risk based assessments and allows for inter-departmental discussions to understand interdepartmental priorities. NOTE: This is where Plan SJ priorities need to be considered for final prioritized budget b) Review annual asset management reporting requirements (PSAB) and processes to maintain TCA register up-to-date and consistent with individual groups asset updates. Develop protocols for reporting asset renewals - upgrades and replacements data to finance at the appropriate level of detail. c) Have Director's of each Department / Group undertake similar discussions within their own groups to identify their "workflow" activities with respect to asset management processes and identify how they could / should improve them. Director to bring this to Senior Management Team for integration with other Departments / Groups - condition assessments - upgrading / replacing assets (report AM information to central database) d) Develop protocols for inter-departmental communications and interactions related to information links • Identify assets that are related to each other in terms of impacts when work is being done on each asset group (e.g. assets within a ROW – watermains / sewers / roads / sidewalks or assets within a facility – mechanical / electrical / process / structure, etc.) • Determine protocols for considering asset investments with the needs of other assets impacted by the investment decisions and refining priorities and schedules	Recommended new or updated protocols for key AM workflow activities including condition assessments, upgrade / replacement of asset priority decision making, annual budget process and inter-departmental integration of investment planning	**Lead** Finance & Corporate Planning and Asset & Energy Management/RVA **Participants** Directors of all operational groups who manage assets to deliver their services **Support group(s)** Engineering, IT and GIS	**AM Framework "Arrows"** Improved support for operational groups and Finance to improve decision-making for investments across all asset groups (budget process)	3 Months	
			2. Undertake organizational review to formalize asset management responsibilities at a corporate level and link into asset management responsibilities within each operating department	a) Asset & Energy Management/RVA undertake organizational review to determine most effective way to integrate asset management into the organizational culture of Saint John and prepare report for City Manager's office. • Review how each department / group formalized link to corporate AM process • Review staff complement competencies /capacity to implement new AM protocols / processes b) Provide recommendation for organizational changes to integrate AM into corporate business activities	Formalization of AM processes into organizational structure of the City and resourcing plan to support updated AM process implementation	**Lead** City Manager & Corporate Planning and Asset & Energy Management/RVA) **Participants** Directors of all operational groups who manage assets to deliver their services **Support group(s)** Engineering, IT and GIS	**AM Framework "Arrows"** Continuous improvement: Initiating the process of institutionalizing AM processes into the organizational culture of SJ	3 Months	

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 3 – Asset Management Tools (data management)									
Improve Data Sharing (Strategy 2) *Strategy – Improve the asset management tools that integrate data sources and systems to increase the availability and sharing of asset data within the entire organization*	Data fragmentation between departments and within departments	Strategy 3 Improve data software	1. Undertake a review of existing data sharing processes, tools and protocols, and prepare recommendations to improve data sharing to support improved AM processes	a) Establish an "ad hoc" group to undertake IT / Data Management review by internal support staff (GIS / IT) and external support (Samir/RVA) with individual Departments / Groups b) Document existing data systems within each Department / Group including data collected, how it is collected and stored, why it is collected and how it is used to support AM activities / decisions c) Identify and document how information is shared between Departments, and where improvements can be made to support AM processes within the City d) Review data tools used in different Departments / Groups for potential compatibility between Departments / Groups e) Prepare a strategic plan with recommendations to update data management processes and tools to improve availability and sharing of data within entire organization.	Recommendations to improved integration and data management protocols (collecting, storing, sharing)	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** IT and GIS **Support group(s)** Engineering and "ad hoc" group (GIS/IT/RVA)	**"2nd Dimension" of Asset Portfolio** Improved / optimized data management processes for improving basis of investment decision-making	4 Months	
Improve Data Software (Strategy 3) *Strategy – Improve the asset management tools to facilitate the generation and extraction of asset management information form stored asset management data*	Difficulty in extracting information from current software used to collect and store data	Strategy 2 Improve data sharing	1. Undertake a review of existing data management software used for AM processes and recommendations to improve data storage and sharing for common AM activities within and between Departments	a) Review current software programs used to manage AM data in each Department / Group b) Identify existing software capabilities to recognize abilities to improve current practices for AM data storage and management c) Identify limitations in capabilities to achieve desired data management processes d) Identify software strategy to improve data extraction and sharing for AM processes	Summary report identifying software solutions for AM processes (as revised) and recommended strategy for software updates	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** IT and GIS **Support group(s)** Engineering and "ad hoc" group (GIS/IT/RVA)	**2nd Dimension of Life Cycle Analysis** Improved capabilities and efficiencies in managing data for AM processes and cost effective plan for future data management needs	5 Months	

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 4 – AM Monitoring and Reporting									
Define Performance Metrics (Strategy 5) *Strategy – Implement / refine asset management activities to define levels of service and monitor and report on the effectiveness of asset management*	Lack of defined levels of service and KPI's		1. Prepare initial list of level of service KPI's based on existing measurements / monitoring by each Department / Group with respect to management of their assets	a) Samir(RVA) provide a briefing on the approach to developing key performance indicators (KPI's) based on levels of service (LOS) framework b) Each Department / Group identify initial list of measurable expressions for achievement of desired level of results in asset management and related KPI's c) Summarize list and identify potential list of service level gaps based on LOS framework	Initiate document (Performance, Metrics Report) summarizing existing KPI's identified by staff and / or in planning reports (Plan SJ, Master Plans, etc.)	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** Directors / Mgrs. from all operational groups	**Corporate Vision / Strategic Goals and Monitoring & Reporting** Understand current state / limitations of KPI development in the City Required for next steps	3 Months	
			2. Define gaps in Level of Service KPI's based on LOS framework	a) Review summarized list of existing service levels and KPI's identified with LOS Framework to identify gaps. b) Assess the importance of completing additional service levels based on list of KPI's identified in the "gap" list (above)	Document KPI gaps (continuation of development of Performance Metrics Report from Activity 1)	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** Directors / Mgrs. from all operational groups	**Corporate Vision / Strategic Goals and Monitoring & Reporting** Define extent of additional work required to develop appropriate and effective KPI's to monitor AM improvements Required for next steps	3 Months	
			3. Create strategy / plan for developing measurements / KPI's and begin process of creating updated / new KPI's for future guide in assessing success of AM implementation	a) Develop a list of AM measurements / KPI's that should be developed over the next period to fill the gaps identified in Activity 2, above. NOTE: Need to ask ourselves why we need additional KPI's for those gaps noted. Also, need to ask how necessary the existing list of KPI's are and if they are being used effectively b) Develop a strategy for completing the measurements / KPI descriptions identified above. c) Initiate development of KPI's from proposed strategy d) Create protocol for regular (annual?) monitoring and reporting on AM plan Implementation results (Report Card) to Council and public	Performance Metrics Report including initial KPI's	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** Directors / Mgrs. from all operational groups	**Monitoring & Reporting** Continuous improvement: Initiating the development and use of KPI's to measure success in delivering services supported by well managed infrastructure	3 Months	

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 5 – Individual Department Improvement Activities									
Activities for Finance Department	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e) 3-1 a) to d)	1. Improved implementation of AM activities	a) Improve relationship between TCA Register and Department data bases (i.e. consistency, level of detail, continuous updates, etc.). articular attention is to be paid to post-2011 and post-2015 data.	Updated TCA Register	**Lead** Finance and Asset & Energy Management/RVA **Participants** Finance staff **Support group(s)** IT and GIS	**Asset Portfolio** Solidify foundation of AM processes (required for next steps)		
	Lack of long-term planning	Per Strategy / Activity / Task 7-1- a) to c) 7-2 a)		b) Develop long-term planning and financial sustainability policies - introduce longer planning horizon (per lifecycle assessment)	Updated / new long-term planning and financial sustainability policies		**Financial Management: Cash Flow Forecast** Continuous improvement in budget process ('smart' spending)		
				c) Revise annual budgeting processes based on long-term planning / lifecycle assessment information and interdepartmental consolidated investment priorities. Review need to revise current budget matrix.	Updated annual budget process				
	Data fragmentation within finance department	Per Strategy / Activity / Task 2-1- a) to e)		d) Implement use of new software (City-Wide) and evaluate effectiveness in meeting Finance Department needs for AM activities	Use of City-Wide software		**Financial Management: Report on TCAs & Financial Analysis** Solidify foundation of AM processes (required for next steps)		
Activities for Corporate Planning Department	Lack of performance metrics	Per Strategy / Activity / Task 5-1-a) to c) 5-2-a) to b) 5-3 a) to d)	1. Improved implementation of AM activities	a) Update / create Levels of Service	Well defined levels of service and cost curves	**Lead** Corporate Planning and Asset & Energy Management/RVA **Participants** Directors of all operational groups who manage assets to deliver services	**Corporate Vision / Strategic Goals** Define relationship between cost and service levels		
				b) Research and identify applicable service benchmarks	Well defined industry service cost benchmarks		**Monitoring & Reporting** Ability to demonstrate efficiency of service provision		
				c) Update/create (key) performance measures (KPI's)	Well-defined and strategic KPI's with regular reporting mechanisms		**Monitoring & Reporting** Supports continuous improvement initiatives		
Activities for Facilities Department	Lack of ability to articulate what needs to be done	Per Strategy / Activity / Task 4-3- a) to d)	1. Improved implementation of AM activities	a) Complete condition assessments for all facilities	Long term facilities capital renewal plan	**Lead** Facilities and Asset & Energy Management/RVA **Participants** Facilities staff, Finance **Support group(s)**	**Asset Portfolio: Performance** Prioritize capital renewal/investment requirements		
	Lack of ability to articulate what needs to be done	Per Strategy / Activity / Task 3-1- a) to d)		b) Develop maintenance scheduling tool	Long term facilities O&M plan		**Life Cycle Management Plan: O&M Plan** Define & schedule required asset maintenance		

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)		c) Integrate facility data systems (capital renewal, O&M, work orders, energy consumption, …)	Improved internal planning tool	IT and GIS	**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)		d) Improve synchronization of facilities data with finance system	Improved facilities-finance planning tool		**"Arrow" from Life Cycle Management to Financial Management** Continuous improvement in budget process ('smart' spending)		
	Poor asset management workflow	Per Strategy / Activity / Task 1-1 a) & 1-2 b)		e) Adopt envelope system for facilities maintenance budget	Improved facilities maintenance control.		**"Arrow" from Financial Management to Life Cycle Management** Continuous improvement in budget process ('smart' spending)		
Activities for Transportation & Environmental Services Department	Improved implementation of AM activities	Per Strategy / Activity / Task 4-2 a) to d)	1. Improved implementation of AM activities	a) Complete asset inventory	Improved AM data	**Lead** Transportation & Environmental Services and Asset & Energy Management/RVA **Participants** T&E staff, Finance, Saint John Water **Support group(s)** Engineering, IT and GIS	**Asset Portfolio** Solidify foundation of AM processes (required for next steps)		
	Lack of ability to articulate what needs to be done	Per Strategy / Activity / Task 4-3 a) to d)		b) Complete asset condition information	Improved AM data		**Asset Portfolio: Performance** Prioritize capital renewal/investment requirements		
	Lack of ability to prioritize what needs to be done	Per Strategy / Activity / Task 4-4 a) to c)		c) Complete risk evaluation for all assets, including climate change risks and sustainability evaluation	Improved budgeting and scheduling		**Life Cycle Analysis: Risk Analysis** Prioritize capital renewal/investment requirements		
	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)		d) Integrate T&E data systems (capital renewal, resurfacing, O&M, work orders, …)	Improved internal T&E budgeting and scheduling		**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)		e) Improve relationship between TCA Register and Department data bases (i.e. consistency, level of detail, continuous updates, etc.). Particular attention is to be paid to post-2012 and "newly found assets".	Updated TCA Register		**"Arrow" from Life Cycle Management to Financial Management** Solidify foundation of AM processes (required for next steps)		

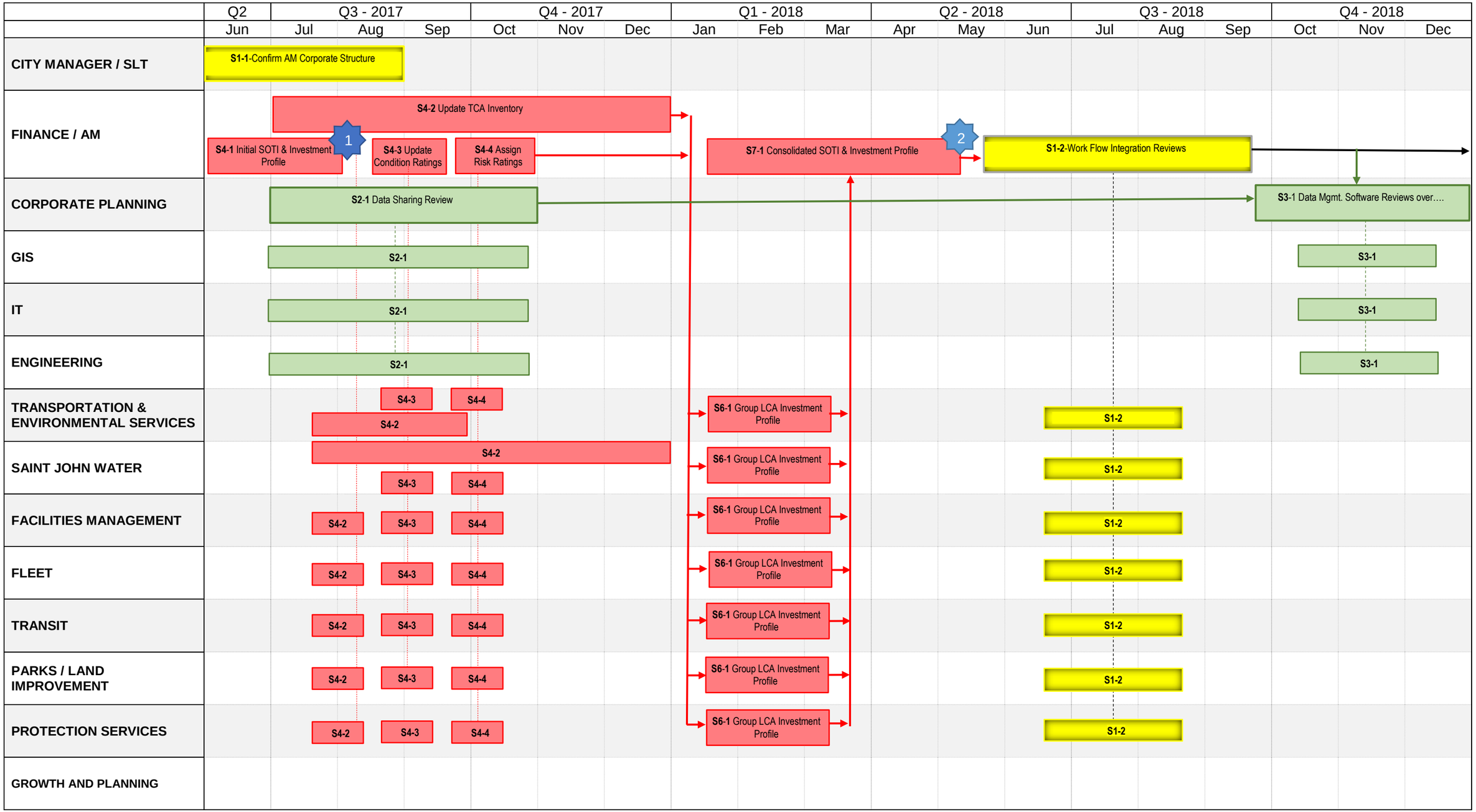
Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)		f) Improve integrated planning of T&E and Saint John Water projects, and lengthen planning horizon.	Improved inter-departmental budgeting and scheduling		**2nd Dimension of Life Cycle Analysis** Continuous improvement in budget process ('smart' spending)		
Activities for Engineering Department	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)	1. Improved implementation of AM activities	a) Improve integrated planning of hard asset department projects, and lengthen planning horizon.	Improved inter-departmental budgeting and scheduling	**Lead** Engineering and Asset & Energy Management/RVA **Participants** Engineering staff **Support group(s)** IT and GIS	**2nd Dimension of Life Cycle Analysis** Continuous improvement in budget process ('smart' spending)		
Activities for Fleet Department	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)	1. Improved implementation of AM activities	a) Integrate fleet data systems (capital renewal, O&M, work orders, fuel consumption, …)	Improved internal fleet budgeting and scheduling	**Lead** Fleet and Asset & Energy Management/RVA **Participants** Fleet staff **Support group(s)** IT and GIS	**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		
Activities for Parks & Land Improvement Department	Lack of ability to articulate and prioritize what needs to be done	Per Strategy / Activity / Task 4-3 a) to b)	1. Improved implementation of AM activities	a) Complete condition assessments for all recreational assets	Long term recreation capital renewal plan	**Lead** Parks & Land Improvement and Asset & Energy Management/RVA **Participants** Parks &Land improvement staff **Support group(s)** Growth & Development, IT and GIS	**Asset Portfolio: Performance** Prioritize capital renewal/investment requirements		
	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)		b) Integrate parks data systems (capital renewal, operations, maintenance & repairs, work orders, …)	Improved recreational budgeting and scheduling		**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		
	Lack of ability to prioritize limited resources	Per Strategy / Activity / Task 4-4 a) to c)		c) Develop clear implementation plan integrated with Play SJ, and lengthen planning horizon	Improved recreational budgeting and scheduling		**Corporate Vision / Strategic Goals** Prioritize capital renewal/investment requirements, and improved budget process ('smart' spending)		

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
Activities for Saint John Water	Improved implementation of AM activities	Per Strategy / Activity / Task 4-2 a) to d)	1. Improved implementation of AM activities	a) Complete asset inventory	Improved AM data	**Lead** Saint John Water and Asset & Energy Management/RVA **Participants** Saint John Water staff, T&E, Finance **Support group(s)** Engineering, IT and GIS	**Asset Portfolio** Solidify foundation of AM processes (required for next steps)		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)		b) Improve relationship between TCA Register and Department data bases (i.e. consistency, level of detail, continuous updates, etc.). Particular attention is to be paid to post-2012 and "newly found assets".	Updated TCA Register		**"Arrow" from Life Cycle Management to Financial Management** Solidify foundation of AM processes (required for next steps)		
	Lack of ability to articulate what needs to be done	Per Strategy / Activity / Task 4-3 a) to b)		c) Complete asset condition information	Improved AM data		**Asset Portfolio: Performance** Prioritize capital renewal/investment requirements		
	Lack of ability to prioritize what needs to be done	Per Strategy / Activity / Task 4-4 a) to c)		d) Complete risk evaluation for all assets, including climate change risks, health & regulatory risks and sustainability evaluation	Improved budgeting and scheduling		**Life Cycle Analysis: Risk Analysis** Prioritize capital renewal/investment requirements		
	Lack of ability to articulate what needs to be done	Per Strategy / Activity / Task 3-1- a) to d)		e) Develop preventative maintenance scheduling tool	Long term Saint John Water O&M plan		**Life Cycle Management Plan: O&M Plan** Define & schedule required asset maintenance		
	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)		f) Integrate Saint John Water data systems (capital renewal, lining, system upgrades, water break tracking, O&M, work orders, …)	Improved internal Saint John Water budgeting and scheduling		**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)		g) Improve integrated planning of Saint John Water and T&E projects, and lengthen planning horizon.	Improved inter-departmental budgeting and scheduling		**2nd Dimension of Life Cycle Analysis** Continuous improvement in budget process ('smart' spending)		
Activities for Transit Department	Difficulty converting data into information	Per Strategy / Activity / Task 3-1 a) to d)	1. Improved implementation of AM activities	a) Integrate transit data systems (capital renewal, O&M, work orders, …)	Improved internal transit budgeting and scheduling	**Lead** Transit and Asset & Energy Management/RVA **Participants** Transit staff **Support group(s)** IT and GIS	**2nd Dimension of Life Cycle Analysis** Improvement ability to manage assets		

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
Activities for Protective Services	n/a	n/a	n/a	Interaction with Finance Department to ensure TCA is complete and up to date	n/a	n/a	n/a		
Activities for IT Department	Difficulty converting data into information	Per Strategy / Activity / Task 3-1- a) to d)	n/a	Participation with all departments to integrate their various internal data systems	n/a	n/a	n/a		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)	n/a	Participation with all departments and “ad hoc” group to integrate various inter-departmental data systems	n/a	n/a	n/a		
	Organizational fragmentation	Per Strategy / Activity / Task 1-1- a) to d)	n/a	Support to improve integrated planning of Saint John Water and T&E projects	n/a	n/a	n/a		
	Organizational fragmentation	Per Strategy / Activity / Task 2-1&2 a) to d)	n/a	Support finance and city manager	n/a	n/a	n/a		
Activities for Risk Management Department	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
Activities for GIS Department	Difficulty converting data into information	Per Strategy / Activity / Task 3-2- a) to d)	n/a	Participation with all departments to integrate their various internal data systems	n/a	n/a	n/a		
	Data fragmentation between departments	Per Strategy / Activity / Task 2-1- a) to e)	n/a	Participation with all departments and “ad hoc” group to integrate various inter-departmental data systems	n/a	n/a	n/a		
	Organizational fragmentation	Per Strategy / Activity / Task 1-1 a) to d)	n/a	Support to improve integrated planning of Saint John Water and T&E projects	n/a	n/a	n/a		
	Organizational fragmentation	Per Strategy / Activity / Task 2-1&2 a) to d)	n/a	Support finance and city manager	n/a	n/a	n/a		
	Lack of ability to articulate condition of assets and quantify risks	Per Strategy / Activity / Task 4-2 a) to d)	n/a	Support finance during TCA update	n/a	n/a	n/a		

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
Activities for Growth & Development Department	Lack of ability to prioritize limited resources	Per Strategy / Activity / Task 4-4 a) to c)	n/a	Support Parks & Land Improvement during development of clear implementation plan integrated with Play SJ	n/a	n/a	n/a		
	Lack of well defined asset replacement needs	Per Strategy / Activity / Task 4-2 a) to d) 4-3 a) to b)	n/a	Participate in defining the growth aspects of risk and priority scores during the development of the initial lifecycle investment profile	n/a	n/a	n/a		

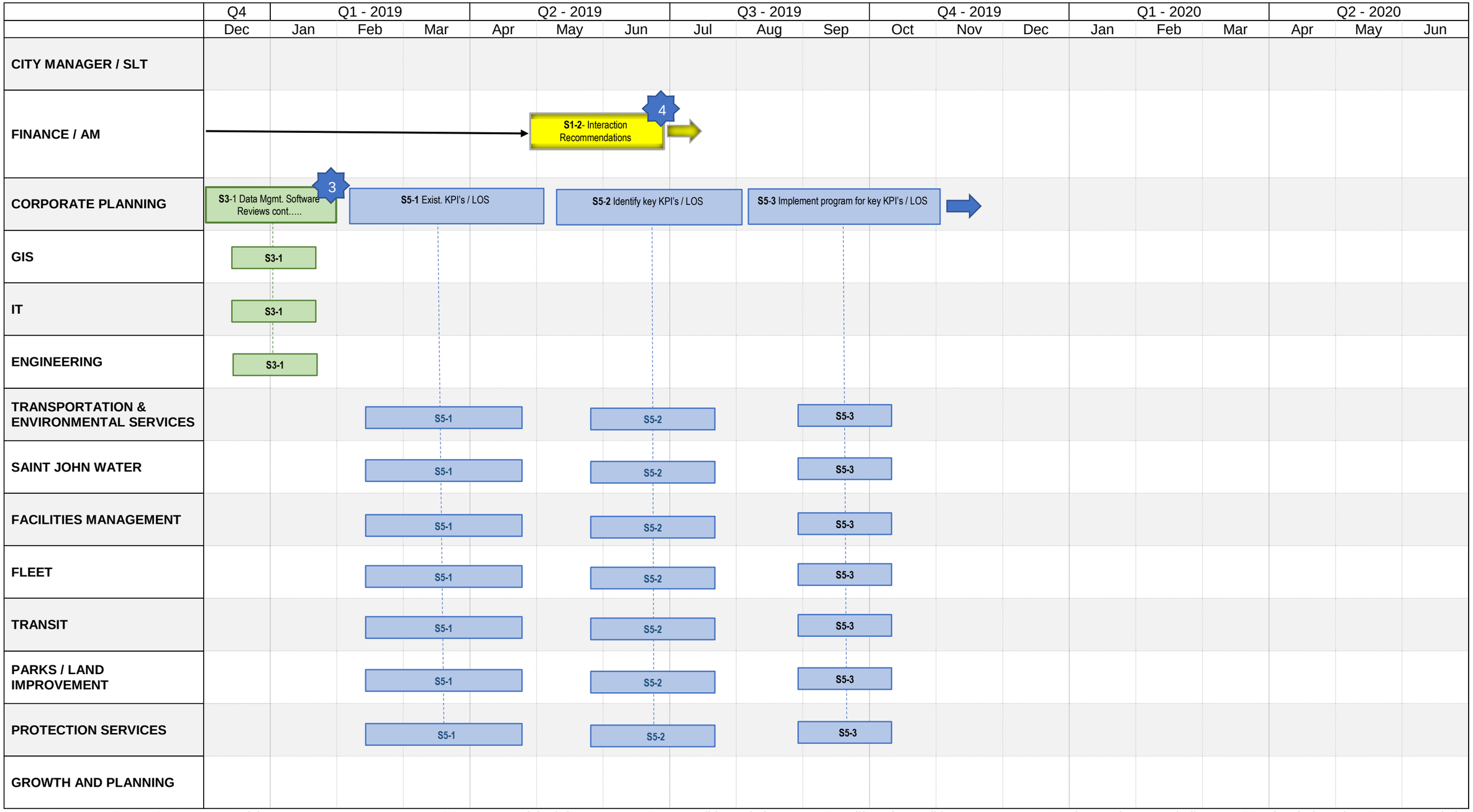
Stream 1: AM Lifecycle Management | **Stream 2:** AM Workflow & Resources | **Stream 3:** AM Tools (data management) | **Stream 4:** AM Monitoring and Reporting



Acronyms: S4-1 = Strategy 4 – Activity 1, AM = asset management, SOTI = state of the infrastructure, TCA = tangible capital assets, LCA = lifecycle condition assessment, KPI = key performance indicator, LOS = level of service, CAMP = capital asset management plan

Deliverables: 1 = initial SOTI & investment profile, 2 = updated SOTI & investment profile **and** CAMP report, 3 = data management & integration system(s), 4 = departmental AM interaction structure

Stream 1: AM Lifecycle Management | **Stream 2:** AM Workflow & Resources | **Stream 3:** AM Tools (data management) | **Stream 4:** AM Monitoring and Reporting



Acronyms: S4-1 = Strategy 4 – Activity 1, AM = asset management, SOTI = state of the infrastructure, TCA = tangible capital assets, LCA = lifecycle condition assessment, KPI = key performance indicator, LOS = level of service, CAMP = capital asset management plan

Deliverables: 1 = initial SOTI & investment profile, 2 = updated SOTI & investment profile **and** CAMP report, 3 = data management & integration system(s), 4 = departmental AM interaction structure

4.0 SUPPORTING DOCUMENTS

The Asset Management Road Map and Task Tracking schedule are supported by significant contributions and work performed by City of Saint John staff. These documents laid the foundation for the work completed in Phase 1, are summarized in the appendix sheet below, and are appended to this document.

APPENDIX 1 – POLICY, STRATEGY, AND RISK MANAGEMENT FRAMEWORK

1-1	Policy Document	January 17, 2017
1-2	Strategy Document	January 17, 2017
1-3	Risk Management Framework	January 17, 2017

APPENDIX 2 – WORKSHOP PRESENTATIONS

2-1	Workshop #1 – Training & Knowledge Transfer	December 1, 2016
2-2	Workshop #2 – Policy, Strategy and Risk Management Documents	January 19, 2017
2-3	Workshop #3 – Asset Management "State of Practice" Improvement	January 20, 2017
2-4	Workshop #4 - Asset Management Road Map Roll Out	April 7, 2017

APPENDIX 3 – COUNCIL REPORTS

3-1	Road Map	April 18, 2016
3-2	Road Map Phase 1 Update	November 14, 2016
3-3	Policy Statement	March 6, 2017

APPENDIX 4 – CITY OF SAINT JOHN PRESENTATIONS

4-1	Asset Management Governance Framework	November 17, 2016
4-2	Council: Asset Management Challenges	September 6, 2016
4-3	Finance Committee: AM Road Map Project Update	January 30, 2017
4-4	Senior Leadership Team: AM Road Map Project Update	January 30, 2017
4-5	Finance Committee: Adopt Saint John AM Policy	February 28, 2017
4-6	Senior Leadership Team: AM Road Map Project Update	April 10, 2017
4-7	Finance Committee: AM Road Map Project Update	April 11, 2017

APPENDIX 5 – FOUNDATION DOCUMENTS

5-1	Preliminary Road Map Asset Management Program	April 2, 2016
5-2	Asset Management Program: Phase 1 – Project Charter	July 4, 2016
5-3	FCM LAMP Asset Management Maturity Matrix and Supporting Documents	July 31, 2016

APPENDIX 6 – CITY OF SAINT JOHN REQUEST FOR PROPOSALS

5.0 SIGNATURE

We are pleased to submit this document to assist the City of Saint John with the development and implementation of their asset management program. Please contact the undersigned for questions or additional information.

R.V. Anderson Associates Limited

Hans Arisz, M.Sc.E., P.Eng.
Principal

Reg Andres, P.Eng.
Senior Infrastructure Specialist

APPENDIX 1

POLICY, STRATEGY, AND RISK MANAGEMENT FRAMEWORK

APPENDIX 1-1

Policy Document

R.V. Anderson Associates Limited
engineering · environment · infrastructure

445 Urquhart Crescent
Fredericton New Brunswick E3B 8K4 Canada
Tel 506 455 2888 Fax 506 455 0193
www.rvanderson.com

TECHNICAL MEMORANDUM

TO: THE CITY OF SAINT JOHN **RVA:** 163410

FROM: HANS ARISZ, REG ANDRES

DATE: JANUARY 17, 2017

SUBJECT: DEVELOPMENT OF A SAINT JOHN AM POLICY DOCUMENT

An asset management (AM) policy is a tool to institutionalize asset management within a municipality. The policy should articulate several key elements - a Council's commitment to asset management, the objectives Council wishes to meet with the policy and some strategic guidance to staff in carrying out the organization's business strategies, plans and activities.

In developing a policy for the City of Saint John, further documentation that supports the implementation of the policy will include:

- AM Strategy – prepared by Senior Management to guide operational departments in implementing asset management to meet the Council's objectives for asset management. The Strategy will be a guide for all Departments to create an integrated approach to asset management.
- AM Road Map – documentation identifying specific activities, schedules, deliverables and resource requirements from departmental staff to implement asset management.

The Asset Management BC "Guide for Developing a Municipal AM Policy" and samples of existing AM policies from several Municipalities across Canada were reviewed with the goal of developing a suggested concise policy document for the City of Saint John to consider.

Items to be part of the Policy Document:

1. Policy Statements

Policy statements articulate Council's commitment to asset management and Council's direction to guide staff in implementing AM practices. The Policy Statements should include:

1.1. A statement that confirms the City will implement AM practices in support of specific corporate objectives broadly defined in Plan SJ.
Suggested statement:
Saint John shall adopt and apply recognized asset management practices in support of delivering services to its customers reflecting the vision presented in the latest version of "Plan SJ"

1.2. A statement defining the scope of the AM initiative and the degree to which AM will be applied. This, in essence, confirms the importance of a common approach in the management of all City assets.
Suggested statement:
This policy applies to all City of Saint John activities related to all assets controlled and owned by City.

1.3. A statement to direct the staff, through the City Manager, to prepare a strategy document that includes certain specific attributes. These attributes would be detailed further in the Strategy Document noted above:
Suggested statement:
Senior management will prepare a strategy for the implementation of AM practices across the organization:

- *Based on industry recognised AM protocols*
- *Defining levels of service,*
- *Utilizing lifecycle costing principles, and*
- *Incorporating continuous improvement practices.*

1.4. The policy needs to ensure the implementation of asset management activities will integrate with other planning processes.
Suggested statement:
Asset management will be considered and integrated in the development of all Corporate plans.

2. Roles and Responsibilities

2.1. The policy document should Identify a clear statement of Council's role(s) with respect to the AM Policy and practice of asset management.
Suggested statement:
Council is responsible for adopting the policy and ensuring sufficient resources are available to manage the assets

2.2. The policy should include a statement of Council's direction to the City Manager and his role in implementing and reporting on the policy objectives.
Suggested statement:
The City Manager is responsible for developing a strategic plan designed to implement the policy and for reporting to Council on the progress in meeting Policy objectives.

3. Objectives

The policy should identify strategic objectives Council wishes to address with the implementation of asset management practices in the City.
Suggested statement:
Objectives of the AM Policy are to:

- *Facilitate securing infrastructure grants and funding*
- *Reduce the City's exposure to risks of reduced service delivery*
- *Define the cost of providing services*
- *Demonstrate investment accountability to residents and businesses*
- *Improve decisions on when to add, replace, renew or decommission assets*

Based on the above discussion a draft policy document (ATTACHMENT A) is provided for review and discussion.

Hans Arisz
Principal

ATTACHMENT A
DRAFT Saint John Asset Management Policy

Policy: 00-00-00
Asset Management

Passed By Council on: 00/00/2017

Purpose
To confirm the City's support for implementing asset management practices to ensure sustainable delivery of services

Specific objectives of the AM policy are to:

- Facilitate securing infrastructure grants and funding
- Manage the City's exposure to risks of reduced service delivery
- Define the cost of providing services
- Demonstrate investment accountability to residents and businesses
- Improve decisions on when to add, replace, renew or decommission assets

Policy Statements
Saint John shall adopt and apply recognized asset management practices in support of delivering services to its customers reflecting the vision presented in the latest version of "Plan SJ"

Senior management will prepare a strategy for the implementation of AM practices across the organization:

- Based on industry recognized AM protocols
- Defining levels of service
- Applying risk-based decision making processes
- Utilizing lifecycle costing principles and
- Incorporating continuous improvement practices

Asset management will be considered and integrated in the development of all Corporate plans.

Application
This policy applies to all City of Saint John activities related to all assets of the City.

Responsibilities

Council is responsible for adopting policy and ensuring sufficient resources are available to manage the assets.

Senior Management is responsible for developing a strategic plan designed to implement the policy and for reporting to Council on the progress of meeting the policy objectives.

Definition

References/Appendix

Monitoring and Contravention

Approvals

Regular Meeting of Council - Month 00, 2017.

Review Period

APPENDIX 1-2

Strategy Document

R.V. Anderson Associates Limited
engineering · environment · infrastructure

445 Urquhart Crescent
Fredericton New Brunswick E3B 8K4 Canada
Tel 506 455 2888 Fax 506 455 0193
www.rvanderson.com

TECHNICAL MEMORANDUM

TO: THE CITY OF SAINT JOHN **RVA: 163410**

FROM: HANS ARISZ, REG ANDRES

DATE: JANUARY 18, 2017

SUBJECT: DEVELOPMENT OF A SAINT JOHN AM STRATEGY DOCUMENT

An asset management (AM) strategy is prepared by Senior Management to provide direction to operational departments in implementing asset management to meet the Council's objectives for asset management. The Strategy will be a guide for all Departments to create an integrated approach to asset management.

In developing a strategy for the City of Saint John, further documentation that supports the implementation of the strategy will include:

- Plan SJ – establishes the community vision for the City of Saint John and is an overarching guidance document for the development and growth of the City and the management of the City's assets.
- AM Policy – articulates Council's commitment to asset management and Council's direction to staff in improving asset management practices.
- AM Road Map –identifies specific activities, schedules, deliverables and resource requirements from departmental staff to implement asset management.

The strategy sections of the Asset Management BC documentation and samples of existing AM strategies from several Municipalities across Canada were reviewed with the goal of developing a suggested strategy document for the City of Saint John to consider. A draft strategy document (ATTACHMENT A) is provided for review and discussion.

Hans Arisz
Principal

ATTACHMENT A

DRAFT Saint John Asset Management Strategy

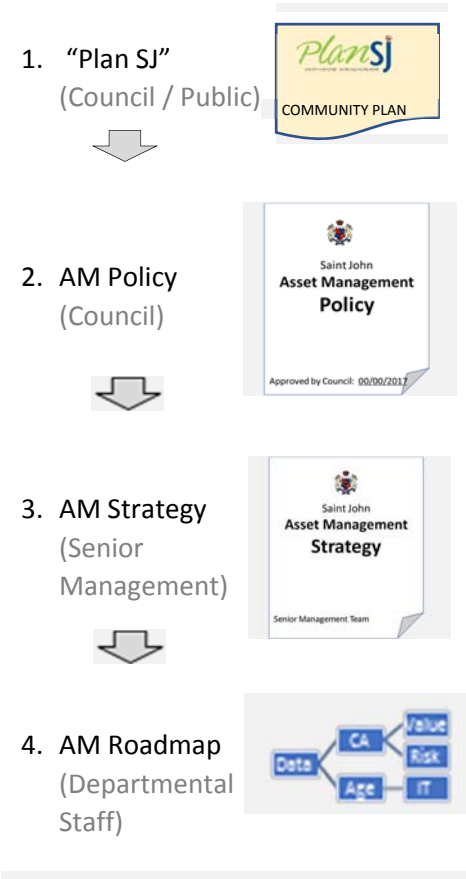
1. PURPOSE

The purpose of the Saint John Asset Management Strategy is to set out the long-term approach to the management of the City's Assets and the development of the City's Asset Management practices. The Strategy sets the direction from Senior Management to Departmental staff for improving and sustaining asset management practices and ensuring these practices are applied consistently across the organization. In its simplest form, the improvement of asset management practices relates to the City's ability to answer the six questions of asset management … What have you got? What is it worth? What condition is it in? What needs to be done to it? When does it need to be done? How much will it cost?

2. CONTEXT

The Asset Management Strategy is not a standalone document, but is part of a document hierarchy and a broader context for the overall management of the City's assets, as noted in Figure 1 and detailed below.

Figure 1
Document Hierarchy for AM



2.1. Plan SJ (approved 2011)

Plan SJ is Saint John's Municipal Plan. It establishes a community vision to guide the development and investment in the City of Saint John over the course of the Plan's 25-year planning period. Importantly, Plan SJ incorporates guidance and strategies for municipal services and infrastructure. Prepared through a significant public consultation engagement process, Plan SJ is an over-arching guidance document for the development and growth of the City and management of the City's assets.

Responsibility – Council and public

2.2. AM Policy (to be approved)

The Asset Management Policy articulates Council's commitment to asset management and Council's direction to guide staff in improving AM practices in the

organization. It is a document approved by City Council supporting the implementation of the community vision represented in Plan SJ specific to infrastructure in delivering services to the public.
Responsibility – Council

2.3. AM Strategy (to be approved)

The Asset Management Strategy articulates senior management's commitment to implementing the City's Asset Management Policy. The document sets the direction from Senior Management to Departmental staff for improving and sustaining asset management practices and to ensure these practices are applied consistently across the organization.
Responsibility – Senior Management team

2.4. AM Roadmap (to be approved)

The Asset Management Roadmap is a set of activities to be implemented by Departmental staff in accordance with the Strategic directions established by the Senior Management Team, and includes required resources and timing details to complete the plan. The Roadmap activities developed in this hierarchy of linked asset management documents ensures a connectivity between Council priorities and the day-to-day activities and resources required to improve the asset management processes supporting the City's delivery of services.

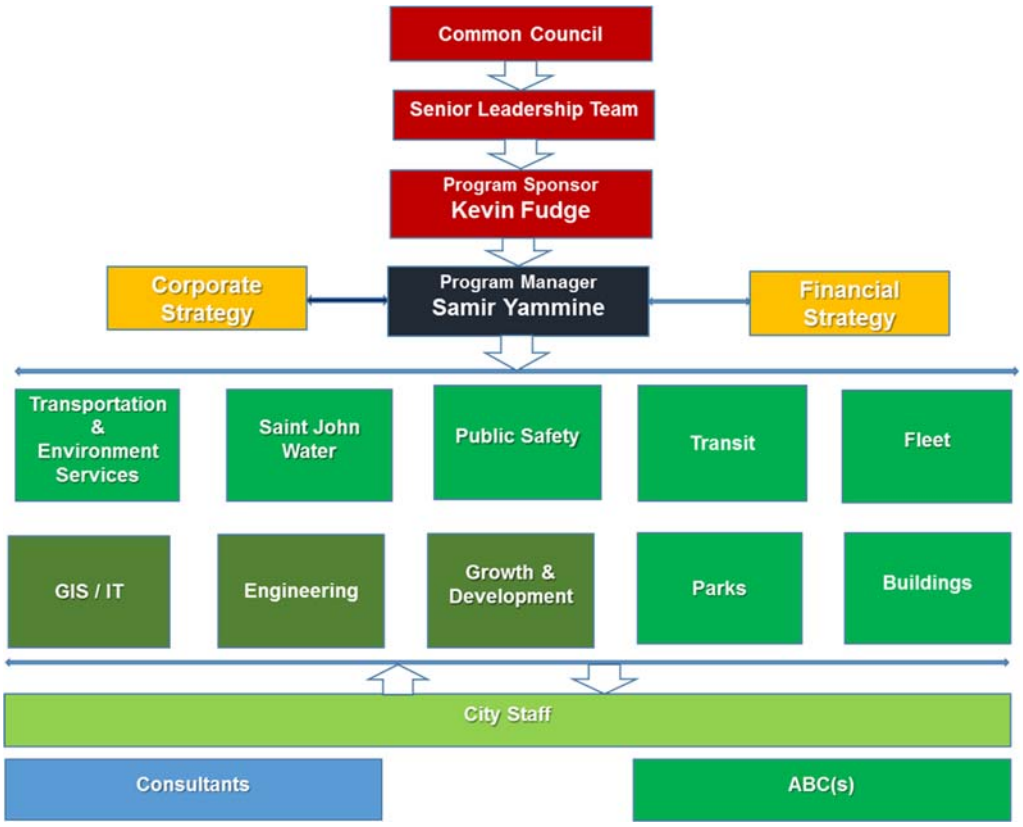
3. STRUCTURES

There are several "structures" on which an asset management program is founded. These include a governance structure required to establish a hierarchy of corporate responsibilities within the organization, and an activities structure represented in a framework that includes asset management activities and the work flows, resources and tools required to ensure these activities are integrated and coordinated across the City

3.1. Governance Structure

The governance structure is a foundational component of the asset management program. It provides an organizational structure for the development of asset management tools, guidelines and processes, as well as oversight for their application across the organization. The Saint John governance structure is shown in Figure 2, below.

Figure 2 – AM Governance Structure



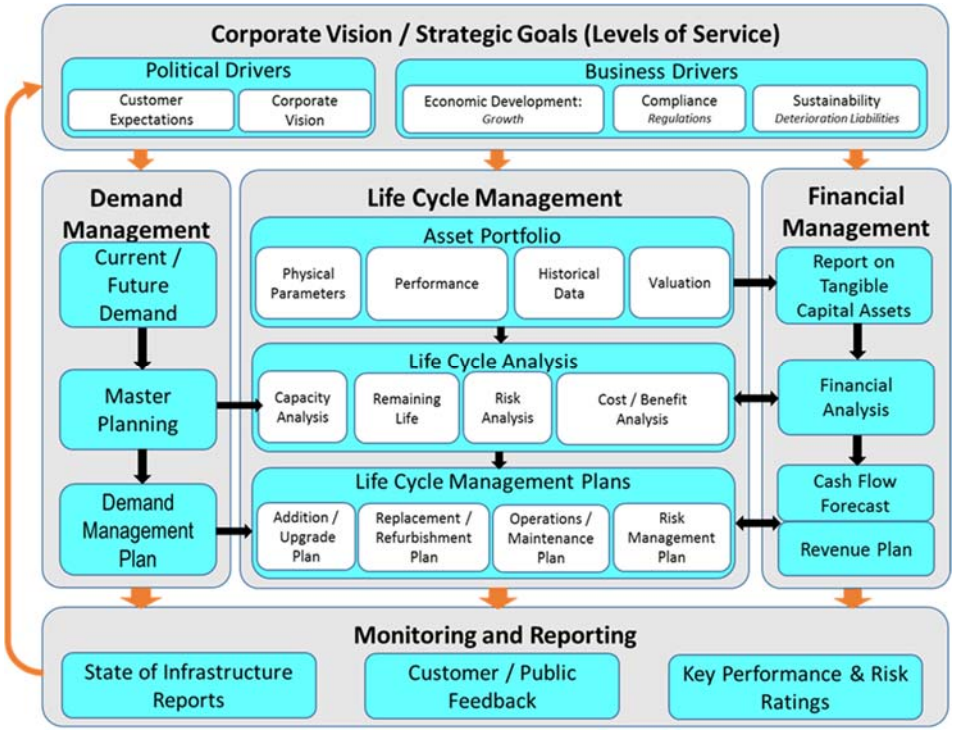
Key responsibilities in the governance structure are noted generally as follows:

- Council – approve AM vision within Policy document and ensure resources available
- Senior Management Team – establish and monitor key strategies to implement Policy
- Program Manager – central AM coordination for common approach to AM across the City
- Departmental Asset Management Groups – manage assets supporting service delivery mandate of each group following corporate AM strategies and vision
- Corporate Support Groups – provide support to Departments in implementing AM

3.2. Activities Structure - Asset Management Framework

The Asset Management Framework is a structure representing asset management activities. The activities in this framework have been developed based on the simple process of asset management defined by answering the 6 basic questions of asset management. The six questions represent the core Lifecycle Management as shown in Figure 3, below.

Figure 3 – Asset Management Framework and Six Questions of AM



SIX QUESTIONS OF ASSET MANAGEMENT

1. What do you have?
2. What is it worth?
3. What is its condition?
4. What do you need to do to it?
5. When do you need to do it?
6. How much money do you need?

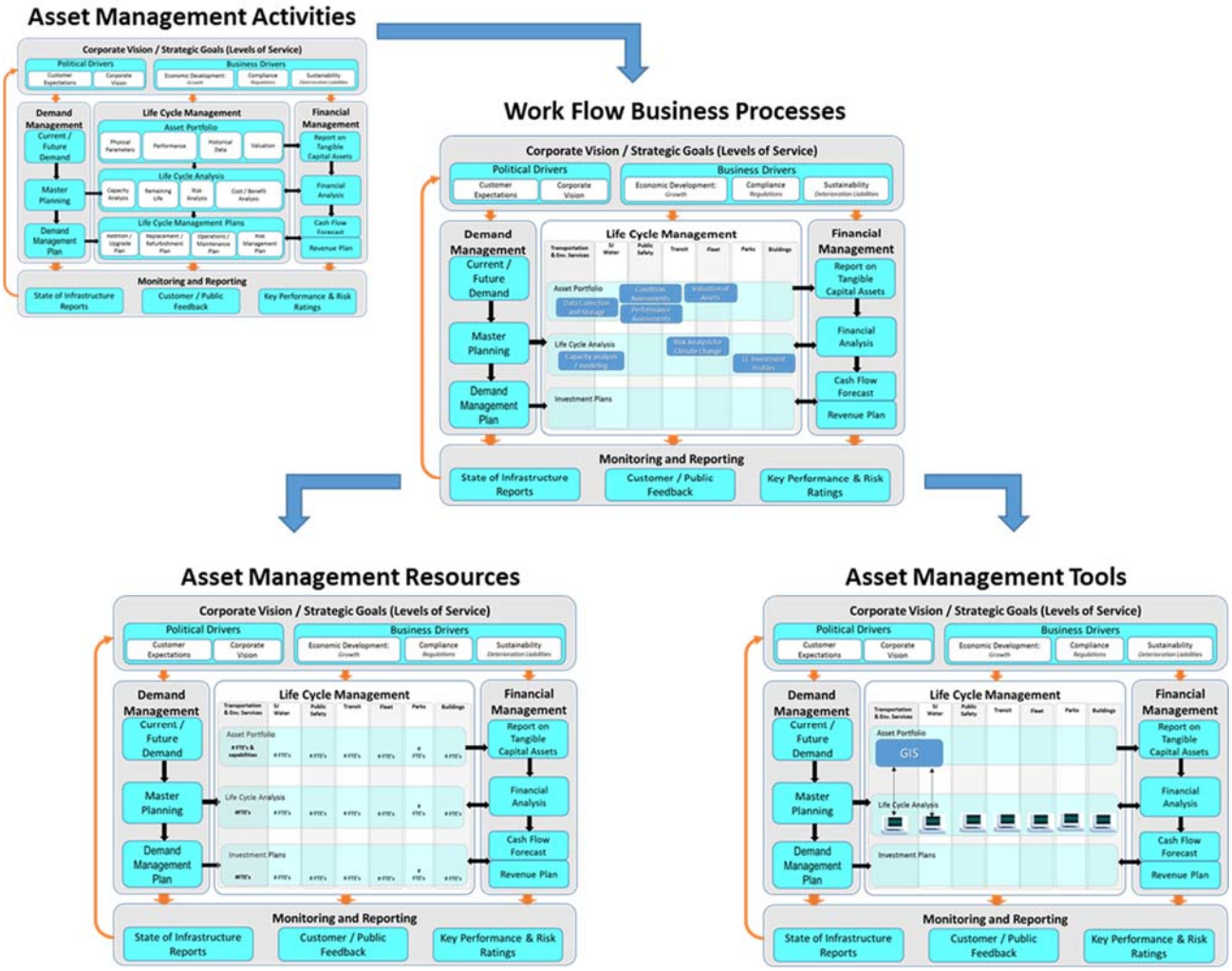
Figure 3, above, represents the asset management activities as a framework for continuous improvement in the delivery of services to the public utilizing infrastructure systems (assets).

There are several other important aspects of the asset management process associated with the execution of the life cycle management activities:

- the work flow business processes that describe how the City of Saint John undertakes the AM activities,
- the resources (staff) with AM capabilities / training to undertake the activities described in the work flow processes, and
- the tools (particularly information technology tools, i.e. data storage, data transfer and analytical systems) that support the City Departments in their application of asset management activities.

Figure 4, below, represents these other components required to implement the asset management activities.

Figure 4 – Work flow Processes, Resources and AM Tools



Based on the representations of the Asset Management Framework above, the key components of the AM Framework used to evaluate the City's current asset management practices includes the following:

1. The six questions of Asset Management:
   a) What do you have?
   b) What is it worth?
   c) What is its condition?
   d) What do you need to do to it?
   e) When do you need to do it?
   f) How much money do you need?

2. The four dimensions of the AM Framework including:
   a) AM activities
   b) AM work flow business processes
   c) AM resources
   d) AM tools

4. Issues

The City's current asset management practices were evaluated based on information gained during a series of interviews conducted between December 14, 2016 and January 05, 2017 with the various service groups and departments. The detailed information gathered during these interviews provides the basis for the asset management activities to be included in the department-specific Asset Management Road Map to be developed as part of the current project Phase 1, while recurring and organization-wide issues provides the basis of the asset management improvement strategies presented below.

The following recurring and organization-wide issues were identified:

1. Organization is fragmented
2. Data is fragmented;
3. It is difficult to extract information from data systems;
4. Priority/risk ratings for assets are not (well) defined;
5. Levels of service and key performance indicators are not (well) defined;
6. Asset renewal and replacement budget is based on financial capacity, not asset needs;
7. Financial and asset management plan is a single year deep; and
8. Asset management is reactive, not pro-active.

5. Strategies

The asset management improvement strategies presented below were formulated by identifying which of the six questions of asset management could not be answered due to the recurring and organization-wide issues, and which of the four dimensions of the asset management framework were the root causes of this.

5.1. Improve Departmental Interaction

The fragmentation of the organization (limited interaction between service groups/departments) interferes with answering the following asset management questions in an integrated manner (i.e. between different departments owning assets that affect each other, as well as between finance and other departments): what is its condition, what do you need to do to it, when do you need to do is, and how munch money do you need? The root cause of this is a lack of work flow business processes, while the fragmentation of data (issue 2) and the difficulties in extracting information from the data systems (issue 3) are related and aggravate the organizational fragmentation.

Strategy: Improve the work flow business processes between departments to increase the integration of asset renewals and replacements between both different hard-asset departments as well as between these departments and finance.

5.2. Improve Data Sharing

The fragmentation of data both between different departments and within individual departments interferes with answering all six asset management questions. The root cause for this is a lack of asset management tools, while the organizational fragmentation (issue 1) and the difficulties in extracting information from the data systems (issue 3) are related and aggravate the data fragmentation.

Strategy: Improve the asset management tools that integrate data sources and systems to increase the availability and sharing of asset data within the entire organization.

5.3. Improve Data Software

The difficulty in extracting information from the current software packages used to collect and store data interferes with answering all six asset management questions. The root cause for this is a lack of asset management tools, while the

organizational fragmentation (issue 1) and the data fragmentation (issue 2) are related and aggravate the difficulties in extracting asset management information from the data systems.

Strategy: Improve the asset management tools to facilitate the generation and extraction of asset management information from stored asset management data.

5.4. Define Asset Risks

The lack of priority/risk ratings for all the assets being managed interferes with answering the following asset management questions: what is its condition and when do you need to do it? The root causes for this are deficiencies within the asset management activities (condition assessments and risk quantification) and resources.

Strategy: Improve/increase the asset management activities and resources needed to prioritize asset renewals and replacements based on defined and quantified asset risks.

5.5. Define Performance Metrics

The lack of defined levels of service and key performance indicators interferes with answering the following asset management questions: what do you need to do to it and how much money do you need? The root cause for this is a deficiency within the asset management activities.

Strategy: Implement/refine asset management activities to define levels of service and monitor and report on the effectiveness of asset management.

5.6. Define Asset Renewal and Replacement Needs

The lack of well defined asset renewal and replacement needs interferes with answering the following asset management questions: what do you need to do to it, when do you need to do it, and how much money do you need? The root cause for this is a deficiency within the asset management activities.

Strategy: Implement asset management activities to define and quantify the (financial) asset renewal and replacement requirements.

5.7. Lengthen Planning Horizon

The lack of planning horizon depth (currently a single year) interferes with the following asset management questions: what do you need to do to it, when do you need to do it, and how much money do you need? The root cause for this is a deficiency within the

asset management activities, while the lack of well defined asset renewal and replacement needs is related and aggravates the lack of planning horizon depth.

Strategy: Implement asset management activities to increase the depth (duration) of asset management and financial plans.

The reactive (rather than pro-active) nature of asset management activities in the City of Saint John is a direct result of the short planning horizon and the lack of well defined asset renewal and replacement needs. Implementing the two strategies presented above to address these two issues will also make the asset management activities more pro-active.

APPENDIX 1-3

Risk Management Framework

R.V. Anderson Associates Limited
engineering · environment · infrastructure

445 Urquhart Crescent
Fredericton New Brunswick E3B 8K4 Canada
Tel 506 455 2888 Fax 506 455 0193
www.rvanderson.com

TECHNICAL MEMORANDUM

TO: THE CITY OF SAINT JOHN **RVA: 163410**

FROM: HANS ARISZ, REG ANDRES

DATE: JANUARY 17, 2017

SUBJECT: DEVELOPMENT OF A SAINT JOHN AM RISK MANAGEMENT FRAMEWORK

An asset management (AM) risk management framework provides guidance on the definition and quantification of risks affecting municipal assets for both historic conditions as well as future conditions considering the anticipated effects of climate change. Once these historic and expected future risks are defined and quantified, the maintenance, renewal and replacement activities for asset can be prioritized. This approach to risk management and asset investment prioritization ensures asset more important to the delivery of (essential) services are in a good state of repair and more resilient following disasters.

Although the risk management framework described in this document may fit within the mandate of the City of Saint John Risk Management department (to be confirmed during the asset management strategy discussions), the framework focus is limited to hard assets only and is far more narrow than the operating focus of the Risk Management department.

A draft risk management framework (ATTACHMENT A) is provided for review and discussion, will form part of the Asset Management Road Map and will be implemented during the Phase 2 activities.

Hans Arisz
Principal

ATTACHMENT A

DRAFT Saint John AM Risk Management Framework

1. PURPOSE

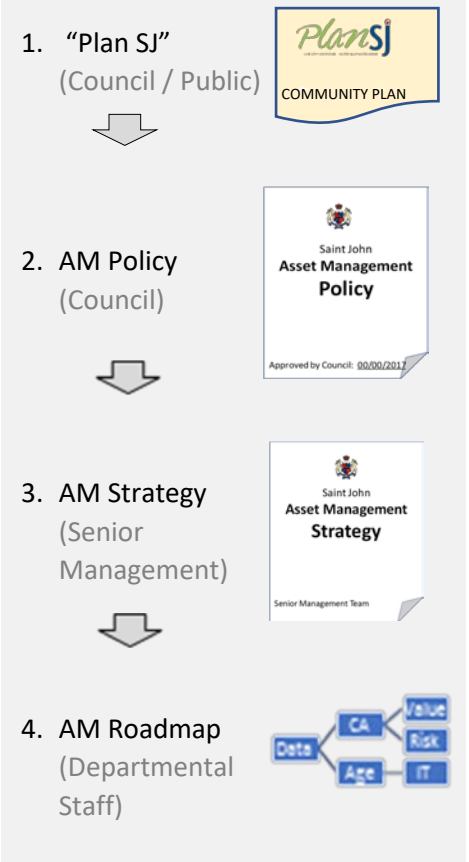
The purpose of the Saint John AM Risk Management Framework is to define and quantify risks to the City's Assets, determine the resiliency of these same assets following disasters, and prioritize investments in asset maintenance, renewals and replacements. The desired output from the risk management framework activities is to identify City's assets most important to the delivery of (essential) services, which in-turn will allow the prioritization of maintenance, renewal and replacement activities.

2. CONTEXT

The Risk Management Framework will be part of the Asset Management Road Map document and will define activities to be performed during Phase 2 of the current project.

The Asset Management Road Map is a set of activities to be implemented by Departmental staff in accordance with the Strategic directions established by the Senior Management Team, and includes required resources and timing details to complete the plan. The context of the Asset Management Road Map within the City of Saint John AM documents hierarchy is shown in Figure 1.

Figure 1
Document Hierarchy for AM



3. FRAMEWORK

Within the risk management framework and the context of municipal infrastructure, risk is conveyed as the product of probability and consequence of failure (i.e. risk = probability of failure x consequence of failure) using the approach presented in Table 1.

Table 1 – Probability and Consequence of Failure Scores

Rating	Probability of Failure	Consequence of Failure
1	Improbable	Very low measureable effect of any kind
2	Unlikely	Low/ seldom/marginal change in the function, serviceability, or capacity of the asset and (or) effect on public safety and the environment
3	Possible	Moderate/ regular change in the function, serviceability, or capacity of the asset and (or) effect on public safety and the environment
4	Likely	Major/ regular change in the function, serviceability, or capacity of the asset and (or) effect on public safety and the environment
5	Highly Probable	Catastrophic loss of infrastructure affecting public safety or having severe environmental consequences.

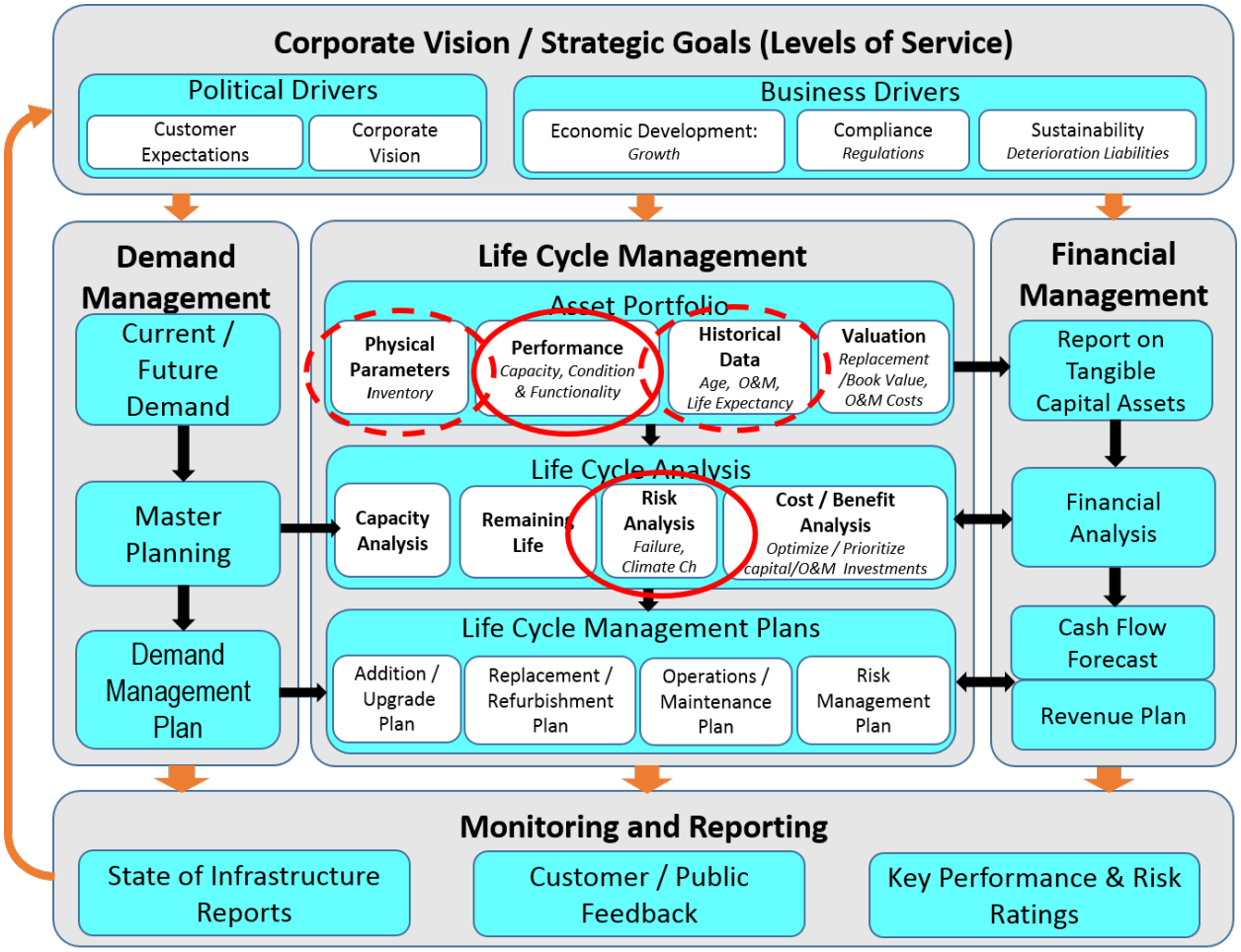
The scores will be based on the best readily available information and will vary for each asset type. Ideally the probability of failure scores will be based on condition assessment information, but could be based on the age of the infrastructure (a primary surrogate for condition) or the general knowledge of operational staff. The consequence of failure scores will ideally be based on operational knowledge, but could be based on readily available surrogate information such as size, capacity and classification/type.

The vulnerability of assets to the anticipated effects of climate change can be determined by repeating the above risk quantification while considering the anticipated effects of climate change on the performance of the assets (i.e. increase precipitation intensity on the flooding risk of the minor and major drainage system components) and the probability of failure. Comparing the results of the original risk analysis (using historic climate information) to the results of the climate change risk analysis (using anticipated future climate information), will identify which assets are vulnerable to the effects of climate change and quantify the magnitude of this vulnerability.

The resiliency of assets following disasters or failures is quantified by assessing the severity and duration of service reductions or losses (i.e. how severely is the trafficability of a road reduced following flooding or overtopping, and how long does it take before full trafficability is restored?).

The risk management framework activities described above fit into the overall asset management framework as shown below in Figure 2.

Figure 2: Risk Management Activities within AM Framework



APPENDIX 2

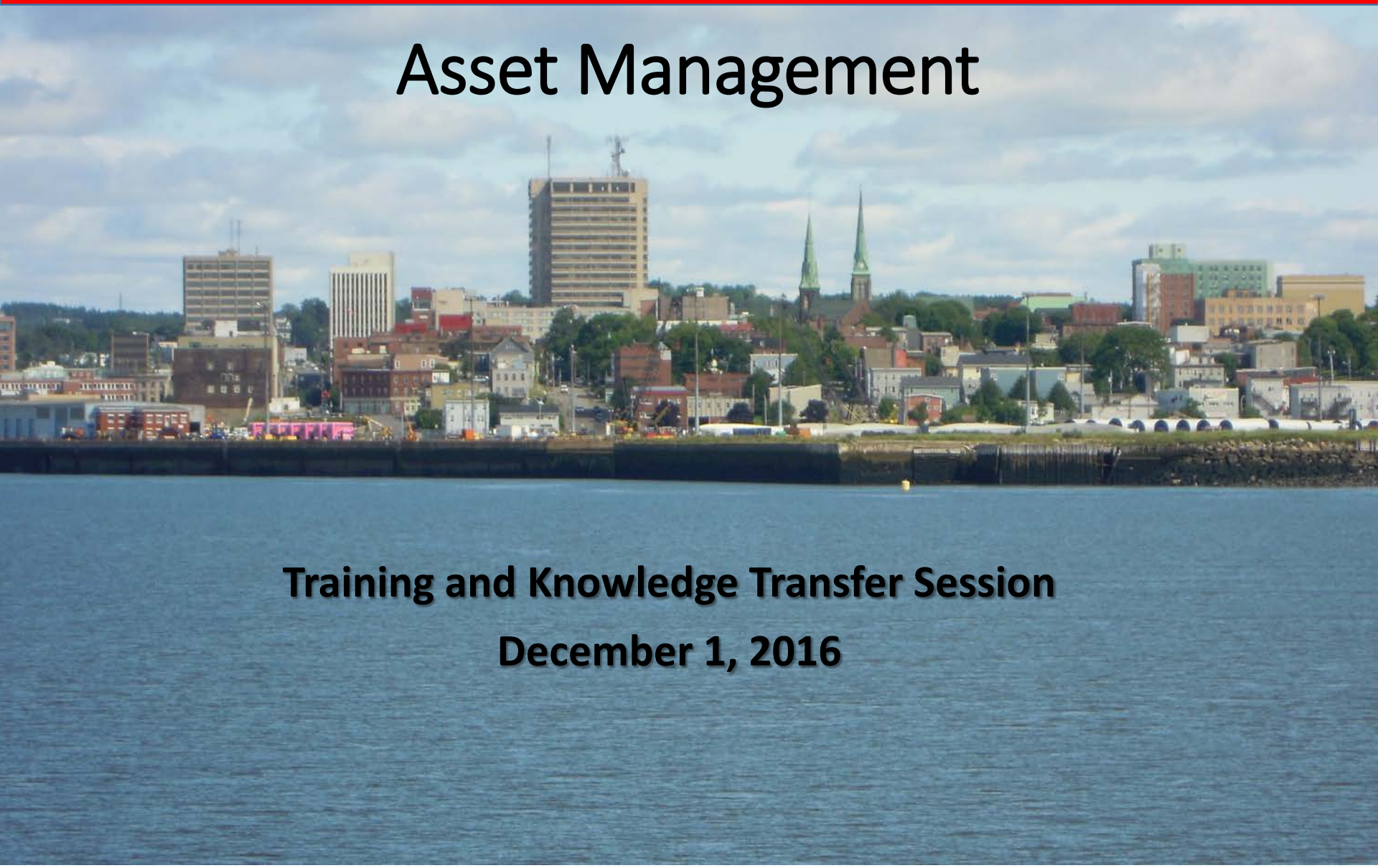
WORKSHOP PRESENTATION

APPENDIX 2-1

Workshop #1 – Training & Knowledge Transfer

SAINT JOHN

Asset Management



Training and Knowledge Transfer Session

December 1, 2016

Hans Arisz – harisz@rvanderson.com
Reg Andres – randres@rvanderson.com

R.V. Anderson Associates Limited
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Canada's Best Managed Companies
Platinum member

AGENDA

1. **Introduction to asset management**
   - What
   - Why
   - Saint John's AM mission
2. **AM Road Map Phase 1**
   - Work Plan
   - Schedule
   - Governance / Staff involvement (staff roles and responsibilities)
   - Strategic AM Plan

Nutrition Break

3. **Tactical and Operational AM**
4. **How to… Asset Management** (work flow, resources, tools)
5. **Q&A**

What is AM? …how it all started

Genesis: six questions

What is AM? …activities / framework

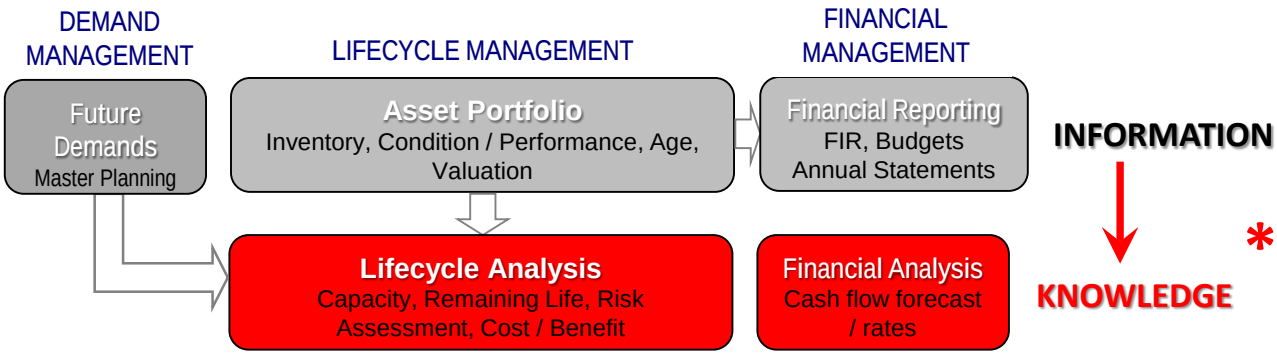
Genesis: six questions

* **1. What do you own?**
  - Inventory
  - Data bases

* **2. What is it worth?**
  - Book value (PSAB)
  - Replacement value

* **3. What condition is it in?**
  - Condition assessments
  - Performance information

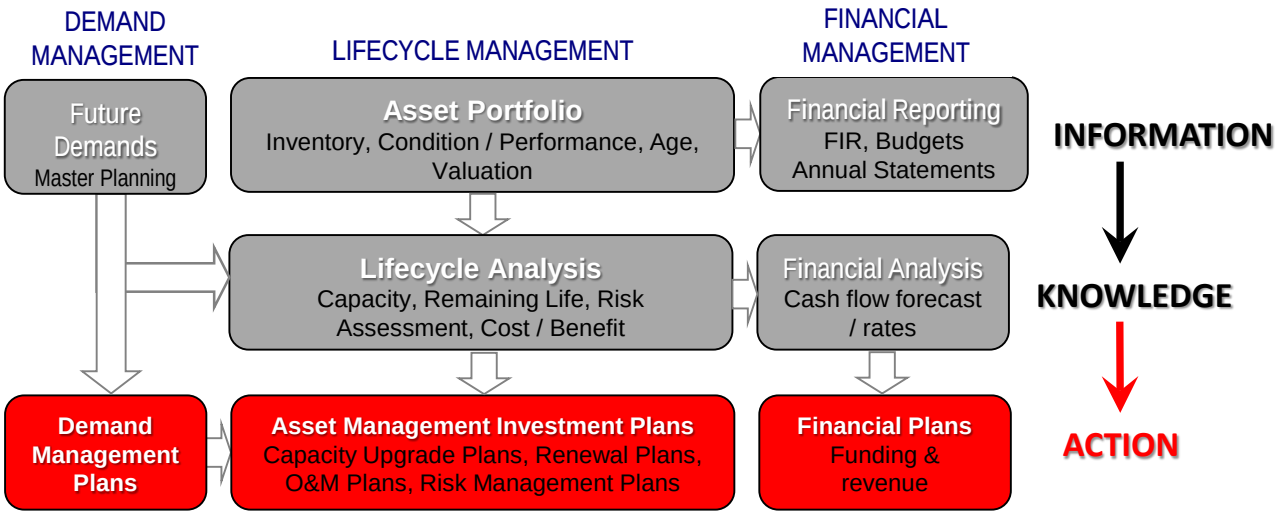
What is AM? …activities / framework



Genesis: six questions

1. **What do you own?**
   - Inventory
   - Data bases
2. **What is it worth?**
   - Book value (PSAB)
   - Replacement value
3. **What condition is it in?**
   - Condition assessments
   - Performance information
4. ***What do you need to do to it?**
   - Needs assessments (rehabilitate, replace, upgrade for renewal, compliance and / or growth)
5. ***When do you need to do it?**
   - Lifecycle and risk assessments
6. ***How much will it cost?**
   - Lifecycle investment profiles
   - Revenue planning for sustainability

What is AM? …activities / framework



Genesis: six questions

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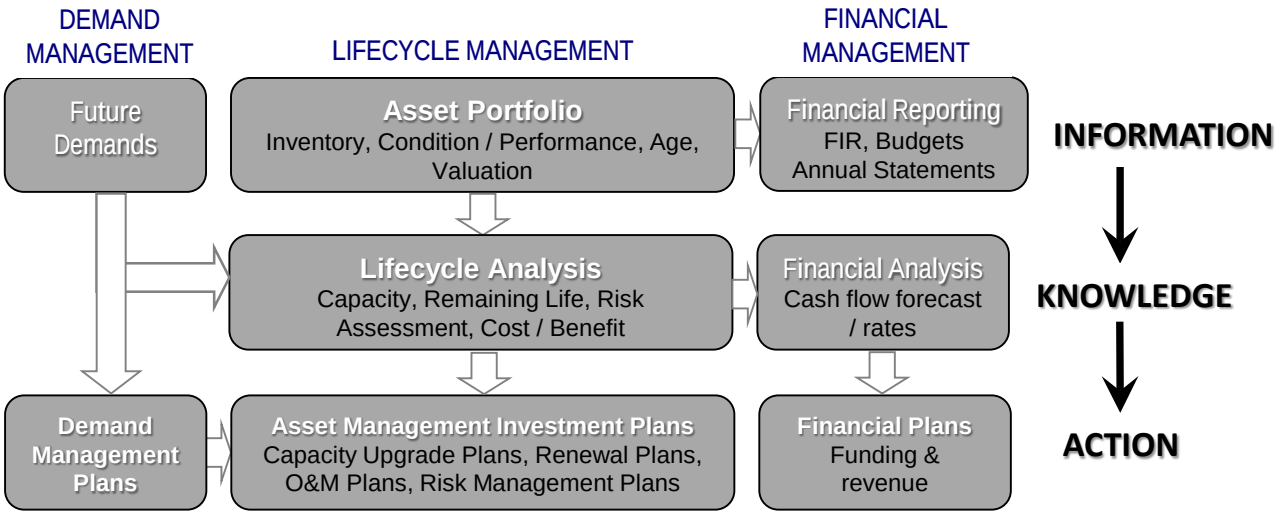
What is AM? …activities / framework



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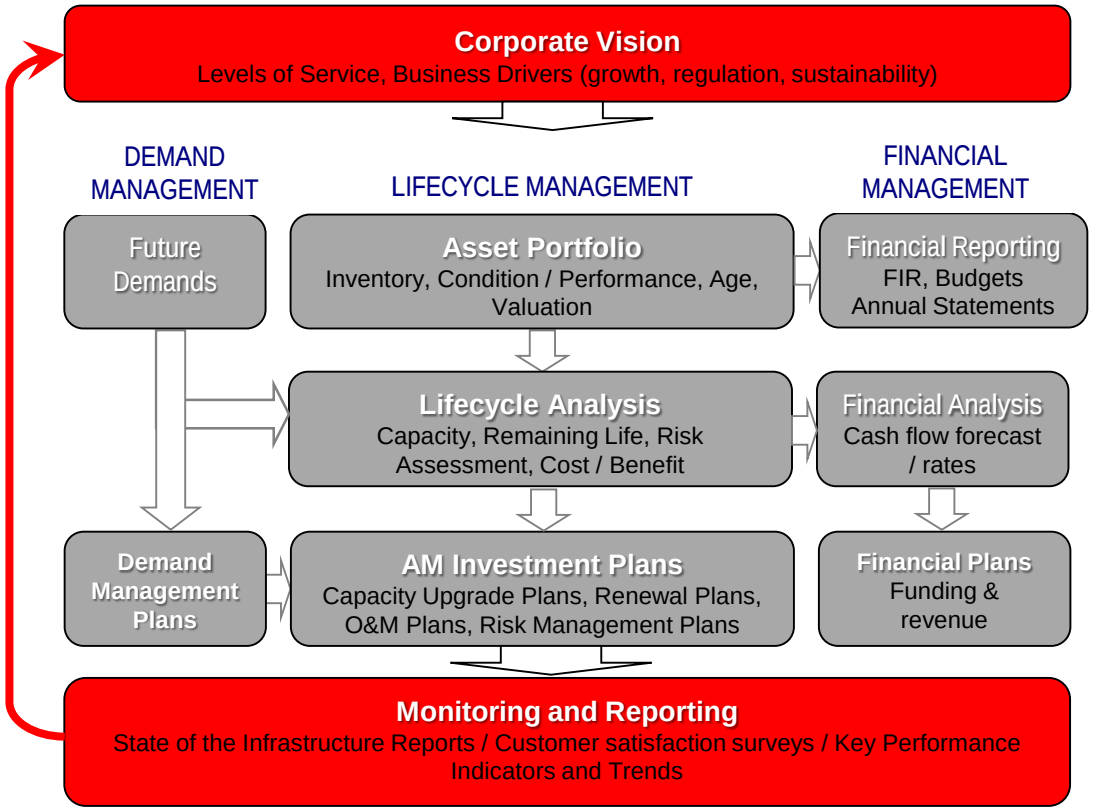
   - Lifecycle and risk assessments
6. **How much will it cost?**
   - Lifecycle investment profiles
   - Revenue planning for sustainability

What is AM? … framework (AM processes)



Establish levels of service and review monitored results against service standards to determine adjustments in implementation strategy

INFORMATION

↓

KNOWLEDGE

↓

ACTION

Monitor and report on the state of assets based on implementation strategy

What is AM? … RVA's framework (AM processes)

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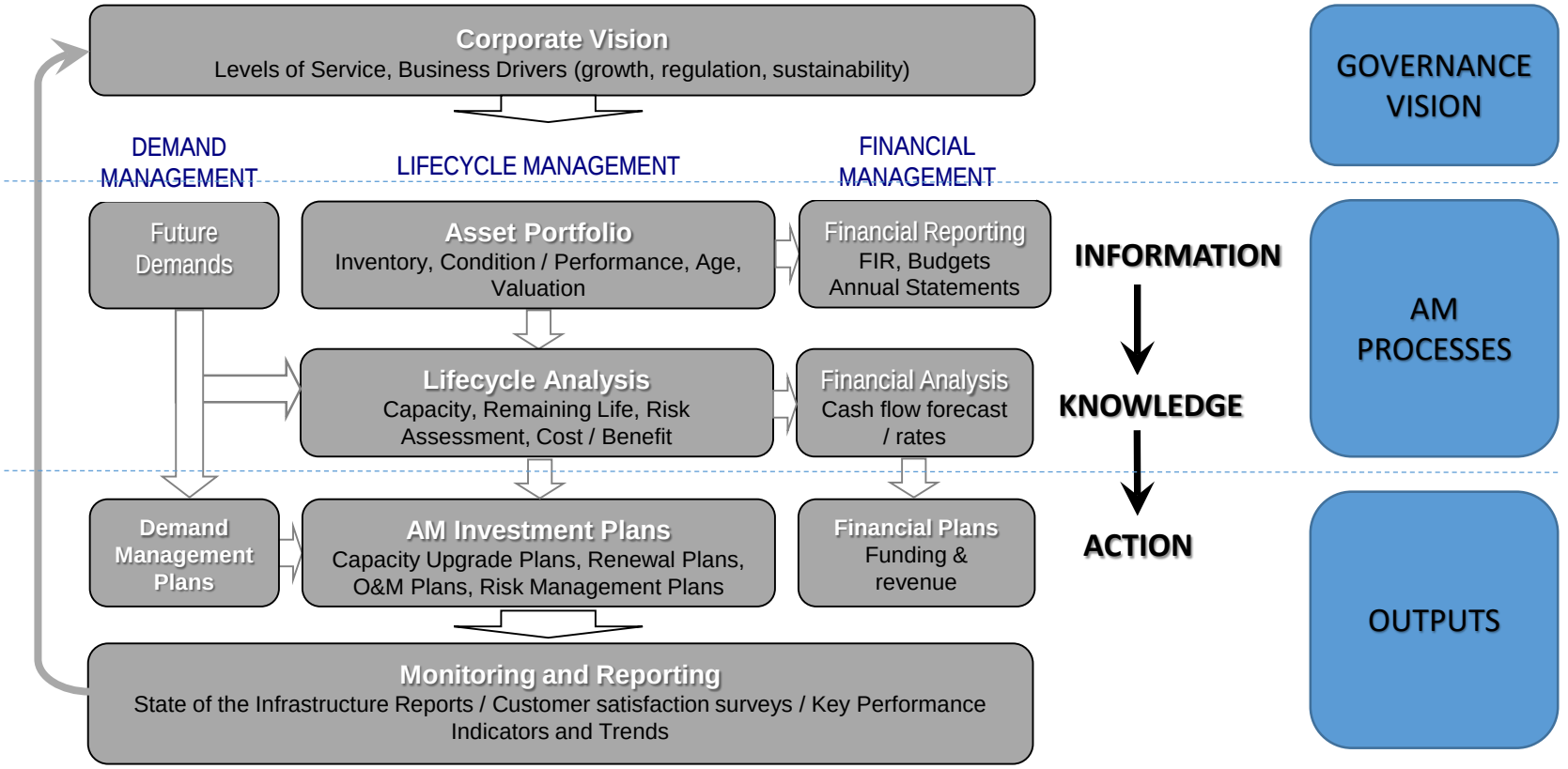


What is AM – national / historical perspective?

National Asset Management Working Group (2005 – 2010)

A network of national organization representatives from communities, senior government, community planners, engineers, finance and accounting, technical associations, researchers, academia, …

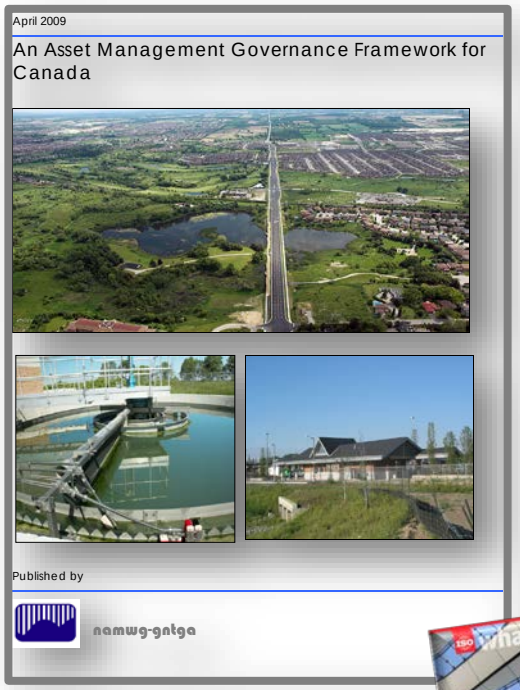
An Asset Management Governance Framework for Canada (2009)

Includes a definition of asset management and a description of what is asset management including a vision statement of what AM is to accomplish.

What is AM?

NAMWG Definition of Asset Management

Asset Management is an integrated business approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risk and provide satisfactory levels of service to community users in a socially, environmentally and economically sustainable manner.

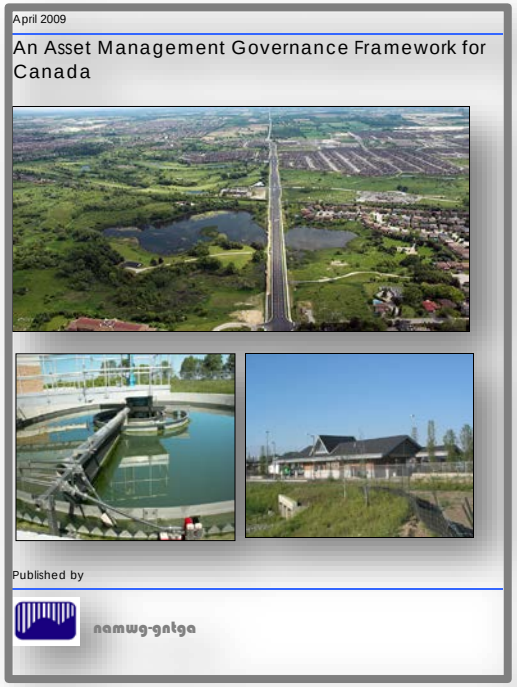


WORKING TOWARDS THE CREATION OF THE
National Round Table on Sustainable Infrastructure
Table ronde nationale sur l'infrastructure durable

SAINT JOHN

- Accepts this definition (?)
- No need to "reinvent the wheel"

Why implement Asset Management?



WORKING TOWARDS THE CREATION OF THE
National Round Table on Sustainable Infrastructure
Table ronde nationale sur l'infrastructure durable

VISION STATEMENT

In 2020, through collaboration of all orders of government, communities in Canada will have sustainable municipal infrastructure with the levels of service that support the community's health, safety, economic prosperity and quality of life.

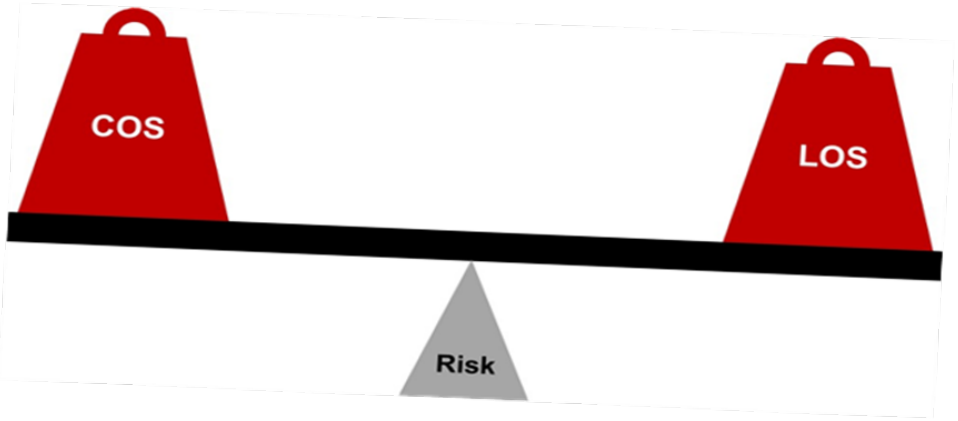
Specifically, Canadian communities will:

- *Make sound municipal infrastructure decisions based on full lifecycle analysis that are socially, environmentally and economically sustainable.*
- *Have eliminated the current infrastructure and deferred maintenance deficits and have access to sustainable funding mechanisms.*
- *Have improved overall resilience and adaptability of municipal infrastructure to the impacts of climate change, and*
- *Be recognized as leaders in innovative infrastructure technology and practice.*

Why implement Asset Management?

SAINT JOHN'S MISSSION STATEMENT

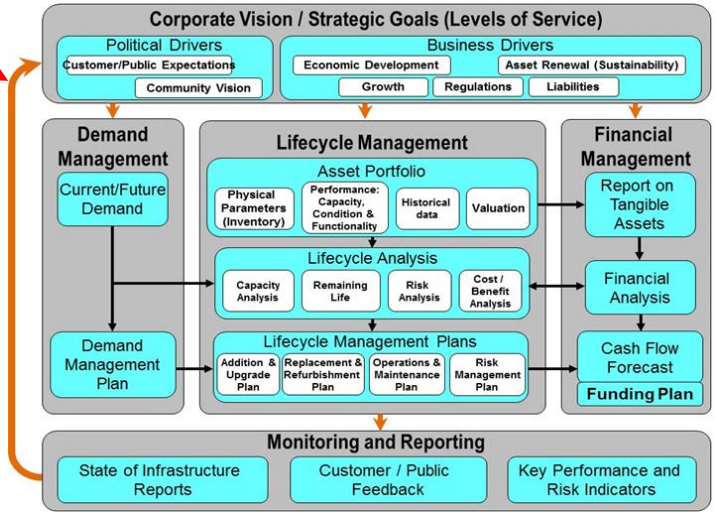
- To provide an optimum Level Of Service (LOS) at the lowest Life Cycle Cost (LCC) through the management of current ,future assets and associated risks in effective, efficient and sustainable manner



AM Implementation – 2 aspects

1. **Corporate** – preparing Saint John as an organization to implement AM (work flows, resources, tools)

2. **Technical** – how AM processes are carried out (inventory, valuations, lifecycle assessments, etc.)



Why implement asset management?

- **The City of Saint John is a <u>service delivery</u> organization**
- **The ability to deliver these services is dependant on the city's <u>municipal infrastructure</u> (assets)**

Parks and Recreation

Fire Protection

Roads & Drainage

Public Transit

Police Services

Water and Wastewater

Why implement asset management?

It is important to understand the consequences and impacts of failing infrastructure on communities… LEVELS OF SERVICE impacts

Minor inconveniences

1

Significant environmental and health impacts

2

Major service disruptions

3

Ultimate catastrophic failure

4

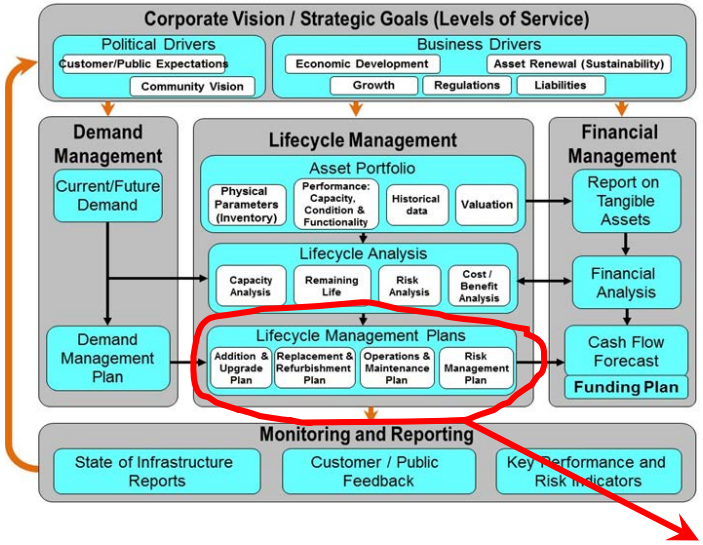
Why implement asset management?

The City of Saint John faces significant issues that challenge the priority investments for its infrastructure

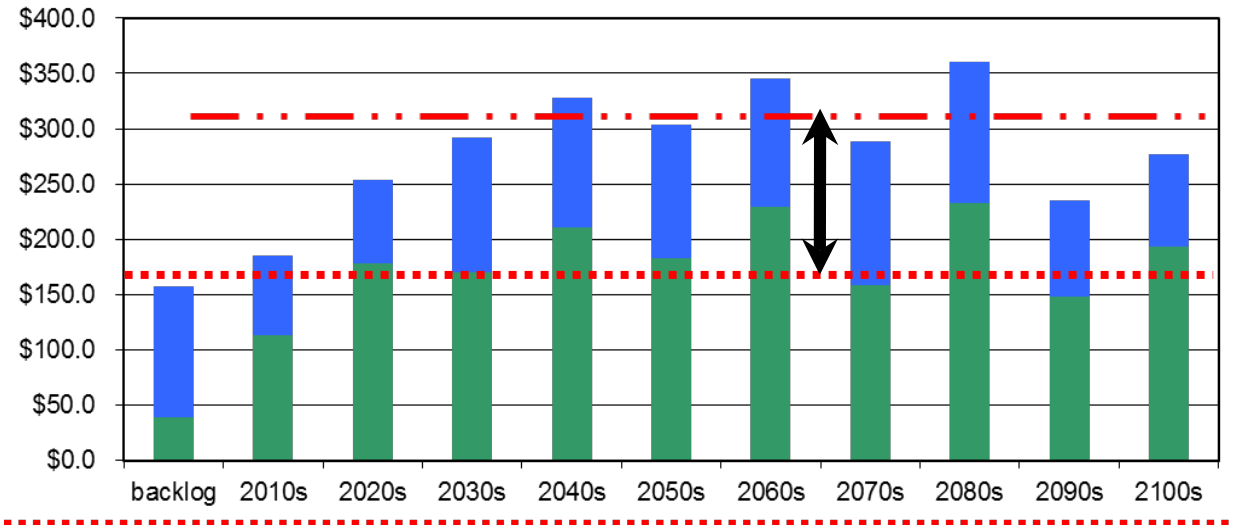
- Aging infrastructure that needs renewal / replacement, but competes for budget allocations with other issues – growth / economic development priorities
- Public demands / expectations for investment priorities and control of tax / user fee increases
- Risk of reducing levels of service
- Revitalization of downtown core vs focus on outskirt growth

Asset management will provide a structured framework / tools to help quantify these challenges for staff and rationalize priorities

AM Tools – Lifecycle Analysis



Creating Lifecycle Investment Profiles



Why implement asset management?

The City of Saint John has identified specific reasons for implementing asset management processes:

- Comply with the Gas Tax Fund Agreement Dec 2017 deadline and secure other grants/funding
- Reduce risk exposure to the City
- Understand the costs of providing services (i.e. LOS)
- Demonstrate investment accountability to residents and business
- Make better decisions on when to replace, renew or decommission assets with long term sustainable investment plans

Phase 1 Work Plan and Schedule

Activity	Date
• Project Initiation	Nov. 09, '16

• Workshop #1: Training & Knowledge Transfer
  • Asset Management why, what, how & when
  • Finish line: department work input & benefit output
	week of Nov 28 '16

• 1 on 1 Sessions with Department Managers
  • RVA understanding City's "way of doing business"
  • Department: responsibilities (LOS), staff, procedures, data, budgets, ….
	week of Dec 12 '16

• Distribute Information Requests	week of Dec 19 '16

• AM Policy, Strategy and Framework examples
  • Menu of options based on industry best practices
  • Recommendations based on City's resources and "way of doing business"
	week of Dec 19 '16

Phase 1 Work Plan and Schedule

Activity	Date

• Workshop #2:
  • Adopt policy, strategy and framework
  • Review current state of Asset Management
  • Define future state of Asset Management
	week of Jan 16 '17

• AM Policy, Strategy & Framework to Council	Jan/Feb '17
• Draft Improvement Activities Document	week of Jan 30 '17

• Workshop #3:
  • Final improvement activities document
  • Define AM Road Map components (tasks, budgets, schedules, staff, deliverables, …)
	week of Feb 13 '17

• Draft AM Road Map Document	week of Feb 27 '17
• Final AM Road Map Document	week of Mar 20 '17
• AM Road Map to Council	end of March '17

AM Work Plan

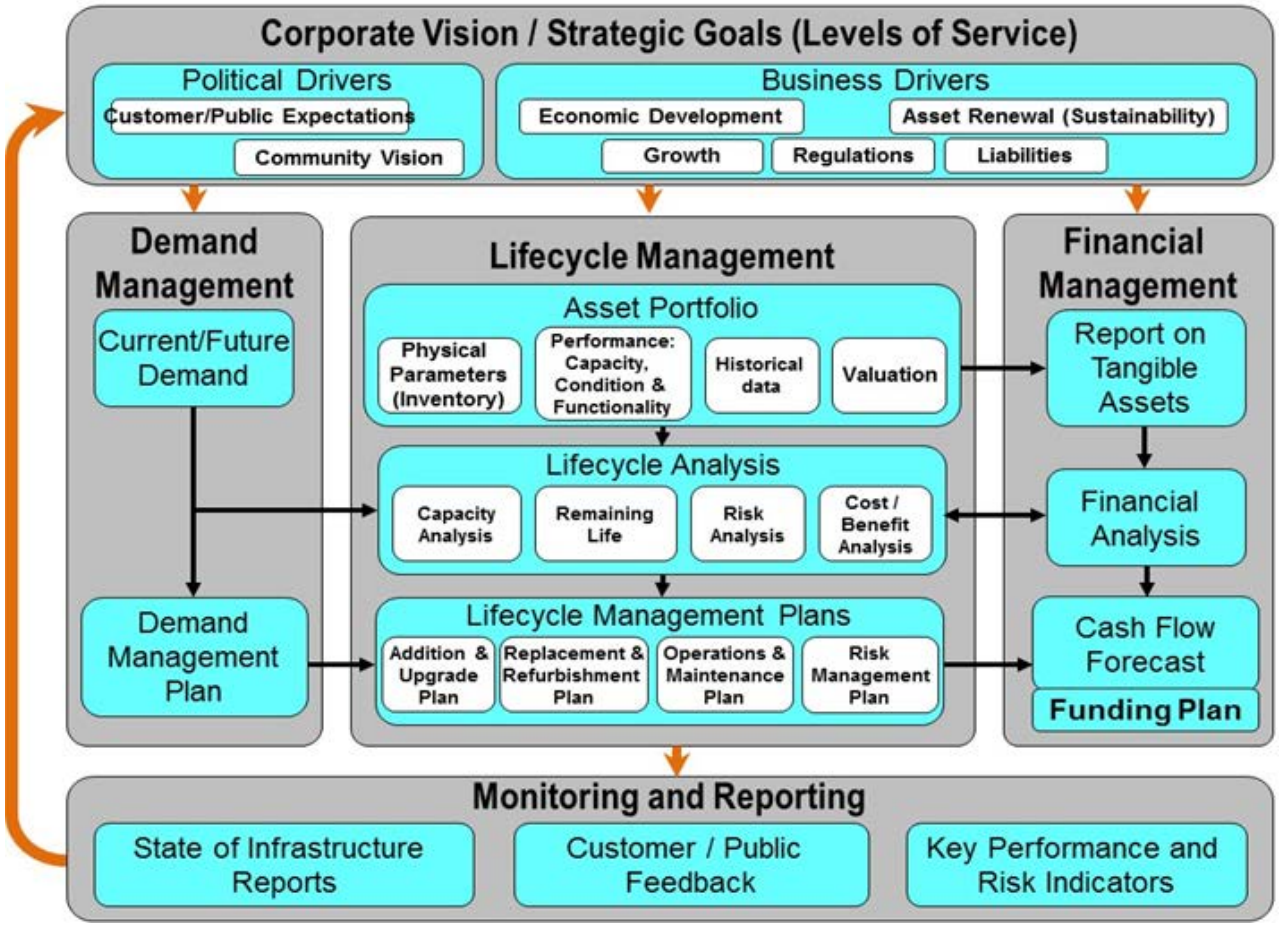

4. COMMITMENT
Organization Adoption of Asset Management
Asset Management Policy / Strategy
5. PLAN
Gap Analysis
Develop AM Improvement Plan / Road-map
6. IMPLEMENT
Implement AM Improvement Plan / Road-map
7. MEASURE
Measure And Report
1. KNOWLEDGE & COMPETENCES
Training Learning Awareness Research Engage
2. GOVERNANCE
Steering Committee Asset Management Network Team
3. ASSESS
Detail Assessment of the current State of COSJ AM
Gather AM Information, Interview, Training, etc.
ENGAGE
COMMUNICATE
REVIEW
SUSTAINABLE SERVICE DELIVERY
INFORMATION
FINANCES
ASSETS
PEOPLE

AM Work Plan

The six questions of asset management:

1. **What do you own?**
2. **What is it worth?**
3. **What condition is it in?**
4. **What do you need to do to it?**
5. **When do you need to do it?**
6. **How much will it cost?**

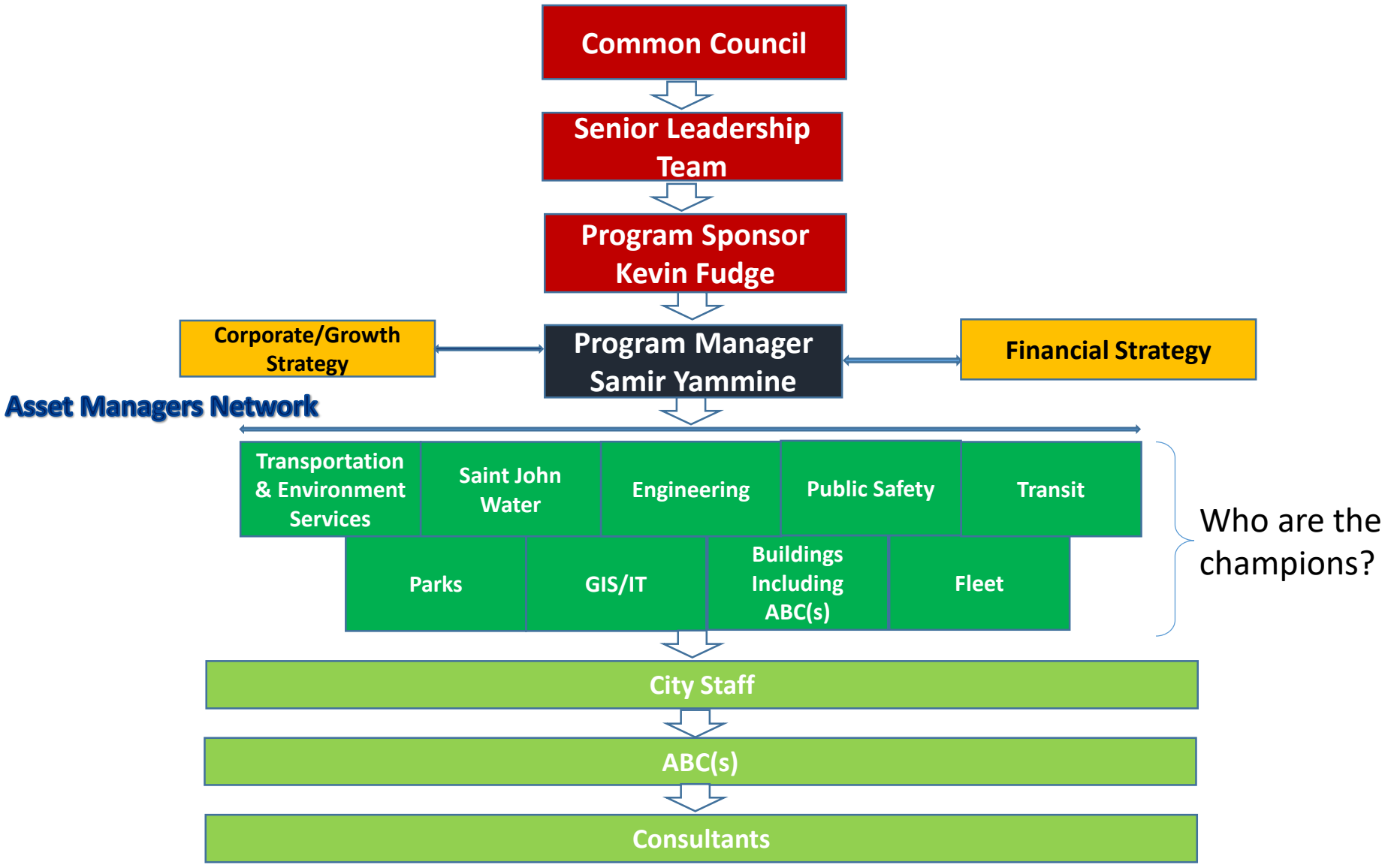
Operationalizing AM



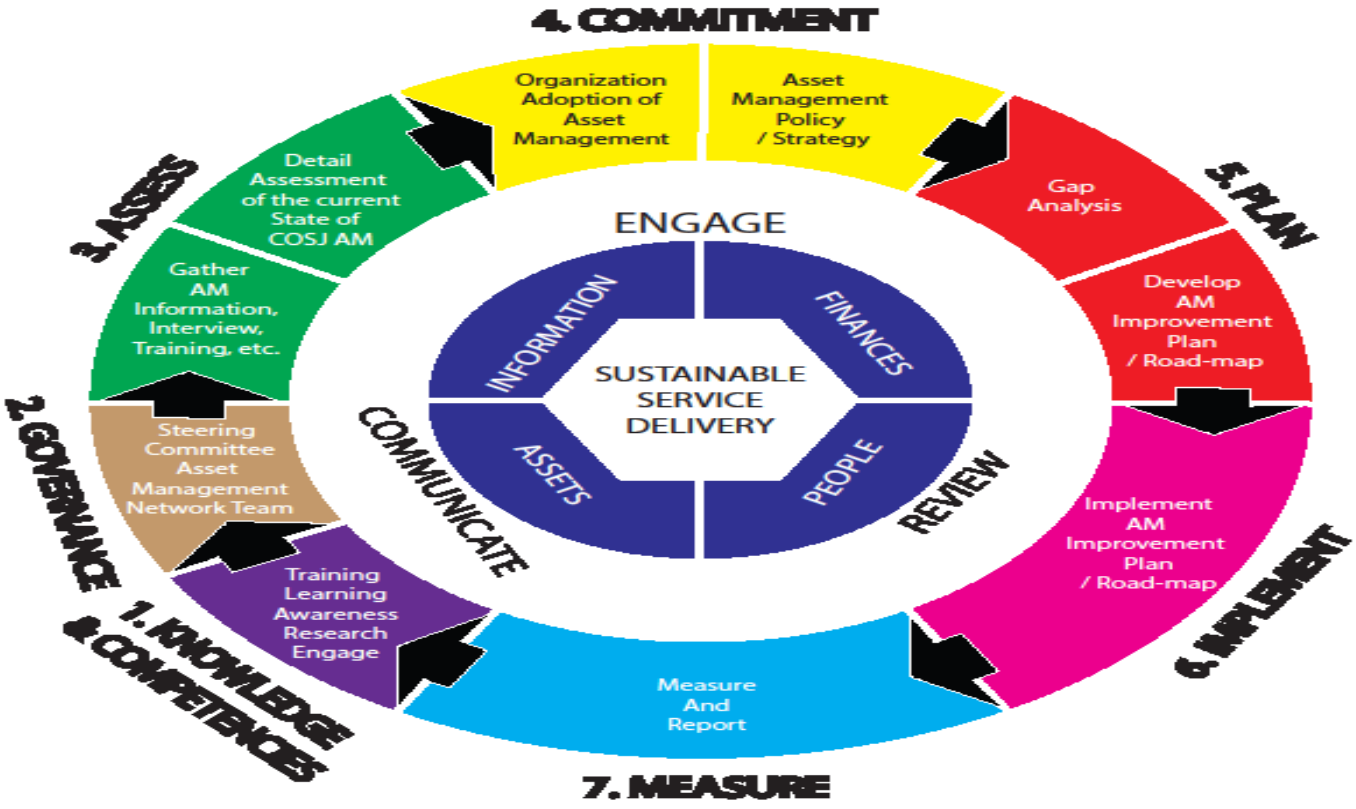
The six questions of asset management:

1. What do you own?
2. What is it worth?
3. What condition is it in?
4. What do you need to do to it?
5. When do you need to do it?
6. How much will it cost?

Governance / Roles



AM Work Plan



CITY OF SAINT JOHN
ASSET MANAGEMENT FRAMEWORK

Looking into the Future

Phase 2 (2017-18)
Focus on High Priorities

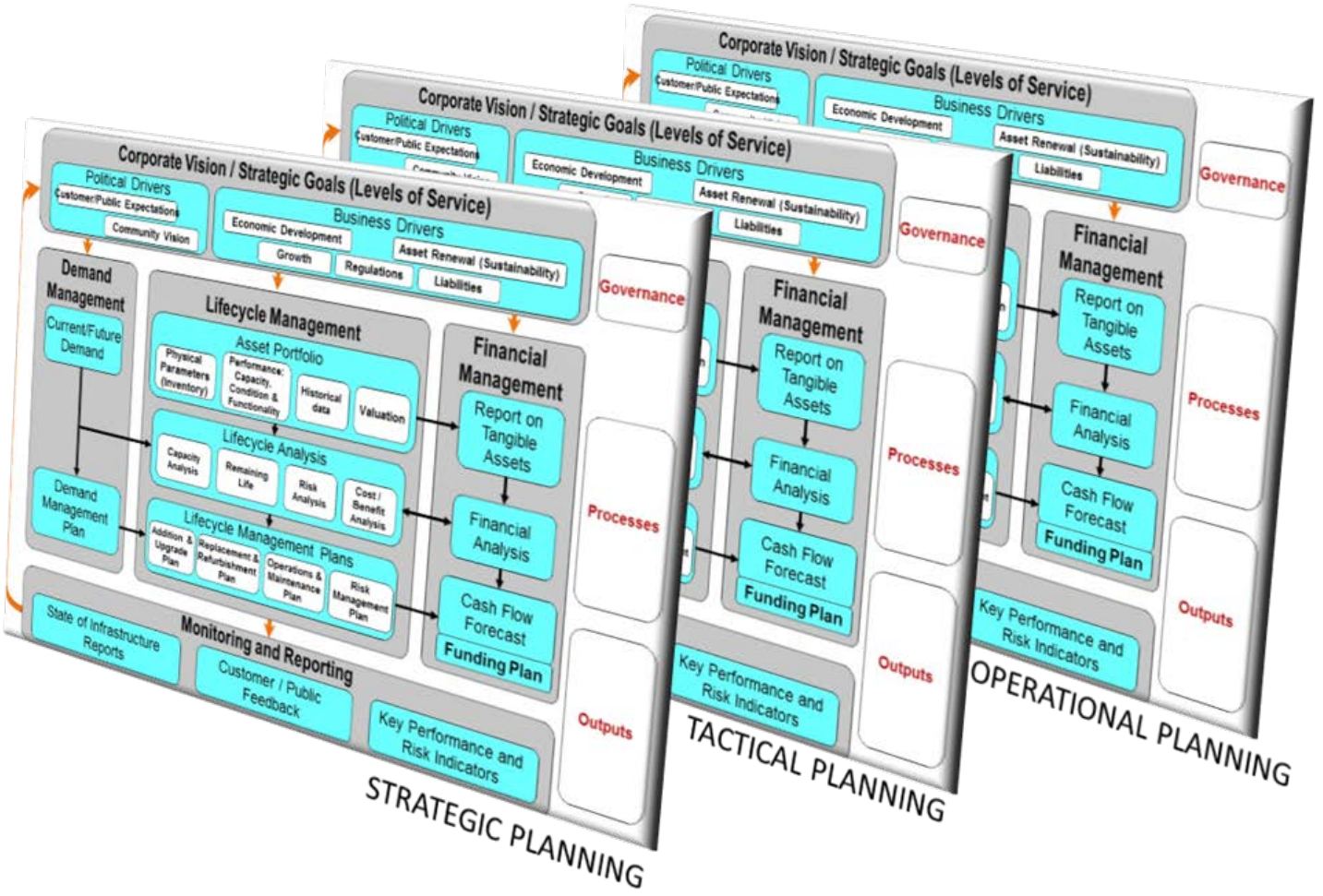
- **Phase 2**
  - **State of the Infrastructure**
  - **Asset Condition Assessment**
  - **Level of Service**
  - **Robust Capital Investment Plan (CIP)**
  - **Long Term Financial Plan 10-25 Years**
  - **AM Life Cycle Planning**
  - **Asset Management Information System**
  - **Key Performance Indicators**
- **Phase 3**

Phase 3 (2019 to 2020)
Fully Implement

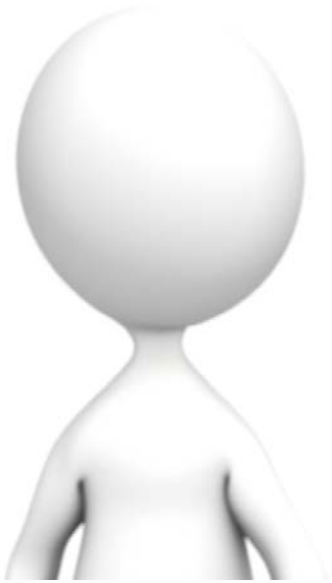
AM Levels of Planning and Activities

Life-Cycle Management Approach = AM

AM Levels of Planning and Activities



Questions & Answers Discussion



Hans Arisz, P.Eng.,
harisz@rvanderson.com

Reg Andres, P.Eng.,
randres@rvanderson.com

APPENDIX 2-2

Workshop #2 – Policy, Strategy and Risk Management Documents

SAINT JOHN

Asset Management

WORKSHOP #2

Policy, Strategy and Risk Management Documents

January 19, 2017

Hans Arisz – harisz@rvanderson.com
Reg Andres – randres@rvanderson.com

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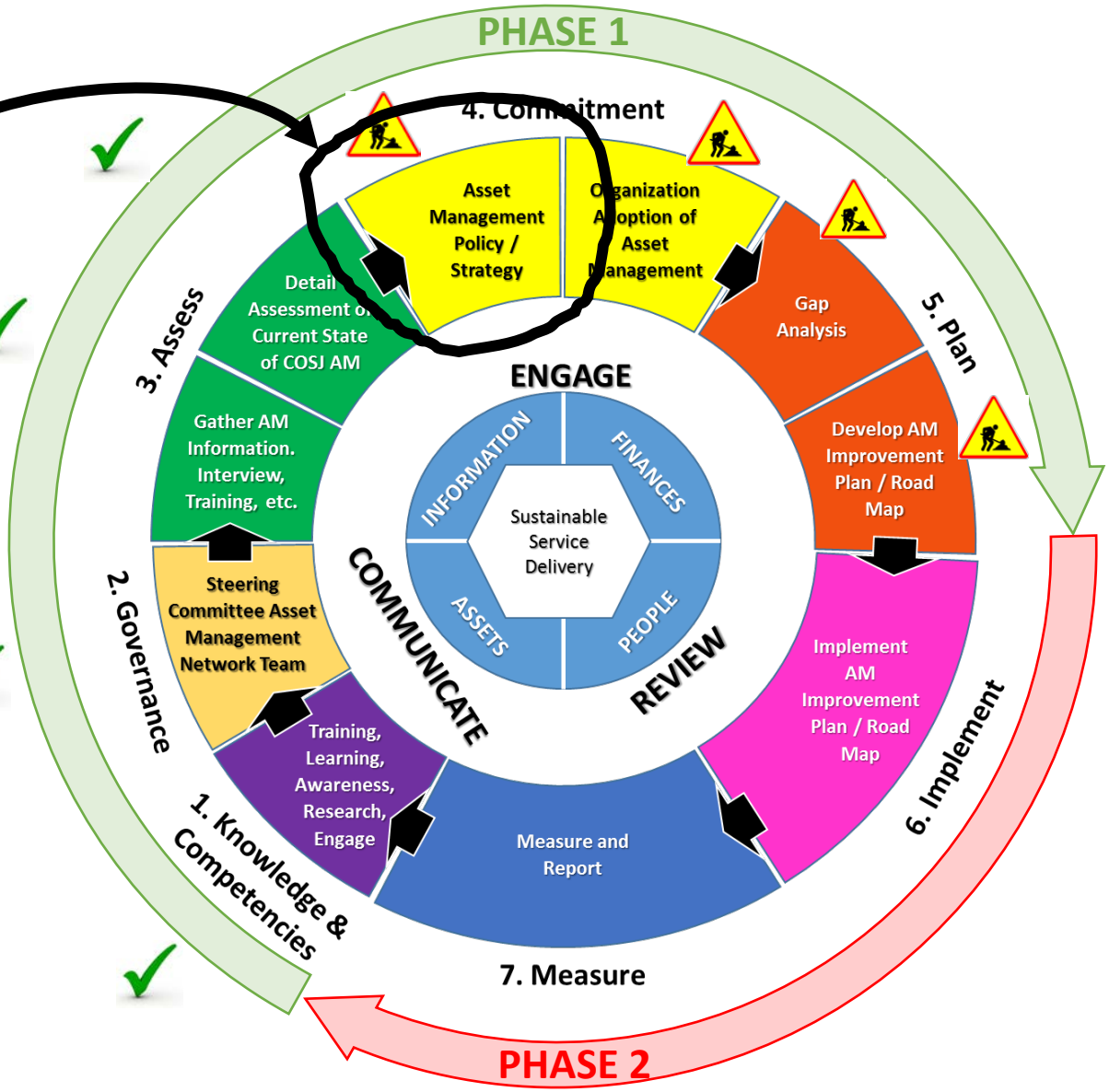
AGENDA

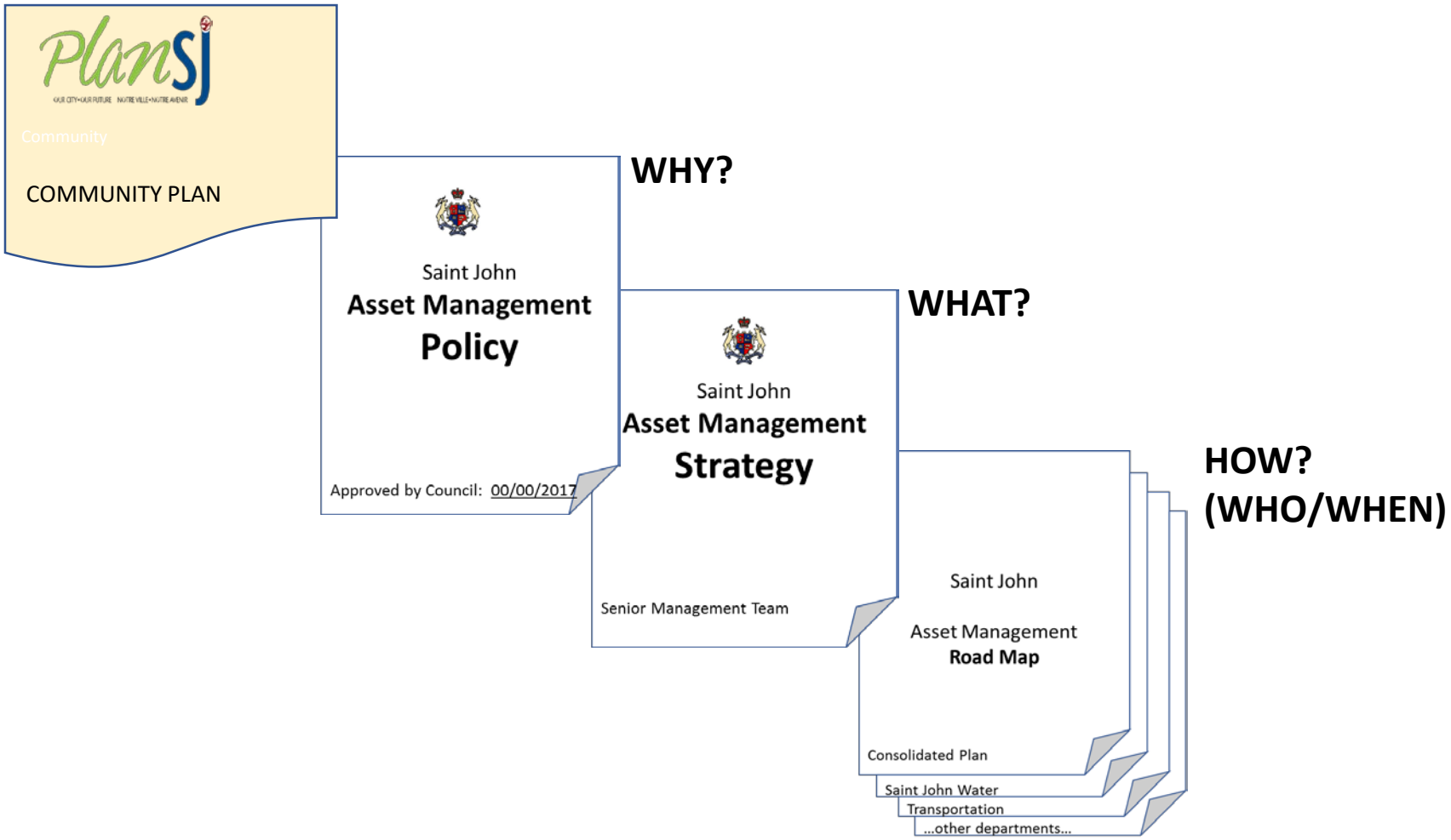
1. **Introduction and Project Status**
2. **AM Commitment Documents and Hierarchy**
   - AM Policy
   - AM Strategy
   - AM Roadmap (Implementation Work Plan)
3. **AM Policy for Saint John**
4. **AM Strategy for Saint John**
   - State of Asset Management practice in Saint John
5. **Next Steps**

1. Project Status

Focus for Workshop #2



2. AM Commitment Documents and Hierarchy



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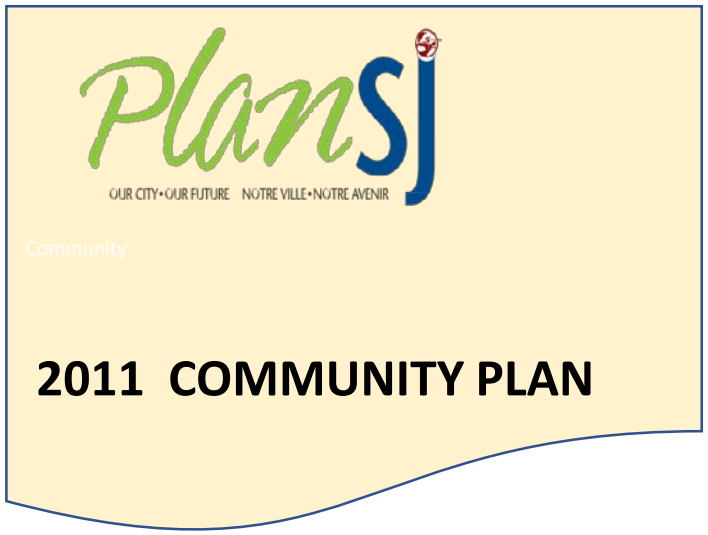
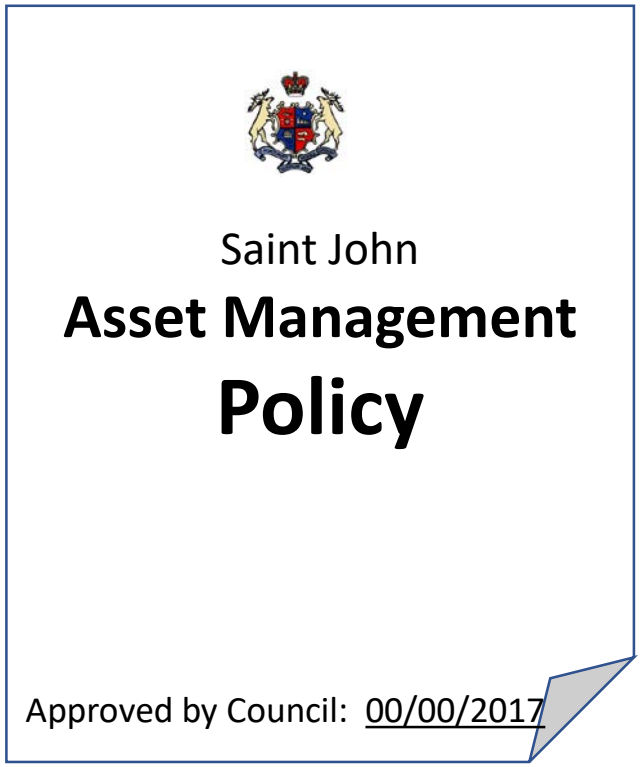


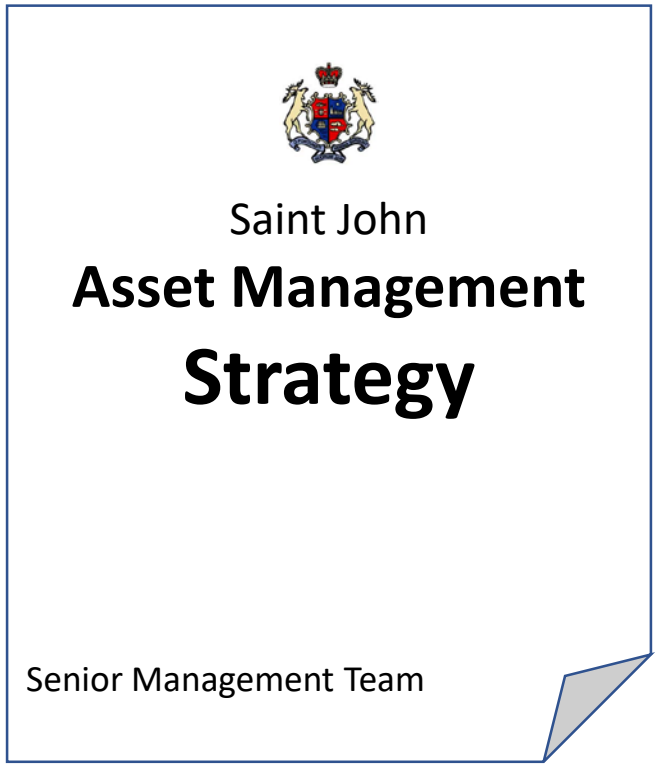
- **What is a community plan?**
  - ✓ *Documentation of an overarching vision for the future of the city developed with significant public consultation*
  - ✓ *Demonstrates commitment to AM and adopted by Council*
- **Responsibility?**
  - ✓ *Council / Public*

2. AM Commitment Documents and Hierarchy



- **What is a policy?**
  - ✓*A formal corporate (Council) commitment to implementing AM processes*
  - ✓*Council direction to City Manager (staff) with implementation objectives*
- **Responsibility?**
  - ✓*Council - approval*

2. AM Commitment Documents and Hierarchy

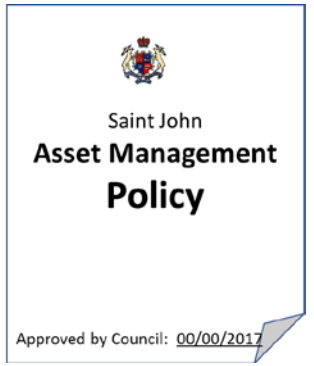


- **What is a strategy?**
  - ✓ *Senior Management's commitments / priorities for implementing AM Policy*
  - ✓ *A set of directions for improving and sustaining AM practices in the City to ensure consistent application of AM in all departments*
- **Responsibility?**
  - ✓ *City Manager – Jeff Trail and Senior Management Team*

2. AM Commitment Documents and Hierarchy

- **What is a road map?**
  - ✓*Operational department staff commitment to implement the corporate AM Strategies*
  - ✓*A set of actions for implementing AM within operational departments in the framework of a corporately integrated plan*
- **Responsibility?**
  - ✓*Operational Department Managers and staff*

3. AM Policy



Developing draft policy for Saint John:

- Review of industry guidance documents (e.g. Asset Management BC's "Guide for Developing a Municipal AM Policy")
- Review a number of existing AM Policy documents from municipalities across Canada
- Be concise
- Focus on the objectives that answer the question of "**why**" Saint John wants to develop / improve its AM system
- Demonstrate Council's commitment to "asset management"

3. AM Policy

Needs to support the Plan SJ "vision" with guidance for Senior Management on why the City wishes to embark on an AM practice improvement program

e.g.

PlanSJ Policy MS-7

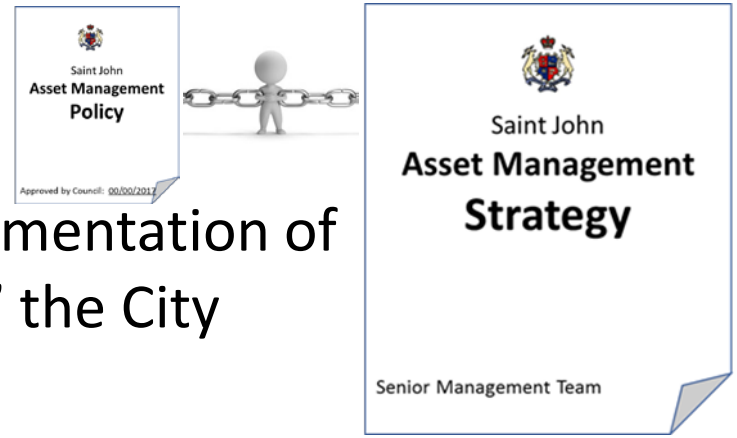
*"…Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to **optimize service delivery** over the life of the asset."*

AM Policy Statement

*"…Saint John shall **adopt and apply recognized asset management practices** in support of delivering services to its customers…"*

Saint John Draft AM Policy

4. AM Strategy



The AM Strategy focusses the implementation of the AM Policy by identifying "**what"** the City needs to address to evolve its asset management program

1. ***Existing Practice*** - Review existing work flow processes within each Department of the City to identify issues that are preventing or limiting the City's ability to answer the six (6) basic questions of AM

4. AM Strategy

2. ***Identify source causes*** – based on which six questions of AM cannot be fully answered, identify which of the four (4) AM framework operating components is the root cause of the issue

Question 1

Question 2

⋮

Question 6

4. AM Strategic Plan

3. What did we find?

"State of Asset Management Practice" defined by 8 key issues

1. Fragmented organization
2. Fragmented data
3. Data / information difficult to extract from data systems
4. Priorities / risk ratings for assets not (well) defined
5. Levels of service and KPI's not (well) defined
6. Investment budgets for asset renewal and replacement based on financial capacity, not asset needs
7. Financial and asset management plan reported for only one year
8. Asset management is reactive, not pro-active

4. AM Strategy

4. *Identifying key strategies to address issues*

1. Improve Departmental Interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon

Saint John Draft AM Strategy

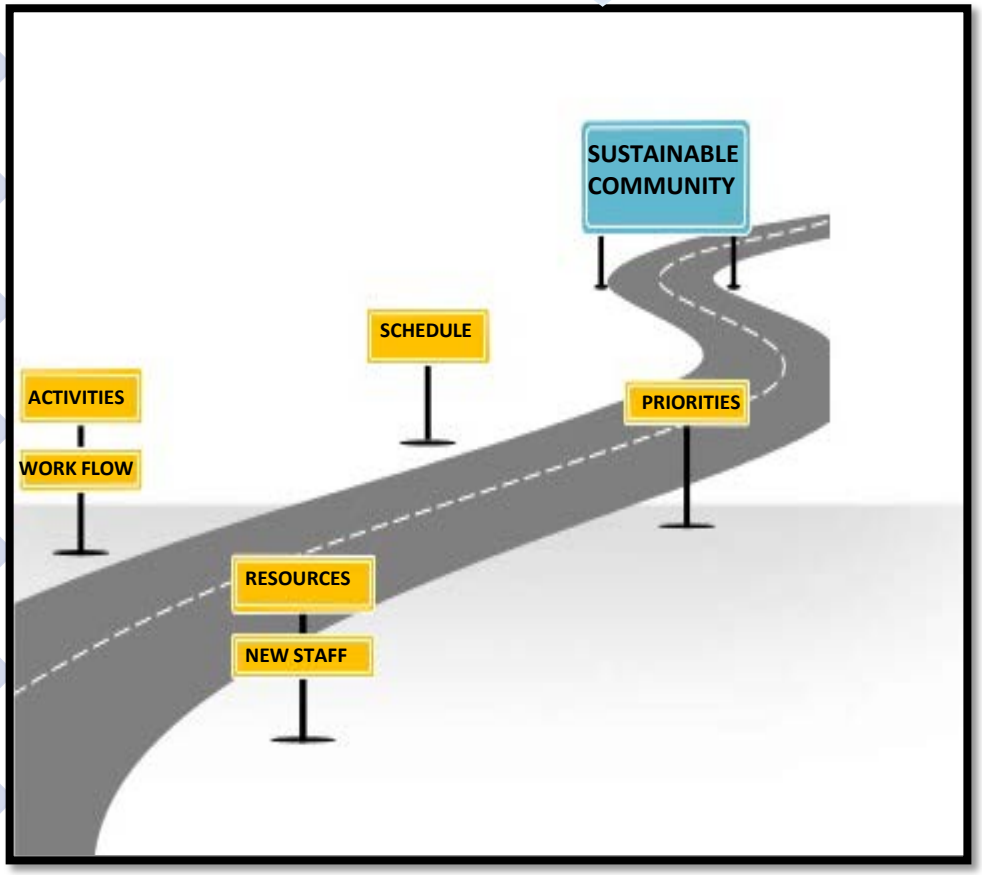
5. Next Steps

Developing the AM Road Map

Identifying implementation activities

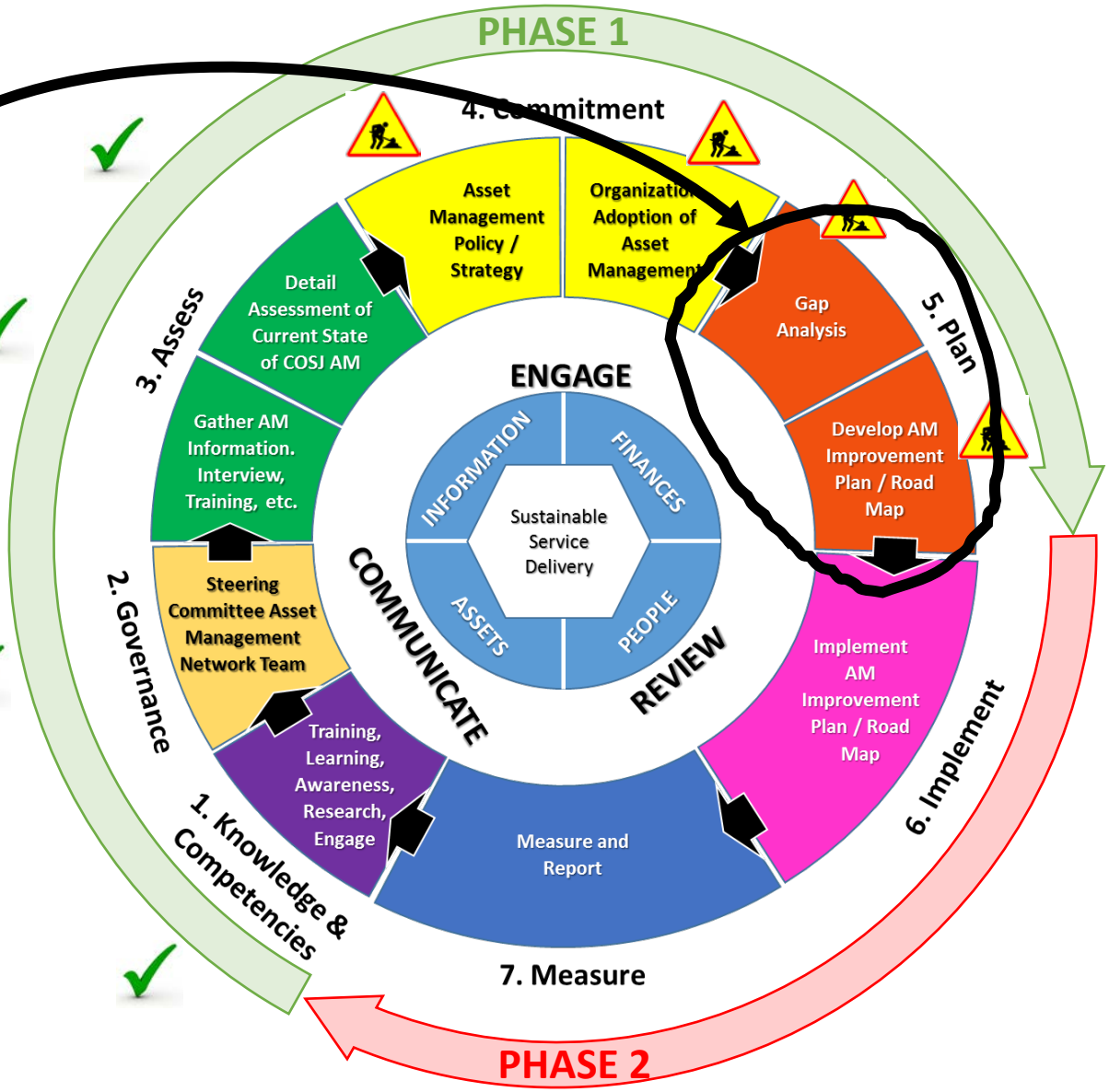
8. Detailed Departmental issues

1. Improve Departmental Interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon



5. Next Steps

Creating Road Map (detailed program)



Hans Arisz, P.Eng.,
harisz@rvanderson.com

Reg Andres, P.Eng.,
randres@rvanderson.com

APPENDIX 2-3

Workshop #3 – Asset Management “State of Practice” Improvement

SAINT JOHN

Asset Management

WORKSHOP #3

Saint John Asset Management "State of Practice" Improvement

January 20, 2017

Hans Arisz – harisz@rvanderson.com
Reg Andres – randres@rvanderson.com

R.V. Anderson Associates Limited
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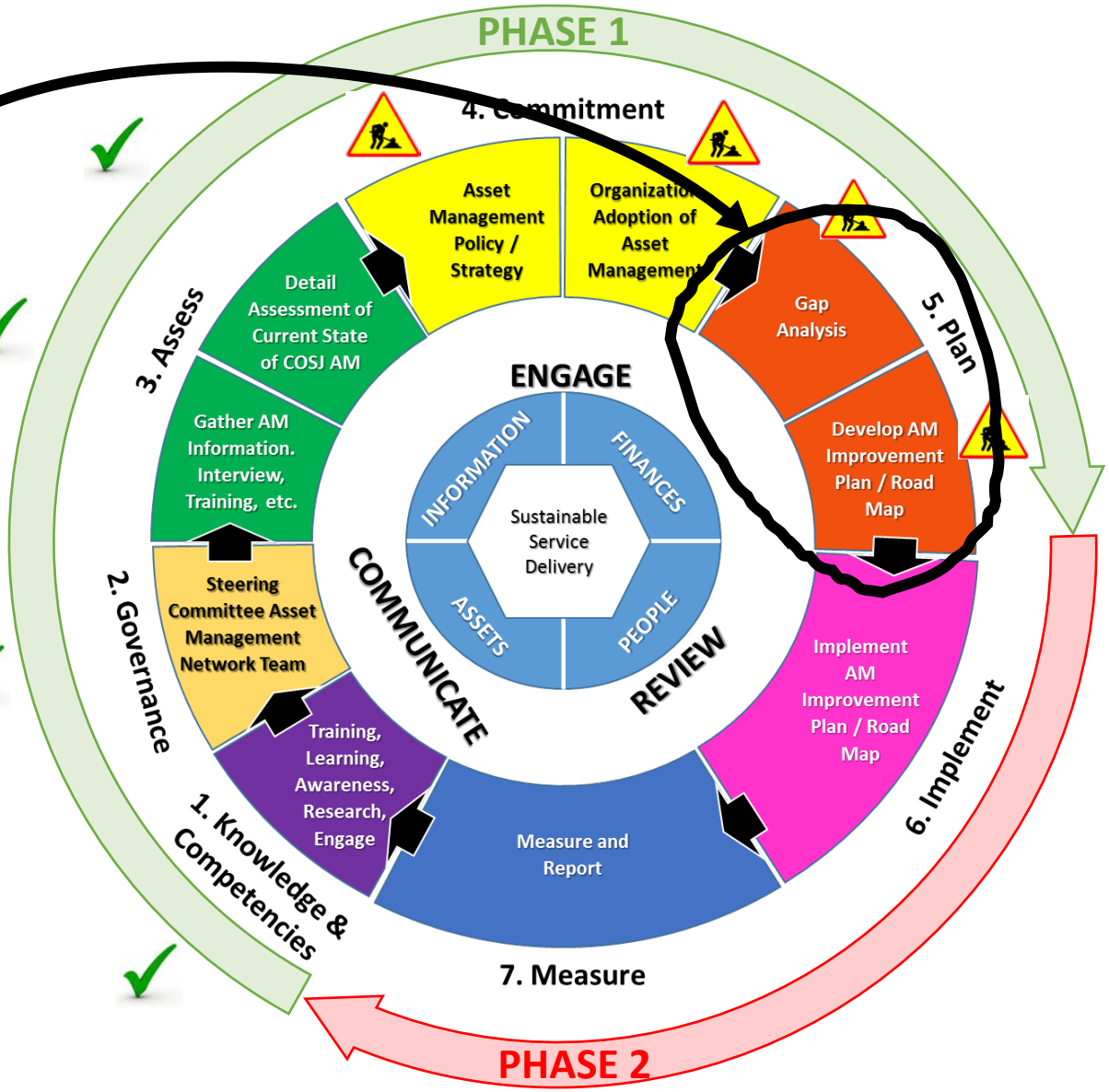
AGENDA

1. **Introduction and Project Status**
2. **AM Commitment Documents and Hierarchy**
   - AM Policy
   - AM Strategic Plan
   - AM Roadmap (Implementation Work Plan)
3. **Current State of Practice**
   - Organization wide issues (strategies)
   - Departmental issues (Road Map Items)
4. **Defining Future State of Practice**

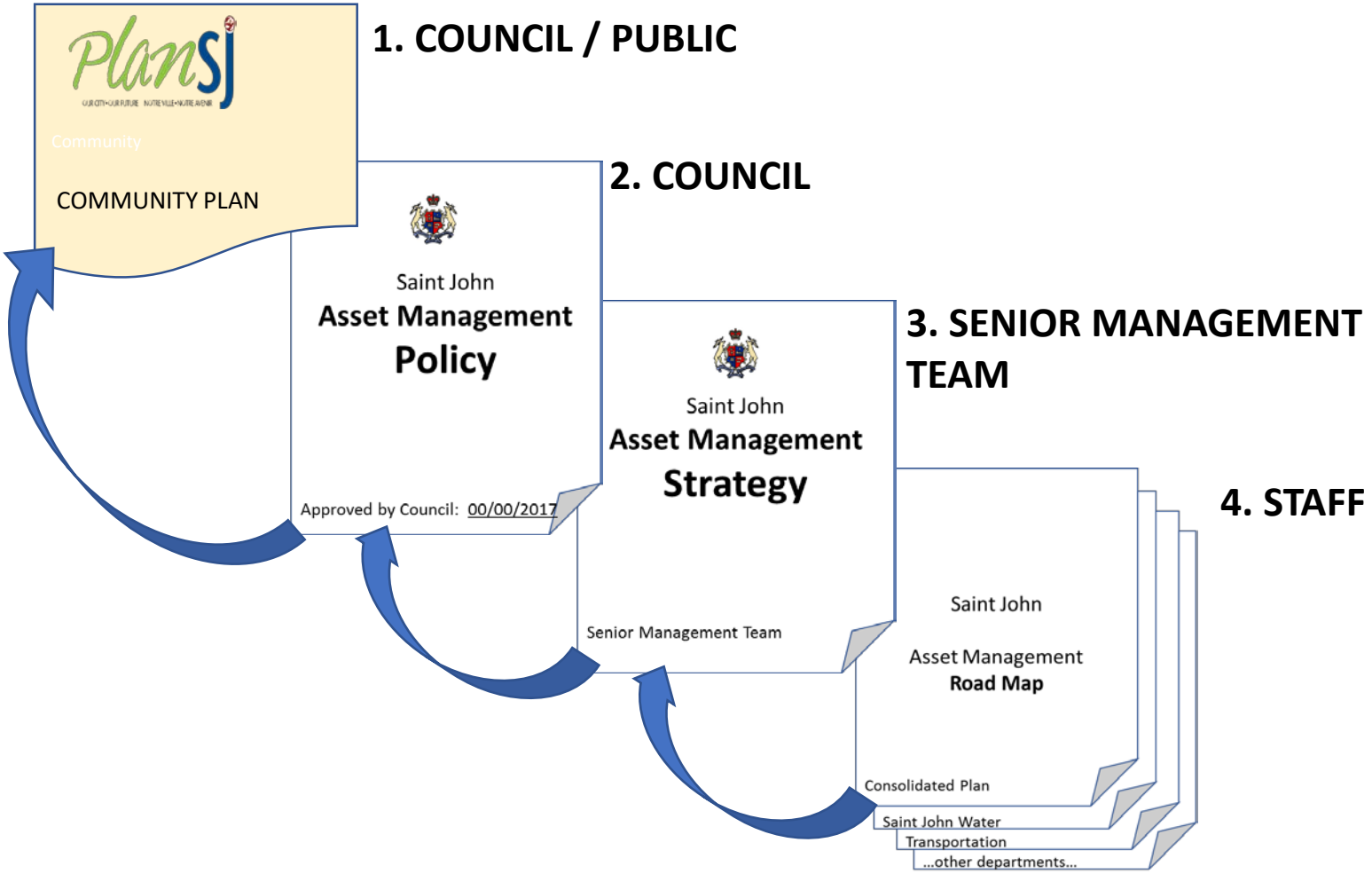
1. Project Status

Focus for Workshop #3

Approach for Creating Road Map (detailed program)



2. AM Commitment Documents and Hierarchy



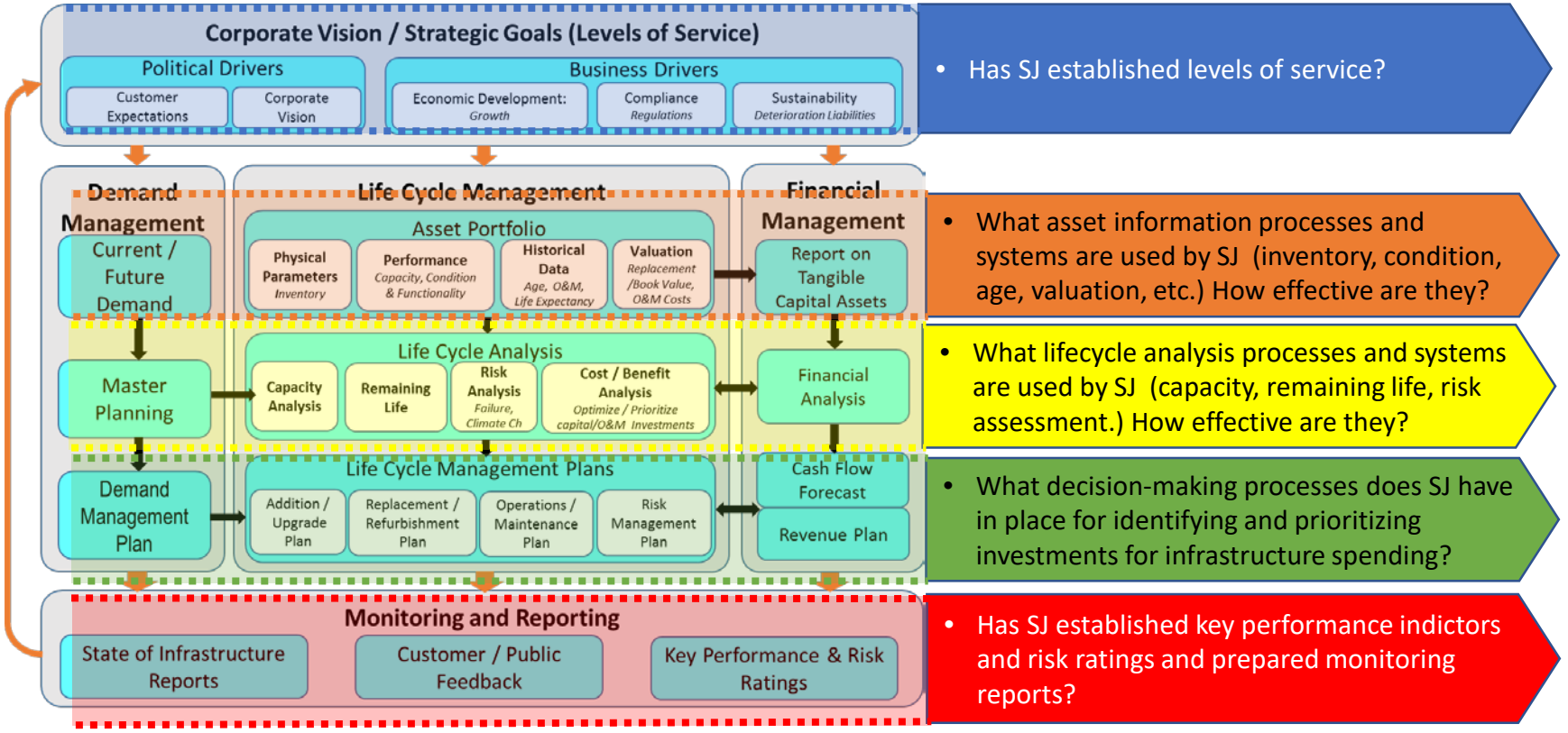
2. AM Commitment Documents and Hierarchy

4. AM "Road Map"

- **What is a road map?**
  - ✓*Operational department staff commitment to implement the corporate AM Strategies*
  - ✓*A set of actions for implementing AM within operational departments in the framework of a corporately integrated plan*
- **Responsibility?**
  - ✓*Operational Department Managers and staff*

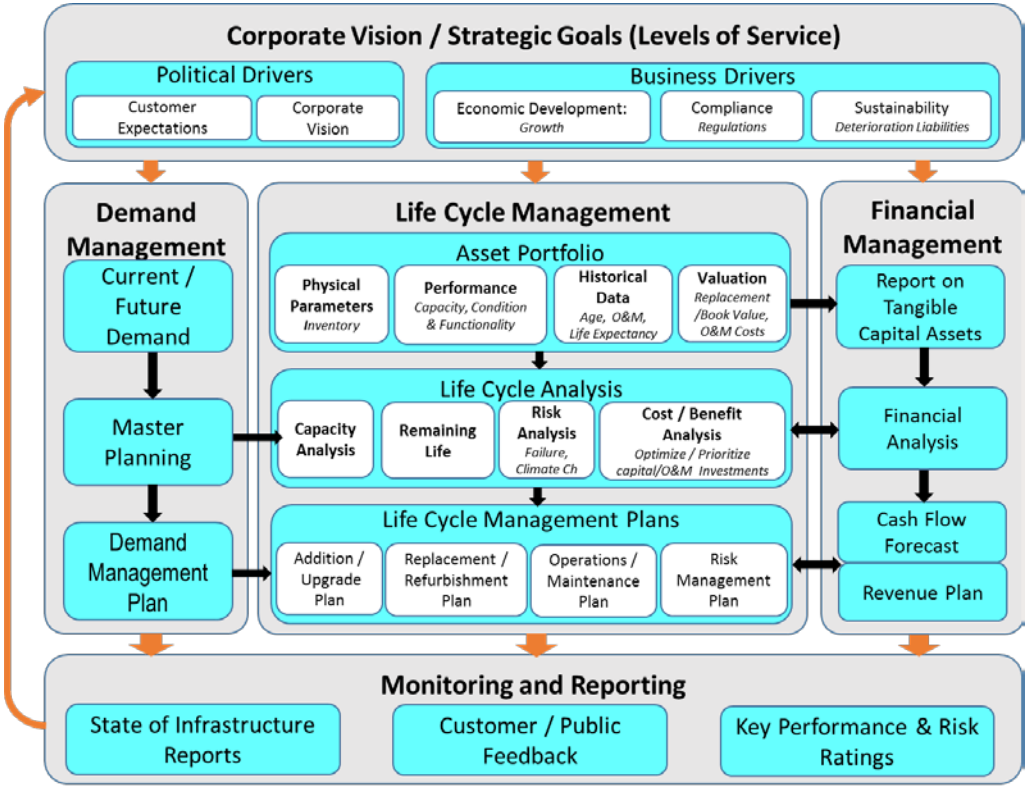
3. Current State of Practice

- Evaluate how effective Saint John's AM activities, per framework are practiced - survey and review in each Department managing infrastructure to deliver services



3. Current State of Practice (cont'd)

- Evaluate how effective Saint John's AM activities, per framework are practiced - survey and review in each Department managing infrastructure to deliver services
- Assess how well Saint John is able to answer the 6 questions of AM?

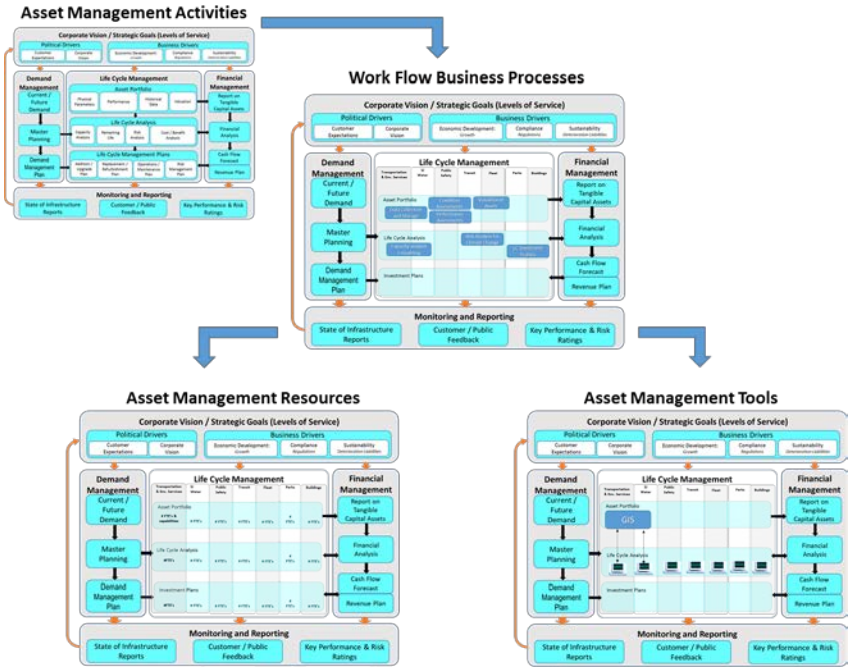


AM Six Questions

1. **What do you own?**
2. **What is it worth?**
3. **What condition is it in?**
4. **What do you need to do to it?**
5. **When do you need to do it?**
6. **How much will it cost?**

3. Current State of Practice (cont'd)

- Evaluate how effective Saint John's AM activities, per framework are practiced - survey and review in each Department managing infrastructure to deliver services
- How well is Saint John able to answer the 6 questions of AM?
- Identify source of limitations based on evaluating the four components of Asset Management



3. Current State of Practice (cont'd)

- Evaluate how effective Saint John's AM activities, per framework are practiced - survey and review in each Department managing infrastructure to deliver services
- How well is Saint John able to answer the 6 questions of AM?
- Identify source of limitations based on evaluating the four components of Asset Management

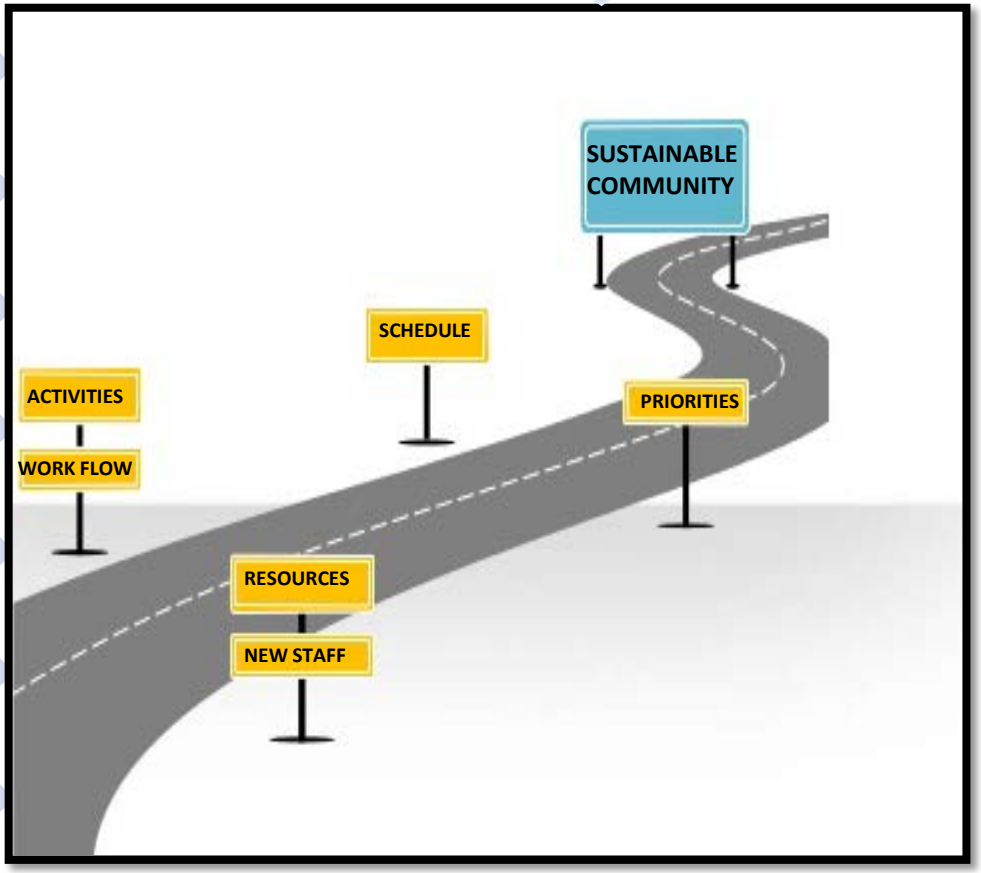
- To be continued…..
  - Organization-wide issues … strategies
  - Department issues ….. action items

4. Future State of Practice

Identify improvement activities – ROAD MAP

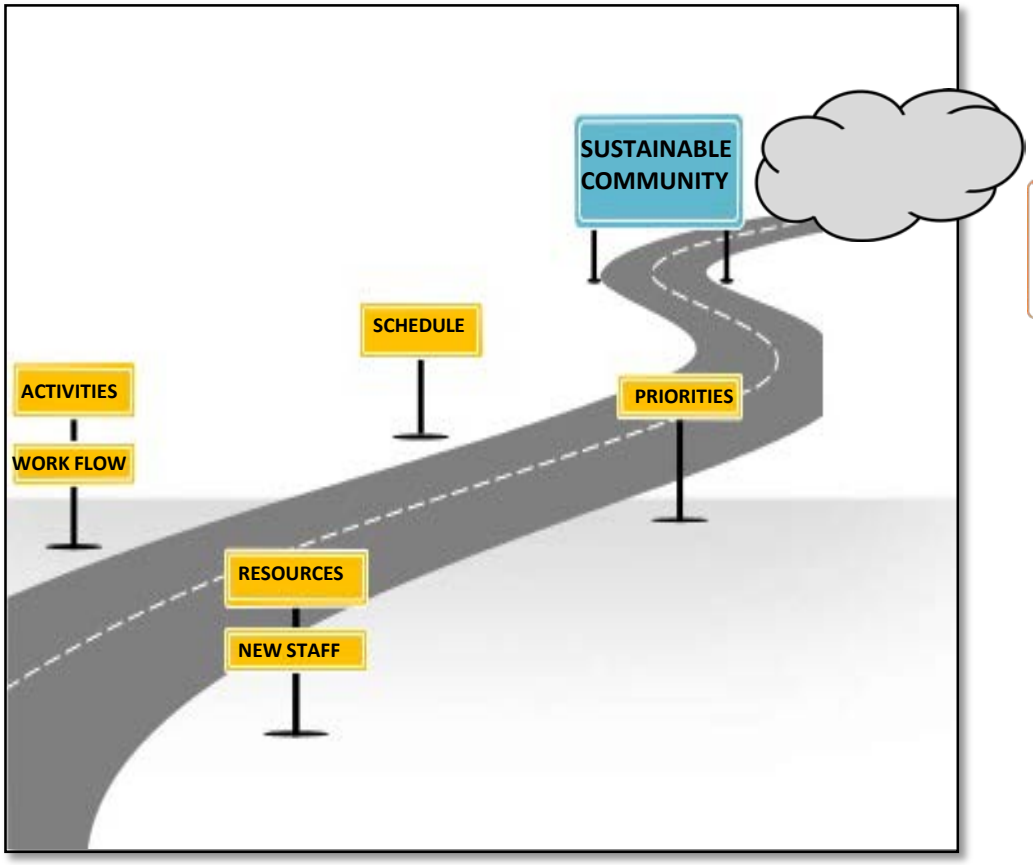
Detailed Departmental issues

- Strategy
- Strategy
- Strategy
- Strategy
- Strategy
- Strategy
- Strategy

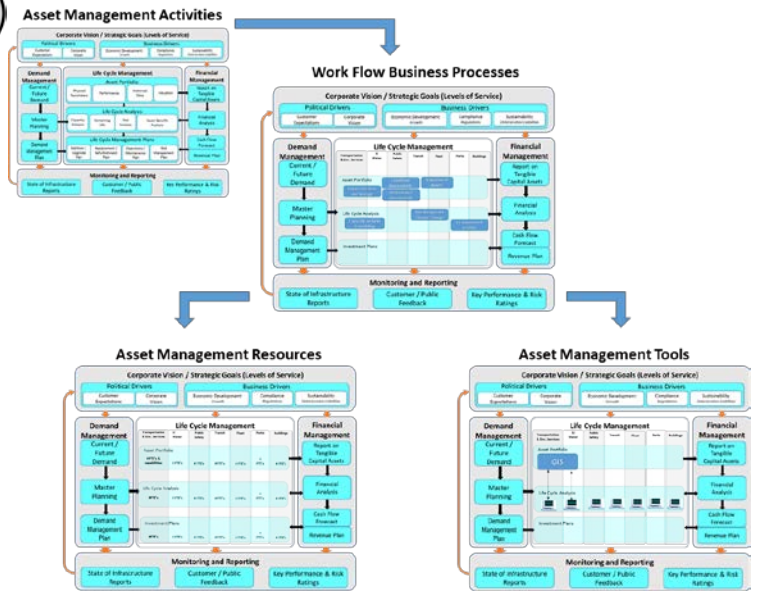


4. Future "State of AM Practice"

Identify improvement activities – ROAD MAP



How do we define the future state of practice?



4. Future "State of AM Practice"

What are we trying to achieve in terms of the SJ Asset Management strategy…

- **Consistency** – AM Strategy consistent with AM Policy
- **Risk-based approach** – prioritizing activities according to criticality of an asset
- **Lifecycle approach** – consider lifecycle of assets and interdependencies between each lifecycle stage
- **Framework** – set out a framework for development of objectives and plans including optimization, prioritization and management of information
- **Stakeholders** – a strategy that includes how stakeholders will be engaged and communicated with
- **Functional, performance and condition requirements** – identify current and future functional, performance and condition requirements
- **Continual improvement** – support from senior management and Council

3. Current State of Practice (cont'd)

- Evaluate how effective Saint John's AM activities, per framework are practiced - survey and review in each Department managing infrastructure to deliver services
- How well is Saint John able to answer the 6 questions of AM?
- Identify source of limitations based on evaluating the four components of Asset Management

- Continued…..
  - Organization-wide issues … strategies
  - Department issues ….. action items

3. Current State of Practice (cont'd)

What did we learn about SJ's current state of AM practice?

Organization-wide issues

1. *Fragmented organization*
2. *Fragmented data*
3. *Data / information difficult to extract from data systems*
4. *Priorities / risk ratings for assets not (well) defined*
5. *Levels of service and KPI's not (well) defined*
6. *Investment budgets for asset renewal and replacement based on financial capacity, not asset needs*
7. *Financial and asset management plan reported for only one year*
8. *Asset management is reactive, not pro-active*

3. Current State of Practice (cont'd)

Strategies to address organization-wide issues

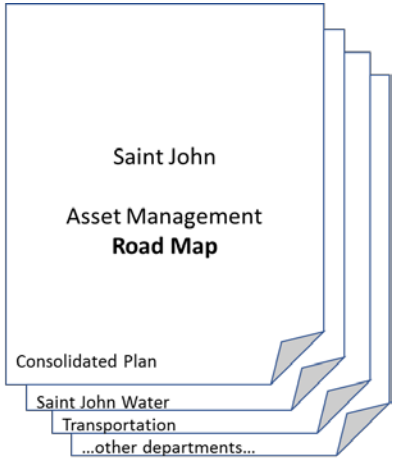
1. Improve Departmental Interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon

Saint John
Asset Management Strategy

Senior Management Team

3. Current State of Practice (cont'd)

Action items to address departmental issues



3. Current State of Practice (cont'd)

- Finance Department
  - Asset data in finance diverging from department(s)
  - Post-PSAB data (2011) is less detailed
  - Need policy on long term planning and financial sustainability
  - Budget based on past funding (not need) and only has a 1 year depth of view
  - Capital is funded by debenture

3. Current State of Practice (cont'd)

- Corporate Planning
  - Incomplete and incorrect LOS' and KPI's

3. Current State of Practice (cont'd)

- Facilities Management
  - Non-envelope system for project decisions
  - Funding requests based on PSAB and book (historic) data
  - 10 out of 80/90 buildings have condition assessment info
  - No central data depository (even within Facilities)
  - Work order system does not really track O&M effort/cost
  - No synchronization with finance
  - Difficult to extract information from data systems
  - Prioritization of project not supported by condition assessments
  - No scheduling tool (a la Outlook)
  - Budgeting on a 1 year basis / No long term planning No risk evaluation/rating on maintenance and replacements
  - Staffing OK for maintenance and reactive work, not enough for proactive work

3. Current State of Practice (cont'd)

- Transportation & Environmental Services
  - Data management is fractured micropaver (T&E) and GIS (Eng)
  - T&E and SJ Water projects are synchronized manually
  - Navaline work order system, hard to extract information
  - Not tracking O&M costs
  - Only looking 2 -3 years ahead in planning and replacement values
  - A-hoc replacement planning
  - 25% of condition data done
  - 80% of inventory data done
  - Data quality varies
  - No sustainability or Climate Change risk ratings

3. Current State of Practice (cont'd)

- Fleet
  - Fractured data systems
  - One year (reported) planning depth

  - Full cost accounting (how do we copy this?)!

3. Current State of Practice (cont'd)

- Parks/Land Improvement
  - Asset inventory in group of spreadsheets w/o master sheet
  - Spreadsheets out of date
  - No condition assessments
  - O&M resources tracked by combined staff hours (Navaline), not able to split maintenance and capital renewal/repairs from operations
  - Too many parks, not enough ice surfaces, …. no clear implementation plan
  - One year budget (have-based, not need-based)
  - 5 year guess-plan (not based on need)
  - Some LOS' and KPI's

3. Current State of Practice (cont'd)

- Saint John Water
  - Asset data is incomplete
  - Main breaks tracked on work orders & spreadsheet, not in the GIS
  - Newly found assets are updated in GIS only, not TCA
  - Historic missing data (2012 GIS push) not in TCA
  - Work orders are tracked by civic addresses only (not in GIS by assets)
  - Setting water system lining priorities is reactionary
  - Replacements are capacity driven, not condition & risk driven
  - Ad-hoc planning for repairs and replacements (need better process)
  - LOS is regulatory and response time based only (incomplete)
  - Replacement values are not adjusted for inflation
  - No preventative maintenance program

3. Current State of Practice (cont'd)

- Transit & Parking
  - Aging fleet (9 years target vs 12 years average)
  - Data fragmentation (spreadsheets & Navaline)
  - No long term plan for parking facilities

Developing Key Performance Indicators (KPI's)

Developing Key Performance Indicators (KPI's)

Definition of Key Performance Indicator (KPI)

A measurable expression for the achievement of a desired level of results in asset management

KPI

OBJECTIVE =

- Task ..... Reduce total cost of ownership (TCO)
- KPI ..... % of annual TCO
- Target 10%
- Timeframe ..... by 2020 / by year end / etc.
- Responsible .... Facility manager

Reduce total cost of ownership by 2020 under leadership of facility manager

Developing KPI's

Naming standards

KPI's start with a symbol

Value of $

Number of #

Percentage of %

Value Added by KPI's

Clarity – provides a clear picture of strategy

Focus – focus on what matters or requires attention

Improvement – monitor progress towards desired state

Developing KPI's

KPI Selection Criteria

Relevant – aligned with corporate strategy, significant for the specific service

Clear definition – KPI's should be described using clear and intelligible terms avoiding the use of management jargon

Address Performance Characteristics

- quality / quantity
- reliability
- cost
- environmental acceptability
- customer satisfaction
- safety
- responsiveness

Developing KPI's

Service Level / KPI Framework

OPERATIONAL / TACTICAL / STRATEGIC							
SERVICE LEVEL CHARACTERISTICS		Customer Expectations			Corporate Strategies		
					Growth / Sustainability / Regulations		
		Level of Service Standard / Policy OBJECTIVE	KPI	Target	Level of Service Standard / Policy OBJECTIVE	KPI	Target
1	Quality				Maintain road pavement surfaces on pavements to minimum PCI	% of roads below PCI of 75	< 5% of roads
2	Quantity						
3	Reliability						
4	Responsiveness						
5	Environmental acceptability						
6	Cost						
7	Capacity	Reduce the # of children unable to play minor hockey by 2020	# of children on waiting list for hockey	< 5 per 1000 population on wait list	Increase available ice surfaces for growing population by 2020	# of ice pads per population	1 for every 20,00 population
8	Safety						
9	Customer Satisfaction						
10	Availability						

Thank You!

Hans Arisz, P.Eng.,
harisz@rvanderson.com

Reg Andres, P.Eng.,
randres@rvanderson.com

APPENDIX 2-4

Workshop #3 – Asset Management Road Map Roll Out

SAINT JOHN

Asset Management

WORKSHOP #4

Saint John Asset Management Road Map Roll Out

April 07, 2017

Hans Arisz – harisz@rvanderson.com
Reg Andres – randres@rvanderson.com

R.V. Anderson Associates Limited
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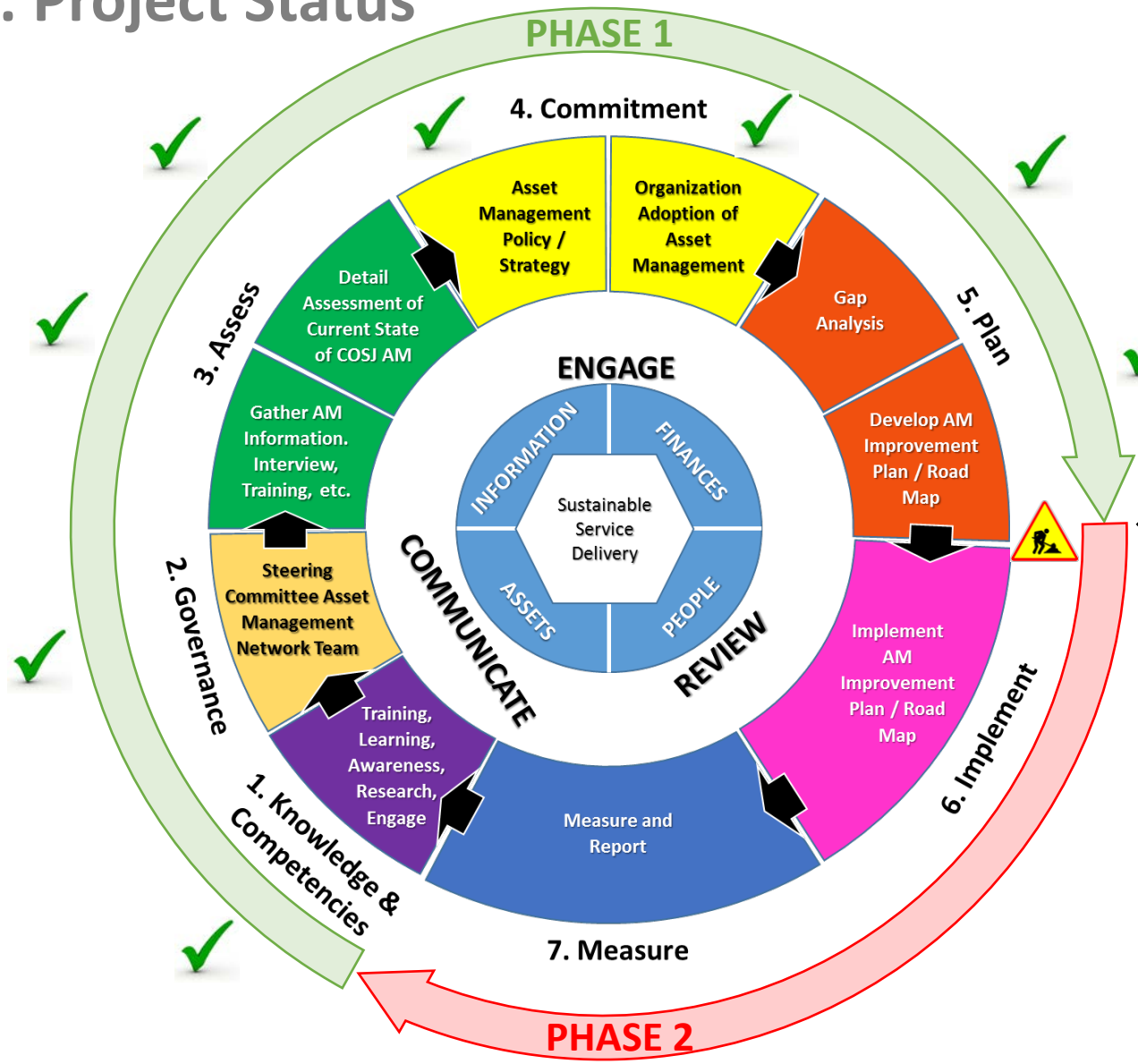
AGENDA

1. **Introduction and Project Status**
2. **AM Framework**
3. **AM Document Hierarchy**
   - Plan SJ-AM Policy-AM Strategy-AM Roadmap
4. **AM Road Map**
   - 8 issues – 7 strategies & individual department activities
   - 5 streams c/w activities & tasks
   - Task tracking/schedule
   - Need: level of effort & durations for all tasks
5. **Looking Ahead**

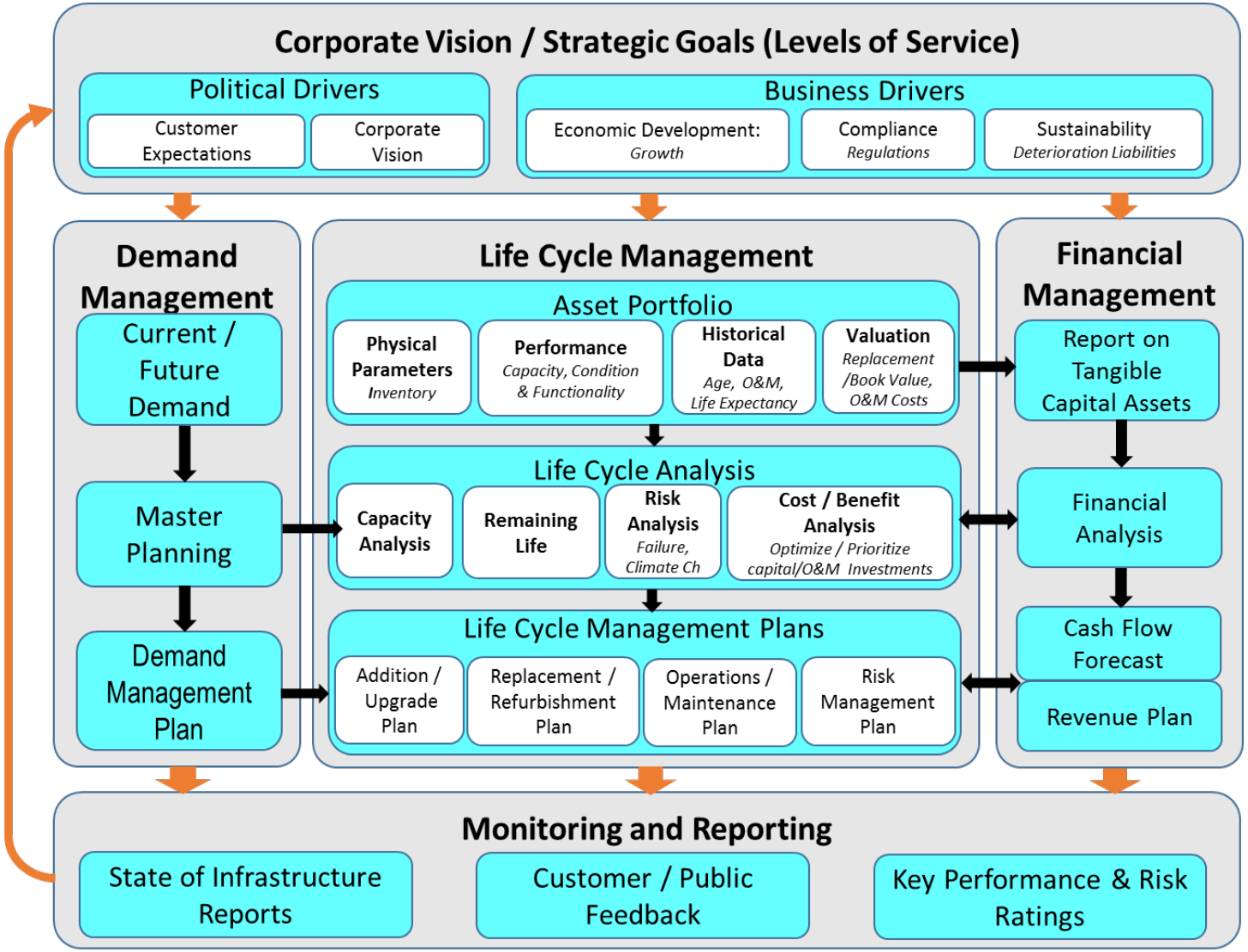
1. Project Status



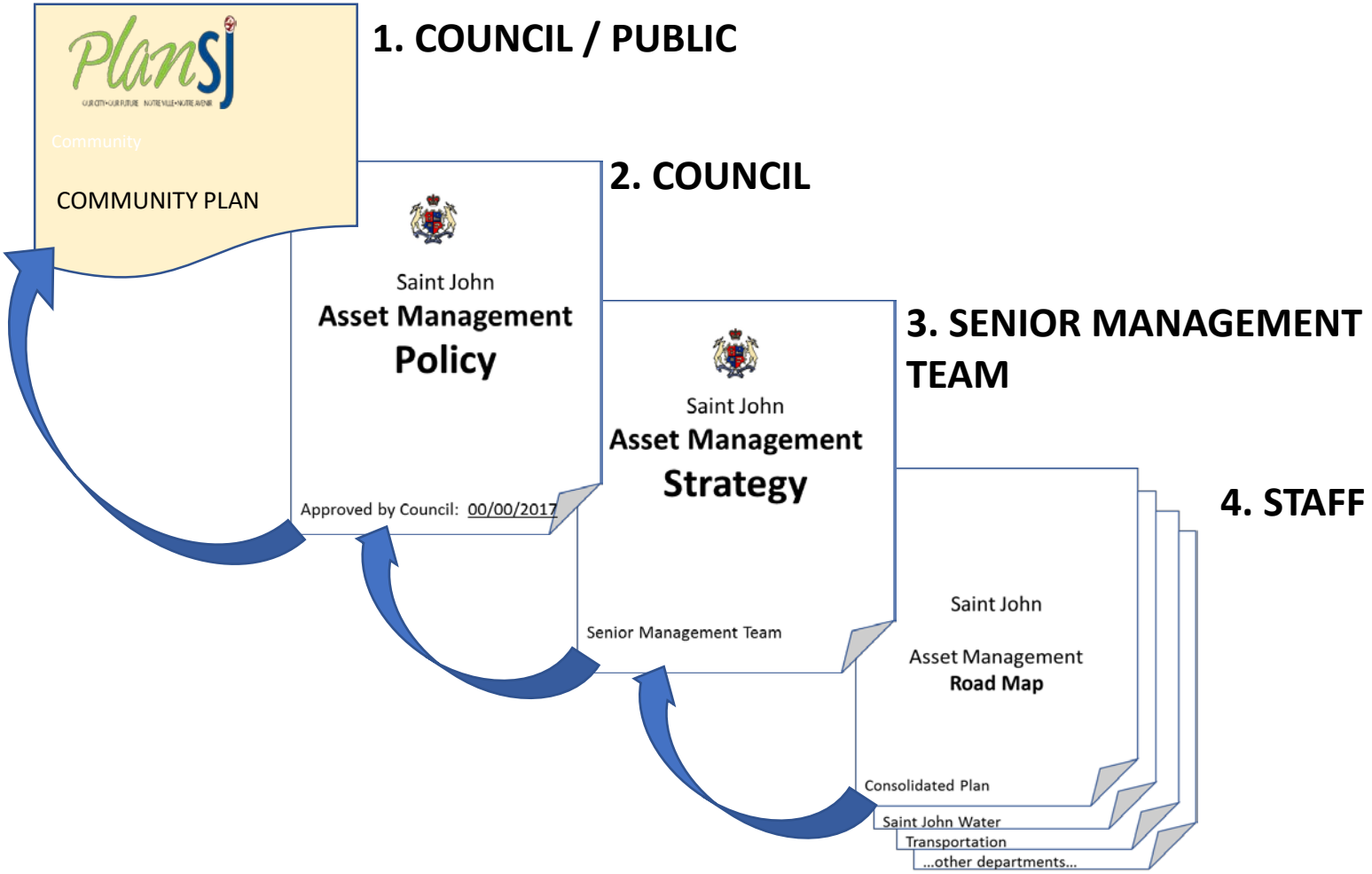
Focus for Workshop #4

Road Map Roll Out (detailed program)

2. AM Framework



3. AM Document Hierarchy



4. AM Road Map

Strategies to address organization-wide issues

1. Improve Departmental Interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon

4. AM Road Map

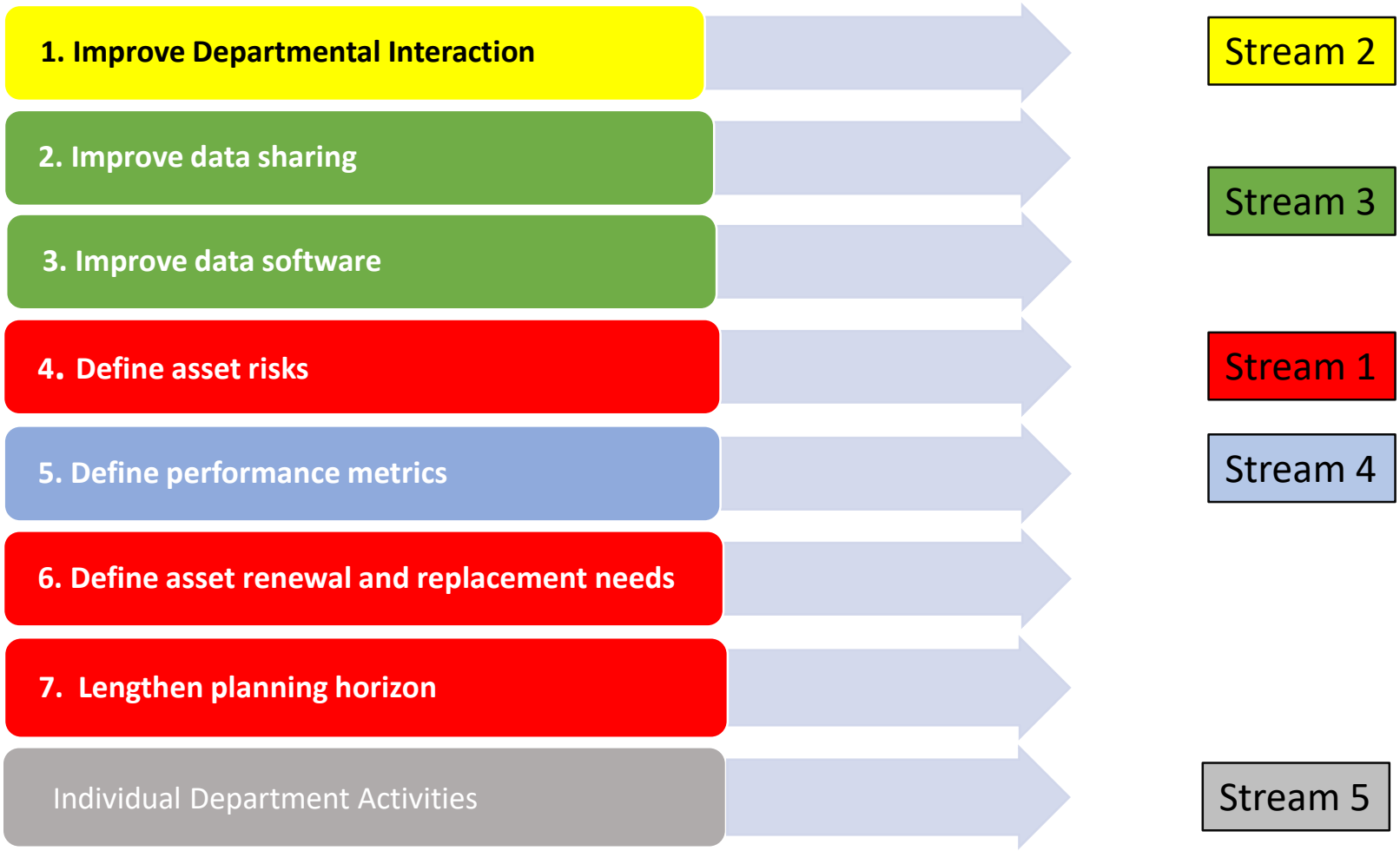
Strategies & Activities

1. Improve Departmental Interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon

Individual Department Activities

4. AM Road Map (cont'd)

Linking Strategies into Streams

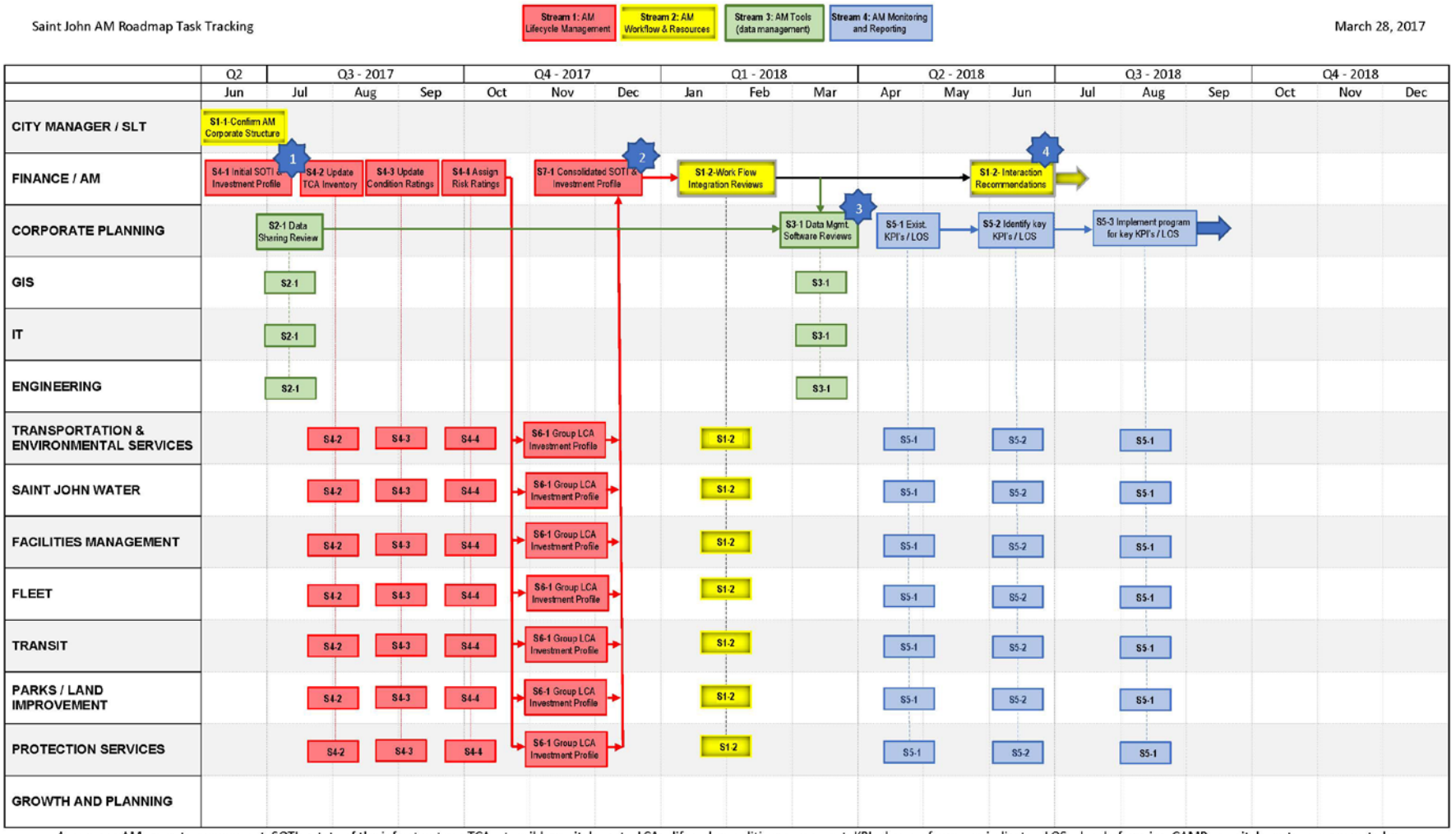


4. AM Road Map (cont'd)

SAINT JOHN ASSET MANAGEMENT ROADMAP MARCH 30, 2017

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 1 – AM Lifecycle Management									
Define Asset Risks (Strategy 4): *Strategy – Improve / increase the asset management activities and resources needed to prioritize asset renewals and replacements based on defined and quantified asset risks*	Lack of ability to articulate condition of assets and quantify risks	Strategy 6 Define Asset Renewal & Replacement Needs Strategy 7 Lengthen Planning Horizon	1. Prepare initial State of the Infrastructure (SOTI) report and investment profile	a) RVA to prepare initial SOTI and investment profile using existing (incomplete and imprecise) information.	Initial SOTI and investment profile report	**Lead** RVA/Asset & Energy Management **Participants** n/a **Support group(s)** Finance and GIS	**Financial Management: Cash Flow Forecast** Initial report will provide a snapshot of current state of affairs and will facilitate communication with Council and the Public. It will also serve as a benchmark to quantify future AM benefits.	*8 weeks*	*Hours & $*
			2. Confirm / Update Tangible Capital Asset (TCA) inventory – each group review their asset additions / updates since 2011 when the TCA inventory was completed under the PSAB exercise and ensure current TCA register is as complete as possible. Provide updates to Finance to update TCA Register	a) Finance to provide overview presentation of TCA Register inventory to all groups b) Discuss segmentation / componentization for horizontal and vertical assets to determine appropriate level of detail and how to roll-up asset information to the level of detail represented in the TCA Register c) Each group with assets to review their inventory data updates since 2011 and provide copy to Finance in format that relates to TCA Register d) Confirm related information – life expectancies, age and valuation – Asset & Energy Management/RVA can provide guidance on life expectancies for different assets – Date of installation should come from TCA and updated with recent contracts, etc for new additions to the system – Valuations, as a minimum determined from installment cost in TCA Register and the use cost index to update to current replacement value. Recent contract costs should be used to validate replacement costs	Updated database for AM data in all Departments based on a consistent structure including inventory, age and valuation integrated within single AM database (TCA Register)	**Lead** Finance and Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering and GIS	**Asset Portfolio** Solidify foundation of AM processes allowing for consistency in strategic planning and financing of infrastructure investments (required for next steps)	*8 weeks*	*Hours & $*
			3. Identify and/or update condition rating for all assets in the TCA inventory based on a common condition rating system (CRS) using best available information. Use surrogates if direct information not available (e.g. age)	a) Asset & Energy Management/RVA assist with preparation of CRS (based on 5 level aggregation) and methods for using surrogate data if direct assessment of condition has not been done. b) Individual groups complete review and assignment of condition rating for each asset based on adopted CRS	Condition ratings on all assets based on a consistent approach as a building block for AM process activities	**Lead** Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering	**Asset Portfolio: Performance** Condition is foundational data for AM processes. Initial assessment begins to demonstrate data needs strategic to future data collection processes (required for next steps)	*6 weeks*	*Hours & $*

4. AM Road Map (cont'd)



Acronyms: AM = asset management, SOTI = state of the infrastructure, TCA = tangible capital assets, LCA = lifecycle condition assessment, KPI = key performance indicator, LOS = level of service, CAMP = capital asset management plan

Deliverables: 1 = initial SOTI & investment profile, 2 = updated SOTI & investment profile **and** CAMP report, 3 = data management & integration system(s), 4 = departmental AM interaction structure

5. Looking Ahead…..

1. Confirm task levels of effort
2. Confirm task durations/schedule
3. Prepare final Road Map document

5. Looking Ahead…..

4. AM Road Map (cont'd)

Phase 1 Completed!

Hans Arisz, P.Eng.,
harisz@rvanderson.com

Reg Andres, P.Eng.,
randres@rvanderson.com

APPENDIX 3

COUNCIL REPORTS

APPENDIX 3-1

Road Map

SAINT JOHN

COUNCIL REPORT

M&C No.	2017-102
Report Date	April 12, 2016
Meeting Date	April 18, 2016
Service Area	Finance and Administrative Services

His Worship Mayor Don Darling and Members of Common Council

SUBJECT: City of Saint Asset Management Roadmap

OPEN OR CLOSED SESSION

This matter is to be discussed in open session of Common Council.

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
Chair-Finance Committee	***Kevin Fudge*** ***Ian Fogan*** ***Samir Yammine***	***Jeff Trail***

RECOMMENDATION

It is recommend that Common Council receive and file this report.

EXECUTIVE SUMMARY

The purpose of this report is to provide Council with an update of the Asset Management Roadmap document. This document will be the final component to complete Asset Management Phase 1.
The Asset Management (AM) Roadmap document will be used by staff to implement a comprehensive Asset Management Program across the organization and City Agencies, Boards and Commissions.

PREVIOUS RESOLUTION

In February 23, 2017, Common Council (M&C 2017-041) approved the City of Saint John Asset Management Policy Statement.

The purpose of this Policy was to:

- Establish the organization's commitment to asset management practices.
- Provide a clear direction and guidance for the Council and staff in developing an Asset Management Roadmap to implement the asset management process across the organization.

STRATEGIC ALIGNMENT

The AM Roadmap document is well aligned with the City of Saint John Plan SJ policies/objectives and Council's Priorities 2016-2020. Specifically, the AM Roadmap will align with the Council's Priorities for Value Service Delivery: "Develop an integrated asset management plan that aligns with PlanSJ to prioritize investment".

REPORT

In November 2, 2016, The City of Saint John engaged R.V. Anderson Associates Ltd. to develop an AM Road Map.

The objectives of the Asset Management Roadmap Phase 1 are as follows:

- Develop an asset management policy to articulate the Council's commitment to asset management and provide principle statements as a means of guiding staff in carrying out the organization's business strategies, plans and activities.
- Develop an asset management strategy to achieve and sustain the level of asset management practice that the City wishes to target and implement.
- Review the City of Saint John's current practices against industry best practices and standards and perform gap analysis.
- Develop an Asset Management Improvement Plan or Roadmap detailing the City's current state and the key improvement initiatives with target dates to achieve asset management and Council priorities. The improvement plan will help identify activities, tools, processes and practices needed to implement and maintain a comprehensive asset management program.

As of April 19, 2017, the following activities/tasks were completed:

- AM Policy.
- AM Strategy.
- Detailed assessment of the current state of the City's AM practices.
- Presentations of the AM Policy/Strategy and findings to staff, senior leadership team and finance committee.
- Council Approved AM Policy.
- AM Roadmap document
- Presentation of the AM Roadmap to staff, senior leadership team and finance committee.

Asset Management Roadmap Document

In February 23, 2017, Common Council provided a clear direction and guidance for the City Manager and staff to develop an AM Roadmap. The purpose of the Roadmap document is to identify activities, tools, processes and practices needed to implement and maintain a comprehensive Asset Management Program across the organization and City Agencies, Boards and Commissions.

The Roadmap document has identified the following activities to help achieve the AM objectives and strategies as indicated in the City of Saint John's AM policy and strategy:

- Life Cycle Management.
    - This activity will help achieve the following:
        - Provide the current state of the City of Saint John infrastructure and investment profile.
        - Consolidate life cycle investment profile by asset group
        - Prioritize Capital Investment over 20 years by each asset group
        - Formalize AM workflow processes for annual budget preparation
- Asset Management Workflow and Resources
    - This activity will help achieve the following:
        - Formalize new protocol for key AM workflow activities including condition assessments, upgrade/replacement of asset priority decision making, annual budget process and interdepartmental integration investment planning
        - Formalize the AM processes into the organization structure of the City and resourcing plan to support updated AM process implementation
- Asset Management Tools (data management).
    - This activity will help achieve the following:
        - Improve/optimize data management processes for improving the basis of investment decision-making
        - Improve the capabilities and efficiencies in managing data for AM processes and cost effective for future data management needs
- AM Monitoring and Reporting.
    - This activity will help achieve the following:
        - Define the Level of Service (LOS) for each asset
        - Develop Key Performance Indicators (KPI)
        - Measure and report the performance and success in delivering services supported by well managed infrastructure

- Individual Department Improvement Activities
    - Additional activities will be assigned to the individual asset group to help improve asset management practices and processes within their service area.

The implementation of the Asset Management Roadmap will enable the City to provide an optimum Level of Service (LOS) at the lowest Life Cycle Cost (LCC) through the management of current, future assets and associated risks in effective, efficient and sustainable manner

SERVICE AND FINANCIAL OUTCOMES

The cost to develop the Asset Management Roadmap is included in the professional fees of R.V. Anderson Associates Ltd. The AM Roadmap document will complete Phase 1 of the asset management program.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

The City of Saint John is taking a collaborative approach to asset management. Staff from all departments and service areas were consulted and engaged throughout the development of the AM Policy/Strategy and informed about the detailed assessment of the current practices of the AM and the AM Roadmap. Various workshops were conducted and presentations were made to the department managers, Senior Leadership Team and Finance Committee.

ATTACHMENTS

Appendix A: Asset Management Roadmap Task Tracking
Appendix B: Asset Management Roadmap Detailed activities

APPENDIX 3-2

Road Map Phase 1 Update

COUNCIL REPORT

M&C No.	2016-261
Report Date	November 2, 2016
Meeting Date	November 14, 2016
Service Area	Finance and Administrative Services

His Worship Mayor Don Darling and Members of Common Council

SUBJECT: City of Saint John Asset Management Road Map Phase 1 Update

OPEN OR CLOSED SESSION

This matter is to be discussed in open session of Common Council.

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
Samir Yammine	***Kevin Fudge***	***Jeff Trail***

RECOMMENDATION

It is recommend that Common Council receive and file this report.

EXECUTIVE SUMMARY

The purpose of this report is to provide Council an update on the City of Saint John's asset management program and the engagement process used to select a consultant to develop an Asset Management Road Map Phase 1.

PREVIOUS RESOLUTION

N/A

STRATEGIC ALIGNMENT

The development of the Asset Management Road Map will align with the Council's Priorities 2016-2020 for Value Service Delivery: "Develop an integrated asset management plan that aligns with PlanSJ to prioritize investment"

REPORT

1.0 BACKGROUND

The City of Saint John has been actively working to develop a comprehensive Asset Management Program (AMP) including practices across the organization and City Agencies, Boards and Commissions.

The objectives of the AMP are as follows, but are not limited to:

- Comply with the Gas Tax Fund Agreement to have an AMP by Dec 2017 and for other grants/funding
- Reduce risk exposure to the City
- Understand the costs of providing services (i.e. Level of Service)
- Demonstrate investment accountability to residents and business
- Make better decisions on when to replace, renew or decommission assets with long term sustainable investment plans

The City of Saint John's vision for the future is underpinned by its goal to be a service-based, results-oriented, high-performance public service organization. This requires a multi-disciplinary approach, across all service areas, ensuring that community outcomes are delivered in a sustainable way.

Good asset management practice is essential for municipalities like the City of Saint John that are dependent on the function and performance of their physical assets in the delivery of services to the community. Well maintained infrastructure is crucial to the economic stability, public safety and quality of life.

The City currently maintains an extensive inventory of public infrastructure across multiple service areas as shown in Table 1. Based on current net book value, the City owns over $1.3 billion worth of tangible capital assets. The 2016 replacement cost for this infrastructure is estimated to be nearly $2 billion using the 2016 first quarter Canadian Price Index (CPI) and the Non-Residential Building Consumer Price Index (NRBCPI).

Over the years, the City has implemented some elements of asset management in various service areas, but not in a consistent, structured, or integrated approach across the organization. The City also lacks policies, processes, tools and software to support asset management. As a result, the City is facing a number of infrastructure challenges and issues including:

- Affordable water rates;
- Deteriorating road conditions;
- No long term capital investment plans;
- Formalized risk management is not integrated into decision making;
- Levels of service are not defined as they related to many infrastructure assets or cost implications understood;
- Inability to fully understand the consequences of decision making; and
- Little integrated decision making across assets.

Table 1: City of Saint John Public Infrastructure Summary

Service Area	Asset Description	Quantity
Transportation	Roads, Sidewalks, Storm Water, Traffic Lights, Street Lights, , etc.	• Streets - 571 km (1246 lane-km) • Sidewalks - 372 km • Street Light Fixtures / Poles - 1049 • Traffic Light Fixtures - 85 • Storm water – 322 km • Retaining Wall - 142
Water and Wastewater Facilities	Waste Water and Water Pumping Stations Including Water and Waste Water Treatment Plants	• Lift Stations – 69 • Water Pumping Stations – 14 • Treatment Plants - 5 • Hydrants - 2085 • Water Storage Tanks – 7
Water Distribution Networks	Underground Water Pipes	• Underground Pipes - 567 km • Number of Valves -7,842 • PRV - 34 • Dams – 14
Sanitary Sewer Collection Networks	Underground Sewer Pipes and Underground Combined Sewer Pipes	• Underground Pipes - 340 km • Forcemain Sewer Pipes - 51 km • Combined Pipes – 65 km
Fleet & Small Equipment	City vehicles Including Fire and Light to Heavy Trucks	• Fleet- 350 • Small Equipment-800
IT	IT Equipment	• IT – 700 computer devices
Transit vehicles	Saint John Transit Buses and vehicles	• Buses – 56 • Handibuses – 8 • Vehicles - 7
Buildings	City Owned Buildings Including Agencies, Boards and Commissions (ABC) Buildings	• City Owned Buildings - 75 • ABC(s) Buildings - 10 • Total Area - 1.5 Million Sq. ft.
Parks/Land Improvement	Parks including Playgrounds	• Parks - 63

**Note – asset quantities shown in table are based on current data sources*

Faced with deteriorating assets, increased demands, and budgetary constraints, the City has embraced the need to implement an Asset Management Program to ensure sustainable long term planning and management of its public infrastructure.

2.0 OBJECTIVE

The objectives of the Asset Management Roadmap Phase 1 are as follow:

- Establish the foundation to enable the City of Saint John to move forward with the development and implementation of an integrated asset management plan to prioritize investment and effectively manage those assets needed to deliver a sustainable level of service.
- Knowledge transfer and training of the City of Saint John staff in asset management, by drawing from the consultant's experience, knowledge and lessons learned working with various industries and municipalities, and applying the latest industries standards in asset management.
- Build awareness among City staff and Council on the importance and benefits of asset management.
- Develop asset management policy to articulate Council's commitment to asset management and provide principle statements to guide staff in carrying out the organization's business strategies, plans and activities.
- Develop asset management strategy to achieve and sustain the level of asset management practice that the City wishes to target and implement.
- Develop a corporate risk management framework to define the criteria used to help the City assess the current risk for each asset group, category, equipment, etc.
- Review the City of Saint John current practices against industry best practices and standards and perform gap analysis.
- Develop an Asset Management Improvement Plan or Roadmap detailing the City current state and the key improvement initiatives with target dates, to achieve asset management and Council priorities. The improvement plan will help identify activities, tools, processes and practices needed to implement and maintain a comprehensive asset management program.

3.0 TIMELINE AND DELIVERABLES

The City of Saint John is aiming to have Phase 1 completed by March 31, 2017. The following are the proposed deliverables schedule:

- Asset Management Policy, strategy and risk framework January 16, 2017.
- Presentation to Council during January 2017.
- Phase 1 Final report including all the deliverables submitted by March 31, 2017.
- Final Presentation to the City and Council during April, 2017.

SERVICE AND FINANCIAL OUTCOMES

The total cost to perform the development of an Asset Management Road Map is $40,248.00 plus HST. This is a planned expenditure for which funds are included in the Gas Tax Funding.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

Materials Management facilitated the publically advertised proposal call. Request for Proposal (RFP) no. 2016-092202P was issued on August 10, 2016 and closed on August 25, 2016 with the following companies responding by submitting proposals:

COMPANY NAME	LOCATION
KPMG LLP	Toronto, ON
OPUS International Consultants (Canada) Ltd.	Fredericton, NB
CH2M Hill Canada Ltd.	North York, ON
The Public Sector Digest Inc.	London, ON
Yaku Consulting Ltd.	Newmarket, ON
R.V. Anderson Associates Ltd.	Fredericton, NB

A review committee, consisting of staff from Materials Management, Facilities Management, Transportation and Environment Services, Saint John Water and Finance reviewed the submissions for completeness and compliance with the RFP requirements and selection criteria consisting of the following:

1. Quality and Completeness
2. Introduction and Project Appreciation
3. Proponent Profile
4. Proponent Roles and Qualifications
5. Availability of Key Personnel
6. Methodology
7. Value Added
8. Cost

When the technical evaluations of the proposals had been completed, the financial proposals were opened and evaluated. Following this, the committee decided to shortlist to the two highest ranked proponents who were brought in for formal presentations to clarify aspects of their proposals. This was done to ensure the scope of work was in-line with the City's expectations.

At the end of the evaluation process, the committee ranked R.V. Anderson Associates Ltd. highest, as they met all the requirements set forth in the RFP, received the highest evaluation score, and represents the lowest cost to the City.

The above process is in accordance with the City's Procurement Policy and Materials Management support the recommendation being put forth.

ATTACHMENTS

N/A

APPENDIX 3-3

Policy Statement

SAINT JOHN

COUNCIL REPORT

M&C No.	2017-041
Report Date	February 23, 2017
Meeting Date	March 06, 2017
Service Area	Finance and Administrative Services

His Worship Mayor Don Darling and Members of Common Council

SUBJECT: City of Saint John Asset Management Policy Statement

OPEN OR CLOSED SESSION

This matter is to be discussed in open session of Common Council.

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
Chair – Finance Committee	***Kevin Fudge*** ***Ian Fogan*** ***Samir Yammine***	***Jeff Trail***

RECOMMENDATION

It is recommended that Common Council approve the City of Saint John Asset Management Policy Statement attached at Appendix A.

EXECUTIVE SUMMARY

The Asset Management (AM) Policy is a high level statement. The purpose of this Policy is to :

- Establish the organization's commitment to asset management practices.
- Set out clear direction and guidance for Council and staff for undertaking the Asset Management process.
- Ensure the approach to Asset Management is integrated throughout the organization and aligned with the Council high level objectives

PREVIOUS RESOLUTION

On November 2, 2016 , Common Council (M&C 2016-261) received and filed a report on the City of Saint John Asset Management Road Map Phase 1 Update. The report provided Council an update on the City of Saint John's asset management program and the engagement process used to select a consultant to develop an Asset Management Road Map Phase 1.

STRATEGIC ALIGNMENT

The AM Policy Statement is well aligned with the City of Saint John Plan SJ policies and objectives and Council's Priorities 2016-2020. Specifically, the Policy Statement will align with the **Council's Priorities for Value Service Delivery**: "Develop an integrated asset management plan that aligns with PlanSJ to prioritize investment".
In **Plan SJ**, there is alignment in regards to Policy MS-7: Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to optimize service delivery over the life of the asset.

REPORT

In November 2, 2016, The City of Saint John engaged R.V. Anderson Associates Ltd. to develop an Asset Management Road Map Phase 1.

The objectives of the Asset Management Roadmap Phase 1 are as follows:

- Develop asset management policy to articulate Council's commitment to asset management and provide principle statements to guide staff in carrying out the organization's business strategies, plans and activities.
- Develop asset management strategy to achieve and sustain the level of asset management practice that the City wishes to target and implement.
- Review the City of Saint John current practices against industry best practices and standards and perform gap analysis.
- Develop an Asset Management Improvement Plan or Roadmap detailing the City current state and the key improvement initiatives with target dates, to achieve asset management and Council priorities. The improvement plan will help identify activities, tools, processes and practices needed to implement and maintain a comprehensive asset management program.

As of March 6, 2017, the following activities/tasks were completed:

- AM Policy.
- AM Strategy.
- Detailed Assessment of the Current State of the City AM practices.
- Presentations of the AM Policy/Strategy and findings to Staff, Senior Leadership Team and Finance Committee.

Asset Management Policy Statement

The AM Policy is a high level statement to confirm Council commitment to asset management practices and set a clear direction, principles and guidance to City

Manager to develop and implement strategies to meet the asset management objectives.

Specific objectives of the Asset Management (AM) policy are to:

- Improve the reliability of customer service by maintaining clearly defined levels of service
- Improve the decisions related to the management of the City's assets
- Improve the transparency and accountability of community investments in the management of the City's assets
- Improve the management of the City's exposure to risks of reduced service delivery
- Facilitate the leveraging of partnerships and infrastructure funding from external sources

The development of the strategies will be guided by the following principles:

- Incorporating industry recognized asset management protocols
- Defining levels of service
- Applying risk-based decision making processes
- Utilizing lifecycle costing principles
- Incorporating continuous improvement practices

SERVICE AND FINANCIAL OUTCOMES

The cost to develop the Asset Management Policy Statement is included in the professional fees of R.V. Anderson Associates Ltd. to complete AM Road Map Phase 1.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

The City of Saint John is taking a collaborative approach to the asset management. Staff from all departments and service areas were consulted and engaged throughout the development of the AM Policy/Strategy and the detailed assessment of the current practices of the AM. Various workshops were conducted and presentations were made to the department managers, Senior Leadership Team and Finance Committee.

ATTACHMENTS

Appendix A: Asset Management Policy Statement

APPENDIX 4

CITY OF SAINT JOHN PRESENTATIONS

APPENDIX 4-1

Council: Asset Management Challenges

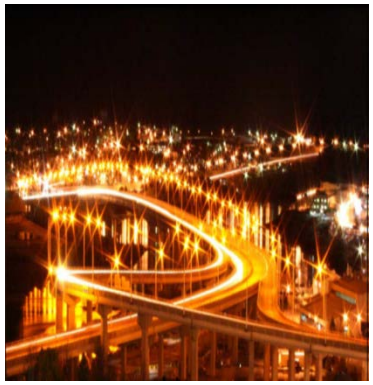
Asset Management Challenges

- Canadian Infrastructure Report Card (2016)
  - 60% of infrastructure owned by municipalities
  - 35% of assets vary from fair to very poor condition. Equates to over $175 billion dollar in infrastructure deficit;
- Infrastructure Deficit is real and there is a significant financial issue for the City;
- Deteriorating of Assets (Buildings, Fleets, Roads, Pipes, etc.);
- No long term capital investment and financial plans;
- Levels of service are not defined or cost implications understood;
- Operating & Maintenance Costs of individual assets are not tracked;
- Lack of asset information and data to help decision making
- Federal government, through the Province are requiring all municipalities to have an Asset Management plan in place by end of 2017 in order to receive Gas Tax Funding.

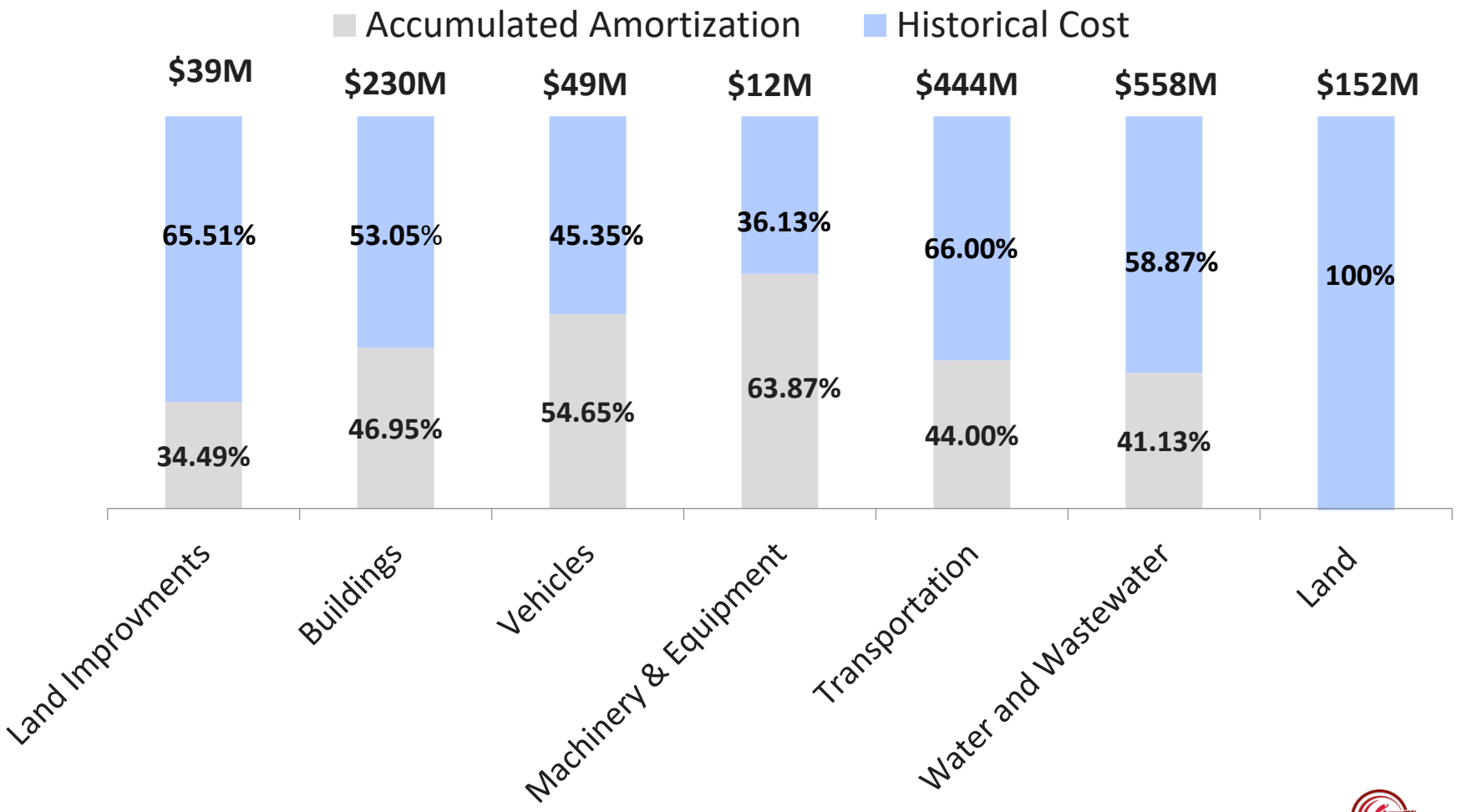
SAINT JOHN

City of Saint John Asset Class

- Transportation - 1246 KM Lane
- Vehicles -350
- Buildings- 75, 10 ABC(s)
- Water and Wastewater Facilities- 69
- Water Distribution Networks-567 KM
- Sanitary Sewer Distribution Networks-340 KM
- Combined Sewer Network Pipes-65 KM
- Parks/Land Improvement-63
- Machinery & Equipment-850
- Transit Buses-56
- Land



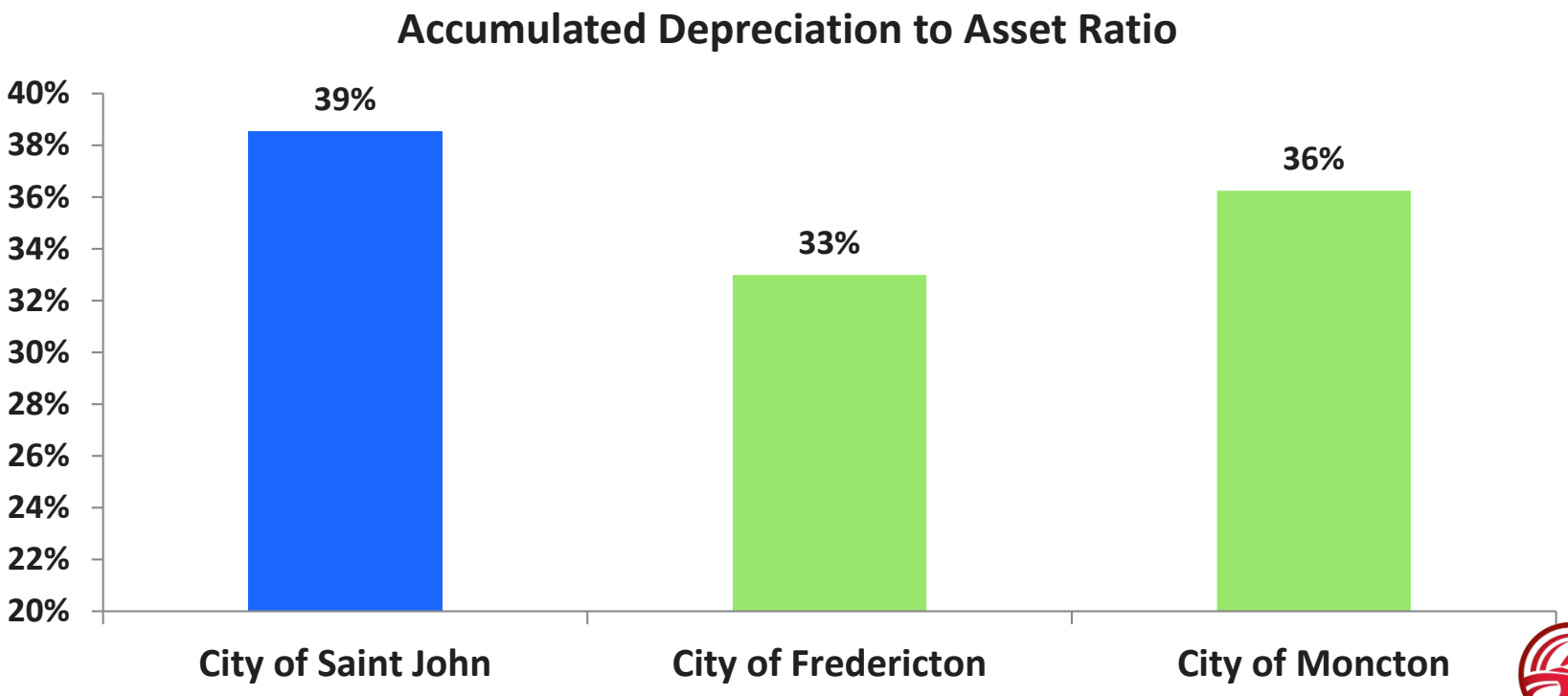
Consolidated Asset Inventory - % Depreciated



SAINT JOHN

Consolidated Asset Inventory

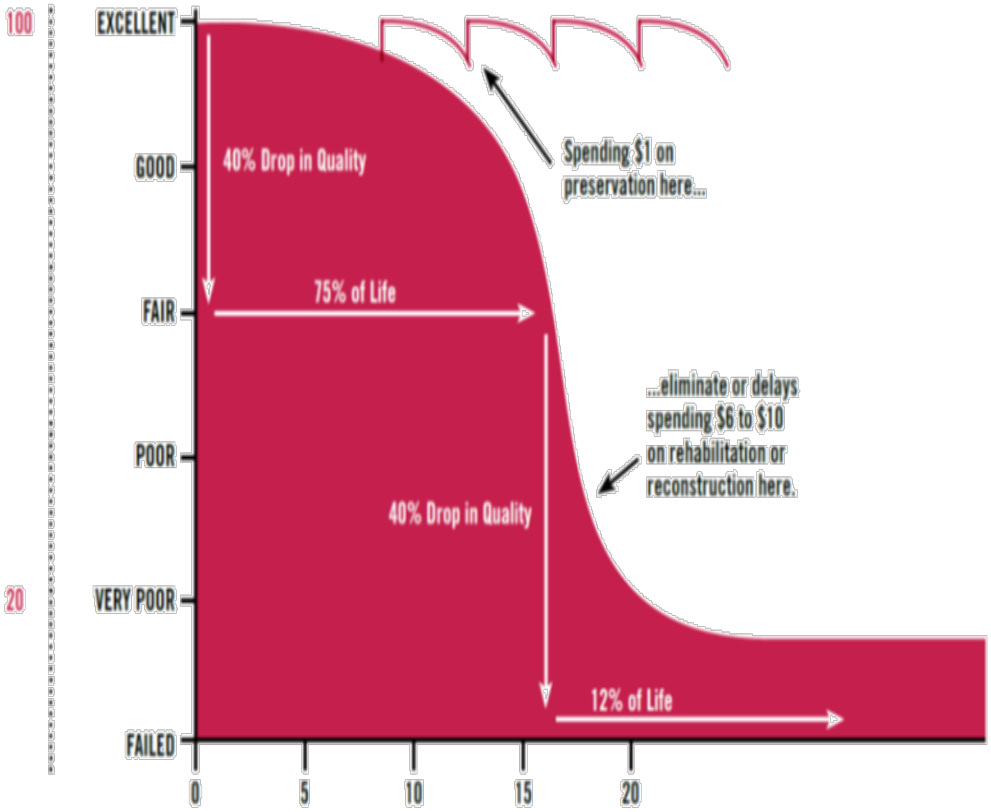
- Overall Accumulated Depreciation to Asset Ratio is 39%
- Calculated as Accumulated Depreciation/Total Tangible Capital Assets



SAINT JOHN

What are the Consequences?

- Impact on Level of Service (LOS)
- Increase Risk of Failure
  - Line Breaks, Potholes
  - High Costs, Overtime, etc.
- Increase in Capital Costs
  - Reconstruction of Roads
  - Increase deterioration of pipes, equipment and roads impact capital costs
- Increase in Maintenance Repairs and Operating Costs
  - Emergency Contractor fees, staff overtime, unplanned repairs, inefficiency , etc..



SAINT JOHN

ASSET MANAGEMENT BENEFITS

- Understand the costs of providing services (i.e. LOS).
- Make better decisions on when to replace, renew or decommission assets with long term sustainable investment plans.
- Demonstrate investment accountability to residents and business.
- Improve cost-efficiency and reduce costs (i.e. identify the lowest lifecycle cost maintenance and renewal decisions).
- Part of the AMP is having a long term sustainable financial plan around current and potential new assets.
- Reduce risk of failure

SAINT JOHN

What are the City's Current and Future Plans?

- Develop and Implement a Comprehensive Asset Management Plan
  - Approach: 'Top-Down Approach'
  - Based on Best Practices:
    - ISO 55000 (International standard for asset management)
    - International Infrastructure Management Manuel (IIMM)
- Phase 1 – RFP has been issued to start the asset management project. (Covered under Approved Gas Tax Funding – 100%)

SAINT JOHN

Looking into the Future

- **Phase 2**

Phase 2 (2017-18)
Focus on High Priorities

Implementation

- Asset Management Plan
- Define the Level of Service
- Robust Risk Management
- Asset Condition Assessment
- Robust Capital Investment Plan (CIP)
- Long Term Financial Plan 10-25 Years

- **Phase 3**

Phase 3 (2019 to 2020)
Fully Implement

APPENDIX 4-2

Finance Committee: AM Road Map Project Update #1

SAINT JOHN

Asset Management

PRESENTATION TO FINANCE COMMITTEE
Saint John AM Road Map Project Update
January 30, 2017

Hans Arisz – harisz@rvanderson.com

R.V. Anderson Associates Limited

SAINT JOHN SLT Asset Management Presentation 2

AGENDA

1. **Background and Project Status**
2. **AM Commitment Documents and Hierarchy**
   - AM Policy
   - AM Strategy
   - AM Roadmap (Implementation Work Plan)
3. **AM Policy for Saint John**
   - Draft AM Policy
4. **AM Strategy for Saint John**
   - State of Asset Management practice in Saint John
   - Draft AM Strategy
5. **Next Steps**

1. Project Background

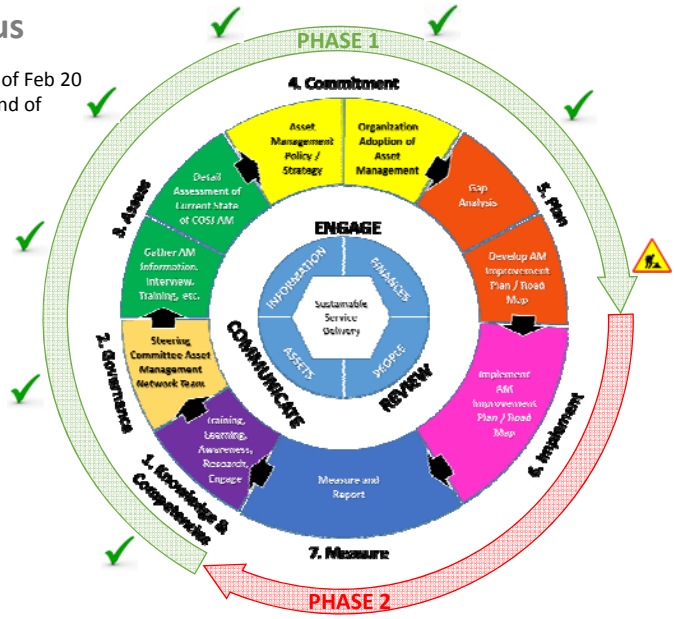
- City Engaged RV Anderson in October 2016
- Project Initiated in November 9, 2016
- Objectives of Phase 1:
  - Establish the foundation
  - Educate and Build Awareness among staff and Council
  - Develop Asset Management Policy and Strategy
  - Review the City current practices of AM
  - Develop an Asset Management Improvement Plan or Road Map

1. Project Status

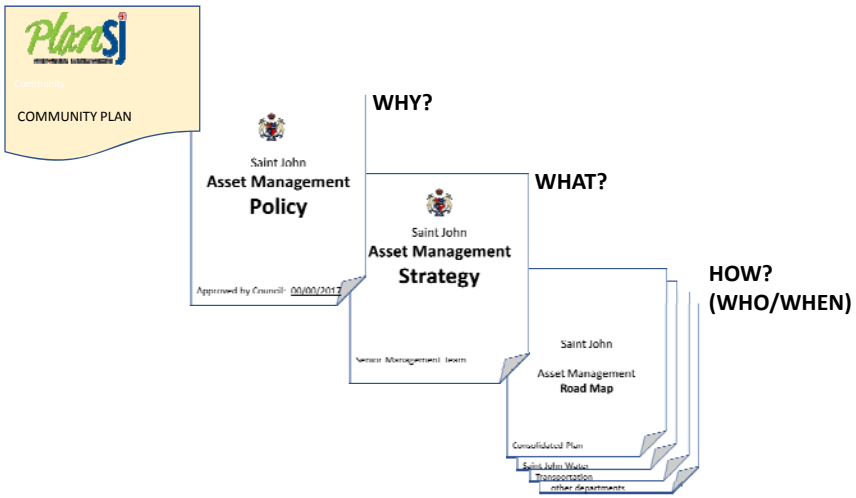
- Engaged Department Managers and Staff
- Build Awareness among staff
- Completed Detailed Assessment of the Current State of the City AM practices
- Developed a draft copy of the AM Policy
- Developed a draft copy of the AM strategy
- Presented the AM Policy & Strategy to Department Managers and Staff

1. Project Status

- Final Workshop week of Feb 20
- Phase 1 completion end of March 2017



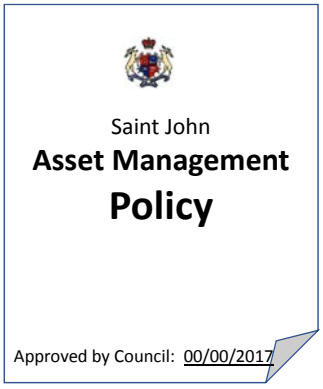
2. AM Commitment Documents and Hierarchy



2. AM Commitment Documents and Hierarchy

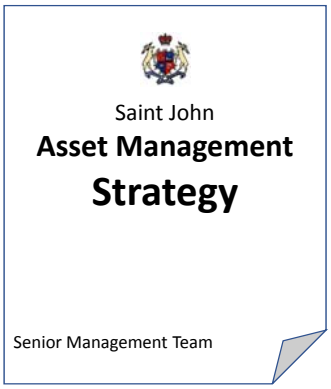
- **What is a community plan?**
  - ✓*Documentation of an overarching vision for the future of the city developed with significant public consultation*
  - ✓*Demonstrates commitment to AM and adopted by Council*
- **Responsibility?**
  - ✓*Council / Public*

2. AM Commitment Documents and Hierarchy



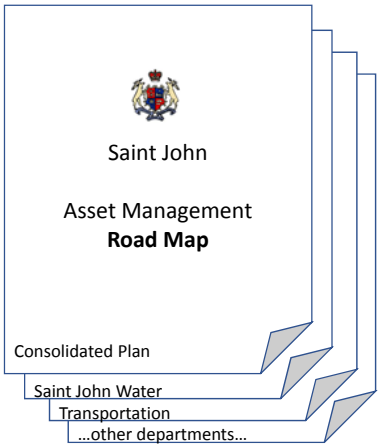
- **What is a policy?**
  - ✓*A formal corporate (Council) commitment to implementing AM processes*
  - ✓*Council direction to City Manager (staff) with implementation objectives*
- **Responsibility?**
  - ✓*Council - approval*

2. AM Commitment Documents and Hierarchy



- **What is a strategy?**
  - ✓*Senior Management's commitments / priorities for implementing AM Policy*
  - ✓*A set of directions for improving and sustaining AM practices in the City to ensure consistent application of AM in all departments*
- **Responsibility?**
  - ✓*City Manager – Jeff Trail and Senior Management Team*

2. AM Commitment Documents and Hierarchy



- **What is a road map?**
  - ✓*Operational department staff commitment to implement the corporate AM Strategies*
  - ✓*A set of actions for implementing AM within operational departments in the framework of a corporately integrated plan*
- **Responsibility?**
  - ✓*Operational Department Managers and staff*

3. AM Policy

Needs to support the Plan SJ "vision" with guidance for Senior Management on "**why"** the City wishes to embark on an AM practice improvement program

e.g.

PlanSJ Policy MS-7
"…Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to ***optimize service delivery*** *over the life of the asset."*

AM Policy Statement
"…Saint John shall ***adopt and apply recognized asset management practices*** *in support of delivering services to its customers…"*

3. AM Policy

- Draft policy has been prepared
- Applies to all assets owned or controlled by the City
- To be considered and integrated in the development of all other organization plans
- Based on:
  - Industry recognized AM protocols
  - Defining levels of service
  - Applying risk-based decision making
  - Utilizing lifecycle costing principles, and
  - Incorporating continuous improvement practices

3. AM Policy

- Includes following objectives:
  - Improve the reliability of customer service by maintaining clearly defined levels of service
  - Improve the decisions related to the management of the City's assets
  - Improve the transparency and accountability of community investments in the management of the City's assets
  - Improve the management of the City's exposure to risks of reduced service delivery
  - Facilitate the leveraging of partnerships and infrastructure funding from external sources

4. AM Strategy

The AM Strategy focusses the implementation of the AM Policy by identifying "**what"** the City needs to address to evolve its asset management program

- Draft Strategy has been prepared
- Reviewed existing practices
- Defined governance structure
- Defined AM framework
- Identified organization-wide issues (8)
- Developed strategies (7)

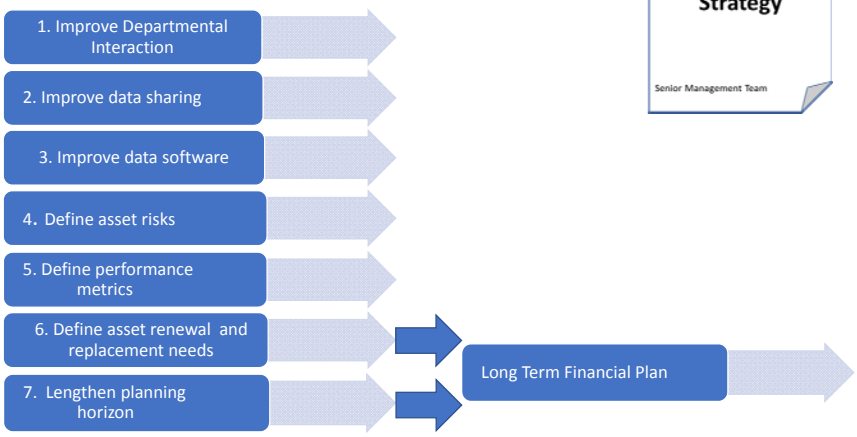
4. AM Strategic Plan

What did we find?

1. Fragmented organization
2. Fragmented data
3. Data / information difficult to extract from data systems
4. Priorities / risk ratings for assets not (well) defined
5. Levels of service and KPI's not (well) defined
6. Investment budgets for asset renewal and replacement based on financial capacity, not asset needs
7. Financial and asset management plan reported for only one year
8. Asset management is reactive, not pro-active

9. Staff capabilities are high
10. Staff motivation and engagement are high

4. AM Strategy



5. Next Steps (Phase 1)

- Present AM Policy & Strategy to SLT and Financial Committee
- Recommendation from SLT and Financial Committee to adopt AM Policy & Strategy
- Present AM Policy & Strategy to Council February 20 or March 6. Council to adopt Policy Statement
- Present Draft Copy of Improvement Plant or Road Map to City Staff March 14, 2017
- Present AM Road Map to SLT and Financial Committee March 27, 2017
- Present Road Map to Council April 6, 2017

5. Next Steps (draft recommendations)

- AM Project Phase 2
  - Prepare State of the Infrastructure Report
  - Prepare investment profile
  - Define *Customer* Levels of Service and KPIs (CI)
  - Evaluate data sharing & software improvements
  - Define *Operational* Levels of Service and KPIs (CI)
  - Create asset risk matrices (prioritize asset needs)
  - Address asset data gaps
  - Perform asset condition assessments
  - Prepare Capital Asset Management Program Report

5. Next Steps (draft recommendations)

- AM Project Phase 2
  - Prepare State of the Infrastructure Report
  - Prepare investment profile
  - Define *Customer* Levels of Service and KPIs (CI)
  - Evaluate data sharing & software improvements
  - Define *Operational* Levels of Service and KPIs (CI)
  - Create asset risk matrices (prioritize asset needs)
  - Address asset data gaps
  - Perform asset condition assessments
  - Prepare Capital Asset Management Program Report
- Long Term Financial Plan

5. Next Steps (draft recommendations)

- AM Project Phase 2
  - Prepare State of the Infrastructure Report
  - Prepare investment profile

- Long Term Financial Plan
  - Prepare State of the Infrastructure Report (asset need)
  - Prepare investment profile (financial need)
  - Prepare funding plan

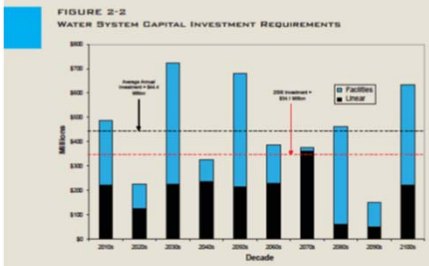
5. Sample State of the Infrastructure Report Card

Hamilton Public Works Report Card 2009

ASSET GROUP	2009 RATING	TREND
Water	B+	→
Wastewater	B-	→
Storm Water	C-	↓
Roads and Traffic	D-	↓
Central Fleet	C	↓
Corporate Facilities	C-	↓
Parks & Open Spaces	C-	↑
Public Transit	B+	↑
Waste Management	B-	↓
Forestry	C-	↓
Cemetery	C	→

A = Excellent B = Good C = Fair D = Poor F = Fail

5. Sample Investment Profile

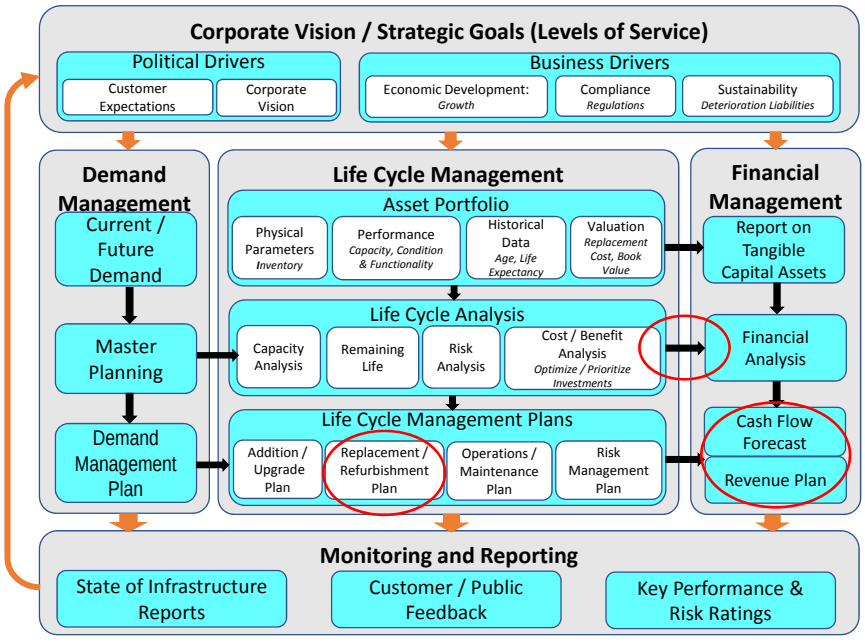


Hans Arisz, P.Eng.,
harisz@rvanderson.com

SAINT JOHN

Finance Committee AM Presentation

24



APPENDIX 4-3

Senior Leadership Team: AM Road Map Project Update #1

SAINT JOHN

Asset Management

PRESENTATION TO SENIOR LEADERSHIP TEAM
Saint John AM Road Map Project Update
January 30, 2017

Hans Arisz – harisz@rvanderson.com

R.V. Anderson Associates Limited

SAINT JOHN SLT Asset Management Presentation 2

AGENDA

1. **Background and Project Status**
2. **AM Commitment Documents and Hierarchy**
   - AM Policy
   - AM Strategy
   - AM Roadmap (Implementation Work Plan)
3. **AM Policy for Saint John**
   - Draft AM Policy
4. **AM Strategy for Saint John**
   - State of Asset Management practice in Saint John
   - Draft AM Strategy
5. **Next Steps**

1. Project Background

- City Engaged RV Anderson in October 2016
- Project Initiated in November 9, 2016
- Objectives of Phase 1:
  - Establish the foundation
  - Educate and Build Awareness among staff and Council
  - Develop Asset Management Policy and Strategy
  - Review the City current practices of AM
  - Develop an Asset Management Improvement Plan or Road Map

1. Project Status

- Engaged Department Managers and Staff
- Build Awareness among staff
- Completed Detailed Assessment of the Current State of the City AM practices
- Developed a draft copy of the AM Policy
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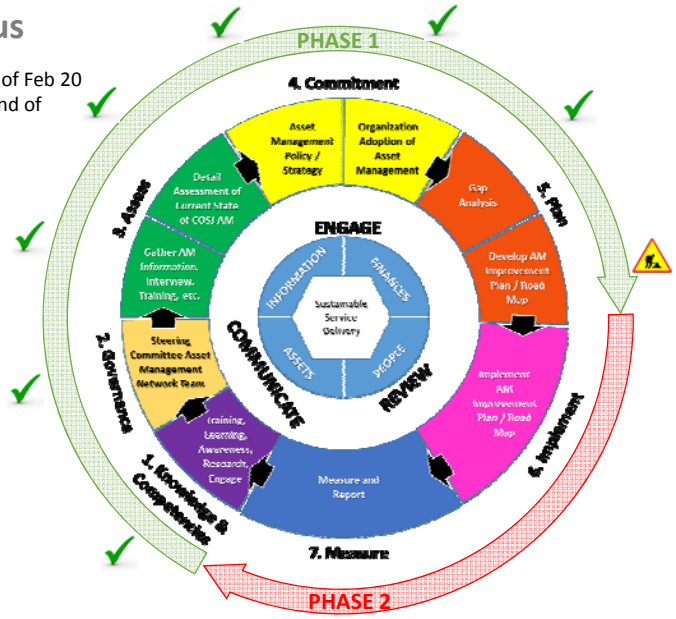
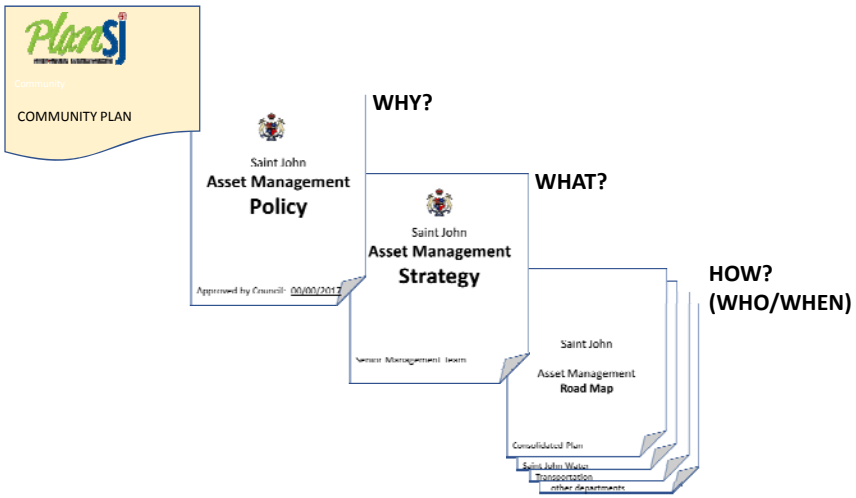
- Presented the AM Policy & Strategy to Department Managers and Staff

1. Project Status

- Final Workshop week of Feb 20
- Phase 1 completion end of March 2017



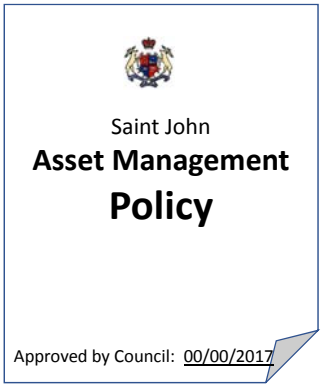
2. AM Commitment Documents and Hierarchy



2. AM Commitment Documents and Hierarchy

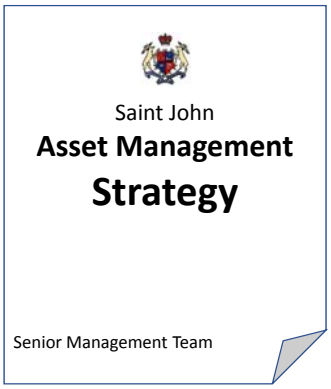
- **What is a community plan?**
  - ✓*Documentation of an overarching vision for the future of the city developed with significant public consultation*
  - ✓*Demonstrates commitment to AM and adopted by Council*
- **Responsibility?**
  - ✓*Council / Public*

2. AM Commitment Documents and Hierarchy



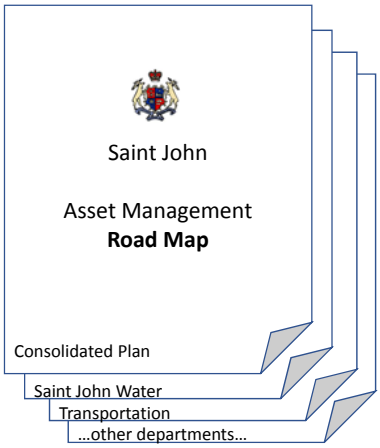
- **What is a policy?**
  - ✓*A formal corporate (Council) commitment to implementing AM processes*
  - ✓*Council direction to City Manager (staff) with implementation objectives*
- **Responsibility?**
  - ✓*Council - approval*

2. AM Commitment Documents and Hierarchy



- **What is a strategy?**
  - ✓*Senior Management's commitments / priorities for implementing AM Policy*
  - ✓*A set of directions for improving and sustaining AM practices in the City to ensure consistent application of AM in all departments*
- **Responsibility?**
  - ✓*City Manager – Jeff Trail and Senior Management Team*

2. AM Commitment Documents and Hierarchy



- **What is a road map?**
  - ✓*Operational department staff commitment to implement the corporate AM Strategies*
  - ✓*A set of actions for implementing AM within operational departments in the framework of a corporately integrated plan*
- **Responsibility?**
  - ✓*Operational Department Managers and staff*

SAINT JOHN SLT Asset Management Presentation 11

3. AM Policy

Needs to support the Plan SJ "vision" with guidance for Senior Management on "**why"** the City wishes to embark on an AM practice improvement program

e.g.

PlanSJ Policy MS-7
*"…Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to **optimize service delivery** over the life of the asset."*

AM Policy Statement
*"…Saint John shall **adopt and apply recognized asset management practices** in support of delivering services to its customers…"*

SAINT JOHN Finance Committee AM Presentation 12

3. AM Policy

- Draft policy has been prepared
- Applies to all assets owned or controlled by the City
- To be considered and integrated in the development of all other organization plans
- Based on:
  - Industry recognized AM protocols
  - Defining levels of service
  - Applying risk-based decision making
  - Utilizing lifecycle costing principles, and
  - Incorporating continuous improvement practices

3. AM Policy

- Includes following objectives:
  - Improve the reliability of customer service by maintaining clearly defined levels of service
  - Improve the decisions related to the management of the City's assets
  - Improve the transparency and accountability of community investments in the management of the City's assets
  - Improve the management of the City's exposure to risks of reduced service delivery
  - Facilitate the leveraging of partnerships and infrastructure funding from external sources

4. AM Strategy

The AM Strategy focusses the implementation of the AM Policy by identifying "**what"** the City needs to address to evolve its asset management program

- Draft Strategy has been prepared
- Reviewed existing practices
- Defined governance structure
- Defined AM framework
- Identified organization-wide issues (8)
- Developed strategies (7)

4. AM Strategic Plan

What did we find?

1. Fragmented organization
2. Fragmented data
3. Data / information difficult to extract from data systems
4. Priorities / risk ratings for assets not (well) defined
5. Levels of service and KPI's not (well) defined
6. Investment budgets for asset renewal and replacement based on financial capacity, not asset needs
7. Financial and asset management plan reported for only one year
8. Asset management is reactive, not pro-active

9. Staff capabilities are high
10. Staff motivation and engagement are high

4. AM Strategy

Key strategies for organization-wide issues

5. Next Steps (Phase 1)

- Present AM Policy & Strategy to SLT and Financial Committee
- Recommendation from SLT and Financial Committee to adopt AM Policy & Strategy
- Present AM Policy & Strategy to Council February 20 or March 6. Council to adopt Policy Statement
- Present Draft Copy of Improvement Plant or Road Map to City Staff March 14, 2017
- Present AM Road Map to SLT and Financial Committee March 27, 2017
- Present Road Map to Council April 6, 2017

5. Next Steps (Phase 2)

Prepare State of the Infrastructure Report
Prepare investment profile
Define *Customer* Levels of Service and KPIs (CI)
Evaluate data sharing & software improvements
Define *Operational* Levels of Service and KPIs (CI)
Create asset risk matrices (prioritize asset needs)
Address asset data gaps
Perform asset condition assessments
Prepare Capital Asset Management Program Report

Long Term Financial Plan

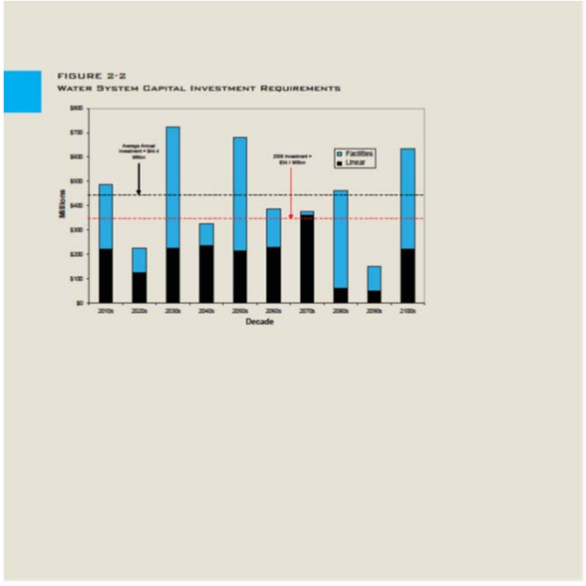
5. Sample State of the Infrastructure Report Card

Hamilton Public Works Report Card 2009

ASSET GROUP	2009 RATING	TREND
Water	B+	→
Wastewater	B-	→
Storm Water	C-	↓
Roads and Traffic	D-	↓
Central Fleet	C	↓
Corporate Facilities	C-	↓
Parks & Open Spaces	C-	↑
Public Transit	B+	↑
Waste Management	B-	↓
Forestry	C-	↓
Cemetery	C	→

A = Excellent B = Good C = Fair D = Poor F = Fail

5. Sample Investment Profile

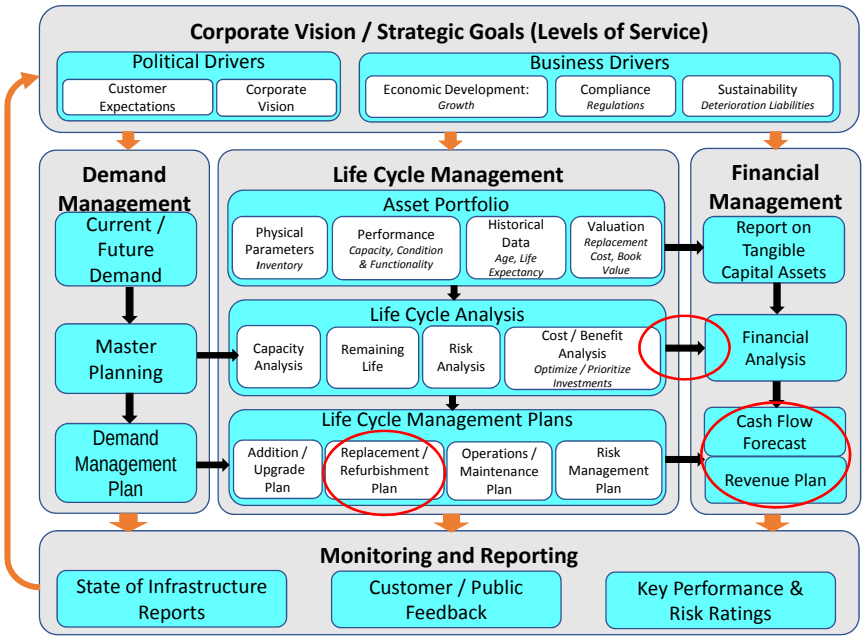


Hans Arisz, P.Eng.,
harisz@rvanderson.com

SAINT JOHN

Finance Committee AM Presentation

22



APPENDIX 4-4

Finance Committee: Adopt Saint John AM Policy

SAINT JOHN

Asset Management

PRESENTATION TO FINANCE COMMITTEE

Adopt City of Saint John AM Policy

February 28, 2017

CITY OF
SAINT JOHN

Asset Management Policy

- **Why the Policy?**
- Establish the organization's commitment to asset management practices.
- Set out clear direction and guidance for Council and staff for undertaking the Asset Management process.
- Ensure the approach to Asset Management is integrated throughout the organization and aligned with the Council high level objectives

- **Responsibility?**
  - ✓ *Council - approval*

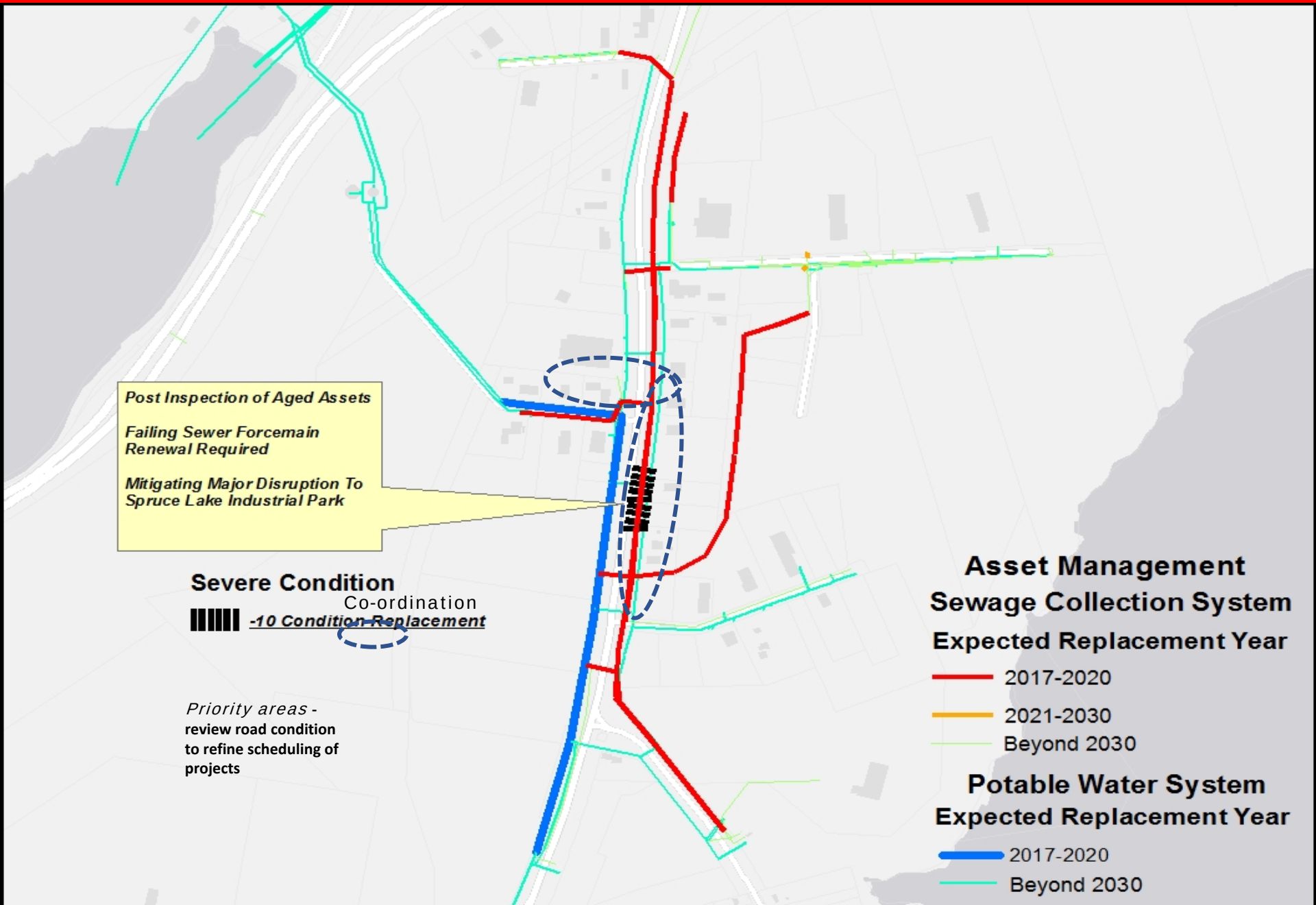
AM Policy Principles

- Reviewed and approved by SLT and Department Managers
- Applies to all assets owned or controlled by the City
- To be considered and integrated in the development of all other organization plans
- AM is guided by the following principles:
  - Industry recognized AM protocols
  - Defining levels of service
  - Applying risk-based decision making
  - Utilizing lifecycle costing principles, and
  - Incorporating continuous improvement practices

AM Policy Objectives

- Improve the reliability of customer service by maintaining clearly defined levels of service
- Improve the decisions related to the management of the City's assets
- Improve the transparency and accountability of community investments in the management of the City's assets
- Improve the management of the City's exposure to risks of reduced service delivery
- Facilitate the leveraging of partnerships and infrastructure funding from external sources

Finance Committee AM Presentation



Recommendation

- The Finance Committee recommend that Common Council approve the City of Saint John Asset Management Policy Statement

APPENDIX 4-5

Senior Leadership Team: AM Road Map Project Update #2

SAINT JOHN

Asset Management

PRESENTATION TO SENIOR LEADERSHIP TEAM

Saint John AM Road Map Project Update

April 10, 2017

Hans Arisz – harisz@rvanderson.com

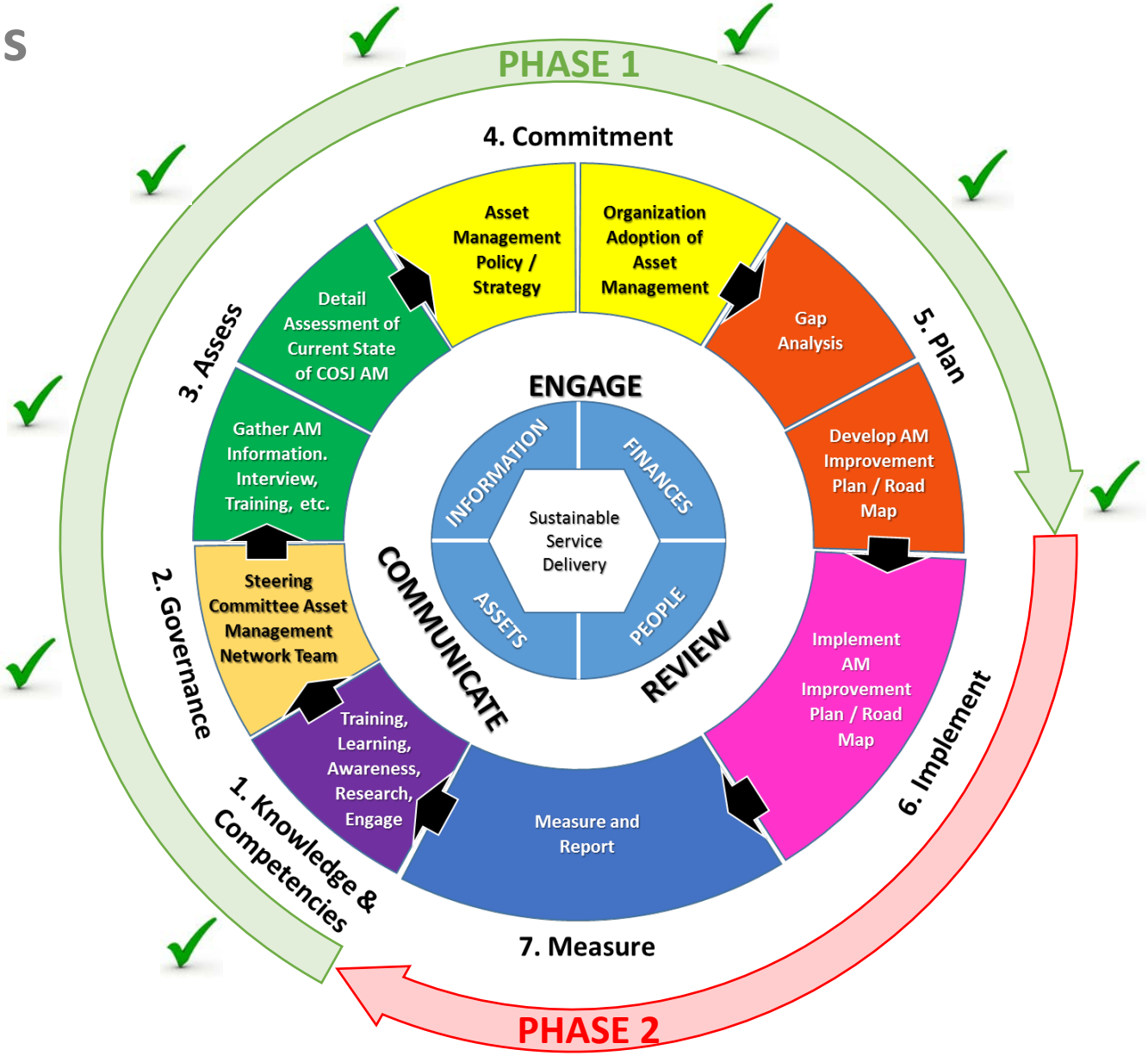
R.V. Anderson Associates Limited
engineering · environment · infrastructure

Canada's Best Managed Companies Platinum member

AGENDA

1. Introduction and Project Status
2. Next Steps (Tasks & Schedule)

1. Project Status



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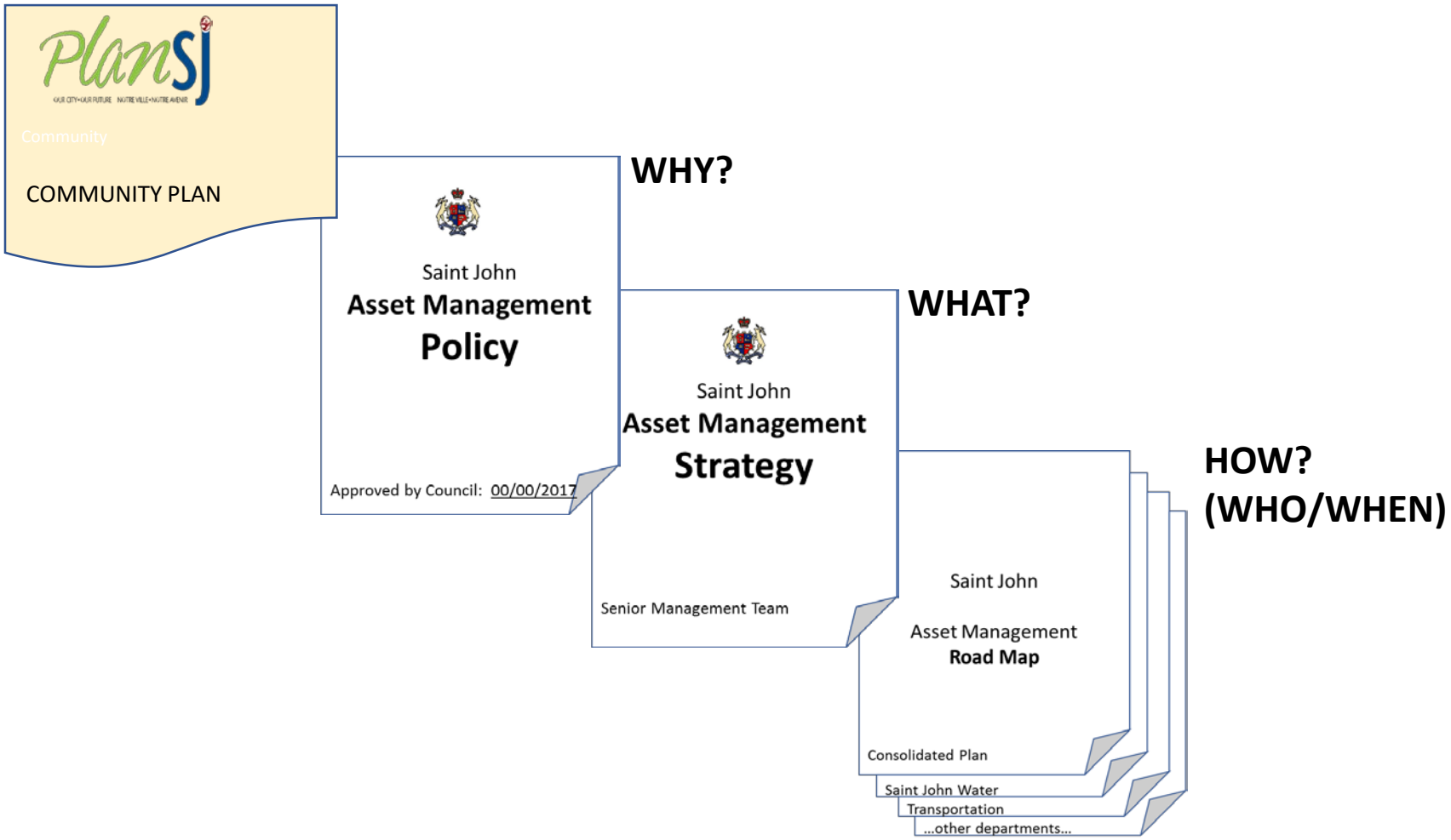


4. AM Road Map

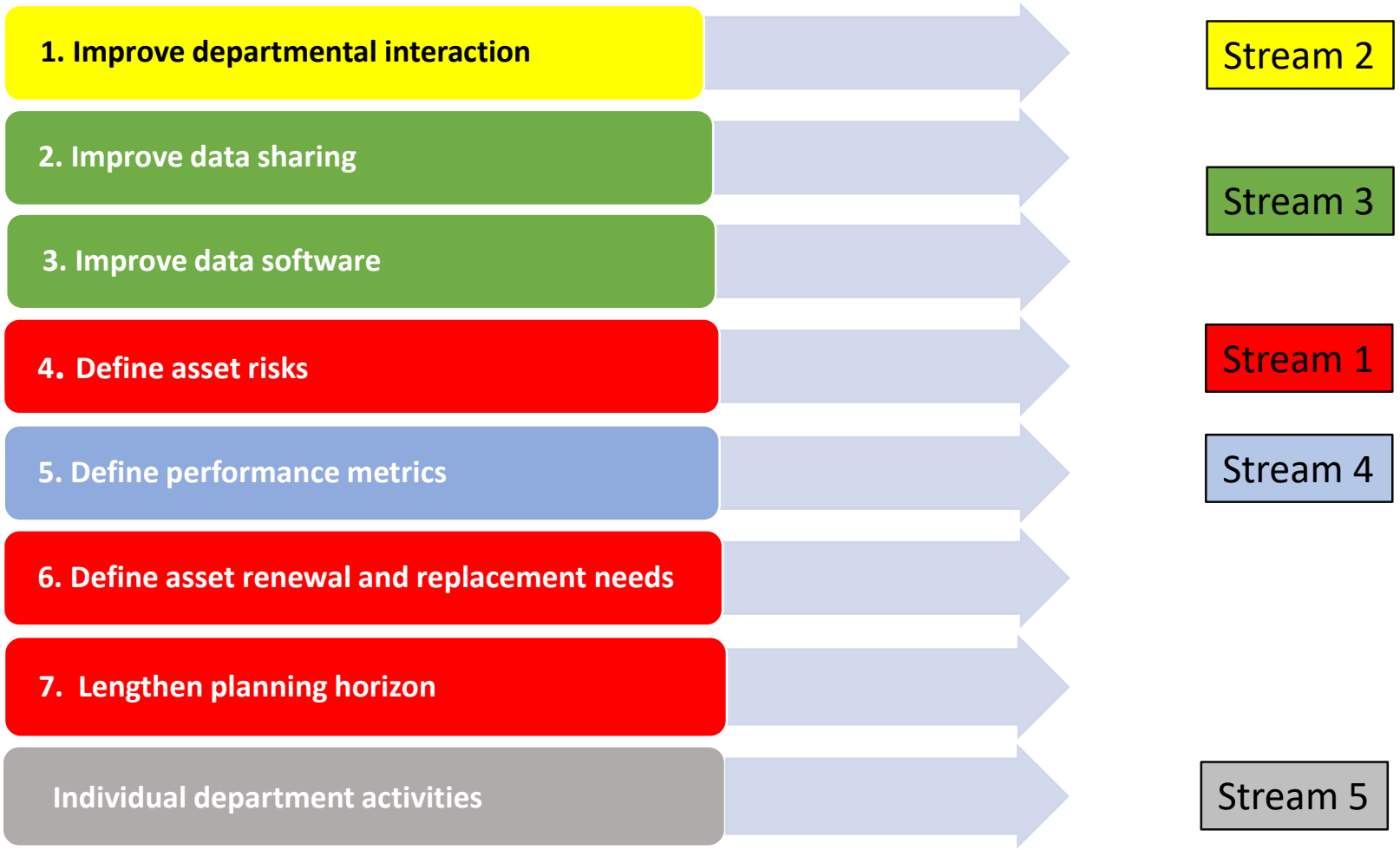
Strategies & Activities

1. Improve departmental interaction
2. Improve data sharing
3. Improve data software
4. Define asset risks
5. Define performance metrics
6. Define asset renewal and replacement needs
7. Lengthen planning horizon

Individual department activities

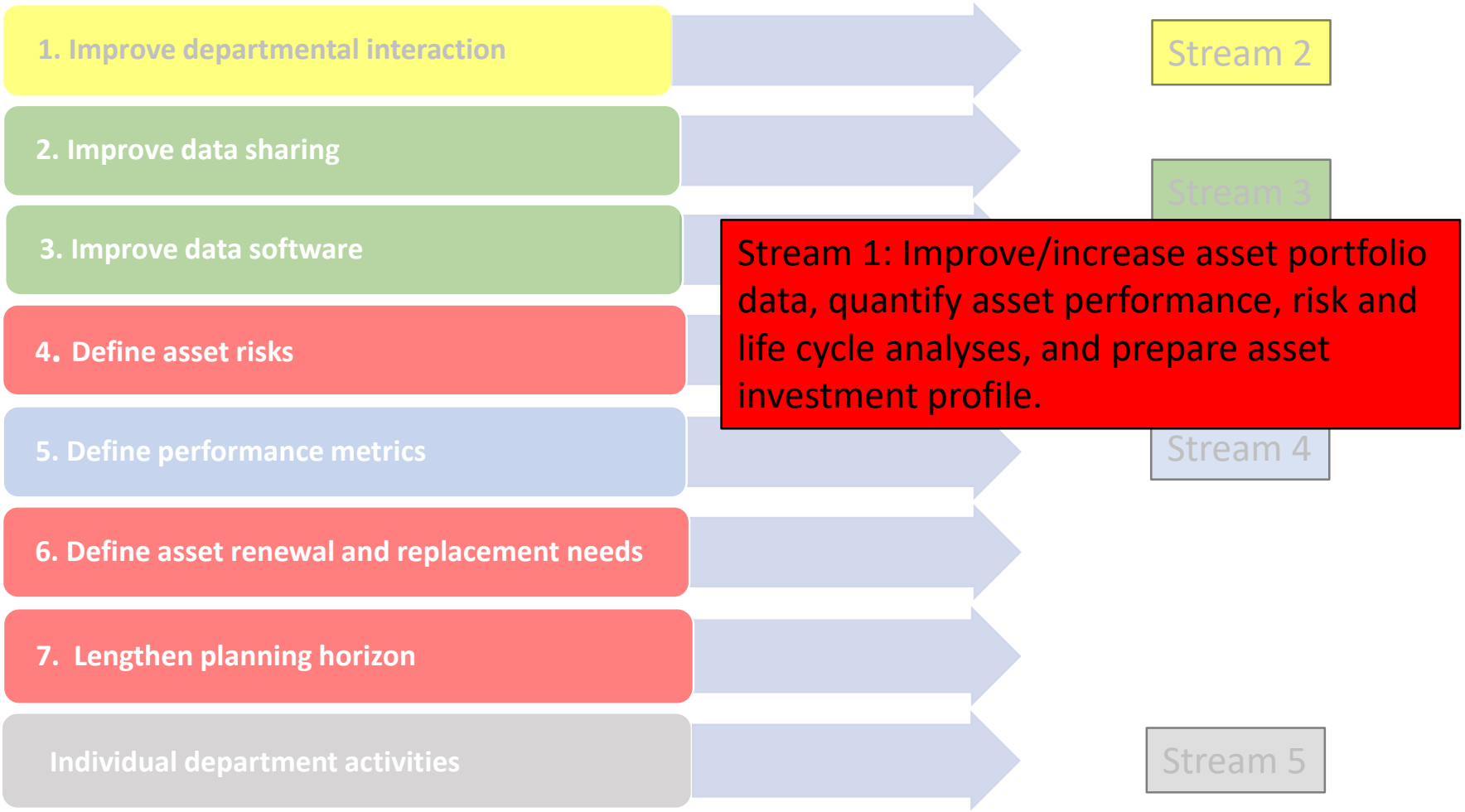
4. AM Road Map (cont'd)

Linking Strategies into Streams



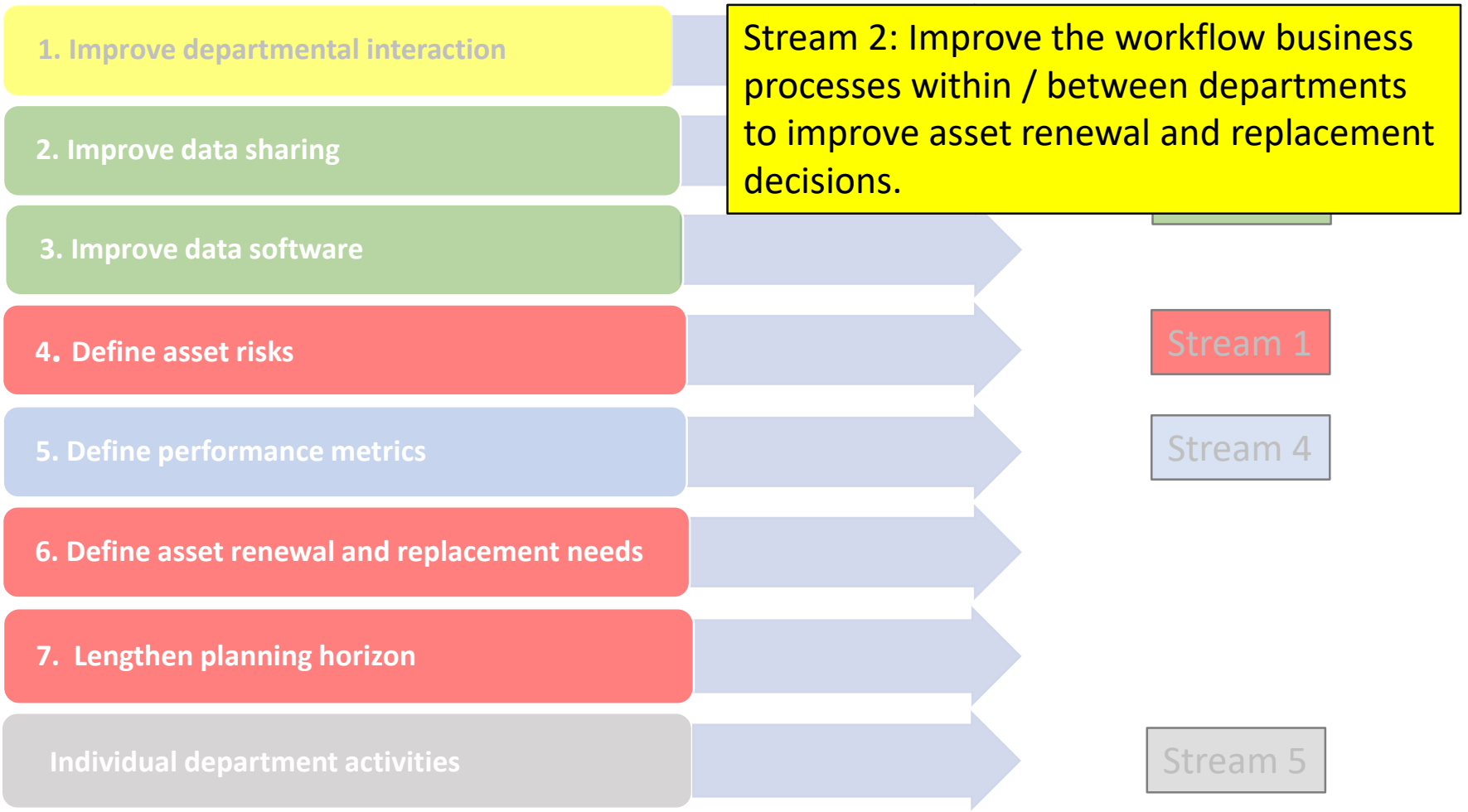
4. AM Road Map (cont'd)

Stream Objectives



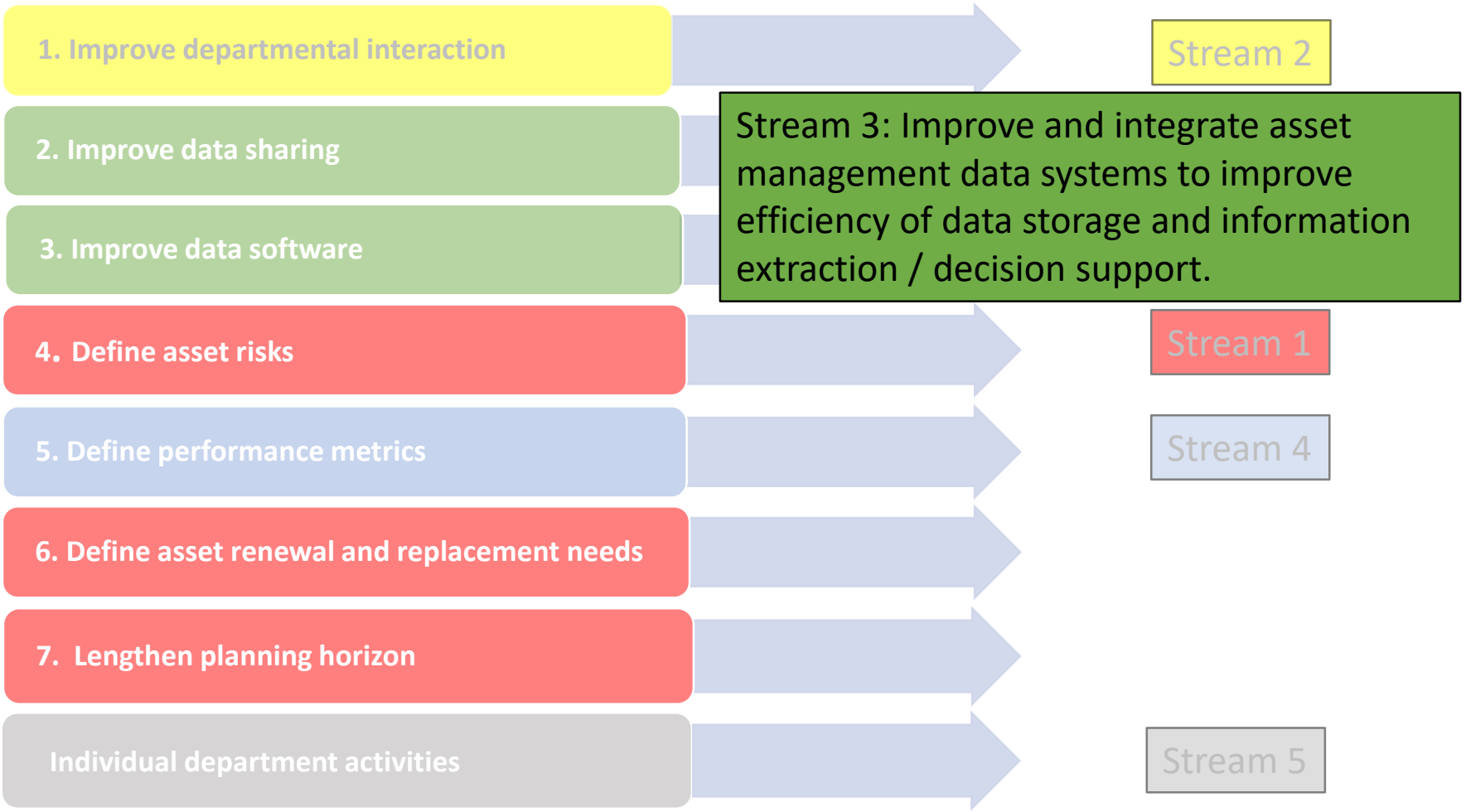
4. AM Road Map (cont'd)

Stream Objectives



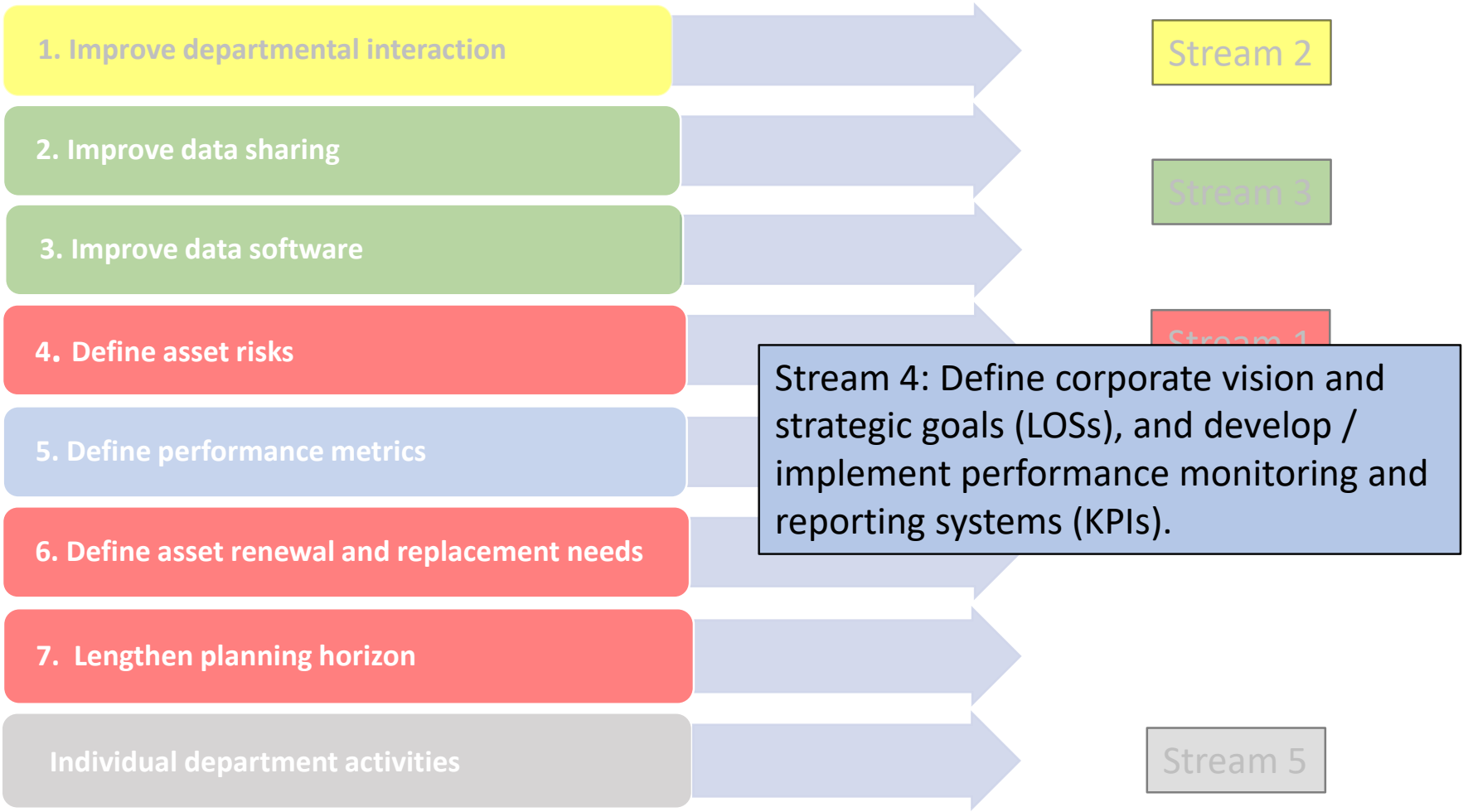
4. AM Road Map (cont'd)

Stream Objectives



4. AM Road Map (cont'd)

Stream Objectives



4. AM Road Map (cont'd)

Stream Deliverables

Improved AM investment decision-making (dept. & org. management & budget process)	Stream 2
Improved data & information management to support investment decision-making	Stream 3
Improved foundation of AM processes (data) and prioritized investment strategy	Stream 1
Continuous improvement: measuring state of infrastructure & success in delivering services	Stream 4
Departmental Improvement Activities	Stream 5

4. AM Road Map (cont'd)

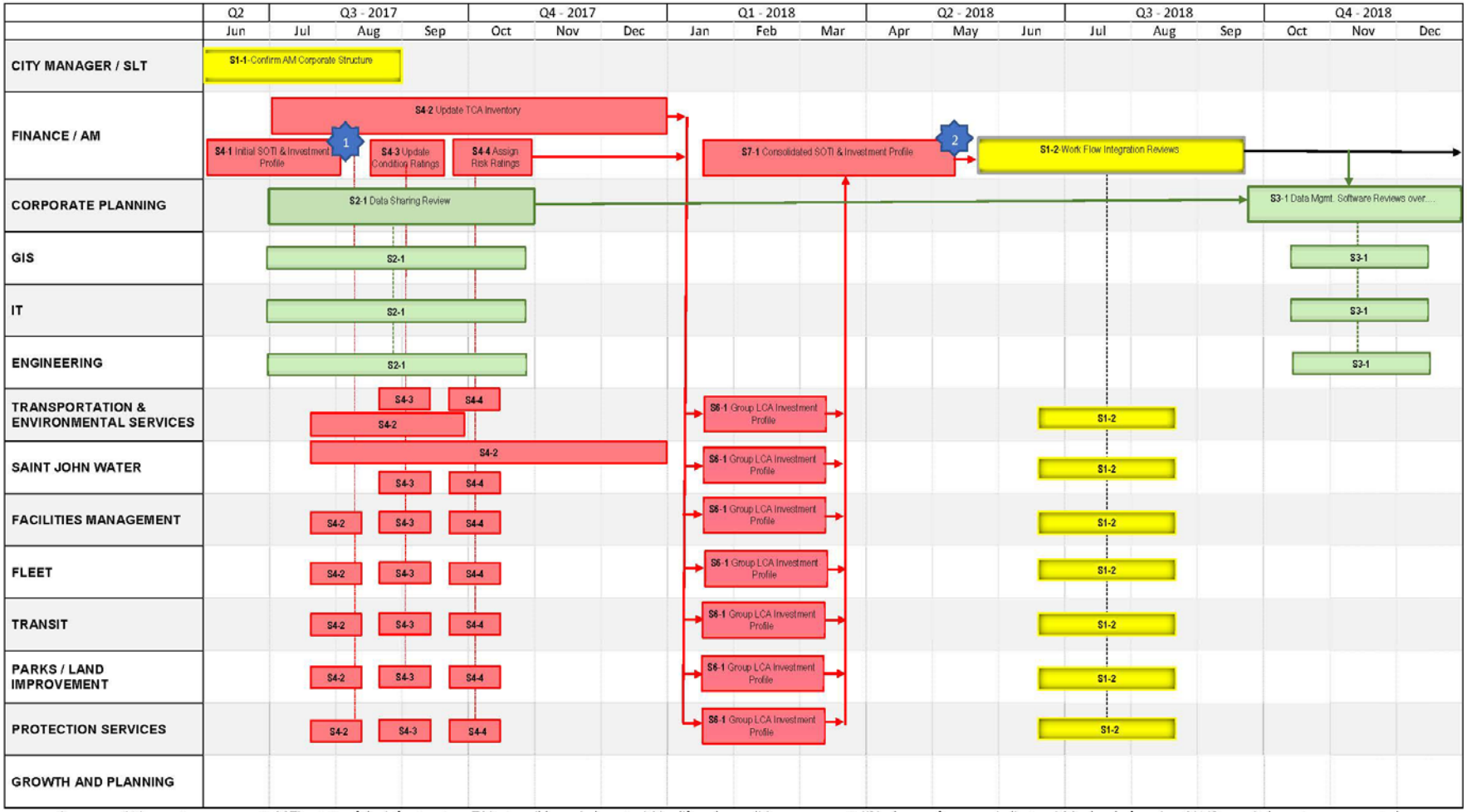
SAINT JOHN ASSET MANAGEMENT ROADMAP MARCH 30, 2017

Strategy	Deficiency Addressed	Related Strategies	Proposed Activities	Proposed Tasks	Deliverables	Who (Lead / Staff)	Framework Benefits	Duration	Cost
STREAM 1 – AM Lifecycle Management									
Define Asset Risks (Strategy 4): *Strategy – Improve / increase the asset management activities and resources needed to prioritize asset renewals and replacements based on defined and quantified asset risks*	Lack of ability to articulate condition of assets and quantify risks	Strategy 6 Define Asset Renewal & Replacement Needs Strategy 7 Lengthen Planning Horizon	1. Prepare initial State of the Infrastructure (SOTI) report and investment profile	a) RVA to prepare initial SOTI and investment profile using existing (incomplete and imprecise) information.	Initial SOTI and investment profile report	**Lead** RVA/Asset & Energy Management **Participants** n/a **Support group(s)** Finance and GIS	**Financial Management: Cash Flow Forecast** Initial report will provide a snapshot of current state of affairs and will facilitate communication with Council and the Public. It will also serve as a benchmark to quantify future AM benefits.	*8 weeks*	*Hours & $*
			2. Confirm / Update Tangible Capital Asset (TCA) inventory – each group review their asset additions / updates since 2011 when the TCA inventory was completed under the PSAB exercise and ensure current TCA register is as complete as possible. Provide updates to Finance to update TCA Register	a) Finance to provide overview presentation of TCA Register inventory to all groups b) Discuss segmentation / componentization for horizontal and vertical assets to determine appropriate level of detail and how to roll-up asset information to the level of detail represented in the TCA Register c) Each group with assets to review their inventory data updates since 2011 and provide copy to Finance in format that relates to TCA Register d) Confirm related information – life expectancies, age and valuation – Asset & Energy Management/RVA can provide guidance on life expectancies for different assets – Date of installation should come from TCA and updated with recent contracts, etc for new additions to the system – Valuations, as a minimum determined from installment cost in TCA Register and the use cost index to update to current replacement value. Recent contract costs should be used to validate replacement costs	Updated database for AM data in all Departments based on a consistent structure including inventory, age and valuation integrated within single AM database (TCA Register)	**Lead** Finance and Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering and GIS	**Asset Portfolio** Solidify foundation of AM processes allowing for consistency in strategic planning and financing of infrastructure investments (required for next steps)	*8 weeks*	*Hours & $*
			3. Identify and/or update condition rating for all assets in the TCA inventory based on a common condition rating system (CRS) using best available information. Use surrogates if direct information not available (e.g. age)	a) Asset & Energy Management/RVA assist with preparation of CRS (based on 5 level aggregation) and methods for using surrogate data if direct assessment of condition has not been done. b) Individual groups complete review and assignment of condition rating for each asset based on adopted CRS	Condition ratings on all assets based on a consistent approach as a building block for AM process activities	**Lead** Asset & Energy Management/RVA **Participants** All operational groups who manage assets to deliver their services **Support group(s)** Engineering	**Asset Portfolio: Performance** Condition is foundational data for AM processes. Initial assessment begins to demonstrate data needs strategic to future data collection processes (required for next steps)	*6 weeks*	*Hours & $*

Saint John AM Roadmap Task Tracking

Stream 1: AM Lifecycle Management | **Stream 2:** AM Workflow & Resources | **Stream 3:** AM Tools (data management) | **Stream 4:** AM Monitoring and Reporting

April 08, 2017



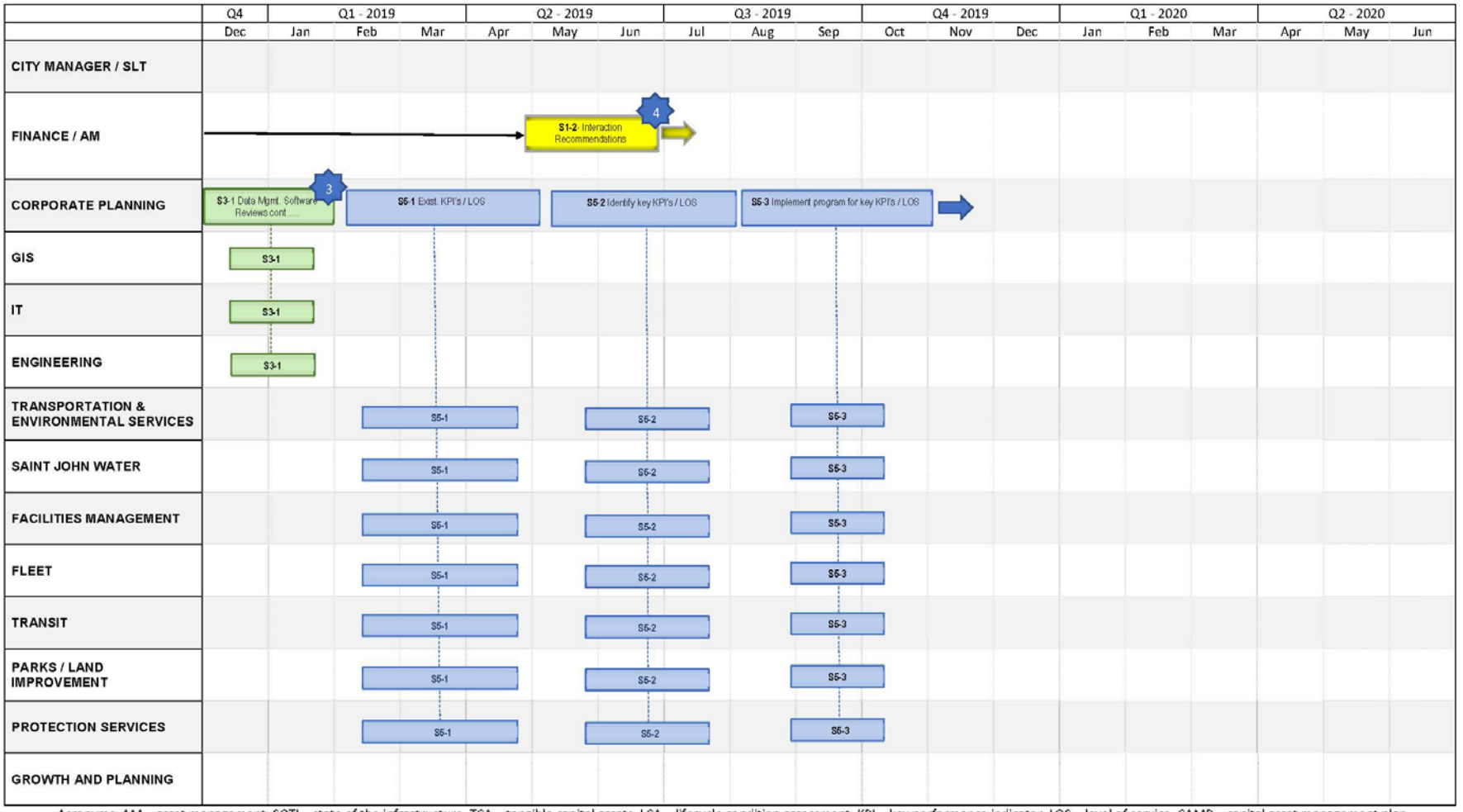
Acronyms: AM = asset management, SOTI = state of the infrastructure, TCA = tangible capital assets, LCA = lifecycle condition assessment, KPI = key performance indicator, LOS = level of service, CAMP = capital asset management plan

Deliverables: 1 = initial SOTI & investment profile, 2 = updated SOTI & investment profile **and** CAMP report, 3 = data management & integration system(s), 4 = departmental AM interaction structure

Saint John AM Roadmap Task Tracking

Stream 1: AM Lifecycle Management | **Stream 2:** AM Workflow & Resources | **Stream 3:** AM Tools (data management) | **Stream 4:** AM Monitoring and Reporting

April 08, 2017



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Hans Arisz, P.Eng.,
harisz@rvanderson.com

APPENDIX 4-6

Finance Committee: AM Road Map Project Update #2

SAINT JOHN

Asset Management

PRESENTATION TO FINANCE COMMITTEE

Saint John AM Road Map Project Update

April 11, 2017

Hans Arisz – harisz@rvanderson.com

R.V. Anderson Associates Limited
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AGENDA

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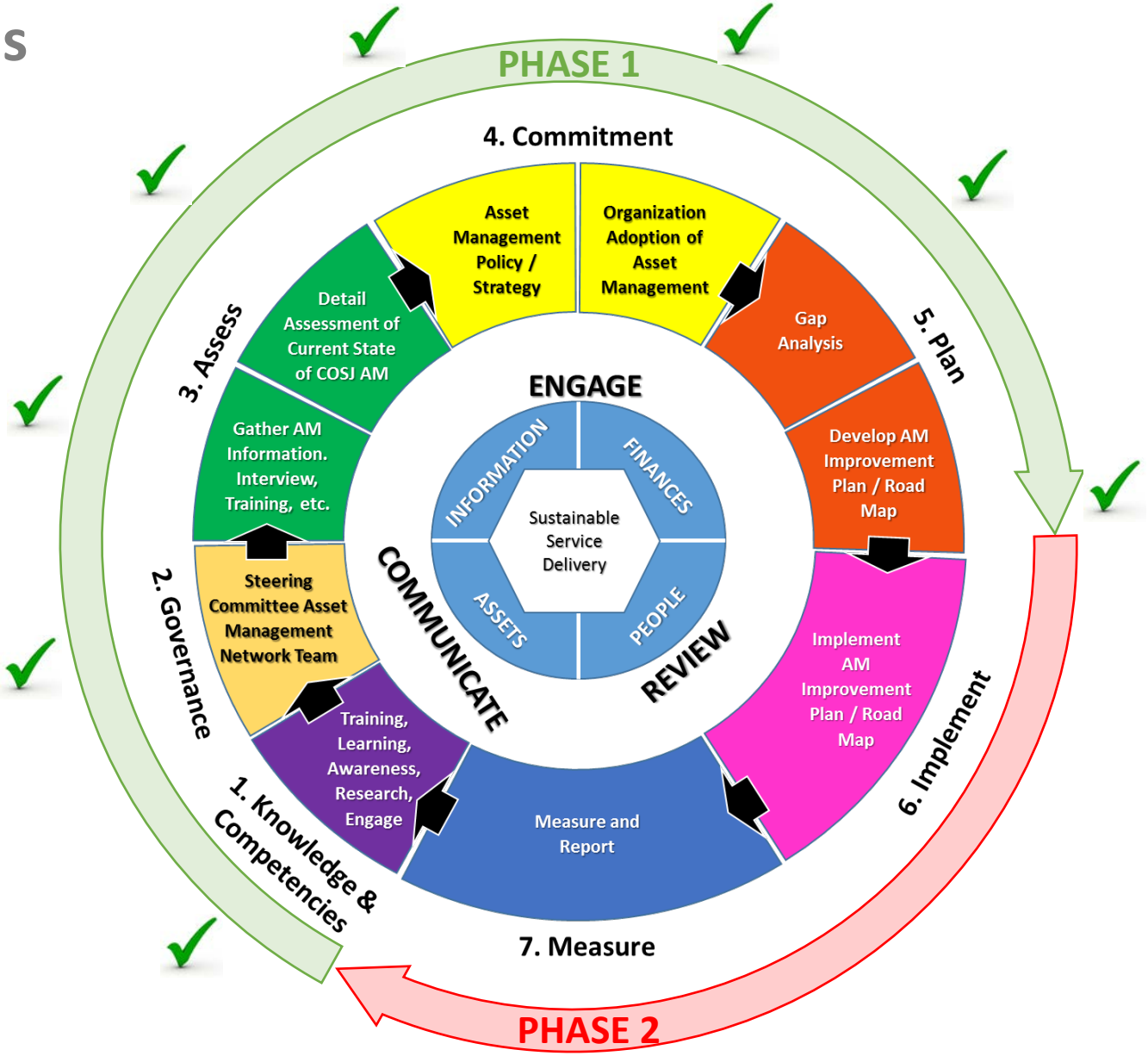
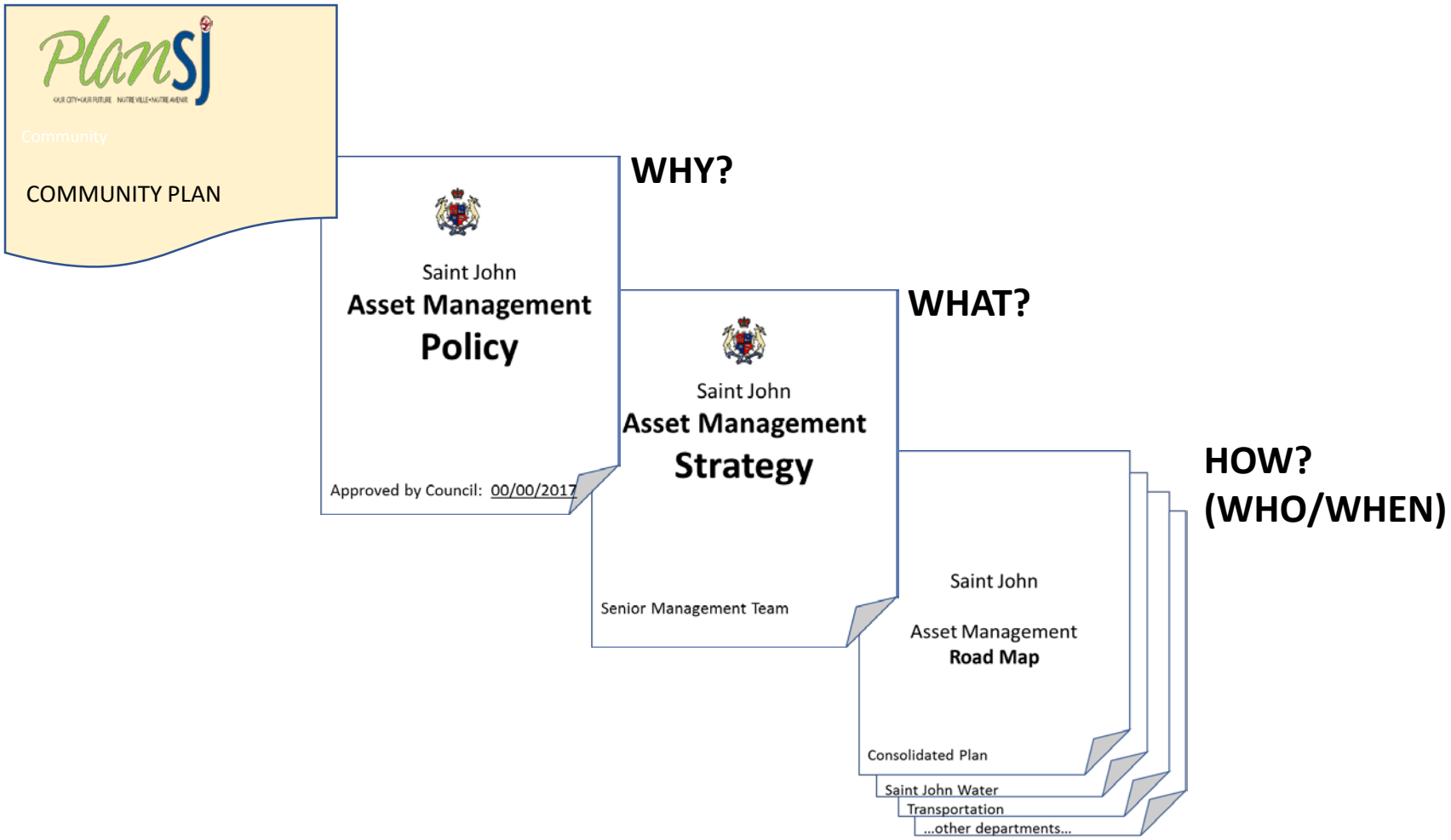


2. AM Commitment Documents and Hierarchy



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Strategies & Activities

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Individual department activities

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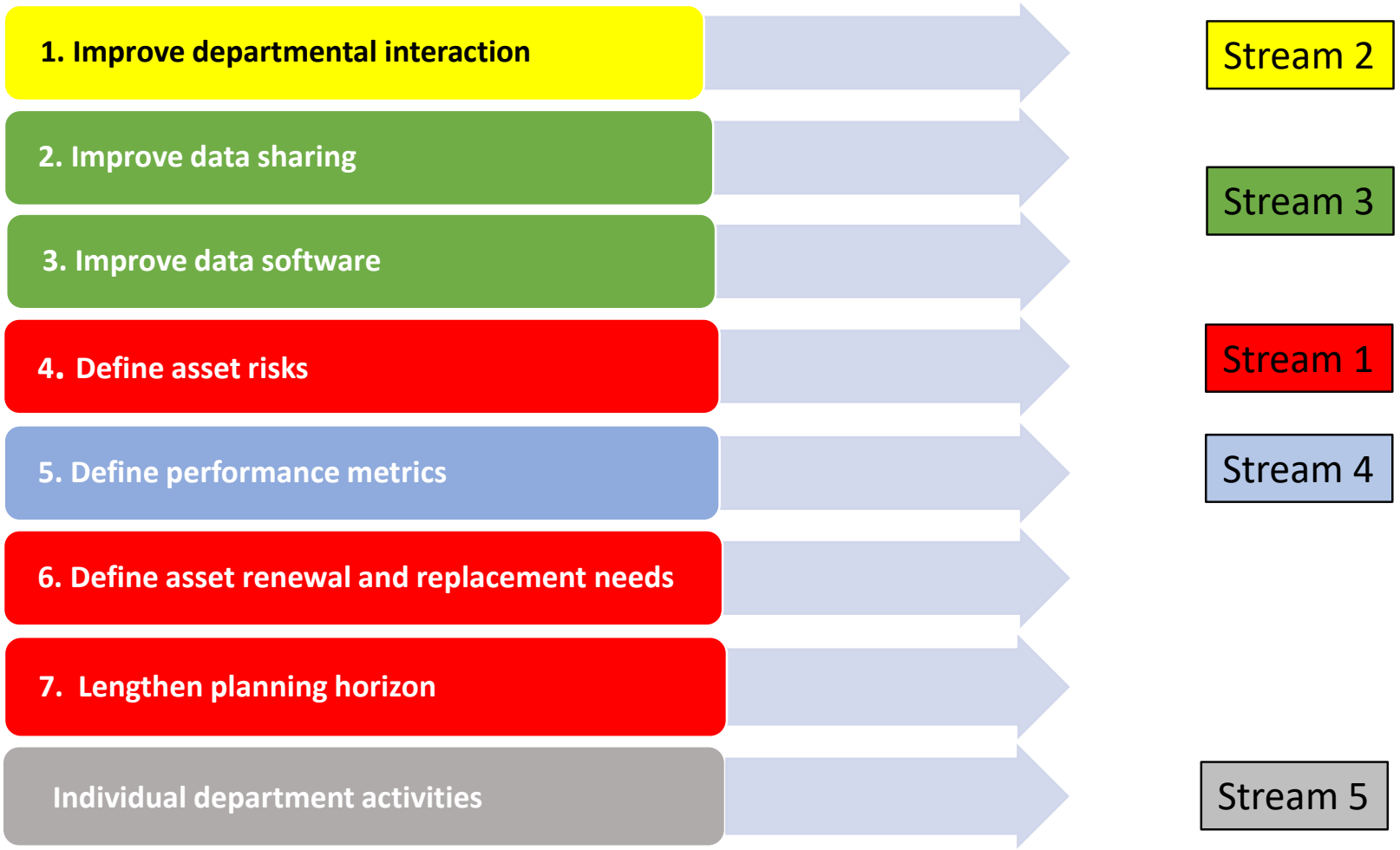
Long Term Financial Plan

Individual department activities

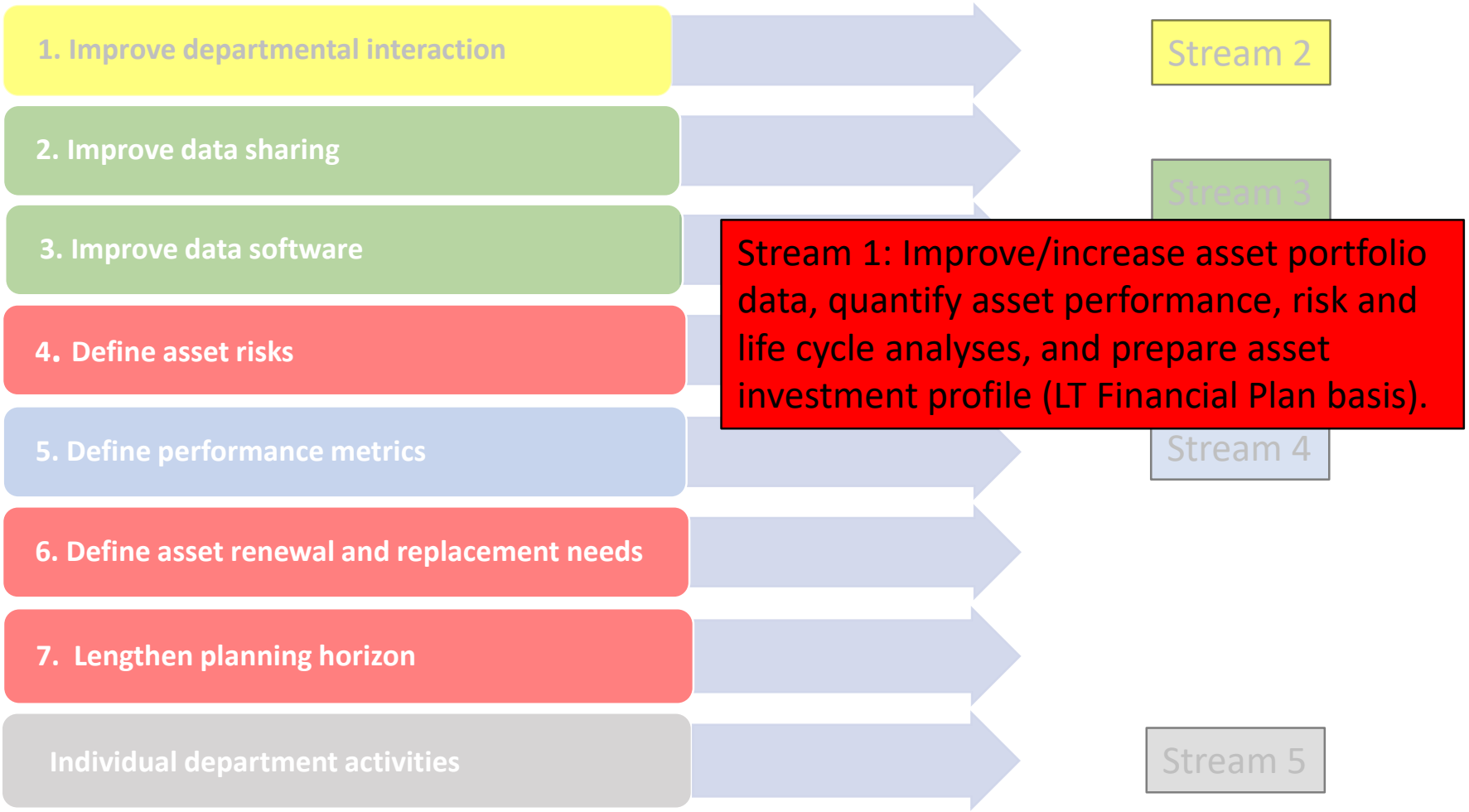
4. AM Road Map (cont'd)

Linking Strategies into Streams



4. AM Road Map (cont'd)

Stream Objectives



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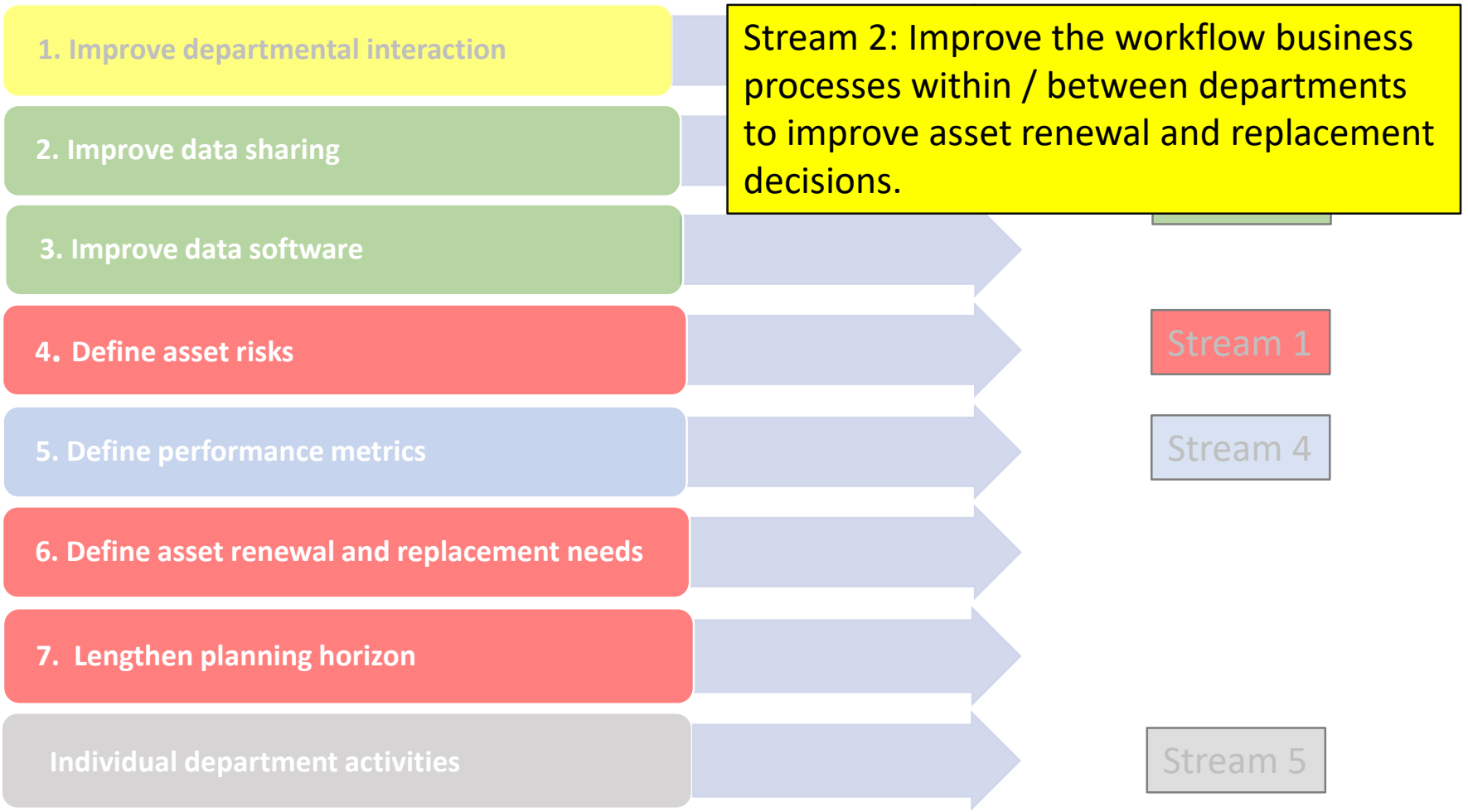

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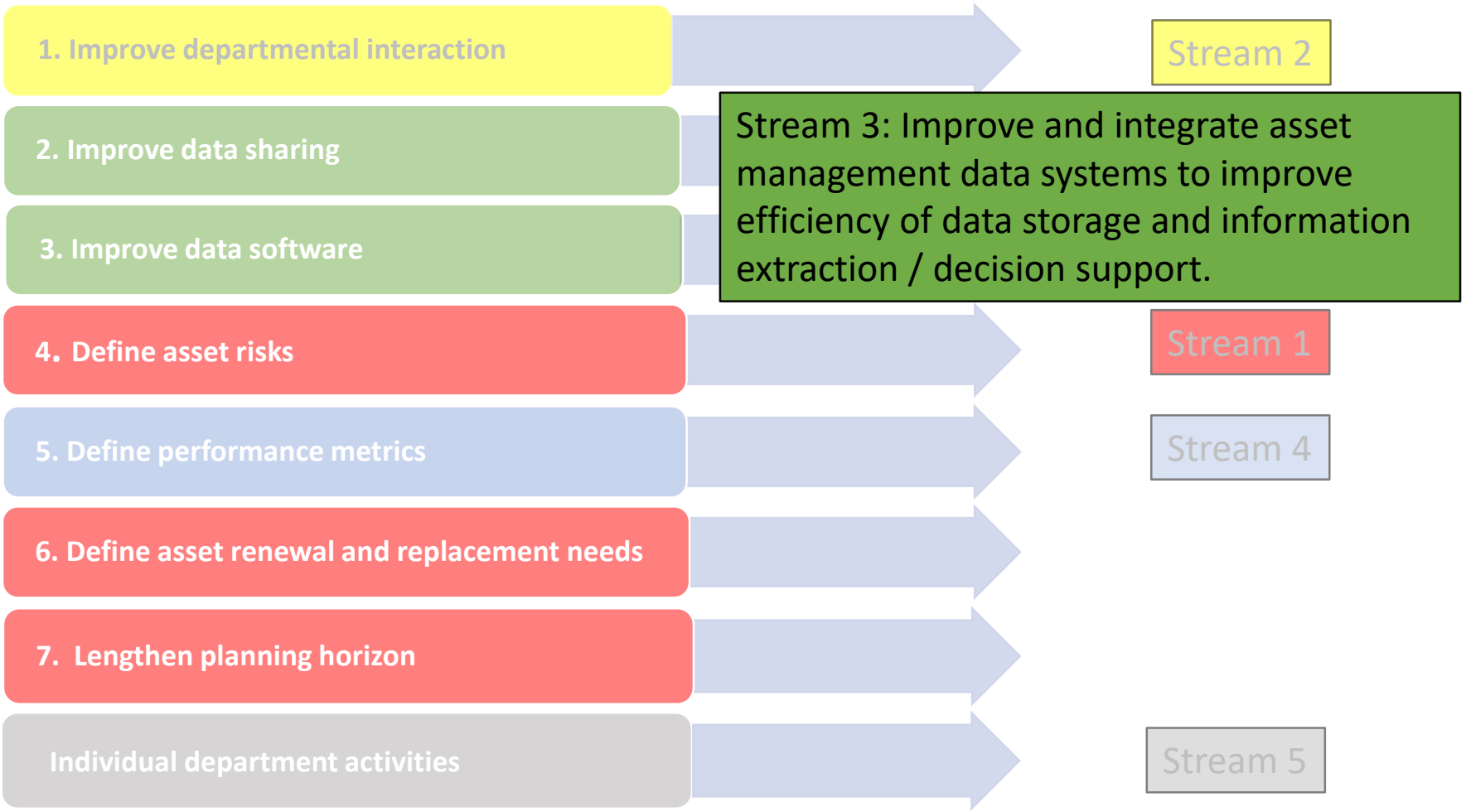

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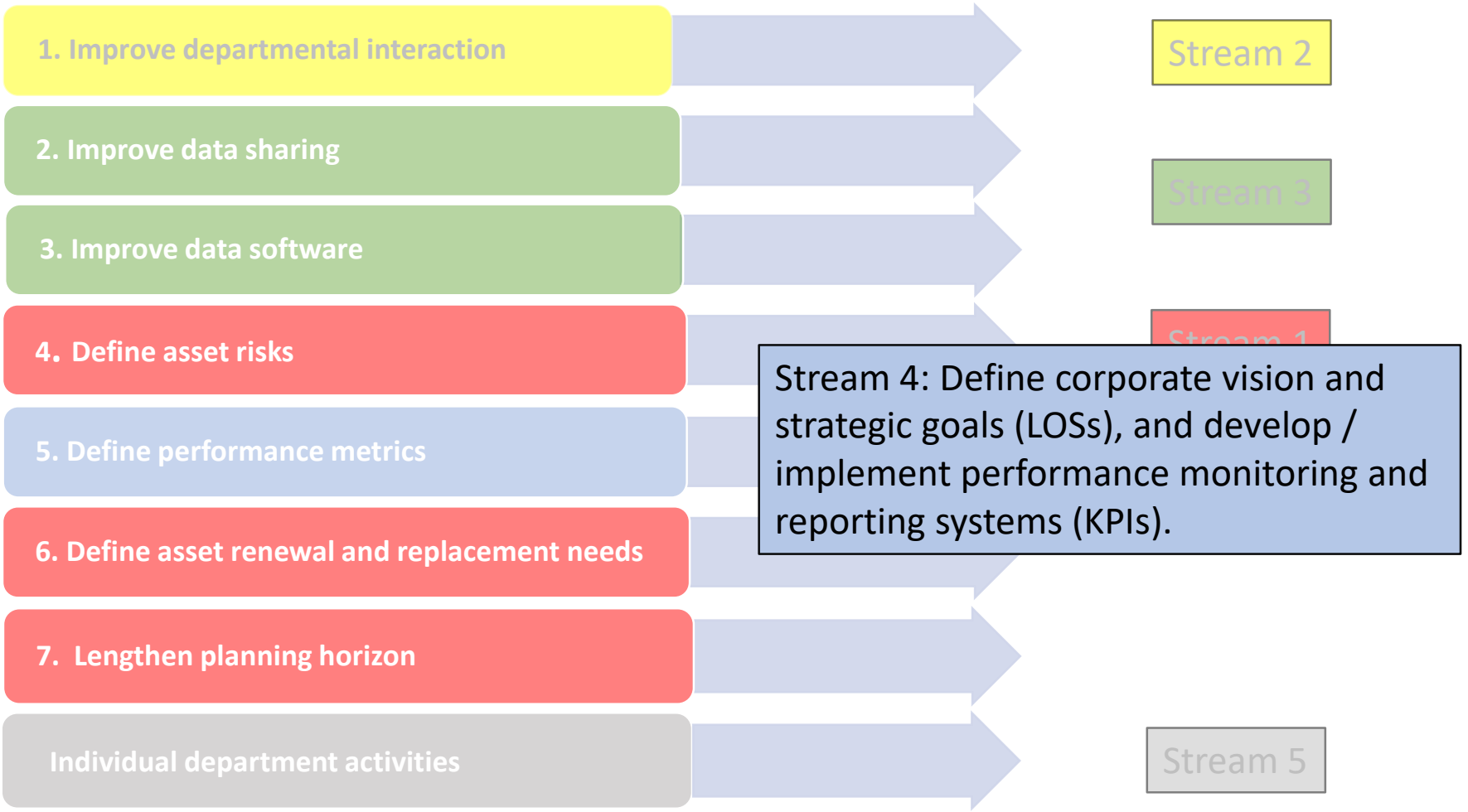
Stream Objectives



4. AM Road Map (cont'd)

Linking Strategies into Streams

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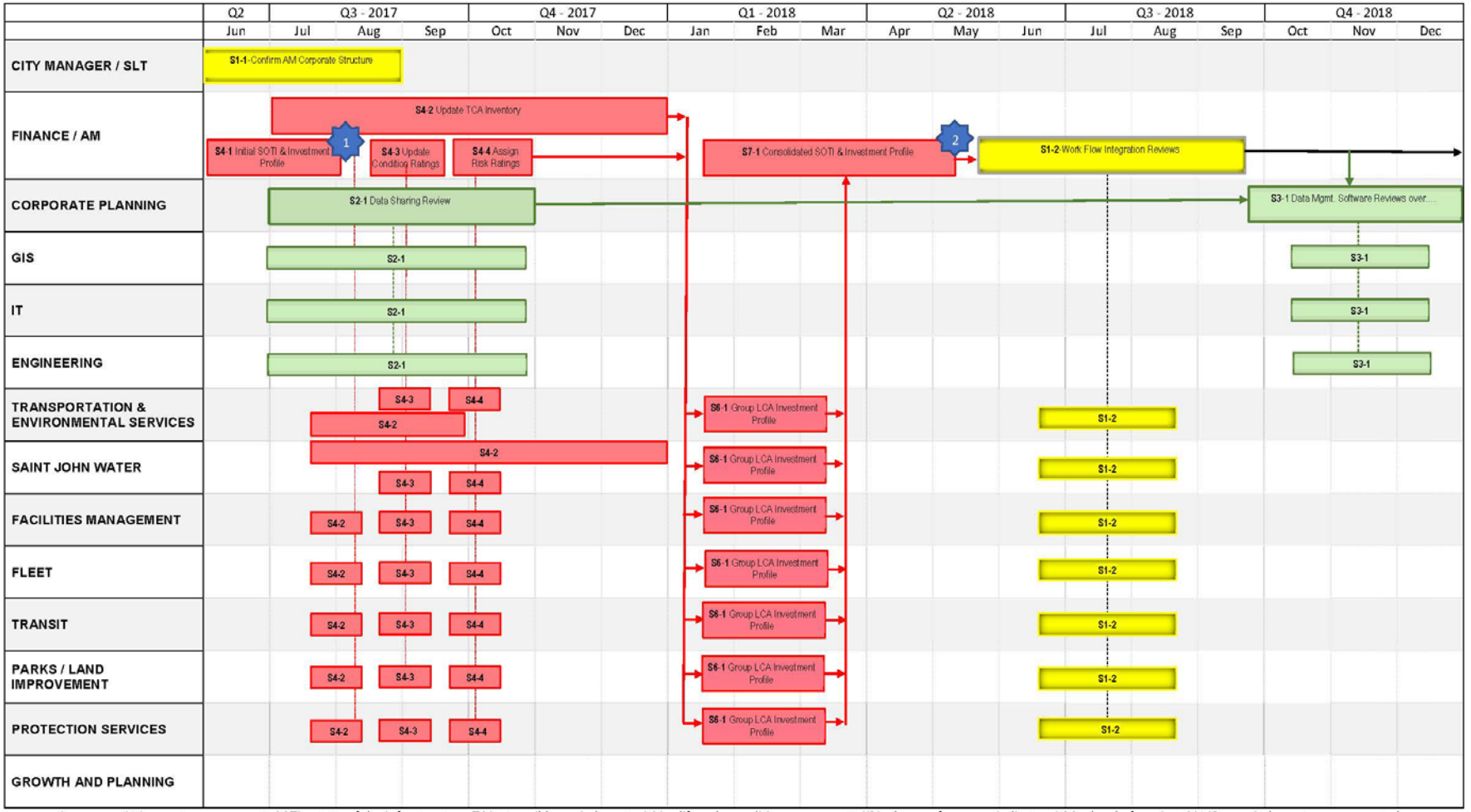
Saint John AM Roadmap Task Tracking

Stream 1: AM Lifecycle Management | **Stream 2:** AM Workflow & Resources | **Stream 3:** AM Tools (data management) | **Stream 4:** AM Monitoring and Reporting

April 08, 2017



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Saint John AM Roadmap Task Tracking

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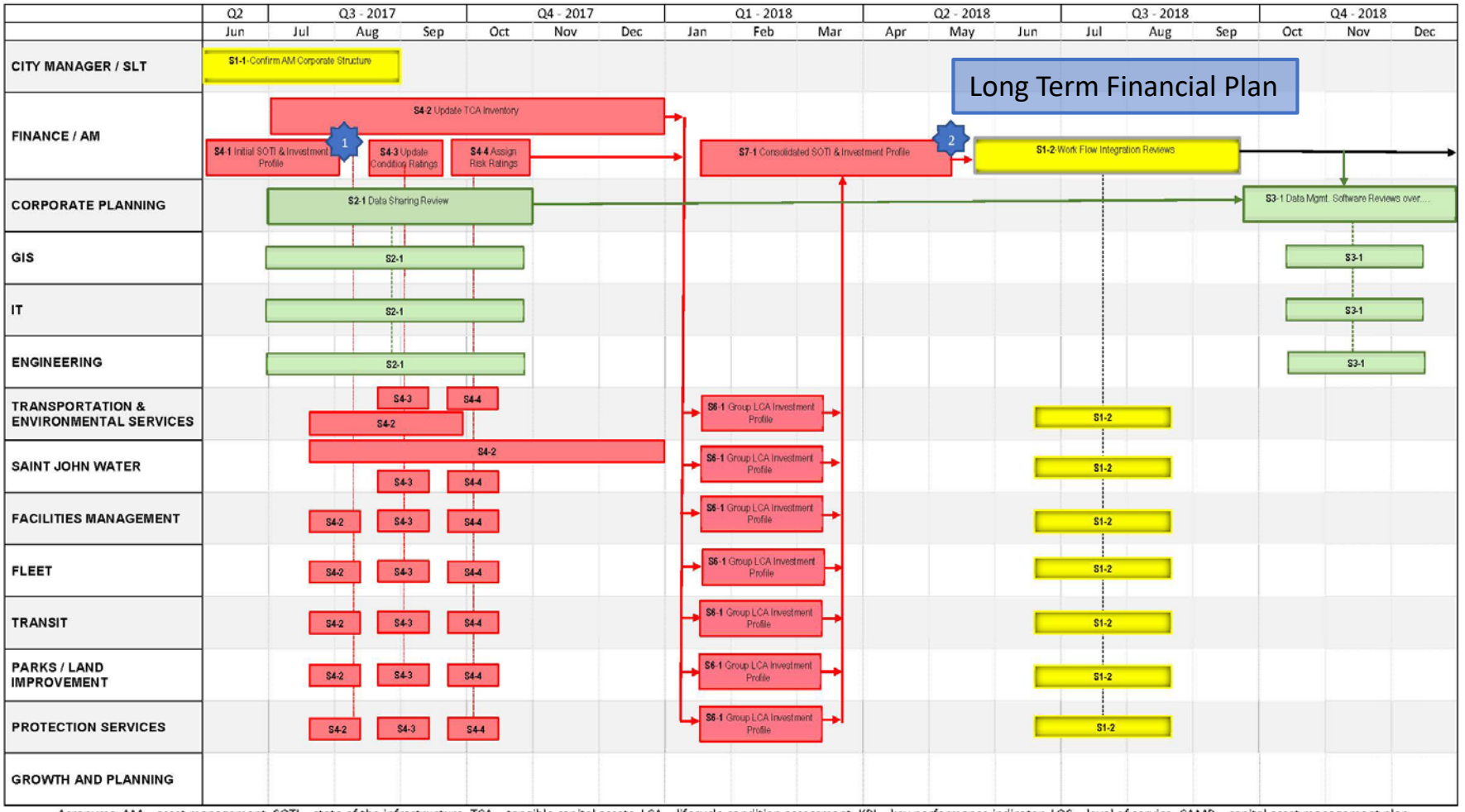
April 08, 2017



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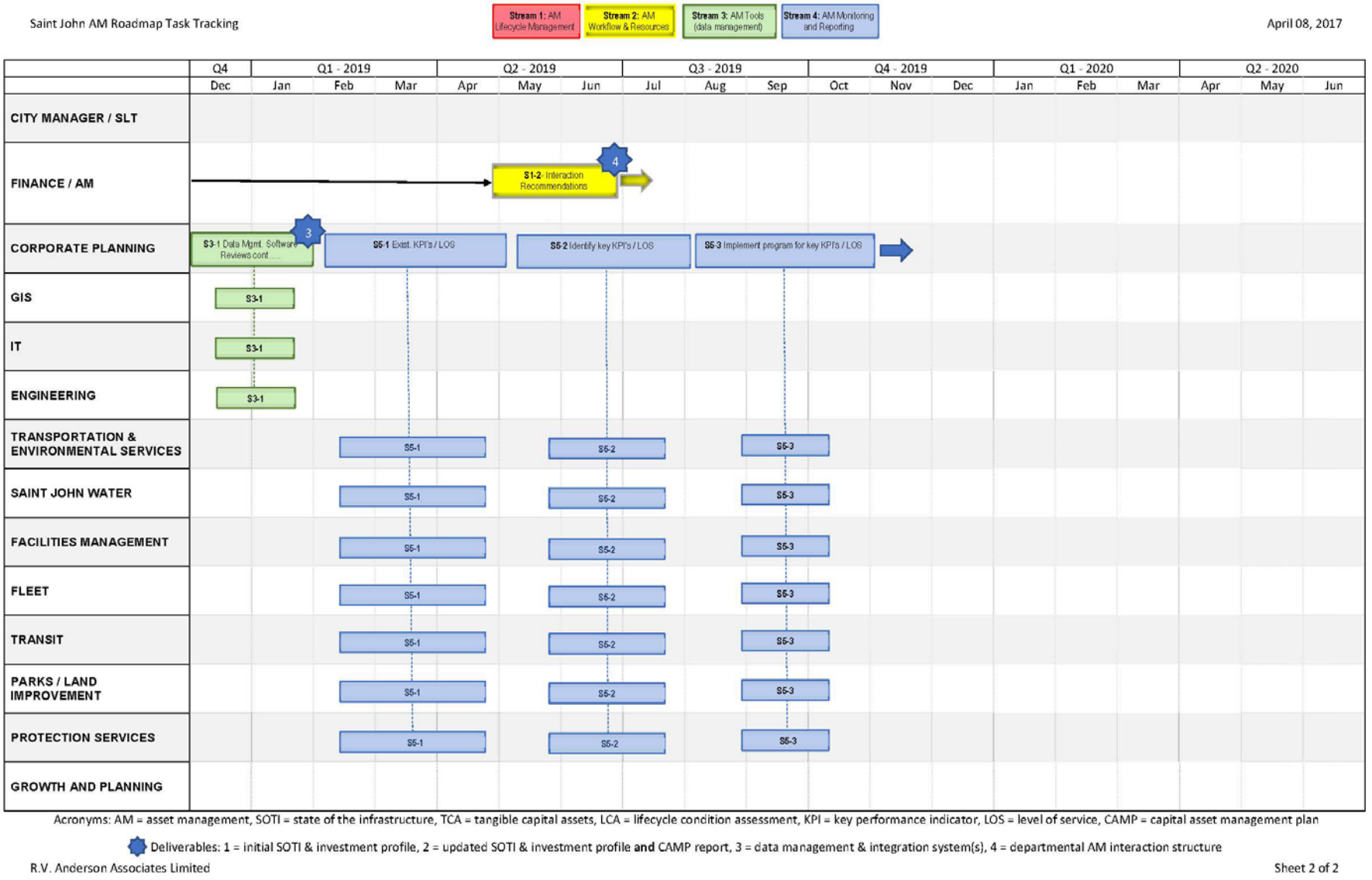
R.V. Anderson Associates Limited

Sheet 1 of 2


Saint John AM Roadmap Task Tracking
Stream 1: AM Lifecycle Management
Stream 2: AM Workflow & Resources
Stream 3: AM Tools (data management)
Stream 4: AM Monitoring and Reporting
April 08, 2017
Q4 Dec
Q1 - 2019 Jan Feb Mar
Q2 - 2019 Apr May Jun
Q3 - 2019 Jul Aug Sep
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FINANCE / AM
S1-2 - Interaction Recommendations
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CORPORATE PLANNING
S3-1 Data Mgmt. Software Reviews cont.....
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S5-1 Exist. KPI's / LOS
S5-2 Identify key KPI's / LOS
S5-3 Implement program for key KPI's / LOS
GIS
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S3-1
TRANSPORTATION & ENVIRONMENTAL SERVICES
SAINT JOHN WATER
FACILITIES MANAGEMENT
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PROTECTION SERVICES
GROWTH AND PLANNING
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Acronyms: AM = asset management, SOTI = state of the infrastructure, TCA = tangible capital assets, LCA = lifecycle condition assessment, KPI = key performance indicator, LOS = level of service, CAMP = capital asset management plan
Deliverables: 1 = initial SOTI & investment profile, 2 = updated SOTI & investment profile and CAMP report, 3 = data management & integration system(s), 4 = departmental AM interaction structure
R.V. Anderson Associates Limited
Sheet 2 of 2

Hans Arisz, P.Eng.,
harisz@rvanderson.com

APPENDIX 5

FOUNDATION DOCUMENTS

APPENDIX 5-1

Preliminary Road Map Asset Management Program

City of Saint John

Preliminary Road Map

Asset Management Program

SAINT JOHN

April 2, 2016

1. Purpose

The purpose of the asset management program is to help manage the City's assets in an efficient, effective and sustainable manner.

2. Introduction

This document provides the City of Saint John with a preliminary road map or process and work plan to help develop a comprehensive Asset Management Program and practices across the organization including ABC(s). The City will use a "top-down approach" which is supplemented by bottom up information, to develop, implement and monitor the Asset Management Program. In this context, "top down" means that the plan will not just be a composite of various departmental plans; it will be comprehensive, consistent plan applied throughout the entire organization and with the approval of the Council, City Manager and senior management. The City Asset Management Program will be tied to the existing City strategic goals, practices, guidelines, and plans and will be based on recognized national/ international frameworks, standards and best management practices such as: ISO 55000 (International standard for asset management), British Columbia (BC) Framework for asset management, International Infrastructure Management Manual (IIMM), and the Federation of Canadian Municipalities Leader in Asset Management Program (LAMP).

3. What is Asset Management?

The National Roundtable for Sustainable Infrastructure defines asset management as:

"Asset Management is an integrated business approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risk and provide satisfactory levels of service to community users in a socially, environmentally and economically sustainable manner".

Also, the ISO55000 defines asset management as:

"Asset Management is the coordinated activity of an organization to realize value from assets"

In other words, Asset Management is an integrated and holistic process that will involve staff across the organization including ABC(s), various departments (Finance, Facilities, Engineering, Saint John Water, Fleet and Transportation, Growth and Development, etc.), expertise and resources to help manage effectively the assets and provide a sustainable service delivery

4. Infrastructure Assets

The asset management program will address the following infrastructure assets class:

- Water distribution networks;
- Wastewater distribution networks;
- Water and wastewater pumping stations;
- Wastewater treatment plants;
- Buildings and other Facilities;
- Transportation;

- Vehicles;
- Parks;
- Street Lighting;
- Machinery & Equipment;
- Land

The current infrastructure represents the foundation to develop an Asset Management Plan (AMP).

5. Benefits of Asset Management to the City of Saint John

The following are the benefits of implementing asset management program across the City of Saint John organization:

- Comply with the Province of New Brunswick Capital Asset Management Plan;
- Easier to secure grants or funding from various level of governments and agencies. The asset management plan will provide the City with a better idea of what projects and programs are needed to meet the City funding requirements;
- Move from traditional stewardship approach to serviceability approach by focusing on business need and service delivery requirements;
- Develop a long-range strategic financial plan. The development and implementation of such a program is necessary to provide sustainable service delivery prioritize capital funding. The City will be proactive by planning infrastructure expenditures over multiple years rather than on annual basis;
- The asset management plan will include cost effective management strategies such as life cycle management, practices, programs and priority projects that will help reduce the cost of renewing infrastructure, reduce the cost to operate and maintain the assets and manage risks;
- Reduce risk exposure to municipality. The asset management program will include a robust risk management framework to help prioritize projects based on the level of risks to the service delivery;
- Provide sustainable and economically viable levels of service;
- Introduce accountability for investment decisions that improves public confidence in planning and decision-making; and
- Being able to set the level of service and funding requirements to maintain this level of service. The implementation of asset management will provide the City and Council with good information on their assets, the infrastructure resources and funding required to operate and sustain the current and future level of services, helping develop the budget and the appropriate tax rates.

6. Approach

The City of Saint John will use a “top-down approach”, which is supplemented by bottom up information, as defined in the Introduction, to develop an Asset Management Plan (AMP) and roadmap. The framework is provided on the graphic below and based on the BC Framework; however, some modifications were tailored to the City of Saint John requirements. The graphic includes the major components or categories to asset management and link all the categories together in a circular path. It is critical to indicate that the asset management is an on-going process and requires continuous update and improvement. Also, it is important to note that some of the tasks or activities included in each category will be performed simultaneously and are ongoing throughout the program.

CITY OF SAINT JOHN
ASSET MANAGEMENT FRAMEWORK

The following are the major components of the process; it is essentially a “plan, do, check, act” system.

- Knowledge Building and Competencies;
- Asset Management Governance
- Assessment;
- Commitment;
- Plan;
- Implement; and
- Measure.

6.1 Vision, Knowledge Building and Competencies

- Prepare Project Charter
- Engage other municipalities that have undertaken an asset management program;
- Engage consultants, provincial governments, and agencies who are familiar and have experience in asset management;
- Engage stakeholders;
- Gather, review and research articles, information, standards, policies, strategies, regulations, etc. on asset management;
- Attend training, conferences, seminars, and webinars on asset management;
- Provide workshops, reports and training to staff and Council on the benefits of asset management to the organization, the public, and to build awareness;
- Review and become familiar with any government regulations, funding requirements relative to the implementation and the development of asset management program and practices;
- Solicit funding to develop and maintain an asset management program;
- Join the Canadian Network of Asset Managers (CNAM); and

A Council report will be submitted to provide Common Council with a progress update on the City of Saint John asset management program including proposed process, framework and work plan to help develop and implement asset management program and practices**.**

6.2 Asset Management Governance

Establish an asset management steering committee and an asset management network team, comprised of City staff, with a mandate and a regular meeting schedule, to manage and monitor the development and implementation of the asset management program across the organization.

6.3 Assess

- Conduct an in house high level self-assessment of the City of Saint John asset management program. The self-assessment will be based on FCM LAMP self-assessment maturity matrix or the province of BC AssetSMART2.0. The self-assessment will be conducted by each individual department, with coordination from the manager responsible for asset management, and may be followed by a workshop or meeting to finalize the findings.

The self-assessment will help the City to achieve the following:

- Develop knowledge and understanding about the City of Saint asset management program
- Identify preliminary areas of strength and areas requiring improvement
- Establish an asset management benchmark to help measure progress over time
- Build awareness among staff and Council on the current state of the City asset management program and the commitment needed to move through the asset management process
- Generate productive discussion across departments

A summary report will be provided detailing the findings and identifying areas of strength and areas of improvement, and actions needed to close any gaps identified.

- Detailed assessment of the City of Saint asset management program

This task represents the foundation for the development of Asset Management Plan and strategies. This task will assess/review the following, but not limited to:

- City of Saint John assets inventory/registry and condition
- Sustainability
- Legislation regulation, environmental compliance, standards
- Current asset investment, O&M and future capital costs including funding sources
- Decision process
- Current Level Of service (LOS) and desired LOS
- Asset renewal process
- Asset maintenance practices
- Existing strategies, process and practices related to asset management and capital planning
- Organization and stakeholder goals
- Risk Assessment and Capital Investment
- Life Cycle Management
- Organization Adoption of Asset Management

This task will be conducted by consultant or in house staff with input from each department (Finance, Transportation, Saint John Water, Fleet, Facility Management, Engineering, and Corporate Planning). It is recommended that this task be performed separately by each department.

A summary report will be provided identifying the gaps between the current state of City of Saint John asset management program and the desired state, and list of actions needed to close the gaps and improve the City asset management program.

6.4 Commitment

This component involves the buy-in and commitment for asset management at all levels in the organization through leadership, change management and communication. Also involves the development and adoption of the asset management policy and strategy.

- Develop and implement an asset management policy to be adopted by Common Council.
  The policy will be based on the asset management improvement action plan
  The policy will provide the following:
    - Establish the organization commitment to asset management and stable, long-term funding for the operation, maintenance, renewal, replacement or decommissioning of infrastructure
    - Establish the principles and guidelines toward the development and implementation of asset management across the organization, and how asset management is to be integrated throughout the organization and aligned with the City objectives and strategies
    - Guide the staff in carrying out the organization strategies, plans, and actions
    - Provide direction for developing the asset management strategy and asset management plans

- Develop and implement an asset management strategy to be adopted by Common Council.
  The strategy will provide the following:
    - An approach and process to develop an asset management plans
    - Clarity on the roles and responsibilities of the asset management team
    - A definition of the City ‘s asset management objectives
    - A plan for implementing the asset management policy
    - An identification of the current status of the asset management practices and the required practices to achieve the asset management policy and future vision
    - Identification of the project resources requirements for developing and implementing asset management plans, including future requirements for capital, operation and maintenance
    - Development of a process or practice to connect Council priorities, corporate plans, sustainability to asset management plans, and how asset management decision-making is integrated into the organization

  The City may decide to develop a high level asset management strategy followed by a more detailed asset management plan. The level of details will depend on the state of the current infrastructure and the desired state of the assets, target levels of service, and critical risk to be managed

- Change Management and Communications

  Change Management is a structured approach to help the City transition from its current state to a desired future state with minimal resistance or business operational issues and to maximize the return on the project investment. Communication refers to a two way mechanism that will utilize various channels (newsletters, intranet, face-to-face, etc.) to engage staff at all levels and give them an opportunity to provide value feedback on the Asset Management Program which can often better ensure the sustainability of the program.

6.5 Plan

- Gap analysis and prioritize asset management improvement action plan

  The action items will be prioritized based on set of criteria such as risk, resources, council priorities, etc. In addition each action item will be assigned budgets, timeline and task manager
  The prioritize asset management improvement action plan will be presented to Council to be adopted

- Develop an Asset Management Improvement Plan/Roadmap

  The City will use the outcome from the prioritize asset management improvement action plan to develop an asset management improvement plan/roadmap that discusses all the assets owned by the City of Saint John and a medium to long term plan for developing, implementing and improving the asset management practices, strategies, processes, etc. The plan will document the direction and focus going forward as well as the prioritized action plan and funding. Over time, the focus may shift to develop more detailed AMPs for critical service areas such as roads, water and wastewater, transportation, etc. This will depend on the City asset management maturity, which is part of the assessment category.

  The intent of the roadmap is to develop and implement an asset management plan(s) and practices, to provide City staff with the approach and strategies of how to manage effectively the assets over time. It will provide clear direction what to do, when to do it and how much it will cost.

  The improvement plan/roadmap will include the following, but not limited:
  - Current state of the infrastructure
  - Program Framework
  - Asset management governance

- Level of service expected from the assets including the level of service of the assets along with the cost (life cycle cost) associated to provide the level of service. Also, the plan will identify the gaps between the current and desired levels of service
- Risk management plan for each asset
- List of actions, priorities projects, strategies and practices to help reduce the cost of renewing infrastructure, reduce the cost to operate and maintain the assets, or reduce the risk exposure of the City. Also, these actions will help achieve the desired level of service and meet the City asset management objectives
- Identify resources, sources of funding, and timeline for implementation
- A monitoring plan to help monitor the benefits of the renewal projects undertaken and outline any changes and update to the improvement plan

- Integrate the improvement plan to the City long-term financial planning

  A Council report will be submitted to Council to adopt the asset management improvement plan/roadmap

6.6 Implement

- Implement the roadmap and recommendations. This task will develop and implement practices, guidelines, priority projects, programs and strategies that were identified in the asset management improvement plan/roadmap. The purpose is to meet the City of Saint John asset management objectives in a timely manner

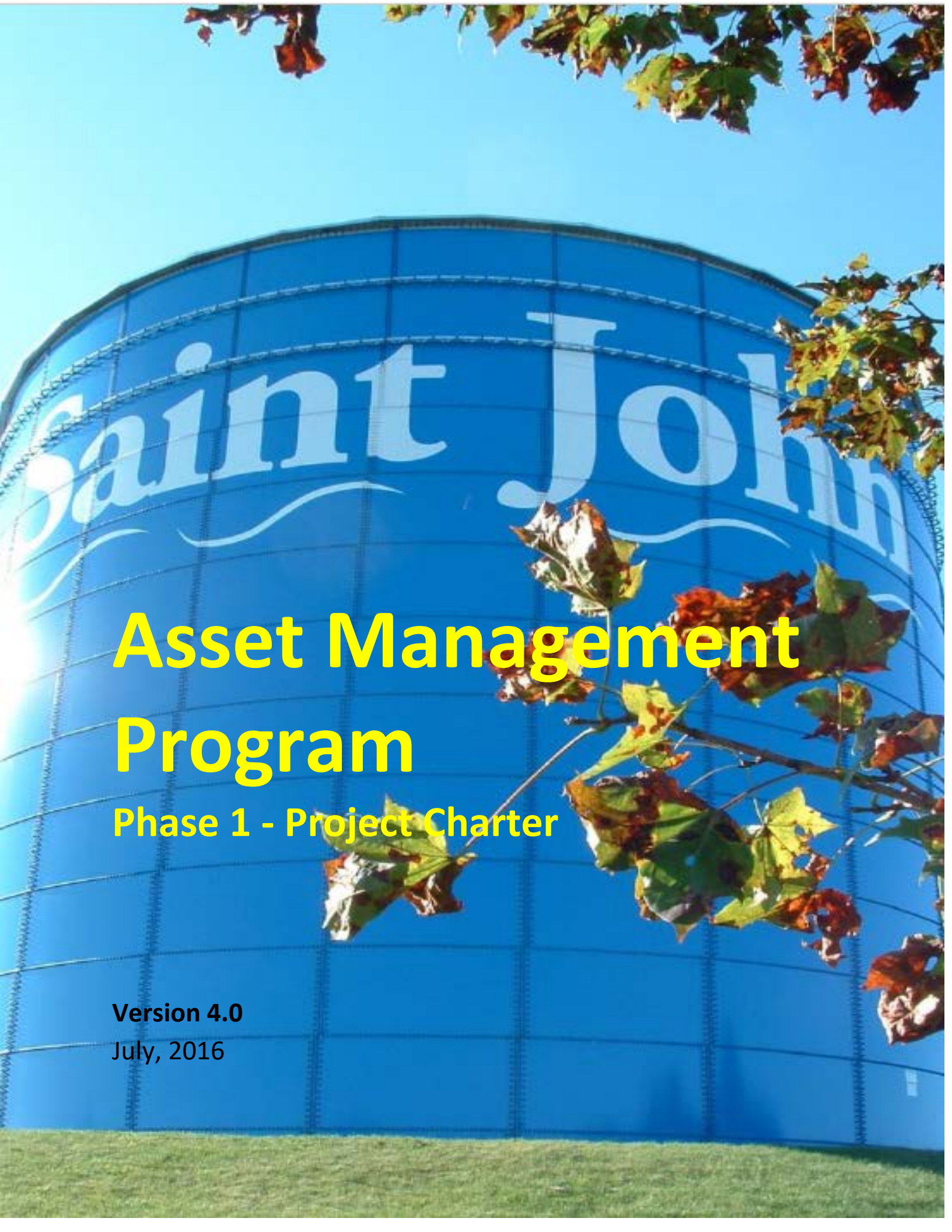
6.7 Measure and Report

This component will help the City demonstrate measurable progress in implementing the process and achieving the desired sustainable service delivery. This component consists of the following activities or tasks:

- Establish a set of tangible and measurable indicators for performance measures (i.e. customers, technical and finance)
- Report on performance against indicators
- Publish performance results

APPENDIX 5-2

Asset Management Program: Phase 1 – Project Charter



Asset Management Program

Phase 1 - Project Charter

Version 4.0

July, 2016

Revision Log

Version / Release	Date	Description of Revision	Author
1	May 27	Initial release	S. Yammine / Other
2	June 9	Added Inputs and review	S. Yammine / Other
3	June 17	Added Inputs and review	S. Yammine / Other
4	July 4	Added Inputs and review	S. Yammine / Other

Document Purpose

This Project Charter provides a statement of the background, scope, objectives, key deliverables, conditions for success, and financial information for the City of Saint John Asset Management Program initiative. It outlines the roles and responsibilities, defines the authority for the project, and communicates a consistent understanding between the Sponsor and other City departments.

Charter Approval

Prepared By			
Project Manager	Samir Yammine		
	(name)	(signature)	(yyyy/mm/dd)
Reviewed By			
Project Sponsor	Kevin Fudge		
	(name)	(signature)	(yyyy/mm/dd)
Approved By			
Project Sponsor	Kevin Fudge		
	(name)	(signature)	(yyyy/mm/dd)

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1 Project Overview

1.1 Project Background

The City of Saint John's vision for the future is underpinned by its goal to be a service-based, results-oriented, high-performance public service organization. This requires a multi-disciplinary approach, across all departments, ensuring that community outcomes are delivered in a sustainable way. Asset management by its very definition also embraces the same fundamental principles.

Good asset management practice is essential for municipalities like Saint John that are dependent on the function and performance of their physical assets in the delivery of services to the community. Well maintained infrastructure is crucial to the economic stability, public safety and quality of life.

The City currently maintains an extensive inventory of public infrastructure across multiple service areas as shown in Table 1. Based on current net book value, the City owns over $1.3 billion worth of tangible capital assets. The 2016 replacement cost for this infrastructure is estimated to be nearly $2 billion using the 2016 first quarter Canadian Price Index (CPI) or the Non-Residential Building Consumer Price Index (NRBCPI).

Table 1: City of Saint John Public Infrastructure Summary

Service Area	Asset Description	Quantity
Transportation	Roads, Sidewalks, Storm Water, Traffic Lights, Street Lights, Ponds, etc.	• Streets - 571 km (1246 lane-km) • Sidewalks - 372 km • Street Light Fixtures / Poles - 1049 • Traffic Light Fixtures - 85 • Storm water – 322 km • Retaining Wall - 142
Water and Wastewater Facilities	Waste Water and Water Pumping Stations Including Water and Waste Water Treatment Plants	• Lift Stations – 69 • Water Pumping Stations – 14 • Treatment Plants - 5 • Hydrants - 2085 • Water Storage Tanks – 7
Water Distribution Networks	Underground Water Pipes	• Underground Pipes - 567 km • Number of Valves -7,842

Service Area	Asset Description	Quantity
		• PRV - 34 • Dams – 14
Sanitary Sewer Distribution Networks	Underground Sewer Pipes, Underground Combined Sewer Pipes	• Underground Pipes - 340 km • Forcemain Sewer Pipes - 51K km • Combined Pipes – 65 km
Vehicles	City vehicles Including Fire and Light to Heavy Trucks	• Fleet- 350
Machinery & Equipment	IT Equipment and Fleet Equipment including Office Equipment	• Small equipment - 800, IT - 700
Transit Buses	Saint John Transit Buses	• Buses – 56 • Handibuses – 8 • Vehicles - 7
Buildings	City Owned Buildings Including ABC's Buildings	• City Owned Buildings - 75 • ABC(s) Buildings - 10 • Total Area - 1.5 Million Sq. ft.
Parks/Land Improvement	Parks including Playgrounds	• Parks - 63

**Note – asset quantities shown in table are based on current data sources.*

Over the years, the City has implemented some elements of asset management in various departments, but not in a consistent, structured, or integrated approach across the organization. The City also lacks policies, processes, tools and software to support asset management. As a result, they are currently facing a number of infrastructure challenges and issues including:

- Affordable water rates;
- Deteriorating road conditions;
- No long term capital investment plans;
- Formalized risk management is not integrated into decision making;
- Levels of service are not defined or cost implications understood;
- Inability to fully understand the consequences of decision making; and
- Little integrated decision making across assets.

Faced with deteriorating assets, increased demands, and budgetary constraints, the City has embraced the need to implement an Asset Management Program to ensure sustainable long term planning and management of its public infrastructure.

1.2 Project Objective

The objective of this project is to develop the knowledge and understanding required to establish and implement a plan for building an Asset Management Program that will provide an integrated, progressive and sustainable approach for the City to manage its physical assets. By doing so, the City will be able to answer the following questions:

- What does the public want?
- What levels of service should we aim for and how do we compare to those targets?
- What assets do we have and what condition are they in?
- What is the current and future demand for the assets?
- How will our assets perform in the future?
- What range of options was considered to treat deficiencies in the assets?
- How have we ranked our needs allowing for budget constraints and risk?
- What impact will different levels of investment and funding have on the performance of the assets?

Being able to answer these questions is aligned with the City's stated vision, goals, and strategy map's organizational scorecard for better managing resources to:

- Ensure financial sustainability;
- Improve performance monitoring and benchmarking;
- Invest in infrastructure that aligns with financial capability; and
- Rationalize and optimize the City's public assets.

The 2014 Federal Gas Tax Funding Agreement requires municipalities to work towards the development and implementation of asset management plans prior to December 31, 2017. The impetus for this requirement is to ensure that councils have the best available information to make infrastructure and financing decisions. Moving forward with the Asset Management Program initiative will ensure the City continues securing approximately $5 million annually that it receives through the agreement.

1.3 Project Scope – Inclusions and Exclusions

Developing and implementing an Asset Management Program for a municipality the size of Saint John is a considerable undertaking. It requires a carefully considered and formed work

plan tailored specifically to meet the needs of the City. At this time, it is estimated that the program will require approximately four years to implement as shown below.

This first phase represents the starting point towards the City implementing an Asset Management Program. It is focused on developing the knowledge and understanding required to establish a plan for implementing the Asset Management Program. It will heavily leverage the experience of other municipalities and organizations that have implemented similar programs.

The scope of this first phase includes the following major work tasks to be completed in 2016:

a) ***Task 1: Knowledge, Engagement, and Vision*** – undertake research, planning, stakeholder engagement, training and seek approval for the AM Program;

b) ***Task 2: Governance and Change Management*** – establish the program team and develop a communications plan, change management plan, and training program;

c) ***Task 3: Commitment*** – define the program's asset management principles and strategy;

d) ***Task 4: Assessment*** – conduct detailed assessments of current asset management practices across all City departments and identify gaps based on leading practice; and

CITY OF SAINT JOHN
ASSET MANAGEMENT FRAMEWORK

e) ***Task 5: Planning*** – Establish the maturity level of asset management that the City wishes to pursue for each asset portfolio and develop an Improvement Plan that identifies the required specific improvements.

The next years (2017-18), would see implementation of the Improvement Plan, focusing on high priorities including long term financial plans, risk management framework and selected asset condition assessments to demonstrate compliance with the Federal Gas Tax Funding Agreement requirements. Full roll out of the Asset Management Program would occur over the

final two years from 2019 to 2020. This would encompass appropriately scaled and sustainable processes and tools established across the organization. Following on, it is anticipated that an asset management culture will be imbedded across the organization with strong leadership in place to ensure cross asset decision making.

1.4 Assumptions

The Phase 1 tasks and schedule were based on the following assumptions:

- Senior management and Council will support the project at each stage identified in the work plan;
- Maintaining project schedule depends on timely access to and consultation with senior management and department representatives;
- When briefing documents require senior management and council review and approval, this will be completed within a timely manner;
- Availability of staff resources from each department during the stakeholder engagement, training, establishing the project team and asset management practices assessment; and
- The ability to retain an experienced asset management consultant to undertake an independent detailed assessment of current city practices across all departments to identify key gaps and work with the City to prepare an Improvement Plan.

1.5 Key Success Factors for Phase 1

Successful completion of Phase 1 will depend of the following critical factors:

- Active, visible and engaged sponsorship and support;
- Effective project management throughout the engagement;
- Proactive management and escalation of issues and risks;
- Timely stakeholder participation and support;
- Demonstrating leadership and added value with respect to knowledge in asset management; and
- Providing quality written deliverables.

2 Project Approach

2.1 Work Plan Tasks

Table 2: Detailed Work Tasks for Phase 1

Phase	ID	Task Activity	Description	Resourcing
Knowledge, Engagement and Vision	101	Develop Project Charter	Provides a description of the project background, purpose, scope, approach, deliverables, conditions for success, communications, resourcing, risks / issues and funding.	PM
	102	Engage Municipalities, Consultants, & Local Governments	Formal engagement process with other municipalities and local governments who have implemented asset management to gain insight on their experiences and lessons learned. Also, includes engaging with consultants providing various aspects of asset management services to better understand external capabilities.	PM
	103	Stakeholder Engagement	Formal engagement process with stakeholders that will be impacted by the new asset management program including all City departments and ABC(s) that manage and operate municipal infrastructure including Finance, Transportation, Saint John Water, Fleet, Facility Management, Engineering, GIS/IT and Corporate Planning.	PM
	104	Asset Management Research	Review and research standards, policies, guidelines, regulations, reports and other relevant asset management information. Attend conferences (i.e. CNAM) and workshops to become more aware of current practices. This task also includes compiling and reviewing all internal reports, datasets and other corporate documents related to asset management.	PM
	105	Staff Training, Workshop and Education	Prepare and deliver training sessions to City staff to raise awareness, develop a basic understanding of asset management, and introduce the Asset Management Program initiative throughout the organization.	PM Staff
	106	Presentation to Senior Management and Council	Prepare and deliver a presentation to Senior Management and Council on the new Asset Management Program initiative.	PM
	107	Solicit Funding	As part of the previous task (106), formally seek commitment and dedicated funding for year 1 of the Asset Management Program. Funding already approved 2015 Budget GTF.	PM

Phase	ID	Task Activity	Description	Resourcing
	108	Progress Report to Council	Prepare and submit a progress report to Council on the major elements of this Project Charter.	PM
Governance and Change Management	201	Asset Management Network Team	Establish a multi-disciplinary Asset Management Network Team with roles and responsibilities clearly defined. The team will include key representatives from each department considered within the scope of this Project Charter.	PM Network Team
	202	Change Management, Communications and AM Training Program	Develop the following: • *Change Management Framework* – business process redesign is a key asset management initiative as it typically involves adopting new processes and controls, implementing new business models, or restructuring the organization to help achieve business objectives and performance results. • *Communications Framework* – defines the frequency, location, and purpose of the key communications and outlines an approach that meets the project needs. This ensures a clear understanding of what information should be shared, how often, by whom, and the most effective method for the various audiences. • *Initial AM Training Program* – a formalized program for City staff for basic asset management education including required training materials such as presentation slide decks, documents, and notes.	PM Corporate Planning Communications Consultant
	203	Submission to Council	Prepare briefing to request and obtain approval of the Asset Management Change Management, Communications and AM Training Program and Asset Management Network Team.	PM
Commitment	301	Asset Management Principles and Strategy	Develop the following program documents: • *Asset Management Principles*– articulates Council's commitment to asset management and provides policy statements to guide staff in carrying out the organization's business strategies, plans and activities. • *Asset Management Strategy* – Based on information and learnings gained from previous tasks, this high level document describes a strategy for achieving and sustaining the level of asset management practice that the City wishes to target and implement.	PM Consultant
	302	Submission to Council	Prepare briefing to request and obtain approval of the Asset Management Principles and Strategy.	PM

Phase	ID	Task Activity	Description	Resourcing
Assessment	401	High Level Asset Management Self-Assessment	Conduct a high level assessment of the City's current asset management practices using the Federation of Canadian Municipalities (FCM) LAMP Asset Management Maturity Matrix and Asset Management British Columbia (BC) Roadmap. It will provide a baseline evaluation of the level of asset management practices currently being employed in terms of organizational adoption of AM, levels of service, risk assessment, and lifecycle management.	PM Department Managers
	402	Summary Briefing Report	Prepare a summary report that documents the findings from the High Level Asset Management Self-Assessment and submit to senior management for information purposes.	PM
	403	Engage Consultant for the Detailed Assessment	Prepare the Terms of Reference, procure, and retain an external consultant to conduct a detailed Asset Management Practice Assessment for the city.	PM Procurement
	404	Detailed Asset Management Practices Review	Consultant conducts a detailed review of the current asset management practices across the organization. This review will include consultations with all city departments engaged in management and operations of municipal infrastructure. The assessment will consider the City's asset management methods, tools and practices according to a defined assessment framework. The current practices will be assessed and benchmarked according to leading industry practices to identify key gaps.	Consultant Network Team City Staff
	405	Risk Management Framework	The consultant will develop a risk management framework that outlines an approach the City will implement as part of its AM Program for managing the risks associated with providing services. This task is included early in the program to enable the scoping and prioritization of improvement activities in the Planning stage (Tasks 501 to 503).	Consultant
	406	Summary Briefing Report	Prepare a summary report that documents the findings from the Detailed Asset Management Practices Review for presentation to Senior Management and Council.	PM
Planning	501	Asset Management Desired State and Improvement Activities	Based on the findings from the Detailed Asset Management Practices Review, the Consultant will work with the City to establish achievable and sustainable levels of AM that the City wishes to target for each service area. This in turn will be used to identify the key activities at the strategic, tactical, and operational levels of asset management needed to close the gaps.	Consultant Network Team

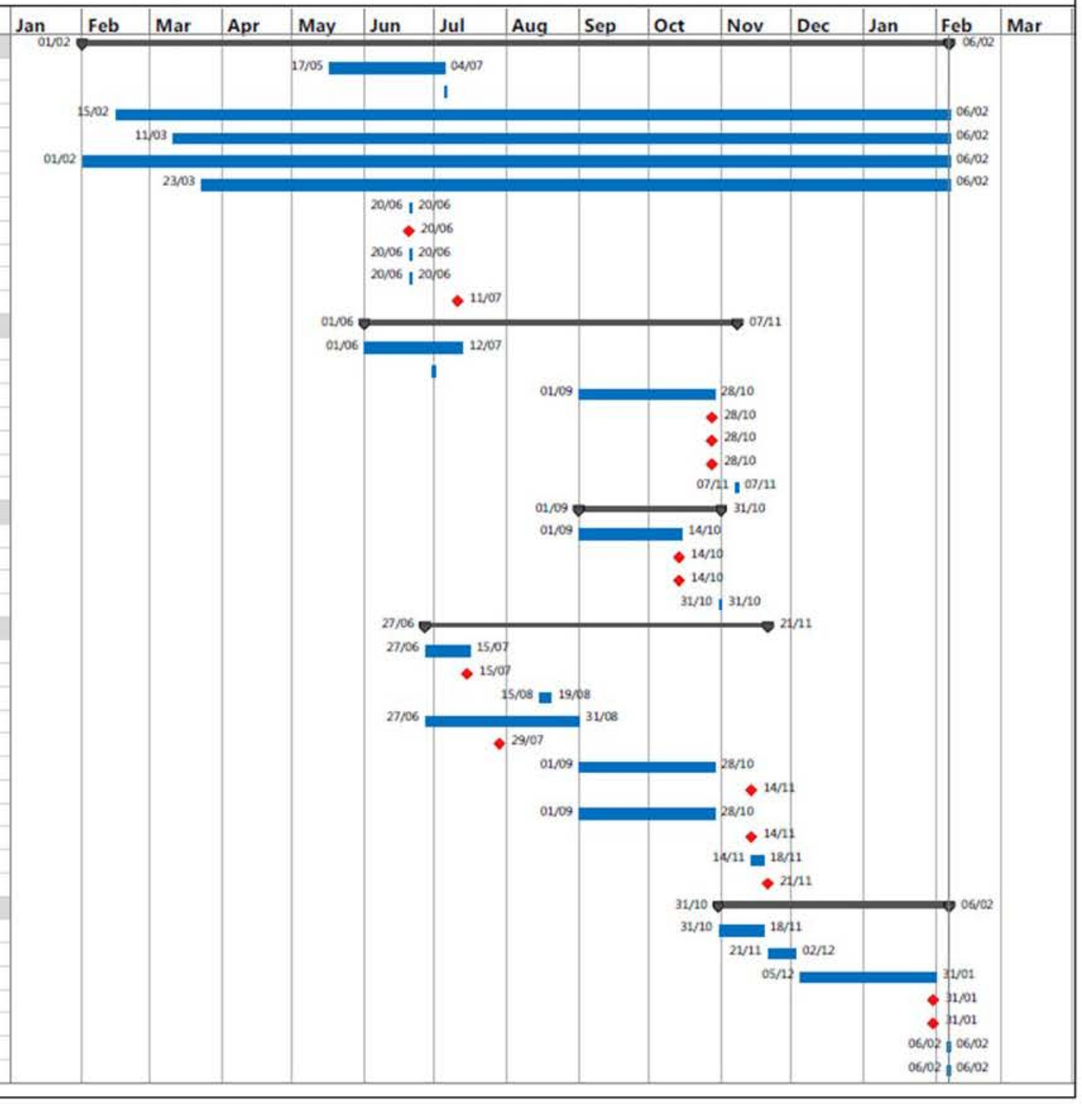
Phase	ID	Task Activity	Description	Resourcing
	502	Review of the Improvement Activities	The consultant's initial list of improvement activities will be reviewed in consultation with the City.	Consultant Network Team
	503	Asset Management Improvement Plan	The AM Improvement Plan documents the confirmed improvements identified in the previous two tasks and establishes a prioritized roadmap outlining how each activity will be completed from 2017 to 2020 to improve asset management practices within the City. The plan will incorporate previous work tasks including the AM strategy, risk management framework and desired state. The plan will identify scope of work, deliverables, resourcing, and target dates, with an on-going monitoring / review process.	Consultant Network Team
	504	Submission to Council	Prepare, present and request approval of the AM Improvement Plan by Senior Management and Council.	PM
	505	Council Approval of the Asset Management Improvement Plan	Council approves the AM Improvement Plan.	PM

2.2 Schedule

SAINT JOHN

Saint John - Asset Management Program Initiative - Schedule

ID	ID.	Task Name	Duration	Start	Finish
1	**100**	**Knowledge, Engage and Vision**	**266 days**	**Mon 01/02/16**	**Mon 06/02/17**
2	101	Develop Project Charter	35 days	Tue 17/05/16	Mon 04/07/16
3	D1	Deliverable: Project Charter	1 day	Tue 05/07/16	Tue 05/07/16
4	102	Engage Municipalities, Consultants, Local Governments	256 days	Mon 15/02/16	Mon 06/02/17
5	103	Stakeholder Engagement	237 days	Fri 11/03/16	Mon 06/02/17
6	104	Asset Management Research	266 days	Mon 01/02/16	Mon 06/02/17
7	105	Staff Training, Workshop and Education	229 days	Wed 23/03/16	Mon 06/02/17
8	106	Presentation to Council	1 day	Mon 20/06/16	Mon 20/06/16
9	D2	Deliverable: Presentation	0 days	Mon 20/06/16	Mon 20/06/16
10	107	Solicit Funding	1 day	Mon 20/06/16	Mon 20/06/16
11	108	Progress Report to Council	1 day	Mon 20/06/16	Mon 20/06/16
12	D3	Deliverable: Progress Report	0 days	Mon 11/07/16	Mon 11/07/16
13	**200**	**Governance and Change Management**	**114 days**	**Wed 01/06/16**	**Mon 07/11/16**
14	201	Asset Management Network Team	30 days	Wed 01/06/16	Tue 12/07/16
15	D4	Deliverable: Program Organization Chart	1 day	Thu 30/06/16	Thu 30/06/16
16	202	Change Management, Communications and AM Training Program	42 days	Thu 01/09/16	Fri 28/10/16
17	D5	Deliverable: Change Management Framework	0 days	Fri 28/10/16	Fri 28/10/16
18	D6	Deliverable: Communication Framework	0 days	Fri 28/10/16	Fri 28/10/16
19	D7	Deliverable: Asset Management Training Program	0 days	Fri 28/10/16	Fri 28/10/16
20	203	Submission to Council	1 day	Mon 07/11/16	Mon 07/11/16
21	**300**	**Commitment**	**43 days**	**Thu 01/09/16**	**Mon 31/10/16**
22	301	Asset Management Principles and Strategy	32 days	Thu 01/09/16	Fri 14/10/16
23	D8	Deliverable: Asset Management Principles	0 days	Fri 14/10/16	Fri 14/10/16
24	D9	Deliverable: Asset Management Strategy	0 days	Fri 14/10/16	Fri 14/10/16
25	302	Submission to Council	1 day	Mon 31/10/16	Mon 31/10/16
26	**400**	**Assessment**	**105 days**	**Mon 27/06/16**	**Mon 21/11/16**
27	401	High Level Asset Management Self-Assessment	15 days	Mon 27/06/16	Fri 15/07/16
28	D10	Deliverable: High Level Asset Management Self-Assessment Report	0 days	Fri 15/07/16	Fri 15/07/16
29	402	Summary Briefing Report	5 days	Mon 15/08/16	Fri 19/08/16
30	403	Engage Consultant for the Detailed Assessment	48 days	Mon 27/06/16	Wed 31/08/16
31	D11	Deliverable: Request For Proposal for Detailed Assessment by Consultan	0 days	Fri 29/07/16	Fri 29/07/16
32	404	Detailed Asset Management Practices Review	42 days	Thu 01/09/16	Fri 28/10/16
33	D12	Deliverable: Detailed Asset Management Assessment Report	0 days	Mon 14/11/16	Mon 14/11/16
34	405	Risk Management Framework	42 days	Thu 01/09/16	Fri 28/10/16
35	D13	Deliverable: Risk Management Framework	0 days	Mon 14/11/16	Mon 14/11/16
36	406	Summary Briefing Report	5 days	Mon 14/11/16	Fri 18/11/16
37	D14	Deliverable: Findings Summary Report for Senior Management / Counci	0 days	Mon 21/11/16	Mon 21/11/16
38	**500**	**Planning**	**71 days**	**Mon 31/10/16**	**Mon 06/02/17**
39	501	Asset Management Desired State and Improvement Activities	15 days	Mon 31/10/16	Fri 18/11/16
40	502	Review of the Improvement Activities	10 days	Mon 21/11/16	Fri 02/12/16
41	503	Asset Management Improvement Plan	42 days	Mon 05/12/16	Tue 31/01/17
42	D15	Deliverable: Asset Management Improvement Plan	0 days	Tue 31/01/17	Tue 31/01/17
43	D16	Deliverable: Presentation Material	0 days	Tue 31/01/17	Tue 31/01/17
44	504	Submission to Council	1 day	Mon 06/02/17	Mon 06/02/17
45	505	Council Approval of the Asset Management Improvement Plan	1 day	Mon 06/02/17	Mon 06/02/17



2.3 Deliverables

Table 3: Phase 1 Deliverables

Phase	Task Deliverables	Due Date
Knowledge, Engagement, and Vision	Project Charter	July 5
	Presentation	June 20
	Progress Report	July 11
Governance and Change Management	Program Organization Chart	July 12
	Change Management Framework	Oct 28
	Communications Framework	Oct 28
	AM Training Program	Oct 28
Commitment	Asset Management Principles	Oct 14
	Asset Management Strategy	Oct 14
Assessment	High Level AM Self-Assessment Report	July 15
	RFP for Detailed Assessment by Consultant	Jul 29
	Detailed AM Assessment Report	Nov 14
	Risk Management Framework	Nov 14
	Findings Summary Report for Senior Management / Council	Nov 21
Planning	Asset Management Improvement Plan	Jan 27
	Presentation Material	Feb 3

3 Project Communications

3.1 Communications Plan

Table 4: Phase 1 Project Communications

Group	Description of Communication or Coordination Needed	Frequency of Communications
Network Team Meetings	Network Team meeting	Monthly
	Monthly project status reviews (status, projections, risks/issues impacting project delivery)	Monthly
	Escalation of items having a material impact on delivery, quality, budgets or schedules	As Required
	Delivery of key project documents and outputs for review, feedback, and approval.	As Required
Departments	Project updates and communications	Monthly
	Meetings and consultations as required to collect business and technical requirements and to deliver project outcomes	As Required
	Training and presentations in asset management and the project	As required
Senior Management	Project status reviews (status, projections, risks/issues impacting project delivery)	As required
Council	Briefings and presentations on specific work tasks seeking approval	As scheduled

4 Project Organization and Governance

4.1 Organization Structure

Table 5: Project Organizational Chart – Phase 1

Role	Description
Project Sponsor	• Project champion • Provide leadership • Secure cooperation and resour
Program Manager	• Provide City-wide leadership in • Coordinate, monitor and mana • Provide oversight and guidance
Project Manager	• Responsible for the initiation, p Phase 1 Project Charter
Network Team	

	• Provide advice, input and suppo • Provide support, direction and • Provide inputs into the Phase 1 • Monitor progress and success c
Consultant	• Provide support to Project Man

4.2 Resources

Table 6: Project Resources and Levels of Effort – Phase 1

Name of Resource	Asset Portfolio / Department	Projected Levels of Effort by Month (days)							
		Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Samir Yammine	Finance and Administrative Services	12	12	12	12	12	12	12	12
To be Determined	Transportation	0	1	1	3	2	2	1	1
To be Determined	Water / Wastewater / Sanitary	0	1	1	3	2	2	1	1
To be Determined	Vehicles / Machinery & Equipment	0	1	1	3	2	2	1	1
To be Determined	Transit Buses	0	1	1	3	2	2	1	1
To be Determined	Buildings	0	1	1	3	2	2	1	1
To be Determined	Parks/Land Improvement	0	1	1	3	2	2	1	1
To be Determined	Finance	0	1	1	3	2	2	1	1
To be Determined	Planning / GIS	0	1	1	3	2	2	1	1
To be Determined	Corporate Planning	0	1	1	3	2	2	1	1
Total Days		12	21	21	39	31	31	21	21

5 Risk and Issues

5.1 Key Risks and Issues

Table 7: Project Risks – Phase 1

Risk Description	Likelihood	Impact	Mitigation
Lack of support for the project by Council	Low	High	Follow coordinated communication and outreach plan for the project.

Risk Description	Likelihood	Impact	Mitigation
Uncertainties about available project resources	Moderate	High	Ensure that project plan documents resource requirement so management is informed and can commit to providing them.
Delay in RFP for external consultant	Moderate	High	Ensure that RFP is issued by end of july
Lack of support from organization leadership	Low	High	Ensure that Network Team is adequately informed and engaged.
Stakeholders are not informed and involved	Low	Mod	Identify stakeholders and apply communications plan
Input not obtained from broad cross-section of staff	Low	High	Work with Network Team to ensure that broad representation is attained in workshops.
Training is not sufficient to prepare staff	Low	Moderate	Develop training plan, including written and verbal training components, and plan for likelihood that training needs will exceed expectations
Project schedule is too aggressive	Moderate	Moderate	Identify and monitor critical path issues that may delay the project schedule.
Project scope changes are requested	Low	Moderate	Scope changes are controlled through a formal change management process
Scope of is unclear	Low	High	Document in Project Charter; establish and document change management process to deal with scope creep

a) Issues

An issue is a known situation, problem, or an activity which may impact the project plan. At this time there are no known issues. This will be monitored over the course of this initial project and updated in the table below as required.

Table 8: Project Issues – Phase 1

Issues Description	
To be defined as required	

5.2 Constraints

Constraints are any considerations that may limit the team's options with respect to time, funding, resources or the project schedule. At this time there are no known constraints. This will be monitored over the course of this initial project and updated in the table below as required.

Table 9: Project Constraints – Phase 1

Constraint Description	Impacts
To be defined as required	

6 Project Funding

Table 10: Project Funding Summary – Phase 1

Category	Funding Description	2016
Professional Services	Retained external consultant to complete: • Tasks 202 - Change Management, Communications and AM Training Program • Task 301 – AM Principles and Strategy • Task 404 – Detailed AM Practices Review • Task 405 – Risk Management Framework • Task 501 to 503 – AM Improvement Plan	$75,000 to $100,000
Other	Stakeholder consultations, conferences, training, etc.	$10,000
	Total Project Costs	**$85,000 - $110,000**

APPENDIX 5-3

FCM LAMP Asset Management Maturity Matrix and Supporting Documents

City of Saint John Asset Class

Date: July 21, 2016		
Asset Class	**Asset Description**	**Quantity**
Transportation	Roads, Sidwalks, Storm water, Trafic Lights, Street Lights, Ponds, etc	Total Length of streets: 760 KM, Total Lane length of streets :1513 KM; Side walks :372 KM; Street Lights: 1049 Fixtures; Total Storm water: 322KM;71 signalized intersections,22 red/amber flashing lights, 23 signalized pedestrian crossings
Vehicles	City Vehicles including fire and heavy trucks	350 ;Sedans (marked patrol) (GAM): 3 yrs.,sedans (GA): 5 yrs., light-duty (½ - ¾ ton) trucks (LT): 5 yrs., mid-sized duty (1-2 ton) trucks (LT): 8 yrs., heavy-duty (greater than 2 ton) trucks (HT): 10 yrs., light-duty equipment (LE): 5 yrs. and, heavy-duty equipment (HE): 10 yrs.
Buildings	City owned Buildings including (ABCs) Buildings	City Owned Buildings-75; ABC (s) Buildings-10. Total Area- 1.5 Miilion Sq.ft
Water and Wastewater Facilities	Waste water and water pumping station including water and waste water treatment plants	Hydrants:2085;Water Storage Tanks 7; water meters :44;Dams:14;Water Pumping Station; Lift station 69; Waste treatment plant 5
Water distribution networks	Underground Water Pipes	Total Pipes:567 KM;Number of Valves 7,842; PRV:34; Dams:14
Sanitary Sewer distribution networks	Underground sewer pipes	Sewer Pipes:340 KM; Forcemain sewer pipes 51KM;
Combined Sewer network pipes	Underground Combined sewer pipes	65 KM
Parks/Land Improvement	Playground	65
Machinery & Equipment	IT equipment and Fleet Equipment including office equipment	850

Transit Buses	Saint Transit Buses	Buses-56; Handibuses-8; Vehicles-7
Land	City Owned Land	

Assets Assessment In-house Finance

Date	May 4/2016	
Name of person completing the assessment	Craig Lavigne - Utility	
Finances	**Information**	**Comments**
Long Term Financial Plan	Is there a Long Term Financial Plan in place? How many years? If no why	There is no plan currently in place.. This is on my long term goal to start in 2016
Reserves	Are there any reserves in place? What do they serve? Capital, operating expenses, etc.	There is a SCDWP reserve in place to offse the cost when project in complete, we have started a vehicle reserve, small infastructure reserve
Debt	What is the Debt Levels? Are there stable? Are there trending upward? Are there any plans to reduce debt?	68.9 Million end of 2015, the debt will spike in 2018 due to the SCDWP to over a 100M. There have been prelim discussions are borrowing no more and funding all Capital out of operating until the debt is at a substainable level.
Revenue	Is revenue sufficient to fund long term service delivery? Or rely on grant or subsidies? Is there a linkage between revenues and long term requirements? Is there a gap between revenue and sustainable funding levels for the long term	Revenue generation is done through rates.. However the rates are some of the most expensive in the Maritimes. A plan is needed to stabilize rates, which will be tied into the long term financial plan.

Assets Assessment In-house Finance-GENERAL

Date	May 5/2016	
Name of person completing the assessment	Craig Lavigne/Hilary Nguyen/Cathy Graham	
Finances	**Information**	**Comments**
Long Term Financial Plan	Is there a Long Term Financial Plan in place? How many years? If no why	There is no approved plan currently in place. There is a draft Debt Management Plan. It has not gone to Council. The General fund has set the goal to keep borrowing as low as possible, using approximately a $12 million maximum. If the condition and risk assessment are completed within next year and entered into CityWide a Long Term Financial Plan for the General Fund could be done in 2018.
Reserves	Are there any reserves in place? What do they serve? Capital, operating expenses, etc.	There is currently a Fleet Reserve and Computer Reserve to reduce/eliminate borrowing for these assets. There is no funds in 2016 for capital from operating. The goal is to budget money in the contingency budget which can be used for capital form operating. (It will depend on the revenues for next year and if there is funding capacity to do this.)
Debt	What is the Debt Levels? Are there stable? Are there trending upward? Are there any plans to reduce debt?	Current debt level at end of 2015 is almost $118 million. Next year the amount is expected to increase to approximately $121.5. The goal from that point on is to decrease the totals and the borrowing by holding the borrowing to $12 million per year.
Revenue	Is revenue sufficient to fund long term service delivery? Or rely on grant or subsidies? Is there a linkage between revenues and long term requirements? Is there a gap between revenue and sustainable funding levels for the long term	Revenue generation through property taxes and equalization/unconditional grants not enough. The City is dependent on other levels of government and some private/public partnerships to fund capital. It also is the oldest City and might have some of the oldest infrastructure. The property taxes are the highest in New Brunswick. There is no appetite by Council to increase this rates. A plan and an asset management program is required to ensure the City is investing in the right assets at the right time.

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Appendix 3.5.2 LAMP Asset Management Maturity Matrix

Service Category			Service Criteria		Maturity Level					Typical Evidence to Support Maturity Assessment	Municipality Current Score	Comments	Names of Documents
					Level 1	Level 2	Level 3	Level 4	Level 5				
1	**Organizational Adoption of Asset Management** Buy-in and commitment for Asset Management at all levels in the organization through leadership, change management and communication.	**Asset Management Commitment**	**1.1**	**Overall Strategic Planning**	The Municipality does not have any Strategic Plans in place.	The Municipality is in the process of developing its Strategic Plans, but the relationship between the long term plans for service delivery, the management of the assets and sustainability objectives has not been considered. Departmental Management Teams only provide limited input to the production of Corporate Strategic Plans. Front line staff cannot relate their activities to the key priorities being developed as part of the Corporate Strategic Plan.	The Municipality has in place a Strategic Plan(s) and linkages do exist between the long term plans for service delivery, the management of the assets and sustainability objectives, although the plans are not fully detailed in terms of how to achieve the stated objectives. The Corporate Strategic Plan(s) are cascaded down into the Department Business Plans, although there still remains gaps. There is some involvement from staff other then the managers in the development of these plans. Limited sections of staff can see how they contribute towards the City's Corporate Strategic direction and sustainability goals.	Strategic Plans are in place that clearly show the linkages between asset management and sustainability objectives. Departmental Business Plans provide input to the production of the City's Corporate Strategic Plans as part of an iterative process. The Business Plans are fully aligned with the City's Corporate Strategic Plans and are in the process of being implemented, progress is tracked regularly. Once agreed, the plans are made available to all levels of the Dept. There is a clear 'line of sight' between the City's Corporate Strategic Plan and objectives, Departmental Business Plans and the Dept. activities.	The City's strategic plans and goals and Departmental Business Plans have been communicated to all staff and everyone understands how they contribute to both the Dept.'s Business Plans and the City's Corporate Strategic Plans. Dept. plans are clearly influencing the City's Corporate Plans. Reporting against Dept. and Corporate Plans is communicated on a regular basis to all levels of staff.	1. List of approved strategic plans that are relevant to AM and sustainability	3	Strategic plans in place based on the Coumminty Vision and PlanSJ (long-term strategc plans) in the form of Council's Priorities, the corporate strategic plan (AdvanceSJ), the service based budget (service levels - business plans) and corpoate objectives (in progress with KPIs).	
			1.2	**Performance Measurement & Reporting**	The Municipality does not have a comprehensive suite of performance measures in place and for any measures currently in place (goals, objectives and KPI's) Any measures in place are not linked to the City's Strategic Goals & Objectives - Council Priorities, or longer term sustainability objectives.	The Municipality is in the process of developing a comprehensive suite of goals, objectives and KPIs that are derived from and are consistent with the City's Strategic Goals & objectives.	The Municipality has in place a Balanced Scorecard (or similar) performance measurement system including goals, objectives and KPI's that are derived from, and are generally consistent, with the City's strategic goals & aims, but there remain gaps. Performance measures include both leading and lagging indicators. Responsibilities and process for data collection may not be fully defined.	The Municipality goals, objectives and KPI's are derived from are cascaded down from to the Departments. and form part of team and, where appropriate, personal objectives. Clear targets are set for KPIs and reporting is carried out on a monthly basis (or as appropriate), with results being communicated to all levels. Responsibilities and process for data collection are fully defined and documented.	The Municipality regularly reviews its goals, objectives and KPI's to ensure alignment with strategic direction and where necessary aims to proactively review and adjust targets.	1. Top level KPIs	2	Corporate objective development and KPIs in progress of being developed (similar to balanced score card).	
			1.3	**Resources and Roles & Responsibility in place and understood**	Asset Management roles and responsibilities have not been defined. Any changes to roles are not fully communicated to staff and therefore are not known or understood. This results in them being not accepted and not performed. No assessment of organizational effectiveness has been carried out.	Asset Management Roles are generally known and their nature understood but due to communication or cultural issues, are often not fully accepted and not fully performed. Duplication of roles exists in different job descriptions. There is only a limited understanding of organizational effectiveness and this may be for only specific Departments within the Department.	An assessment of organizational effectiveness has been carried out. Roles are typically known, understood and accepted and plans are in place which actively address communication and cultural issues. Some areas of responsibility are still not fully defined or staff have insufficient delegated levels of authority to efficiently carry out work.	RACI (Responsible, Accountable, Consulted, Informed) analysis (or similar) is complete, output agreed and operational leading to roles being documented, fully understood and accepted. This applies to both employees and relevant third parties. Organizational design is effective resulting in no/minimal duplication of roles or responsibilities. Staff are engaged, empowered and have the necessary authority to progress towards good/best practice Asset Management.	Roles are understood, accepted and performed by all team members. Teams are empowered to make decisions and are fully accountable for work. Organizational design is fully effective with regard to Asset Management and allows staff to specialize in specific Asset Management competencies. The organizational design is periodically reviewed against other high performing Asset Management organizations.	1. Report containing output of organizational review and Organizational Development actions	1		

		1.4	**Learning And Development**	Asset Management Training and development is prescribed and courses, where available, are part of the standard Citywide program ("one size fits all" approach) - No skills analysis has been done to ensure that those responsible for the sustainable design, construction, operation and maintenance of assets are appropriately qualified.	Skills gaps are developed based on individual Asset Management Job Descriptions, but skills gap analysis is mostly incomplete and no training plans yet in place.	The Municipality has in place an Asset Management Competency Framework but this is either incomplete or has been applied inconsistently. The majority of the skills gap analysis is complete and training plans for key staff have been implemented. Short term training needs have generally been identified, but no longer term development plans in place.	All Asset Management staff's training needs assessment has been identified against the Municipality's Asset Management Competency Framework and training is under way for all staff. There is a high degree of confidence that all staff have (or will have) the right skills to do the job. Competency based role profiles exist for all staff. Development plans, aimed at the medium to long term are also in place. Asset Management Skills & knowledge matrix is in place.	Asset Management Skills development is a continual process with regular supervisor and subordinate development sessions that provide input to the training program ensuring skills gaps are filled. Skills are periodically assessed against external benchmarks.	1. Competency framework or equivalent 2. Major gaps arising from assessments against competency framework	1		
		1.5	**Change Management and Communications**	The Municipality does not consider risks to its Asset Management activities associated with changes to processes, procedures, organizational structures, roles & responsibilities, new assets/technology. There are no formal approaches to communication within the Municipality with regard to Asset Management and Sustainability and the linkages between these two areas.	The Municipality is aware of risks to Asset Management activities associated with changes, along with potential inefficiencies, but has no process in place for control of these risks. Communications regarding the need and details of the change mgt program is sporadic, ad hoc and inconsistent.	The Municipality has recognized the need to consider risk to Asset Management activities associated with changes and is in the process of putting in place a formal Change Mgt approach along with an associated communications plan. Certain element of the communications plan are being implemented e.g. newsletters, Directors emails, tailbox talks etc.	A formal Change Mgt approach and Communication Plan is utilized and information is available to and from employees and relevant stakeholders regarding the reasons for change and how it will impact on their individual roles and responsibilities. The impact of any changes is formally assessed and acted upon prior to changes taking places. An approved communications plan is in place and is being acted upon.	The management of risk to Asset Management activities associated with changes to processes, procedures, organizational structures, roles & responsibilities, new assets/technology, is regularly assessed A range of communications approaches exists. There is open, honest and all-way communication in support of Asset Management change initiatives. The Municipality adopts a range of change mgt approaches.	1. Change management approaches formally adopted within the municipality	2		
	Asset Management/Policy	1.6	**Asset Management Policy and Strategy-aligned or integrated with sustainability efforts**	The Department has not considered the need for a documented Asset Management Policy, Framework & Strategy.	The Asset Management Policy, Framework and Strategy exist in draft form or are under development but do not refer to sustainability principles or align with the organizational strategic plan or the sustainability policy/strategy and have not been signed off by Senior Management.	The Asset Management Policy, Framework and Strategy are documented and signed off by senior staff, however they do not align with sustainability principles as set out in the Municipalities Sustainability and/or Environmental Policy/Strategy. The Asset Management Policy, Framework and Strategy are not readily accessible or widely known to staff and elements may be out of date or inconsistent with other policies & strategies, or the policy and strategy are not fully aligned and the policy may not include reference to continual improvement. There may have only been limited involvement of the staff in the development of the documents.	The Asset Management Policy, Framework and Strategy are fully aligned, have been developed with input from a range of staff, are consistent with other organizational policies and strategies, and either includes sustainability principles or is fully aligned with the Municipalities Sustainability/ Environmental Policy/Strategy. The policy includes a commitment to continual improvement and the signed off documents have been communicated to staff at all levels of staff and relevant stakeholders. The documents have been reviewed for consistency with other Municipal policies and strategies and processes are in place for review and changes.	The documents are regularly reviewed and updated to ensure continued alignment with the Corporate goals, objectives and practices. The documents are shared with stakeholders and other Departments and actions taken to ensure an integrated approach where relevant.	1. AM Policy 2. AM Strategy 3. Sustainability Policy 4. Sustainability Strategy 5. By-laws and other official documentation that verify an AMP is necessary for municipal procurement, operation and annual financial reporting to Council.	2	Council has adopted sustainability principles when the Community vision was adopted by Council in 2007.	
	Asset Management Governance	1.7	**Asset Management Governance**	The Management Team has not considered the need to appoint staff to develop and implement the Asset Management program or to communicate the importance of meeting Asset Management. Resources are not made available to progress an Asset Management approach.	The Management team understands the need to move towards a more planned environment but resource limitations are restricting progress. Similarly the need to communicate the importance of meeting assets mgt requirements is understood, but this is not currently done. No formal governance procedures in place with regard to Asset Management.	The Management team are agreed on a move towards adopting Asset Management tools and techniques. The importance of meeting Asset Management requirements is communicated, but only to parts of the organization. Governance procedures are under development to capture formal decision-making with regard to Asset Management.	Senior management actively encourage and support a move towards Asset Management good or best practice. The importance of meeting Asset Management requirements is communicated to all relevant parts of the organization. Funding and resources are made available for the adoption of new processes and systems. Governance procedures are in place and operational. Processes are in place for the Senior Management review of the approach to Asset Management. The Corporate Vision reflects a commitment to good/best practice Asset Management.	Senior management are actively engaging external companies with a view to the sharing and adoption of new tools and techniques and encourage a continual improvement environment. The right mix of Centralized (Corporate) and decentralized (Department) Asset Management roles are in place, including governance procedures and they work effectively towards sustainable Asset Management.	1. Corporate governance structures for AM that might include the roles and responsibilities of a Corporate AM team, an asset management network to share good practice within the municipality 2. Staff Report that resulted in a Council Resolution to support an AMP	1		

2	**Linking assets to services and outcomes**	**Level of Service Framework**	**2.1**	**Level of Service framework including sustainability considerations**	No agreed LOS framework in place and no documentation of either customer or asset levels of service exists and therefore there is little or no consistent understanding of any gap in required level of service and provided level of service.	A LOS framework is in place, but is not consistently applied across the City. Customer levels of service are understood but not well documented. Some Asset LOS exist, but are not all documented or monitored on a regular basis and there is not always an obvious link between Customer LOS & Asset LOS. There are a few Sustainability / Environmental measures in place but they are measured separately and are not considered part of the LOS framework.	Customer LOS, including sustainability measures, have been established and are well documented and are described in Business Plans. (Customers can be defined as citizens, the environment and regulators). The linkage between Customer and Asset LOS is not well understood for all asset groups.	Customer LOS are fully documented and publicly available. Asset LOS are documented for internal use and the link to Customer LOS is largely understood, but still requires further data.	Customer and Asset LOS are fully documented and understood. Target LOS have been agreed and actual LOS is tracked and reported on regularly.	1. Municipality-wide LOS framework 2. Customer LOS for one or more Departments 3. Asset LOS for one or more Departments	3	Customer LOS in the service-based budget for public acing services - not necessarily linked to assets. There are some LOS in terms of PCI for road infrastructure, however, linkages between them need to be analyzed and developed.	
		Cost of Service Delivery	**2.2**	**Cost of Service Delivery**	The Municipality has little or no understanding of the true costs associated with either maintaining, improving or reducing the LOS, as costs are not linked to LOS.	The Municipality has some understanding of the costs of certain elements of LOS and is in the process of gathering further data.	The Municipality has assessed its capital and O&M budgets and can assign these to specific LOS measures. However the true costs (people, assets, social and environmental) of maintaining or improving LOS is not understood.	The Municipality understands elements of the costs associated with maintaining the current LOS, but doesn't have detailed costs linked to either improving or reducing the LOS. Triple bottom line cots are considered but are not fully accounted for.	Historic cost, including TBL costs and LOS data is available to demonstrate the true cost of maintaining LOS and or improving LOS and this information is used as a basis for the development of strategic plans and justification of funding. The Municipality can demonstrate that it is managing the asset LOS with the optimum mix of Capex and Opex interventions to meet the customer LOS.	1. Annualised cost by service and underlying tables showing capex and /or opex buildup	2	Resources and costs identified at sub service levels but operating only. Some information available on the capita side with respect to Tangible Capital Assets. True cost is not allocated or understood.	
			2.3	**LOS Forecasting**	The Municipality has little or no understanding of how internal factors such as funding , staffing etc. and external factors such as future growth, population movements, environmental changes, or legislation etc. will affect the asset base and associated service levels.	The Municipality has some understanding of the effects internal and external factors will have on long term service implications, but this is not fully documented and may exist only for certain asset groups.	Assessments of the impact of external and internal factors has been carried out documented, showing 20yr+ projections (or to a time frame specific to the asset base) for the impact on certain assets and service areas. Options and costings exist for closing the gap. There may still be differences in the interpretation of the impact of internal and external growth, climate change data etc. across the different departments	Long term assessments have been carried out on a consistent municipality wide basis and have been costed. Final assessments are reviewed to ensure consistency across departments and alignment with Corporate projections. Sensitivity analysis has been included for key asset groups including pessimistic & optimistic scenarios.	Detailed modeling has been undertaken to assess the impact of external factors, including climate change and an accurate assessment of the impact at asset levels can be made. Departments across the Municipality actively engages each other and external stakeholders to foster an integrated and shared approach to growth. This information is then used as the foundation for the common development of the Municipality Strategic and Business Plans. The organization has well developed forecasts service based on a good understanding of the future behavior of the assets combined with the effects of external factors (such as environmental climate climate).	1. Consultant report or equivalent containing LOS forecasts and underlying methodology	2	Conservative estimate of ranking - PlanSJ and debt management provides some guidelines in understanding the effects of internal and external factors.	
		Service Engagement/Goal Setting	**2.4**	**Service Engagement/Goal Setting**	LOS measures have not been signed off by Council and there are no agreed LOS targets in place	Customer LOS targets for certain service areas have been agreed and are contained in formal municipal documentation, although these may not have explicitly been agreed by Council and are generally not available to the public.	Certain LOS measures have been approved by Council and are available to the public. The Municipality carries out periodic satisfaction surveys, but these are at a high level and do not refer to specific LOS measures.	Each Service Area has a Council endorsed suite of LOS targets. Certain Service Areas have carried out customer consultation exercises, where they have obtained feedback from customers on LOS performance, areas of concern and value for money.	The Municipality uses periodic willingness to pay surveys, including cost of service to obtain customer and stakeholder involvement in the setting of the customer LOS targets and the setting or rates/taxes.	1. Council endorsement of LOS 2. Output from customer consultation	3	Service-based budget has been approved by Council (2016 hasn't gone yet). The document is available to the public though the Council Agenda. Citizen surveys were conducted in 2009, 2010, 2011 and 2012. This measurement tool has been cut since 2012, Corporate Planning has been trying to revive to complete every two years - although at a high level and for service delivery, not level of service or infrastructure specific.	

3	**Robust Risk Assessment and Prioritization of Investments**	**Risk & Vulnerability**	**3.1**	**Risk Framework - Strategic Level And Asset Level**	No documented approach to the identification and management of risks in place. i.e. no risk framework in place.	Senior management are aware of key strategic risks that face the Municipality although these are not documented. Some of the higher risk assets have been notionally identified and some rudimentary risk assessments may be in place. Generally risk assessments are only carried out following a serious incident i.e. a reactive approach. staff are aware of the need to further develop their risk assessment methodology. Different risk approaches in use across the Municipality.	Senior management have systematically identified key strategic risks and associated mitigations to be implemented across the Municipality. For assets, staff typically use simplistic risk models (typically simple Excel work sheet models) to conduct the system level approach for critical asset groups. Linkage of these asset risk models to detailed mitigations is not fully understood in all cases. No/limited documented processes exist to ensure that risks are monitored and the risk profile is kept up to date.	Identification and assessment of risk is fully documented . Senior management have a robust risk identification, prioritization and escalation process in place. Mitigations are communicated to appropriate staff for action and progress is monitored at regular strategic risk reviews. The asset base is covered by bottom up/asset specific risk assessments that are linked to Levels of Service and are sufficiently granular for Asset Management decision-making including external risks such as climate change. Standardized Excel worksheets, or proprietary software is in use across the Municipality. Processes are in place for the management of asset risks and for the identification of any changes to the risk profile.	The Municipality continually assesses/reviews both its strategic/business risks and its asset related risks and there is a well defined and documented integrated approach to risk management. All critical assets have been defined and integrated risk mitigation strategies documented. Risk profiles are regularly and consistently reported, monitored and updated. Risk management is the cornerstone of Asset Management and features highly in the language and ethos of the Municipality. A common risk framework is used throughout the Organization.	1. Municipality-wide risk framework 2. Department risk framework 3. Output from risk studies showing risk profiles (omit commercially sensitive underlying detail)	1	Should consult with Risk Management - I think Risk Assessments have been conducted with respect to insurance, nit sure about assets or how aware senior Management its.	
		Prioritization of Investments	**3.3**	**Robust Capital Investment Planning**	There is a reactive approach to developing input for the CIP - projects are not objectively ranked but are predominantly promoted based on subjective representation of short term needs (e.g. 1-2 years planning horizon). No Business Case Evaluations (BCE) carried out.	Staff provide input on an annual basis to the CIP based on subjective judgments of asset condition - projects are typically not objectively ranked. No understanding of cost allocation for projects. BCE, including TBL and lifecycle principles only carried out for major projects and only limited numbers of staff are trained in their use.	A risk-based approach is carried out for key assets or asset types to identify and prioritize the significant capital renewal elements of the CIP, but the CIP is still partly based on a %$ spilt between departments. Planning horizon is up to 10 years. Cost allocation to purpose categories has not been fully implemented. Only high value elements of the CIP are driven by a rigorous understanding of asset need including risk measurements and root cause analysis. BCE training, covering TBL and lifecycle principles underway and started to be used on all projects greater than a prescribed value.	A consistent approach to the justification and prioritization of competing projects is applied to the complete CIP program and funding requirements adjusted to suit the Asset Management needs. Costs are allocated to the correct purpose categories (Renewal or enhancement, with enhancement divided into quality, enhanced service level and supply/demand balance). The Investment Plan is driven by a rigorous understanding of asset need including risk measurements and root cause analysis. The asset Need is clearly identified and is subject to optioneering, Risk & Value analysis and strong challenge through the BCE process, which incorporates TBL and lifecycle principles in addition to engineering assessments.	A well documented and robust risk-based approach is applied to the base maintenance elements of the CIP program, using an appropriate range of quantitative risk models, depending on the asset type. Renewal requirements are justified as opposed to being prioritized based on a defined funding level. The overall CIP is optimized to ensure that the best blend of projects is promoted in order to meet service and cost constraints. Promoted project scopes are continually assessed throughout the governance process and whole life costs are reviewed to assess continued viability. There is a clear understanding of project Need, Scope, Cost and Deliverability.	1. Investment planning process showing that capital budgets are clearly driven by asset need and are not isolated from asset planning processes 2. Business case template and example business cases (omit commercially sensitive underlying detail) 3. Report containing methodology for prioritization with CIP	2	Difficult to assess. Staff do provide input, however, there is a reactive component of planning. Limited or no Business Case Evaluations. Condition assessments on pavement and facilities (unsure about other assets) provide some input.	
4	**Life Cycle Management**	**Optimized Asset Interventions**	**4.1**	**Optimized Asset Interventions**	Whole Life Cost (WLC) not used to determine appropriate asset interventions. Replacement of life expired assets is predominantly left to the supplier/consultant with primary focus on lowest cost of design for given performance and therefore has a CAPEX focus.	Some Whole Life Cost (WLC) related issues are considered but this is done in ad hoc manner and is not part of a defined process. WLC approach may be used for some/major projects only. No assessment of the OPEX associated with CAPEX. Decisions are made largely on low cost criteria with informal consideration of sustainability benefits. Qualitative approach to connecting with sustainability and environmental benefits.	WLC approaches are utilized for assessment of CAPEX interventions options on projects greater than a certain value or for complex projects, but assessments of associated OPEX costs is typically high level only and no link exists to OPEX budget. Some documented processes exist but may be inconsistent or not consistently applied. Discount rates may vary depending on user. Some cost benefit analysis carried out, incorporating quantified TBL for major projects only.	Processes in place for making optimized asset renewal and replacement decisions, including both CAPEX & OPEX Interventions. Intervention selection is driven by robust Whole Life Costing (optimum replacement option) approaches, with all asset life cycle costs included in the analysis along with cost benefit analysis combining quantified TBL scoring system and the lowest WLC. TBL scoring system is still project specific and can be difficult to compare with other projects across the municipality Decisions are based the best cost-benefit option at an acceptable level of residual risk. The Decision-making processes promote system thinking and innovation and like-for-like replacement is not the only option.	Consistent approach to WLC adopted across the whole organization. Standardized approach to use of discount factors (H, M & L %) in place. Senior management fully bought into selecting options based on lowest WLC, even if this results in higher initial CAPEX. OPEX (PROPEX) made available where an operational solution is shown to be the lowest WLC solution. Standard approach to TBL scoring in place that has been developed based on international measures and benchmarks.	1. WLC and TBL frameworks for municipality and/or Department 2. Estimate proportion of CIP that is based solely on lowest capital cost	1	Focus is largely on renewal or new with limited consideration of operating and maintenance costs. Funds are allocated for O&M, but used reactively.	

		Asset Management Planning	**4.2**	**Asset Management Plans (AMP)**	The Municipality has not considered the need for an Asset Management Plan (AMP).	The Municipality has sufficient information to start to create the AMP and plans are place for drafting the AMP. Or the AMP is in the process of being developed. Little consideration has been given to how Sustainability and Environmental aspects factor into the AMP.	The Municipality has designated the responsibility for creation and management of the AMP and it is well underway, but not complete. There are clear linkages between the AMP and other Corporate Strategies and documents are understood but have not been embedded in the AMP. Some consideration has been given to how Sustainability and Environmental aspects factor in to the AMP.	The AMP is in place and is being implemented and maintained It forms the basis for the optimized approach to asset renewals, improvements and interventions. AMPs have clearly articulated sustainability and environmental targets and the asset strategies clearly deliver against these goals. A triple bottom line approach is core to the asset lifecycle strategy underpinning the AMP. Progress is reviewed annually and targets are reviewed periodically. Key projects are progressing as detailed in the Plan. The AMP details how it supports delivery of Corporate objectives and the interfaces with relevant Corporate documents and strategies.	Departmental AMPs are in place. These have clearly articulated sustainability and environmental targets and the asset strategies clearly deliver against these goals. The individual AMPs are integrated with each other to ensure an integrated approach to asset improvements. These are also reviewed against external AMPs to ensure continual improvement.	1. Corporate AMP 2. Department AMP 3. Facility AMPs 4. Names and examples of software programs (financial and otherwise) used to track, compile, report and monitor infrastructure assets. 5. Documentation that shows what segments of the municipal services are included/not included in the AMP 6. Example projects, involving capital and operating expenditures, that show how decisions were made using information from the AMP.	2	The Asset Management Plan is in the planning stages of being developed. Unsure about how sustainability / environment will be considered, but can certainly incorporate at the current stage of planning.	

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Department		Fleet	Date: July 14, 2016				
Manager Name		Ian Fogan					
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Inventory	Asset Inventory is the foundation to help manage the asset. It will help identify the following: How long before we replace the asset, how mush is worth, overall state of the asset, should we keep fixing it or replace it, etc.		**The asset inventory including the attribute information, work history and financial data are stored in PSAB and Navaline, and are considered accurate. Fleet uses ORP (Optimum Replacement Point) which industry standard for vehicle replacement, however Fleet are in the process of reviewing the ORP to make improvement. Remaining life is determined based on the asset condition, Odometer Reading and maintenance costs.**	Some attribute information may not be know about the assets. Where key attributes are unknown, some assumptions or default values should be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed	Most attribute information will be known about the assets. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded.	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each asset such as service, capacity and performance data, maintenance history, risk and criticality values condition, financial details and replacement program	Intermediate
Asset Type		What type of asset? Buildings, roads, vehicles,etc	Vehicles and Equipment				
Location		Do we know the location of the assets? Where can the asset be found?	yes, but they are mobile.				
Quantity & Size		What is the quantity and size of the asset? Do we have this information?	350 vehicles/equipment, 800 pieces of small equipment				
Material		information on the asset? What is made of? Do we know this information? Where can it be found?	make, model on naviline				
Useful Life		what is the expected lifespan? Do we have this information? How is it determined	Varies by equipment type, we do have it but lifespan is not generic even by vehicle type, based on mileage, hours, maintenance costs and residual value.				
Install Date & Age		Do we know the date the asset was installed or constructed? Do we know the age of the asset?	yes and yes				
Remaining Life		Do we know the remaining life of the asset? How long it can remain before needs to be replaced or renewed?	yes, varies by vehicle and equipment				
Asset Components	Help Manage effectively the asset if asset components are itemized	Do we list all asset components that can be replaced independently and/or has different lifespan? For example street light consists of pole and fixture. Life expectancy of the pole is much higher than the fixture	Some vehicle components are identified and lists such as snow blower plough, sanders, ect.. Fleet is in the process of listing other components with attribute data.	All Components will be listed in inventory but some attribute information may not be known about the components. Where key attributes are unknown, some assumptions or default values can be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed.	Most attribute information will be known about each asset component. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each component, such as service, capacity values, condition, financial details and replacement program	Basic
Attribute Data		What type of attribute data we have? Technical Data such as performance, capacity. Maintenance cost data, work history, valuation data. Where the data is stored?	we have maintenance cost in naviline. Downtime is not recorded.				

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Current data, Software and tools	what are the tools? How appropriate? How accurate? How should the outcomes from these tools or systems be used? How confidence are we? Collaboration across the organization? How accurate the data and how do we update ?	What type of software and tools do you use to store and assess the data? Are these tools use to analyze or assess the data, Perform risk evaluation, prioritization, monitor asset conditions, performance, track financial details, etc.	It can run Cognos reports to give us current data, then use excel to analyze, no formal reporting. The fleet is in the process of assessing the possibility of installing a fleet management information system to help manage the vehicles performance.	The main details for all key data sets, software and tools will be known and documented. Collaboration across the organization to identify improvements is desired but may or may not occur at this level.	Every data set, software and tool in use within the organization will be known and documented. Collaboration across the organization to identify improvements will have occurred but improvement task may only be noted for future action at this level.	.Every data set, software and tool available or recorded within the organization will be known and documented regardless of whether it is currently in use. The documentation will identify what the current status is i.e. In use or Abandoned etc. The documentation will also identify if it is not in current use, the reason why. The data and systems documented will include: o Both Current records and Historic records; o Past, Archived or Abandoned datasets; o Current Software and Software no longer in use but still owned by the organization and able to be used; and o Tools that are owned by organization irrespective of whether they are being used or not. . Detailed collaboration across the organization to share data, systems and tools and to identify improvements has occurred. . Agreed improvement tasks will be documented and an improvement plan will exist and be in the process of implementation.	Basic
Financial Situation	An understanding of Current Asset Investment is useful to determine: How long before we need to replace this asset; How much money should we put aside per annum to fund asset replacements; What is the asset currently worth (depreciated value in today's dollars); Should we keep fixing it or should we replace it; Should we keep fixing it or replace it; when should we replace it;		Replacement cost is based on historical cost of the vehicles. However, it is not difficult to determine the current cost of vehicles. Current replacement cost will depend on the US currency exchange and the market demand. Depreciated cost is based on historical cost	The initial unit rates will be average values without modification for any local conditions. Initial lifespan estimates are relatively generic (possibly manufacturer's values or rates in general use by other organizations), without any modification for local conditions. They are likely to be conservative lifespan estimates without any field verification.	The overall accuracy of cost and lifespan information will have improved and be moderate to high. Local lifespan values would be supported by some field testing.	Replacement values will be of high accuracy and completeness with well documented information on all cost components included and the basis of any assumptions. Lifespan assessments will be supported by verified field data and materials testing. Modifiers will be used as appropriate for increased accuracy for cost and lifespan assessments. Asset replacement and depreciated value information will be used to inform decisions on: o Reducing whole of life costs; o Maintenance strategies; o Extending the life of the asset; o Replacement options; o Risk mitigation; and o The most cost efficient time to implement works.	Intermediate
Replacement Value	Typical unit rate x modifier x asset data (length, area or number of) = current replacement value. What would cost to replace the asset today?	Do we know the cost to replace the asset today? What method or approach is used to determine the cost?	yes, most assets have relatively short life spans, 4-12 years, easy to predict.				
Depreciated Value	(Expected lifespan of asset x modifier) - Current asset age = Remaining Life Current replacement value / Expected lifespan of asset = per annum depreciation Remaining Life x per annum depreciation = current depreciated value	What value is the current asset considering its age (Current depreciated value)? Do we know this information. What method or approach used to calculate this value?					

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	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Historical O&M Costs	The objectives of tracking O&M separately are : Save money, understand the true cost of service, able to make decision when to replace the asset, understand the remaining useful life and long term liability; etc.	Operation & Maintenance Costs. Operation Costs include items such as : Hydro, chemicals ,etc. Maintenance Costs are repaired to the asset. Are these costs recorded separately? Are these costs tracked against each asset? How many year of historical O&M costs are you tracking? are these costs used to develop and implement strategies and practices to help reduce O&M costs or develop another alternatives for replacement or renewal? are these costs easily accessible and transparent? identify Improvements	**Work orders are tracked to the assets, they do not fully recover the overhead of operations. Job orders for small equipment are not tracked to the assets. Information on past years is not consistent. Most O&M costs are track using Navaline, however they are not separated and**	If costs are not separated, only a combined total can be given. However a plan with timelines to implement the necessary cost recording structure will have been developed and approved. Any new procedures necessary for generating reports on separate operations and maintenance will also have been developed and documented. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	Details of actual operations and maintenance expenditure are recorded separately. Maintenance costs are being tracked against relevant assets. Separately recorded historical cost information for operations and maintenance will be available for at least one previous year, more if possible.	Recording and reporting systems are well established with at least 5 years of historical operations and maintenance data available for analyzing trends. Decisions on effective intervention strategies consider maintenance cost trends. Decisions on asset replacements consider cumulative maintenance cost compared to replacement value at a component level.	Basic
Current O&M Costs		Same					
Future Capital Costs	Future Capital costs are a fundamental components of ensuring long term sustainable management of the assets. It is usually 20 years forecast	**Future Capital Costs include renewal and new assets. Is there at least 20 years cost forecast for future capital costs? What type of future capital costs plan? How accurate are the data? What assumption, considerations, approach, analysis and strategies, etc. being used to determine future capital costs for new and renewal assets?**	The fleet has a 20 years capital replacement plan which is based on ORP and use 2% inflation rate. The fleet is in the process of conduction a vehicle utilization study as part of the City Continuous Improvement program, to help develop a more accurate long term financial plan and reduce the fleet infrastructure deficit.	At least a 20 year cost forecast for asset renewals will be provided with total costs shown per year. At least a 20 year cost forecast for new assets will also be provided, in a separate table or graph to the renewal cost data, and with total costs shown per year. All assumptions included in the cost estimates will be documented.	Separate future cost forecasts will be available for asset renewals and new assets. The reporting period available for asset renewals is longer than 20 years and reflects the expected lifespan of the assets. All assumptions and basis for estimates will be documented. A rating for the confidence of the data used for future cost forecasts will also be documented.	Future cost forecasts are based on more accurate data and therefore have a medium to high level of confidence. Asset condition and deterioration modelling will be used to more accurately assess likely fail year of existing assets. This information will be used in the future cost forecast for renewals. Similarly more detailed analysis and assessment will be completed for the estimate of future new asset costs. This analysis includes consideration of: o Demand management; o Emerging technology; o Alternative service delivery; o Effects of climate change on future asset needs; o Effects of demographic changes on future asset needs; o Trends in changing attitudes of customers; and o Education options to modify or manage expectations.	Basic
Funding Sources		Taxes, Revenue and Loan/Grants. Where the funding will come to support the assets (Maintenance, operations, renewal, new)? Is there a shortfall? Current levels of service affordable??	Current deficit in billing of 1.5 million in maintenance costs. Annual vehicle purchases should be 3 mil to bring fleet to current industry standards but currently funded to 2 mil.				
Decision Making	The key objectives for desired decision processes are to ensure that: All important decisions are robust, consistent and repeatable; Decisions are not subjective unless this is deemed appropriate; The person accountable for a decision has all the necessary information; and Any assessment tools being used are being applied correctly and appropriately.		The fleet use ORP to start the process for purchasing or replacing vehicle. The decision process is a joint effort between the fleet and service delivery area. The fleet is in the process of developing policy to define this process.	Many decisions will not have any formal processes and this will be the first evaluation and documentation. The improvement gap will identify many tasks and the list to action should be prioritized.	The overall robustness of decision making will have improved and documentation of processes will be complete. Many improvement tasks may still require action and the list will still be prioritized.	The overall robustness and quality of decision making will be high. Procedures will be in place to easily demonstrate that correct processes were used for all important decisions. Most improvement tasks will already have been implemented and any remaining ones will be low priority items only.	Basic
Evaluate Decision Processes		What is the current decision process about asset management? i.e. new or renewal assets, maintenance, operation, policies. Person who make the decision, type of process or information used to make a decision. Are there any tools, methods, software used to assist decision makers? i.e. lifecycle management, business case, etc. Identify Improvement	maintenance is a joint decision between service area and fleet. Procurement is a council decision based on recommendations from fleet.				

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	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Condition	The condition of an asset component is a measure of its physical state compared to a brand new component. Tracking the change in condition over time will: Provide an indicator for rate of deterioration; Identify what type of remedial treatment is appropriate; Help determine the best timing for a remedial treatment; Support more accurate estimates for remaining useful life; and Indicate the most likely year that the asset will fail.		Fleet Management perform yearly visual inspection and MVI to rate the condition of the vehicles. However there is no formal monitoring and recording of asset condition. Also work history is track by asset using Navaline.	The condition may not be measured but may be known anecdotally or there may be some holistic indicators that could be stated as an interim position until measured data becomes available. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	All important assets will have measured condition data recorded and being tracked over time. Work history records will be categorized by work type; be linked to individual assets; and include cost details.	Measured condition data will exist for most assets. Deterioration analysis will be implemented for important assets. Procedures will be in place to use measured condition data to amend planning inputs such as: o Remaining life and likely fail year; o Maintenance strategies; o Replacement options; o Risk mitigation; and o The most cost effective time to implement works.	Basic
Current Condition/Rating		is the current condition of the asset known? Do we rate it?	older than industry average, higher maintenance cost than industry average.				
Monitoring Asset Condition		Do we perform condition inspection and assessment? How often do we inspection/assessment?	preventative maintenance schedule.				
Deterioration of Asset	Help to determine when to replace the asset	Any Deterioration analysis to determine remaining useful life??	useful life is planned at procurement, can vary by use and decisions are made to either replace early or later than schedule depending on performance of the asset				
Work History of Asset	Help make a decision when asset can be replaced	do we have work history records? Are these records link to the asset? And are these records reliable to indicate condition and used to inform decision making and optimization	work history is matched, not completely reliable for details.				
Level of Service (LOS)	Level of Service is all about understanding what is being provided by the asset and to whom. The importance of knowing and tracking levels of service includes to: Provide a clear understanding of what value for money is being provided to the community or customers; Optimize operational activity to match the required standard. There may be areas of service delivery that need to be improved to meet the required standard. There may be areas that exceed the required standard and current level of operations could be reduced, saving costs. However until levels of service area known and tracked, it can be hard to identify these situations with any certainty; Identify options for reducing levels of service if affordability becomes an issue. With levels of service being identified in a tangible way, it is easier to identify potential cost trade-offs and understand the consequence of reducing costs; Be able to demonstrate and quantify what impact reduced funds will have on the level of service that can be provided. This is particularly important if budgets constrained and operation and maintenance allocations are reduced; and	Is the LOS defined as follow: Quantity (total number of assets used to provide the current level of service), Location of assets, Availability (i.e. 24 Hrs. service), Quality (legislation, safety, customer service, etc.). Do we know the cost of the current levels of service, how is the LOS is being tracked and measured? do we know the future levels of service and associated cost? did the City undertake any studies, assessment to identify options to change the levels of service	**Mercury report was completed in 2010-2011. City is changing to direct billing for service area in 2017 to better reflect true cost of service.**	Some effort has been made to quantify in measurable terms, the current level of service being provided. Some indication of the cost of service / level of service relationship will be provided. However the cost of service may only be available as a high-level total cost or as an estimate drawn from combined operation and maintenance costs.	In addition to quantified, measurable level of service statements for the current situation, there is some indication of future desired level or service or at least of future level of service options. Level of service options will have estimated costs calculated but these options may or may not have been consulted with customers.	Current level of service will be defined in measurable terms and will be being tracked through specified performance measures. Costs for current and future level of service options will be recorded. Consultation on desired level of service / cost of service options have been undertaken and an action plan exists for implementing the agreed changes to level of service.	

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	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Maintenance Strategy	An Asset Maintenance Strategy is a document that identifies the: Key goals that maintenance activities seek to achieve; Service level to be maintained; Parameters or criteria to be used for decision-making; and Rules and standards that the activity must comply with or within which it must operate.	What type of maintenance strategy or best practice being implemented to help maintain the asset in cost effective and sustainable manner? Do we monitor the performance of the asset maintenance performance? Do we control maintenance activities? Do we regularly review the maintenance outcomes? identify improvements	Regular PM schedule for vehicle type based on kms for and date or hours and date is booked. Not always followed as reliant on user to provide asset to fleet for maintenance. The fleet is in the process of developing a maintenance strategy to help improve vehicles maintenance.	An Asset Management Strategy will exist. However it may or may not be detailed. An initial strategy may only highlight a few major issues pending future review of the strategy. A review process including a decision on what outcomes will be monitored and the procedure for monitoring these will be documented and in place.	The effectiveness of the Asset Maintenance Strategy will have been assessed at least once and the strategy reviewed. Improvements identified from the strategy review will be documented in the Asset Management Improvement Plan or have been completed. The improved strategy will be fully documented and implemented.	The process for assessment of the Asset Maintenance Strategy (or strategies) will be fully integrated within the organization's business practice. A regular review of the maintenance outcomes will be completed annually in conjunction with the assessment of the effectiveness of the maintenance strategy. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Asset Renewal Alternative	To assess Asset Renewal Alternatives means to look at: Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or Technologies and methods that do not replace the asset but are appropriate to the circumstances; or New and emerging technologies relating to asset replacement or in-place rehabilitation.	What practices, approach, strategies, etc. being used to assess renewal alternatives? Do we used business case? Do you look to extend the life expectancy or use different technologies? Life cycle management, etc. Do you use software or process for assessment of alternatives? identify improvements	The fleet is in the process of performing the following to help establish more robust renewal strategy and alternative:1)Fleet Management information system is being researched currently; 2) Develop policy regarding governance and business model; 2)Perform fleet utilization study.	Some consideration of whether viable alternatives exist for proposed renewal projects will be undertaken. However the process may be simple and only involve one or two people. Whatever the current process is and any tools or software programs (if any) used, should be documented in a standard operating procedure.	The process for assessment of alternatives for renewal projects will have been reviewed. Improvements identified from the process review will have been documented in the Asset Management Improvement Plan or have been completed. The improved process will be fully documented and implemented.	The process for assessment of alternatives for renewal projects will be fully integrated within the organization's business practice. A regular review of the process will be completed annually at or about the time that the assessment of renewal alternatives is undertaken. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Intermediate
Legislation, Regulation, Standards	Legal Obligations and Standards relates to all legislation, regulation, policies, standards and any other requirements that impact on or relate in some way to the assets or the services associated to them. Essentially, reference should be given to any document that: Sets out parameters within which the asset must be operated; or Has a requirement or condition that the asset must comply with (i.e. the 'rules'). These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).	List of legal obligations, standards and guidelines, corporate policy, etc. that impact on or related in anyway to the physical assets. Identify methods to monitor compliance. Do we track of current compliance status?	motor vehicle act, occupational health and safety act, insurance act, clean environment regulations, procurement regulations. Some compliance is tracked, some not. New council level fleet policy in development along with Service Level agreement between fleet and Service areas.	As a minimum the first list of references to the legal obligations and standards for the assets will identify the names of all key documents, but may not necessarily reference all of the rules within the document.	The list of referenced documents for legal obligations and standards will include either a general description of the types of rules within each document or a sub-list of the key rules that are relevant. The collated list of references will also indicate against the key rules, whether compliance is checked or monitored and if so provide some detail about the monitoring.	The information in the collated list of legal obligations and standards will be more detailed. A summary of the current state of compliance in regard to key rules will be documented along with reference to any remedial procedures that must be taken in the case of non-compliance. Reference will be included as to where details of any measured compliance data can be reviewed. Consideration will have been given to any opportunities to optimize compliance monitoring and a compliance monitoring plan should exist. Consideration has also been given to whether any opportunities exist for operational efficiencies and the outcome documented and where appropriate auctioned or scheduled for future action.	

Department		Fleet	Date: July 14, 2016				
Manager Name		Ian Fogan					
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Sustainability	A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals. The sustainability goals of an organization are usually documented in a Sustainability Plan or Charter. They may also be incorporated into the Strategic Goals. All activities within an organization should be consistent with achieving sustainable outcomes. The overall objective of Asset Management Practice is sustainability.	One of the City Corporate Strategic objective is : Sustainable Infrastructure. What processes are currently in place that contribute towards sustainability?. What is the current assessment of how sustainably the assets and activities are being managed? What processes should be implemented to better ensure long-term sustainability? and What Strategies are needed to manage long term sustainability of the asset?	WE currently have a fleet reserve used to replace fleet, it is in a deficit position of almost 12 million, new fleet reserve model in development along with catch up plan.	The connectivity between sustainability goals and outcomes of current business practice may not be known. Initial sustainability assessments for each asset group will, as a minimum, identify and document: o The sustainability goals to be achieved by that asset group; and o All of the programs that are currently implemented or scheduled to be implemented. A general assessment of sustainability under the three main categories Financial, Environmental and Social will be completed if there are no organizational sustainability goals to assess.	The consideration of sustainability issues and the assessment of current sustainability will be more detailed. Assessment statements will be supported by evidence. Assessments will include reviewing strategies that have been implemented to manage assets i.e. maintenance strategies. And assessing whether they are delivering desired outcomes.	Sustainability assessments will include specific measurement, monitoring and reporting of progress towards clearly stated performance targets for sustainability.	

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Inventory	Asset Inventory is the foundation to help manage the asset. It will help identify the following: How long before we replace the asset, how mush is worth, overall state of the asset, should we keep fixing it or replace it, etc.		**The Transportation asset provide a high degree of data accuracy for all the roads. All information on the transportation asset inventory including size, location, materials, useful life, age, date of installation , remaining life and attribute data can be found in PSAB and micropaver. Location for the storm pipes are not known in the micropaver or PSAB, but they can be found in GIS**	Some attribute information may not be know about the assets. Where key attributes are unknown, some assumptions or default values should be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed	Most attribute information will be known about the assets. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded.	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each asset such as service, capacity and performance data, maintenance history, risk and criticality values condition, financial details and replacement program	Intermediate
Asset Type		What type of asset? Buildings, roads, vehicles,etc.	We keep track of the following assets, Asphalt surface, curbs, sidewalk, Roadway base, Guardrails, culverts, retaining walls, traffic signals, and storm sewers.				
Location		Do we know the location of the assets? Where can the asset be found?	Yes the location with limits are kept in the PSAB documents.				
Quantity & Size		What is the quantity and size of the asset? Do we have this information?	Asphalt - 1246 lane km, Curbs - 578.8 km, Sidewalk - 376.9 km, Guardrails - 7.7 km, Culverts - 4312, Retaining walls - 142, Traffic Signals - 85, Storm Sewer - 234.9 km				
Material		information on the asset? What is made of? Do we know this information? Where can it be found?	All information is kept in the PSAB spreadsheets				
Useful Life		what is the expected lifespan? Do we have this information? How is it determined	All expected life spans vary, we keep this information in PSAB, and it is determined by ongoing inspection information and suppliers estimated useful life.				
Install Date & Age		Do we know the date the asset was installed or constructed? Do we know the age of the asset?	Yes we have the date and age of all assets in PSAB				
Remaining Life		Do we know the remaining life of the asset? How long it can remain before needs to be replaced or renewed?	Yes all in PSAB				
Asset Components	Help Manage effectively the asset if asset components are itemized	Do we list all asset components that can be replaced independently and/or has different lifespan? For example street light consists of pole and fixture. Life expectancy of the pole is much higher than the fixture	**Transportation do not track separately each of the functional layers of the road pavement: Top surface, Basecourse, Foundation. However micropaver track individual street, curb separately.**	All Components will be listed in inventory but some attribute information may not be known about the components. Where key attributes are unknown, some assumptions or default values can be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed.	Most attribute information will be known about each asset component. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each component, such as service, capacity values, condition, financial details and replacement program	Intermediate
Attribute Data		What type of attribute data we have? Technical Data such as performance, capacity. Maintenance cost data, work history, valuation data. Where the data is stored?	Yes it is stored in HTE and micropaver. However the asset id in micropaver does not correspond to THE.				

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Current data, Software and tools	what are the tools? How appropriate? How accurate? How should the outcomes from these tools or systems be used? How confidence are we? Collaboration across the organization? How accurate the data and how do we update ?	What type of software and tools do you use to store and assess the data? Are these tools use to analyze or assess the data, Perform risk evaluation, prioritization, monitor asset conditions, performance, track financial details, etc.	**Software used: micropaver, Excel and Navaline. The data are 95% accurate except for the replacement cost. Data are updated regularly by the transportation technologist. The micropaver is used to perform asset conditions, testing, project capital program, asset inventory, analyze, monitor asset and deterioration rate, etc. It is not clear if risk evaluation is performed. The micropaver software is only used by the engineering department and it is known to Council, but not the rest of the organization as it is strictly related to road assessment management .Navaline is used to track WO, etc. Transportation are running two different system (micropaver & Navaline) to track and monitor the roads, curbs, etc. Each system has a different set of asset ID. Improvement is needed to ensure the organization including the transportation use single tool to manage the assets.**	The main details for all key data sets, software and tools will be known and documented. Collaboration across the organization to identify improvements is desired but may or may not occur at this level.	Every data set, software and tool in use within the organization will be known and documented. Collaboration across the organization to identify improvements will have occurred but improvement task may only be noted for future action at this level.	.Every data set, software and tool available or recorded within the organization will be known and documented regardless of whether it is currently in use. The documentation will identify what the current status is i.e. In use or Abandoned etc. The documentation will also identify if it is not in current use, the reason why. The data and systems documented will include: o Both Current records and Historic records; o Past, Archived or Abandoned datasets; o Current Software and Software no longer in use but still owned by the organization and able to be used; and o Tools that are owned by organization irrespective of whether they are being used or not. . Detailed collaboration across the organization to share data, systems and tools and to identify improvements has occurred. . Agreed improvement tasks will be documented and an improvement plan will exist and be in the process of implementation.	Intermediate
Financial Situation	An understanding of Current Asset Investment is useful to determine: How long before we need to replace this asset; How much money should we put aside per annum to fund asset replacements; What is the asset currently worth (depreciated value in today's dollars); Should we keep fixing it or should we replace it; Should we keep fixing it or replace it; when should we replace it;		**Current Replacement cost of each of the asset is not known. Replacement value is based on historical data. It is recommended to use engineering and scientific data to calculate the current replacement cost . The micropaver is capable to perform the calculation to determine the current replacement value. The depreciation value is based on historical cost. It is recommended that depreciation value use the current replacement cost. PSAB used historical cost to determine depreciated value**	The initial unit rates will be average values without modification for any local conditions. Initial lifespan estimates are relatively generic (possibly manufacturer's values or rates in general use by other organizations), without any modification for local conditions. They are likely to be conservative lifespan estimates without any field verification.	The overall accuracy of cost and lifespan information will have improved and be moderate to high. Local lifespan values would be supported by some field testing.	Replacement values will be of high accuracy and completeness with well documented information on all cost components included and the basis of any assumptions. Lifespan assessments will be supported by verified field data and materials testing. Modifiers will be used as appropriate for increased accuracy for cost and lifespan assessments. Asset replacement and depreciated value information will be used to inform decisions on: o Reducing whole of life costs; o Maintenance strategies; o Extending the life of the asset; o Replacement options; o Risk mitigation; and o The most cost efficient time to implement works.	Basic
Replacement Value	Typical unit rate x modifier x asset data (length, area or number of) = current replacement value. What would cost to replace the asset today?	Do we know the cost to replace the asset today? What method or approach is used to determine the cost?	NO.				
Depreciated Value	(Expected lifespan of asset x modifier) - Current asset age = Remaining Life Current replacement value / Expected lifespan of asset = per annum depreciation Remaining Life x per annum depreciation = current depreciated value	What value is the current asset considering its age (Current depreciated value)? Do we know this information. What method or approach used to calculate this value?	Yes, PSAB.				

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Historical O&M Costs	The objectives of tracking O&M separately are : Save money, understand the true cost of service, able to make decision when to replace the asset, understand the remaining useful life and long term liability; etc.	Operation & Maintenance Costs. Operation Costs include items such as : Hydro, chemicals ,etc. Maintenance Costs are repaired to the asset. Are these costs recorded separately? Are these costs tracked against each asset? How many year of historical O&M costs are you tracking? are these costs used to develop and implement strategies and practices to help reduce O&M costs or develop another alternatives for replacement or renewal? are these costs easily accessible and transparent? identify Improvements	**The micropaver tracks only the major repairs such as overlay, resurfacing, renewal, etc. for the past 15 years, however small repair such as pothole, seal crack, etc. are not tracked by micropaver, but track by HTE . Also repair to other asset such as curb, storm pipes, etc. are track by HTE. Also, O&M costs are combined.**	If costs are not separated, only a combined total can be given. However a plan with timelines to implement the necessary cost recording structure will have been developed and approved. Any new procedures necessary for generating reports on separate operations and maintenance will also have been developed and documented. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	Details of actual operations and maintenance expenditure are recorded separately. Maintenance costs are being tracked against relevant assets. Separately recorded historical cost information for operations and maintenance will be available for at least one previous year, more if possible.	Recording and reporting systems are well established with at least 5 years of historical operations and maintenance data available for analyzing trends. Decisions on effective intervention strategies consider maintenance cost trends. Decisions on asset replacements consider cumulative maintenance cost compared to replacement value at a component level.	
Current O&M Costs		Same	Yes these cost are recorded separately. Yes they are tracked against each asset. The cost have been tracked for 15 years in HTE. Yes and Yes.				
Future Capital Costs	Future Capital costs are a fundamental components of ensuring long term sustainable management of the assets. It is usually 20 years forecast	Future Capital Costs include renewal and new assets. Is there at least 20 years cost forecast for future capital costs? What type of future capital costs plan? How accurate are the data? What assumption, considerations, approach, analysis and strategies, etc. being used to determine future capital costs for new and renewal assets?	**We currently have a three year capital plan with lots of projects identified in a future category. We have streets broken into segments that require water main, sanitary sewer, storm sewer, and street reconstruction. The data is accurate up through the next three years. We assess the condition of the of the sewers, utilizing video inspection, and assess the condition of the asphalt utilizing PCI inspection data. Micropaver is capable of projecting 20 years future capital plan, however the city is only asking for three years. Most of the storm pipes are new asset used to separate storm water from sewer as required by the PNB. Currently transportation do not have 20 years cost forecast for new and renewal asset, however software and current asset condition information are capable to develop this plan**	At least a 20 year cost forecast for asset renewals will be provided with total costs shown per year. At least a 20 year cost forecast for new assets will also be provided, in a separate table or graph to the renewal cost data, and with total costs shown per year. All assumptions included in the cost estimates will be documented.	Separate future cost forecasts will be available for asset renewals and new assets. The reporting period available for asset renewals is longer than 20 years and reflects the expected lifespan of the assets. All assumptions and basis for estimates will be documented. A rating for the confidence of the data used for future cost forecasts will also be documented.	Future cost forecasts are based on more accurate data and therefore have a medium to high level of confidence. Asset condition and deterioration modelling will be used to more accurately assess likely fail year of existing assets. This information will be used in the future cost forecast for renewals. Similarly more detailed analysis and assessment will be completed for the estimate of future new asset costs. This analysis includes consideration of: o Demand management; o Emerging technology; o Alternative service delivery; o Effects of climate change on future asset needs; o Effects of demographic changes on future asset needs; o Trends in changing attitudes of customers; and o Education options to modify or manage expectations.	Basic
Funding Sources		Taxes, Revenue and Loan/Grants. Where the funding will come to support the assets (Maintenance, operations, renewal, new)? Is there a shortfall? Current levels of service affordable??	Taxes and Revenue are used for maintenance and operation. Loans and Grants are used for capital construction. There is a short fall in funding to support maintenance and capital renewals.				
Decision Making	The key objectives for desired decision processes are to ensure that: All important decisions are robust, consistent and repeatable; Decisions are not subjective unless this is deemed appropriate; The person accountable for a decision has all the necessary information; and Any assessment tools being used are being applied correctly and appropriately.		It's old and needs replaced it's broken and beyond repair. Senior management, micropaver, video inspection, and HTE. Decision for renew asset is based on the PCI. Technical Information along with cost estimation and consequences are provided to the commissionaire of transportation to make the final decision on the capital investment. Process is not documented	Many decisions will not have any formal processes and this will be the first evaluation and documentation. The improvement gap will identify many tasks and the list to action should be prioritized.	The overall robustness of decision making will have improved and documentation of processes will be complete. Many improvement tasks may still require action and the list will still be prioritized.	The overall robustness and quality of decision making will be high. Procedures will be in place to easily demonstrate that correct processes were used for all important decisions. Most improvement tasks will already have been implemented and any remaining ones will be low priority items only.	

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Evaluate Decision Processes		What is the current decision process about asset management? i.e. new or renewal assets, maintenance, operation, policies. Person who make the decision, type of process or information used to make a decision. Are there any tools, methods, software used to assist decision makers? i.e. lifecycle management, business case, etc. Identify Improvement	It's old and needs replaced it's broken and beyond repair. Senior management, micropaver, video inspection, and HTE. Decision for renew asset is based on the PCI. Technical Information along with cost estimation and consequences are provided to the commissionaire of transportation to make the final decision on the capital investment.				Basic
Asset Condition	The condition of an asset component is a measure of its physical state compared to a brand new component. Tracking the change in condition over time will: Provide an indicator for rate of deterioration; Identify what type of remedial treatment is appropriate; Help determine the best timing for a remedial treatment; Support more accurate estimates for remaining useful life; and Indicate the most likely year that the asset will fail.		**Micropaver is used to perform asset condition on the road using PCI as a performance indicator. All streets condition are currently known including the deterioration rate. Inspection is performed yearly by summer students. However asset condition for the curbs, storm pipes, guardrails are not known , but their useful life are recorded. Work history of the asset are recorded in HTE , but not easily accessible by asset.**	The condition may not be measured but may be known anecdotally or there may be some holistic indicators that could be stated as an interim position until measured data becomes available. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	All important assets will have measured condition data recorded and being tracked over time. Work history records will be categorized by work type; be linked to individual assets; and include cost details.	Measured condition data will exist for most assets. Deterioration analysis will be implemented for important assets. Procedures will be in place to use measured condition data to amend planning inputs such as: o Remaining life and likely fail year; o Maintenance strategies; o Replacement options; o Risk mitigation; and o The most cost effective time to implement works.	intermediate
Current Condition/Rating		is the current condition of the asset known? Do we rate it?	Yes there is a current known condition of the streets in the city. The city has a PCI of 78 which is Satisfactory for now provided we continue to invest proper dollar amounts into maintenance and capital.				
Monitoring Asset Condition		Do we perform condition inspection and assessment? How often do we inspection/assessment?	Yes the condition of the streets are inspected yearly by two summer students.				
Deterioration of Asset	Help to determine when to replace the asset	Any Deterioration analysis to determine remaining useful life??	Yes it is all completed by PCI and micropaver.				
Work History of Asset	Help make a decision when asset can be replaced	do we have work history records? Are these records link to the asset? And are these records reliable to indicate condition and used to inform decision making and optimization	Yes we have work history records in HTE and PSAB. They are linked to assets in PSAB. They are used to indicate condition and are used to make decisions				

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Level of Service (LOS)	Level of Service is all about understanding what is being provided by the asset and to whom. The importance of knowing and tracking levels of service includes to: Provide a clear understanding of what value for money is being provided to the community or customers; Optimize operational activity to match the required standard. There may be areas of service delivery that need to be improved to meet the required standard. There may be areas that exceed the required standard and current level of operations could be reduced, saving costs. However until levels of service area known and tracked, it can be hard to identify these situations with any certainty; Identify options for reducing levels of service if affordability becomes an issue. With levels of service being identified in a tangible way, it is easier to identify potential cost trade-offs and understand the consequence of reducing costs; Be able to demonstrate and quantify what impact reduced funds will have on the level of service that can be provided. This is particularly important if budgets constrained and operation and maintenance allocations are reduced	Customer LOS needs to be link to a measurable technical LOS of the Asset. Is the LOS defined as follow: Quantity (total number of assets used to provide the current level of service), Location of assets, Availability (i.e. 24 Hrs. service), Quality (legislation, safety, customer service, etc.). Do we know the cost of the current levels of service, how is the LOS is being tracked and measured? do we know the future levels of service and associated cost? did the City undertake any studies, assessment to identify options to change the levels of service	**The annual cost to maintain the current level of service for asphalt surfaces can be determined through micropaver. The future costs to keep the same LOS will be similar allowing for inflation, and the PCI is updated yearly. Discuss with Mike LOS**	Some effort has been made to quantify in measurable terms, the current level of service being provided. Some indication of the cost of service / level of service relationship will be provided. However the cost of service may only be available as a high-level total cost or as an estimate drawn from combined operation and maintenance costs.	In addition to quantified, measurable level of service statements for the current situation, there is some indication of future desired level or service or at least of future level of service options. Level of service options will have estimated costs calculated but these options may or may not have been consulted with customers.	Current level of service will be defined in measurable terms and will be being tracked through specified performance measures. Costs for current and future level of service options will be recorded. Consultation on desired level of service / cost of service options have been undertaken and an action plan exists for implementing the agreed changes to level of service.	
Asset Maintenance Strategy	An Asset Maintenance Strategy is a document that identifies the: Key goals that maintenance activities seek to achieve; Service level to be maintained; Parameters or criteria to be used for decision-making; and Rules and standards that the activity must comply with or within which it must operate.	What type of maintenance strategy or best practice being implemented to help maintain the asset in cost effective and sustainable manner? Do we monitor the performance of the asset maintenance performance? Do we control maintenance activities? Do we regularly review the maintenance outcomes? identify improvements	Micropaver, yes the asset is inspected yearly. Yes maintenance activities are controlled if a street is to be paved that year crews don't patch the street. Yes through micropaver. Maintenance strategy is implemented, however improvement can be made to perform more cleaning, flushing the storm pipes to help improve performance. asset management strategy for the transportation need to be developed and implemented.	An Asset Management Strategy will exist. However it may or may not be detailed. An initial strategy may only highlight a few major issues pending future review of the strategy. A review process including a decision on what outcomes will be monitored and the procedure for monitoring these will be documented and in place.	The effectiveness of the Asset Maintenance Strategy will have been assessed at least once and the strategy reviewed. Improvements identified from the strategy review will be documented in the Asset Management Improvement Plan or have been completed. The improved strategy will be fully documented and implemented.	The process for assessment of the Asset Maintenance Strategy (or strategies) will be fully integrated within the organization's business practice. A regular review of the maintenance outcomes will be completed annually in conjunction with the assessment of the effectiveness of the maintenance strategy. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Asset Renewal Alternative	To assess Asset Renewal Alternatives means to look at: Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or Technologies and methods that do not replace the asset but are appropriate to the circumstances; or New and emerging technologies relating to asset replacement or in-place rehabilitation.	What practices, approach, strategies, etc. being used to assess renewal alternatives? Do we used business case? Do you look to extend the life expectancy or use different technologies? Life cycle management, etc. Do you use software or process for assessment of alternatives? identify improvements	Asphalt resurfacing, mill and seal, area patching, Asphalt overlay. Micropaver. Asset renewal strategy should be developed to help staff to make decision based on business method. This practice should be applied across the organization	Some consideration of whether viable alternatives exist for proposed renewal projects will be undertaken. However the process may be simple and only involve one or two people. Whatever the current process is and any tools or software programs (if any) used, should be documented in a standard operating procedure.	The process for assessment of alternatives for renewal projects will have been reviewed. Improvements identified from the process review will have been documented in the Asset Management Improvement Plan or have been completed. The improved process will be fully documented and implemented.	The process for assessment of alternatives for renewal projects will be fully integrated within the organization's business practice. A regular review of the process will be completed annually at or about the time that the assessment of renewal alternatives is undertaken. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	

Department		Date: July 21, 2016					
Manager Name	Brian Keenan						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Legislation, Regulation, Standards	Legal Obligations and Standards relates to all legislation, regulation, policies, standards and any other requirements that impact on or relate in some way to the assets or the services associated to them. Essentially, reference should be given to any document that: Sets out parameters within which the asset must be operated; or Has a requirement or condition that the asset must comply with (i.e. the 'rules'). These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).	List of legal obligations, standards and guidelines, corporate policy, etc. that impact on or related in anyway to the physical assets. Identify methods to monitor compliance. Do we track of current compliance status?	Municipalities Act, Standards - Storm drainage design criteria manual, municipal street lighting best management practice, Transportation Association of Canada standards.	As a minimum the first list of references to the legal obligations and standards for the assets will identify the names of all key documents, but may not necessarily reference all of the rules within the document.	The list of referenced documents for legal obligations and standards will include either a general description of the types of rules within each document or a sub-list of the key rules that are relevant. The collated list of references will also indicate against the key rules, whether compliance is checked or monitored and if so provide some detail about the monitoring.	The information in the collated list of legal obligations and standards will be more detailed. A summary of the current state of compliance in regard to key rules will be documented along with reference to any remedial procedures that must be taken in the case of non-compliance. Reference will be included as to where details of any measured compliance data can be reviewed. Consideration will have been given to any opportunities to optimize compliance monitoring and a compliance monitoring plan should exist. Consideration has also been given to whether any opportunities exist for operational efficiencies and the outcome documented and where appropriate auctioned or scheduled for future action.	
Sustainability	A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals. The sustainability goals of an organization are usually documented in a Sustainability Plan or Charter. They may also be incorporated into the Strategic Goals. All activities within an organization should be consistent with achieving sustainable outcomes. The overall objective of Asset Management Practice is sustainability.	One of the City Corporate Strategic objective is : Sustainable Infrastructure. What processes are currently in place that contribute towards sustainability?. What is the current assessment of how sustainably the assets and activities are being managed? What processes should be implemented to better ensure long-term sustainability? and What Strategies are needed to manage long term sustainability of the asset?	Annual capital investment through capital programs.	The connectivity between sustainability goals and outcomes of current business practice may not be known. Initial sustainability assessments for each asset group will, as a minimum, identify and document: o The sustainability goals to be achieved by that asset group; and o All of the programs that are currently implemented or scheduled to be implemented. A general assessment of sustainability under the three main categories Financial, Environmental and Social will be completed if there are no organizational sustainability goals to assess.	The consideration of sustainability issues and the assessment of current sustainability will be more detailed. Assessment statements will be supported by evidence. Assessments will include reviewing strategies that have been implemented to manage assets i.e. maintenance strategies. And assessing whether they are delivering desired outcomes.	Sustainability assessments will include specific measurement, monitoring and reporting of progress towards clearly stated performance targets for sustainability.	

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Inventory	Asset Inventory is the foundation to help manage the asset. It will help identify the following: How long before we replace the asset, how mush is worth, overall state of the asset, should we keep fixing it or replace it, etc.		**Most of the asset inventory information and attribute data for the parks and playground are known and recorded in the PSAB. The remaining life is derived from the manufacture data and input from the asset inspection.**	Some attribute information may not be know about the assets. Where key attributes are unknown, some assumptions or default values should be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed	Most attribute information will be known about the assets. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded.	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each asset such as service, capacity and performance data, maintenance history, risk and criticality values condition, financial details and replacement program	Intermediate
Asset Type		What type of asset? Buildings, roads, vehicles,etc	Playgrounds				
Location		Do we know the location of the assets? Where can the asset be found?	Yes, across the City				
Quantity & Size		What is the quantity and size of the asset? Do we have this information?	65 playgrounds, decreasing each year. Yes we have the locations.				
Material		information on the asset? What is made of? Do we know this information? Where can it be found?	All playground equipment at each location is identified and is inspected regularly.				
Useful Life		what is the expected lifespan? Do we have this information? How is it determined	Inspections determine remaining useful life.				
Install Date & Age		Do we know the date the asset was installed or constructed? Do we know the age of the asset?	Yes for the most part				
Remaining Life		Do we know the remaining life of the asset? How long it can remain before needs to be replaced or renewed?	Inspections determine remaining useful life.				
Asset Components	Help Manage effectively the asset if asset components are itemized	Do we list all asset components that can be replaced independently and/or has different lifespan? For example street light consists of pole and fixture. Life expectancy of the pole is much higher than the fixture	**The parks and playground have some of their components listed, but it is partial**	All Components will be listed in inventory but some attribute information may not be known about the components. Where key attributes are unknown, some assumptions or default values can be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed.	Most attribute information will be known about each asset component. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each component, such as service, capacity values, condition, financial details and replacement program	
Attribute Data		What type of attribute data we have? Technical Data such as performance, capacity. Maintenance cost data, work history, valuation data. Where the data is stored?	Not a lot.				

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Current data, Software and tools	what are the tools? How appropriate? How accurate? How should the outcomes from these tools or systems be used? How confidence are we? Collaboration across the organization? How accurate the data and how do we update ?	What type of software and tools do you use to store and assess the data? Are these tools use to analyze or assess the data, Perform risk evaluation, prioritization, monitor asset conditions, performance, track financial details, etc.	Excel (PSAB), Naviline. These software are used to track O&M costs, asset inventory & performance, and perform analyse. Improvement is desired to have a tool to help manage effectively the assets.	The main details for all key data sets, software and tools will be known and documented. Collaboration across the organization to identify improvements is desired but may or may not occur at this level.	Every data set, software and tool in use within the organization will be known and documented. Collaboration across the organization to identify improvements will have occurred but improvement task may only be noted for future action at this level.	.Every data set, software and tool available or recorded within the organization will be known and documented regardless of whether it is currently in use. The documentation will identify what the current status is i.e. In use or Abandoned etc. The documentation will also identify if it is not in current use, the reason why. The data and systems documented will include: o Both Current records and Historic records; o Past, Archived or Abandoned datasets; o Current Software and Software no longer in use but still owned by the organization and able to be used; and o Tools that are owned by organization irrespective of whether they are being used or not. . Detailed collaboration across the organization to share data, systems and tools and to identify improvements has occurred. . Agreed improvement tasks will be documented and an improvement plan will exist and be in the process of implementation.	Basic
Financial Situation	An understanding of Current Asset Investment is useful to determine: How long before we need to replace this asset; How much money should we put aside per annum to fund asset replacements; What is the asset currently worth (depreciated value in today's dollars); Should we keep fixing it or should we replace it; Should we keep fixing it or replace it; when should we replace it;		**Replacement cost is recorded in PSAB (Excel), however data is based on year 2011. Also, Depreciated value is based on historical cost in PSAB.**	The initial unit rates will be average values without modification for any local conditions. Initial lifespan estimates are relatively generic (possibly manufacturer's values or rates in general use by other organizations), without any modification for local conditions. They are likely to be conservative lifespan estimates without any field verification.	The overall accuracy of cost and lifespan information will have improved and be moderate to high. Local lifespan values would be supported by some field testing.	Replacement values will be of high accuracy and completeness with well documented information on all cost components included and the basis of any assumptions. Lifespan assessments will be supported by verified field data and materials testing. Modifiers will be used as appropriate for increased accuracy for cost and lifespan assessments. Asset replacement and depreciated value information will be used to inform decisions on: o Reducing whole of life costs; o Maintenance strategies; o Extending the life of the asset; o Replacement options; o Risk mitigation; and o The most cost efficient time to implement works.	Basic
Replacement Value	Typical unit rate x modifier x asset data (length, area or number of) = current replacement value. What would cost to replace the asset today?	Do we know the cost to replace the asset today? What method or approach is used to determine the cost?					
Depreciated Value	(Expected lifespan of asset x modifier) - Current asset age = Remaining Life Current replacement value / Expected lifespan of asset = per annum depreciation Remaining Life x per annum depreciation = current depreciated value	What value is the current asset considering its age (Current depreciated value)? Do we know this information. What method or approach used to calculate this value?	We know approximate year when life of playground would be reached.				

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Historical O&M Costs	The objectives of tracking O&M separately are : Save money, understand the true cost of service, able to make decision when to replace the asset, understand the remaining useful life and long term liability; etc.	Operation & Maintenance Costs. Operation Costs include items such as : Hydro, chemicals ,etc. Maintenance Costs are repaired to the asset. Are these costs recorded separately? Are these costs tracked against each asset? How many year of historical O&M costs are you tracking? are these costs used to develop and implement strategies and practices to help reduce O&M costs or develop another alternatives for replacement or renewal? are these costs easily accessible and transparent? identify Improvements	**O&M cost for each playground and park are tracked in Navaline. However these costs are not separated, also costs are not track by individual asset. Costs for operation and maintenance would generally have to be determined through significant data mining for the most part and are separate from replacement costs, etc. Although O&M costs are recorded, they are not monitored or tracked to great extent, nor are they used as they should be to implement strategies to reduce costs or develop replacement/renewal strategies. There is significant room for improvement.**	If costs are not separated, only a combined total can be given. However a plan with timelines to implement the necessary cost recording structure will have been developed and approved. Any new procedures necessary for generating reports on separate operations and maintenance will also have been developed and documented. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	Details of actual operations and maintenance expenditure are recorded separately. Maintenance costs are being tracked against relevant assets. Separately recorded historical cost information for operations and maintenance will be available for at least one previous year, more if possible.	Recording and reporting systems are well established with at least 5 years of historical operations and maintenance data available for analyzing trends. Decisions on effective intervention strategies consider maintenance cost trends. Decisions on asset replacements consider cumulative maintenance cost compared to replacement value at a component level.	Basic
Current O&M Costs		Same	**Same**				
Future Capital Costs	Future Capital costs are a fundamental components of ensuring long term sustainable management of the assets. It is usually 20 years forecast	Future Capital Costs include renewal and new assets. Is there at least 20 years cost forecast for future capital costs? What type of future capital costs plan? How accurate are the data? What assumption, considerations, approach, analysis and strategies, etc. being used to determine future capital costs for new and renewal assets?	**Parks does not have a 20 years long term financial plan. Park has a facility renewal fund in which they identify annual capital program to secure funding. The development of the capital plan is objective in most cases and not based on asset condition or risk. A long-term financial plan is required and should be based on asset condition, risk assessment, LOS, and growth strategy.**	At least a 20 year cost forecast for asset renewals will be provided with total costs shown per year. At least a 20 year cost forecast for new assets will also be provided, in a separate table or graph to the renewal cost data, and with total costs shown per year. All assumptions included in the cost estimates will be documented.	Separate future cost forecasts will be available for asset renewals and new assets. The reporting period available for asset renewals is longer than 20 years and reflects the expected lifespan of the assets. All assumptions and basis for estimates will be documented. A rating for the confidence of the data used for future cost forecasts will also be documented.	Future cost forecasts are based on more accurate data and therefore have a medium to high level of confidence. Asset condition and deterioration modelling will be used to more accurately assess likely fail year of existing assets. This information will be used in the future cost forecast for renewals. Similarly more detailed analysis and assessment will be completed for the estimate of future new asset costs. This analysis includes consideration of: o Demand management; o Emerging technology; o Alternative service delivery; o Effects of climate change on future asset needs; o Effects of demographic changes on future asset needs; o Trends in changing attitudes of customers; and o Education options to modify or manage expectations.	Basic
Funding Sources		Taxes, Revenue and Loan/Grants. Where the funding will come to support the assets (Maintenance, operations, renewal, new)? Is there a shortfall? Current levels of service affordable??	Capital, LPP Fund, investment by community				
Decision Making	The key objectives for desired decision processes are to ensure that: All important decisions are robust, consistent and repeatable; Decisions are not subjective unless this is deemed appropriate; The person accountable for a decision has all the necessary information; and Any assessment tools being used are being applied correctly and appropriately.			Many decisions will not have any formal processes and this will be the first evaluation and documentation. The improvement gap will identify many tasks and the list to action should be prioritized.	The overall robustness of decision making will have improved and documentation of processes will be complete. Many improvement tasks may still require action and the list will still be prioritized.	The overall robustness and quality of decision making will be high. Procedures will be in place to easily demonstrate that correct processes were used for all important decisions. Most improvement tasks will already have been implemented and any remaining ones will be low priority items only.	

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Evaluate Decision Processes		What is the current decision process about asset management? i.e. new or renewal assets, maintenance, operation, policies. Person who make the decision, type of process or information used to make a decision. Are there any tools, methods, software used to assist decision makers? i.e. lifecycle management, business case, etc. Identify Improvement	Combination of age and inspection records are used to assess remaining life. Inspections used for maintenance planning.				
Asset Condition	The condition of an asset component is a measure of its physical state compared to a brand new component. Tracking the change in condition over time will: Provide an indicator for rate of deterioration; Identify what type of remedial treatment is appropriate; Help determine the best timing for a remedial treatment; Support more accurate estimates for remaining useful life; and Indicate the most likely year that the asset will fail.		**Inspection for playground and park are performed on an bi-annual inspection to ensure the assets meet CSA, they are stored in hard copies. Asset condition of the park and playground are not reliable and are not track and monitored. Data are not used to assess the remaining useful life or develop a capital planning. reliable. Area of improvement.**	The condition may not be measured but may be known anecdotally or there may be some holistic indicators that could be stated as an interim position until measured data becomes available. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	All important assets will have measured condition data recorded and being tracked over time. Work history records will be categorized by work type; be linked to individual assets; and include cost details.	Measured condition data will exist for most assets. Deterioration analysis will be implemented for important assets. Procedures will be in place to use measured condition data to amend planning inputs such as: o Remaining life and likely fail year; o Maintenance strategies; o Replacement options; o Risk mitigation; and o The most cost effective time to implement works.	Basic
Current Condition/Rating		is the current condition of the asset known? Do we rate it?	Yes and yes				
Monitoring Asset Condition		Do we perform condition inspection and assessment? How often do we inspection/assessment?	Yes, three times per year				
Deterioration of Asset	Help to determine when to replace the asset	Any Deterioration analysis to determine remaining useful life??	No				
Work History of Asset	Help make a decision when asset can be replaced	do we have work history records? Are these records link to the asset? And are these records reliable to indicate condition and used to inform decision making and optimization	Work history of the asset is track on Navaline, however information such as O&M are not generally track by individual asset, also condition of the asset are not tracked on Navaline.				
Level of Service (LOS)	Level of Service is all about understanding what is being provided by the asset and to whom. The importance of knowing and tracking levels of service includes to: Provide a clear understanding of what value for money is being provided to the community or customers; Optimize operational activity to match the required standard. There may be areas of service delivery that need to be improved to meet the required standard. There may be areas that exceed the required standard and current level of operations could be reduced, saving costs. However until levels of service area known and tracked, it can be hard to identify these situations with any certainty; Identify options for reducing levels of service if affordability becomes an issue. With levels of service being identified in a tangible way, it is easier to identify potential cost trade-offs and understand the consequence of reducing costs; Be able to demonstrate and quantify what impact reduced funds will have on the level of service that can be provided. This is particularly important if budgets constrained and operation and maintenance allocations are reduced	Customer LOS needs to be link to a measurable technical LOS of the Asset. Is the LOS defined as follow: Quantity (total number of assets used to provide the current level of service), Location of assets, Availability (i.e. 24 Hrs. service), Quality (legislation, safety, customer service, etc.). Do we know the cost of the current levels of service, how is the LOS is being tracked and measured? do we know the future levels of service and associated cost? did the City undertake any studies, assessment to identify options to change the levels of service	**The LOS is defined , however cost of the LOS is not known.**	Some effort has been made to quantify in measurable terms, the current level of service being provided. Some indication of the cost of service / level of service relationship will be provided. However the cost of service may only be available as a high-level total cost or as an estimate drawn from combined operation and maintenance costs.	In addition to quantified, measurable level of service statements for the current situation, there is some indication of future desired level or service or at least of future level of service options. Level of service options will have estimated costs calculated but these options may or may not have been consulted with customers.	Current level of service will be defined in measurable terms and will be being tracked through specified performance measures. Costs for current and future level of service options will be recorded. Consultation on desired level of service / cost of service options have been undertaken and an action plan exists for implementing the agreed changes to level of service.	Basic

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Asset Maintenance Strategy	An Asset Maintenance Strategy is a document that identifies the: Key goals that maintenance activities seek to achieve; Service level to be maintained; Parameters or criteria to be used for decision-making; and Rules and standards that the activity must comply with or within which it must operate.	What type of maintenance strategy or best practice being implemented to help maintain the asset in cost effective and sustainable manner? Do we monitor the performance of the asset maintenance performance? Do we control maintenance activities? Do we regularly review the maintenance outcomes? identify improvements	**Parks perform inspection on a weekly inspection of the playground and field to ensure the assets meet CSA. However, inspection reports not electronically tracked. Staff have to spend time and resources to track these maintenance and technical information as they are not easily accessible and are not store in a centralize system.**	An Asset Management Strategy will exist. However it may or may not be detailed. An initial strategy may only highlight a few major issues pending future review of the strategy. A review process including a decision on what outcomes will be monitored and the procedure for monitoring these will be documented and in place.	The effectiveness of the Asset Maintenance Strategy will have been assessed at least once and the strategy reviewed. Improvements identified from the strategy review will be documented in the Asset Management Improvement Plan or have been completed. The improved strategy will be fully documented and implemented.	The process for assessment of the Asset Maintenance Strategy (or strategies) will be fully integrated within the organization's business practice. A regular review of the maintenance outcomes will be completed annually in conjunction with the assessment of the effectiveness of the maintenance strategy. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Asset Renewal Alternative	To assess Asset Renewal Alternatives means to look at: Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or Technologies and methods that do not replace the asset but are appropriate to the circumstances; or New and emerging technologies relating to asset replacement or in-place rehabilitation.	What practices, approach, strategies, etc. being used to assess renewal alternatives? Do we used business case? Do you look to extend the life expectancy or use different technologies? Life cycle management, etc. Do you use software or process for assessment of alternatives? identify improvements	**The City has developed a Park and Recreation Strategy to focus on investing in district and regional playgrounds. Staff are in the process of assessing the needs requirements to help reduce the number of playgrounds. However, there are not formal renewal strategy for the parks. Furthermore staff do not have enough information or the information are not easily accessible to help determine or make a sound business decision on the replacement or installation of new asset .Area of Improvement**	Some consideration of whether viable alternatives exist for proposed renewal projects will be undertaken. However the process may be simple and only involve one or two people. Whatever the current process is and any tools or software programs (if any) used, should be documented in a standard operating procedure.	The process for assessment of alternatives for renewal projects will have been reviewed. Improvements identified from the process review will have been documented in the Asset Management Improvement Plan or have been completed. The improved process will be fully documented and implemented.	The process for assessment of alternatives for renewal projects will be fully integrated within the organization's business practice. A regular review of the process will be completed annually at or about the time that the assessment of renewal alternatives is undertaken. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Intermediate
Legislation, Regulation, Standards	Legal Obligations and Standards relates to all legislation, regulation, policies, standards and any other requirements that impact on or relate in some way to the assets or the services associated to them. Essentially, reference should be given to any document that: Sets out parameters within which the asset must be operated; or Has a requirement or condition that the asset must comply with (i.e. the 'rules'). These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).	List of legal obligations, standards and guidelines, corporate policy, etc. that impact on or related in anyway to the physical assets. Identify methods to monitor compliance. Do we track of current compliance status?	**CSA standards**	As a minimum the first list of references to the legal obligations and standards for the assets will identify the names of all key documents, but may not necessarily reference all of the rules within the document.	The list of referenced documents for legal obligations and standards will include either a general description of the types of rules within each document or a sub-list of the key rules that are relevant. The collated list of references will also indicate against the key rules, whether compliance is checked or monitored and if so provide some detail about the monitoring.	The information in the collated list of legal obligations and standards will be more detailed. A summary of the current state of compliance in regard to key rules will be documented along with reference to any remedial procedures that must be taken in the case of non-compliance. Reference will be included as to where details of any measured compliance data can be reviewed. Consideration will have been given to any opportunities to optimize compliance monitoring and a compliance monitoring plan should exist. Consideration has also been given to whether any opportunities exist for operational efficiencies and the outcome documented and where appropriate auctioned or scheduled for future action.	

Department	Transportation & Environment (Parks & Recreation)	Date: July 18, 2016					
Manager Name	Tim O'Reilly						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Sustainability	A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals. The sustainability goals of an organization are usually documented in a Sustainability Plan or Charter. They may also be incorporated into the Strategic Goals. All activities within an organization should be consistent with achieving sustainable outcomes. The overall objective of Asset Management Practice is sustainability.	One of the City Corporate Strategic objective is : Sustainable Infrastructure. What processes are currently in place that contribute towards sustainability?. What is the current assessment of how sustainably the assets and activities are being managed? What processes should be implemented to better ensure long-term sustainability? and What Strategies are needed to manage long term sustainability of the asset?	PlaySJ	The connectivity between sustainability goals and outcomes of current business practice may not be known. Initial sustainability assessments for each asset group will, as a minimum, identify and document: o The sustainability goals to be achieved by that asset group; and o All of the programs that are currently implemented or scheduled to be implemented. A general assessment of sustainability under the three main categories Financial, Environmental and Social will be completed if there are no organizational sustainability goals to assess.	The consideration of sustainability issues and the assessment of current sustainability will be more detailed. Assessment statements will be supported by evidence. Assessments will include reviewing strategies that have been implemented to manage assets i.e. maintenance strategies. And assessing whether they are delivering desired outcomes.	Sustainability assessments will include specific measurement, monitoring and reporting of progress towards clearly stated performance targets for sustainability.	

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Inventory	Asset Inventory is the foundation to help manage the asset. It will help identify the following: How long before we replace the asset, how mush is worth, overall state of the asset, should we keep fixing it or replace it, etc.		**For watermains, sanitary sewers, and combined sewers there are information for location, length (m), diameter, material, expected useful life, installation date, and remaining useful life. Overall the GIS would be more accurate than the PSAB spreadsheet, where it is continually being updated. The east side in the GIS could be considered to be 80% corrected with good quality and 20% corrected with fair quality. The west side in the GIS could be considered to be 100% corrected with fair quality.**	Some attribute information may not be know about the assets. Where key attributes are unknown, some assumptions or default values should be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed	Most attribute information will be known about the assets. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded.	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each asset such as service, capacity and performance data, maintenance history, risk and criticality values condition, financial details and replacement program	Intermediate
Asset Type		What type of asset? Buildings, roads, vehicles,etc	Communication infrastructure: Pump Stations/Treatment Plants/Tanks/Buildings, Piping, Equipment, Dams, Land				
Location		Do we know the location of the assets? Where can the asset be found?	Yes: throughout the City				
Quantity & Size		What is the quantity and size of the asset? Do we have this information?	SJ Water generally knows quantity and size; information in GIS and PSA.				
Material		information on the asset? What is made of? Do we know this information? Where can it be found?	SJ Water generally knows quantity and size; information in GIS and P.S.A.				
Useful Life		what is the expected lifespan? Do we have this information? How is it determined	Varies depending on the asset. This information is generally included in P.S.A.				
Install Date & Age		Do we know the date the asset was installed or constructed? Do we know the age of the asset?	Varies depending on the asset. This information is generally included in GIS and P.S.A.				
Remaining Life		Do we know the remaining life of the asset? How long it can remain before needs to be replaced or renewed?	Calculations in PSA but this requires more research .				
Asset Components	Help Manage effectively the asset if asset components are itemized	Do we list all asset components that can be replaced independently and/or has different lifespan? For example street light consists of pole and fixture. Life expectancy of the pole is much higher than the fixture	**The PSAB spreadsheet do not list asset components of facilities down to the level of pumps, motors, and valves. We list them under structural, mechanical, electrical, and access road components. Some facilities are listed with more components such as the wastewater treatment facilities where they are broken down into process piping and equipment, process electrical, process instrumentation, building and process structural, building architectural, building electrical and mechanical, site works, and roof components. In GIS the facilities are not broken down into any components. The watermains, sanitary sewers, and combined sewers are not broken down into any components in GIS or the PSAB spreadsheet**	All Components will be listed in inventory but some attribute information may not be known about the components. Where key attributes are unknown, some assumptions or default values can be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed.	Most attribute information will be known about each asset component. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each component, such as service, capacity values, condition, financial details and replacement program	Basic
Attribute Data		What type of attribute data we have? Technical Data such as performance, capacity. Maintenance cost data, work history, valuation data. Where the data is stored?	There is technical data on some assets (done manually); no maintenance tagged to an asset.				

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Current data, Software and tools	what are the tools? How appropriate? How accurate? How should the outcomes from these tools or systems be used? How confidence are we? Collaboration across the organization? How accurate the data and how do we update ?	What type of software and tools do you use to store and assess the data? Are these tools use to analyze or assess the data, Perform risk evaluation, prioritization, monitor asset conditions, performance, track financial details, etc.	• GIS system • Excel • Tab Ware (Eastern Wastewater Treatment Facility). **We have the same unique IDs in the PSAB spreadsheet as we do in the GIS. Where most of these should match up, it's possible pipe attributes could differ over time. The pipes in the PSAB spreadsheet are static and do not change over time. The GIS is continually being updated and it's possible a pipe could have been modified with better quality information. It's likely the GIS has new pipes with new unique IDs that the PSAB spreadsheet does not have. It's also likely that the PSAB spreadsheet has new pipes with new unique IDs that the GIS does not have. Since 2010 the difference between the two will have grown.**	The main details for all key data sets, software and tools will be known and documented. Collaboration across the organization to identify improvements is desired but may or may not occur at this level.	Every data set, software and tool in use within the organization will be known and documented. Collaboration across the organization to identify improvements will have occurred but improvement task may only be noted for future action at this level.	.Every data set, software and tool available or recorded within the organization will be known and documented regardless of whether it is currently in use. The documentation will identify what the current status is i.e. In use or Abandoned etc. The documentation will also identify if it is not in current use, the reason why. The data and systems documented will include: o Both Current records and Historic records; o Past, Archived or Abandoned datasets; o Current Software and Software no longer in use but still owned by the organization and able to be used; and o Tools that are owned by organization irrespective of whether they are being used or not. . Detailed collaboration across the organization to share data, systems and tools and to identify improvements has occurred. . Agreed improvement tasks will be documented and an improvement plan will exist and be in the process of implementation.	Basic
Financial Situation	An understanding of Current Asset Investment is useful to determine: How long before we need to replace this asset; How much money should we put aside per annum to fund asset replacements; What is the asset currently worth (depreciated value in today's dollars); Should we keep fixing it or should we replace it; Should we keep fixing it or replace it; when should we replace it;		**Historical costs are included in the PSAB. However, the cost for the pipes in PSAB includes costs for fittings, valves, hydrants, and services. Costs have not yet been placed into the GIS**	The initial unit rates will be average values without modification for any local conditions. Initial lifespan estimates are relatively generic (possibly manufacturer's values or rates in general use by other organizations), without any modification for local conditions. They are likely to be conservative lifespan estimates without any field verification.	The overall accuracy of cost and lifespan information will have improved and be moderate to high. Local lifespan values would be supported by some field testing.	Replacement values will be of high accuracy and completeness with well documented information on all cost components included and the basis of any assumptions. Lifespan assessments will be supported by verified field data and materials testing. Modifiers will be used as appropriate for increased accuracy for cost and lifespan assessments. Asset replacement and depreciated value information will be used to inform decisions on: o Reducing whole of life costs; o Maintenance strategies; o Extending the life of the asset; o Replacement options; o Risk mitigation; and o The most cost efficient time to implement works.	Basic
Replacement Value	Typical unit rate x modifier x asset data (length, area or number of) = current replacement value. What would cost to replace the asset today?	Do we know the cost to replace the asset today? What method or approach is used to determine the cost?	No. There is some data available, asset specific.				
Depreciated Value	(Expected lifespan of asset x modifier) - Current asset age = Remaining Life Current replacement value / Expected lifespan of asset = per annum depreciation Remaining Life x per annum depreciation = current depreciated value	What value is the current asset considering its age (Current depreciated value)? Do we know this information. What method or approach used to calculate this value?	There is some data available. This is asset specific.				

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Historical O&M Costs	The objectives of tracking O&M separately are : Save money, understand the true cost of service, able to make decision when to replace the asset, understand the remaining useful life and long term liability; etc.	Operation & Maintenance Costs. Operation Costs include items such as : Hydro, chemicals ,etc. Maintenance Costs are repaired to the asset. Are these costs recorded separately? Are these costs tracked against each asset? How many year of historical O&M costs are you tracking? are these costs used to develop and implement strategies and practices to help reduce O&M costs or develop another alternatives for replacement or renewal? are these costs easily accessible and transparent? identify Improvements	**Costs are tracked per service area not asset. O&M are not separated. There is significant room for improvement in this area and it could be partially resolved by tagging these costs to individual asset using a corporate asset management . Navaline may be able to preform this function, but is it not practical**	If costs are not separated, only a combined total can be given. However a plan with timelines to implement the necessary cost recording structure will have been developed and approved. Any new procedures necessary for generating reports on separate operations and maintenance will also have been developed and documented. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	Details of actual operations and maintenance expenditure are recorded separately. Maintenance costs are being tracked against relevant assets. Separately recorded historical cost information for operations and maintenance will be available for at least one previous year, more if possible.	Recording and reporting systems are well established with at least 5 years of historical operations and maintenance data available for analyzing trends. Decisions on effective intervention strategies consider maintenance cost trends. Decisions on asset replacements consider cumulative maintenance cost compared to replacement value at a component level.	Basic
Current O&M Costs		Same	Costs are not tracked per asset; costs are tracked per service area.				
Future Capital Costs	Future Capital costs are a fundamental components of ensuring long term sustainable management of the assets. It is usually 20 years forecast	Future Capital Costs include renewal and new assets. Is there at least 20 years cost forecast for future capital costs? What type of future capital costs plan? How accurate are the data? What assumption, considerations, approach, analysis and strategies, etc. being used to determine future capital costs for new and renewal assets?	There is a 5-year Capital program. There were 20-year programs for Harbour Clean-Up and Safe Clean Drinking Water. These reports were completed in early 1990's. However in many cases the capital program is not subjective and managers do not enough information to prioritize these capital projects.	At least a 20 year cost forecast for asset renewals will be provided with total costs shown per year. At least a 20 year cost forecast for new assets will also be provided, in a separate table or graph to the renewal cost data, and with total costs shown per year. All assumptions included in the cost estimates will be documented.	Separate future cost forecasts will be available for asset renewals and new assets. The reporting period available for asset renewals is longer than 20 years and reflects the expected lifespan of the assets. All assumptions and basis for estimates will be documented. A rating for the confidence of the data used for future cost forecasts will also be documented.	Future cost forecasts are based on more accurate data and therefore have a medium to high level of confidence. Asset condition and deterioration modelling will be used to more accurately assess likely fail year of existing assets. This information will be used in the future cost forecast for renewals. Similarly more detailed analysis and assessment will be completed for the estimate of future new asset costs. This analysis includes consideration of: o Demand management; o Emerging technology; o Alternative service delivery; o Effects of climate change on future asset needs; o Effects of demographic changes on future asset needs; o Trends in changing attitudes of customers; and o Education options to modify or manage expectations.	Below Basic
Funding Sources		Taxes, Revenue and Loan/Grants. Where the funding will come to support the assets (Maintenance, operations, renewal, new)? Is there a shortfall? Current levels of service affordable??	Water Rates and Provincial/Federal Funding program.				
Decision Making	The key objectives for desired decision processes are to ensure that: All important decisions are robust, consistent and repeatable; Decisions are not subjective unless this is deemed appropriate; The person accountable for a decision has all the necessary information; and Any assessment tools being used are being applied correctly and appropriately.			Many decisions will not have any formal processes and this will be the first evaluation and documentation. The improvement gap will identify many tasks and the list to action should be prioritized.	The overall robustness of decision making will have improved and documentation of processes will be complete. Many improvement tasks may still require action and the list will still be prioritized.	The overall robustness and quality of decision making will be high. Procedures will be in place to easily demonstrate that correct processes were used for all important decisions. Most improvement tasks will already have been implemented and any remaining ones will be low priority items only.	Basic

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Evaluate Decision Processes		What is the current decision process about asset management? i.e. new or renewal assets, maintenance, operation, policies. Person who make the decision, type of process or information used to make a decision. Are there any tools, methods, software used to assist decision makers? i.e. lifecycle management, business case, etc. Identify Improvement	There is a decision making process for Capital Programs. These are based on operational challenges, new regulations. Generally assets that are replaced are beyond their useful life and cannot be rehabilitated economically.				Basic
Asset Condition	The condition of an asset component is a measure of its physical state compared to a brand new component. Tracking the change in condition over time will: Provide an indicator for rate of deterioration; Identify what type of remedial treatment is appropriate; Help determine the best timing for a remedial treatment; Support more accurate estimates for remaining useful life; and Indicate the most likely year that the asset will fail.		**Asset condition is done on case by case basic or when needed or for large pipes. SJW has indicated that video testing of the water pipes is challenging as they require to shut down the water system to perform the testing. Also, SJW is developing a program to preform video testing on the sanitary pipes (60 KM per year)**	The condition may not be measured but may be known anecdotally or there may be some holistic indicators that could be stated as an interim position until measured data becomes available. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	All important assets will have measured condition data recorded and being tracked over time. Work history records will be categorized by work type; be linked to individual assets; and include cost details.	Measured condition data will exist for most assets. Deterioration analysis will be implemented for important assets. Procedures will be in place to use measured condition data to amend planning inputs such as: o Remaining life and likely fail year; o Maintenance strategies; o Replacement options; o Risk mitigation; and o The most cost effective time to implement works.	Basic
Current Condition/Rating		is the current condition of the asset known? Do we rate it?	Asset condition is done on case by case basic or when needed. SJW is developing a program to preform video testing on the sanitary pipes (60 KM per year)				
Monitoring Asset Condition		Do we perform condition inspection and assessment? How often do we inspection/assessment?	Done on an as needed basis; no system in place.				
Deterioration of Asset	Help to determine when to replace the asset	Any Deterioration analysis to determine remaining useful life??	No				
Work History of Asset	Help make a decision when asset can be replaced	do we have work history records? Are these records link to the asset? And are these records reliable to indicate condition and used to inform decision making and optimization	No				
Level of Service (LOS)	Level of Service is all about understanding what is being provided by the asset and to whom. The importance of knowing and tracking levels of service includes to: Provide a clear understanding of what value for money is being provided to the community or customers; Optimize operational activity to match the required standard. There may be areas of service delivery that need to be improved to meet the required standard. There may be areas that exceed the required standard and current level of operations could be reduced, saving costs. However until levels of service area known and tracked, it can be hard to identify these situations with any certainty; Identify options for reducing levels of service if affordability becomes an issue. With levels of service being identified in a tangible way, it is easier to identify potential cost trade-offs and understand the consequence of reducing costs; Be able to demonstrate and quantify what impact reduced funds will have on the level of service that can be provided. This is particularly important if budgets constrained and operation and maintenance allocations are reduced	Customer LOS needs to be link to a measurable technical LOS of the Asset. Is the LOS defined as follow: Quantity (total number of assets used to provide the current level of service), Location of assets, Availability (i.e. 24 Hrs. service), Quality (legislation, safety, customer service, etc.). Do we know the cost of the current levels of service, how is the LOS is being tracked and measured? do we know the future levels of service and associated cost? did the City undertake any studies, assessment to identify options to change the levels of service	Level of service in the water industry is determined by regulations. Services not regulated are defined in the service based budget. LOS is not measured.	Some effort has been made to quantify in measurable terms, the current level of service being provided. Some indication of the cost of service / level of service relationship will be provided. However the cost of service may only be available as a high-level total cost or as an estimate drawn from combined operation and maintenance costs.	In addition to quantified, measurable level of service statements for the current situation, there is some indication of future desired level or service or at least of future level of service options. Level of service options will have estimated costs calculated but these options may or may not have been consulted with customers.	Current level of service will be defined in measurable terms and will be being tracked through specified performance measures. Costs for current and future level of service options will be recorded. Consultation on desired level of service / cost of service options have been undertaken and an action plan exists for implementing the agreed changes to level of service.	Basic

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Asset Maintenance Strategy	An Asset Maintenance Strategy is a document that identifies the: Key goals that maintenance activities seek to achieve; Service level to be maintained; Parameters or criteria to be used for decision-making; and Rules and standards that the activity must comply with or within which it must operate.	What type of maintenance strategy or best practice being implemented to help maintain the asset in cost effective and sustainable manner? Do we monitor the performance of the asset maintenance performance? Do we control maintenance activities? Do we regularly review the maintenance outcomes? identify improvements	Equipment is maintained based on field observations and performance data through the SCADA System. SJ Water requires software to effectively manage maintenance.	An Asset Management Strategy will exist. However it may or may not be detailed. An initial strategy may only highlight a few major issues pending future review of the strategy. A review process including a decision on what outcomes will be monitored and the procedure for monitoring these will be documented and in place.	The effectiveness of the Asset Maintenance Strategy will have been assessed at least once and the strategy reviewed. Improvements identified from the strategy review will be documented in the Asset Management Improvement Plan or have been completed. The improved strategy will be fully documented and implemented.	The process for assessment of the Asset Maintenance Strategy (or strategies) will be fully integrated within the organization's business practice. A regular review of the maintenance outcomes will be completed annually in conjunction with the assessment of the effectiveness of the maintenance strategy. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Asset Renewal Alternative	To assess Asset Renewal Alternatives means to look at: Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or Technologies and methods that do not replace the asset but are appropriate to the circumstances; or New and emerging technologies relating to asset replacement or in-place rehabilitation.	What practices, approach, strategies, etc. being used to assess renewal alternatives? Do we used business case? Do you look to extend the life expectancy or use different technologies? Life cycle management, etc. Do you use software or process for assessment of alternatives? identify improvements	Strategy involves a preliminary investigation to determine if assets should be rehabilitated or replaced. However, Information are not easily accessible or not available to make a sound investment whether to replace, refurbish or remove the asset.	Some consideration of whether viable alternatives exist for proposed renewal projects will be undertaken. However the process may be simple and only involve one or two people. Whatever the current process is and any tools or software programs (if any) used, should be documented in a standard operating procedure.	The process for assessment of alternatives for renewal projects will have been reviewed. Improvements identified from the process review will have been documented in the Asset Management Improvement Plan or have been completed. The improved process will be fully documented and implemented.	The process for assessment of alternatives for renewal projects will be fully integrated within the organization's business practice. A regular review of the process will be completed annually at or about the time that the assessment of renewal alternatives is undertaken. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Legislation, Regulation, Standards	Legal Obligations and Standards relates to all legislation, regulation, policies, standards and any other requirements that impact on or relate in some way to the assets or the services associated to them. Essentially, reference should be given to any document that: Sets out parameters within which the asset must be operated; or Has a requirement or condition that the asset must comply with (i.e. the 'rules'). These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).	List of legal obligations, standards and guidelines, corporate policy, etc. that impact on or related in anyway to the physical assets. Identify methods to monitor compliance. Do we track of current compliance status?	• Approval to Operate • Provincial Regulations/Acts • Federal Regulations • Building Codes (Electrical) • OHS	As a minimum the first list of references to the legal obligations and standards for the assets will identify the names of all key documents, but may not necessarily reference all of the rules within the document.	The list of referenced documents for legal obligations and standards will include either a general description of the types of rules within each document or a sub-list of the key rules that are relevant. The collated list of references will also indicate against the key rules, whether compliance is checked or monitored and if so provide some detail about the monitoring.	The information in the collated list of legal obligations and standards will be more detailed. A summary of the current state of compliance in regard to key rules will be documented along with reference to any remedial procedures that must be taken in the case of non-compliance. Reference will be included as to where details of any measured compliance data can be reviewed. Consideration will have been given to any opportunities to optimize compliance monitoring and a compliance monitoring plan should exist. Consideration has also been given to whether any opportunities exist for operational efficiencies and the outcome documented and where appropriate auctioned or scheduled for future action.	

Department	Saint John Water	Date: July 21, 2016					
Manager Name	Kendall Mason						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Sustainability	A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals. The sustainability goals of an organization are usually documented in a Sustainability Plan or Charter. They may also be incorporated into the Strategic Goals. All activities within an organization should be consistent with achieving sustainable outcomes. The overall objective of Asset Management Practice is sustainability.	One of the City Corporate Strategic objective is : Sustainable Infrastructure. What processes are currently in place that contribute towards sustainability?. What is the current assessment of how sustainably the assets and activities are being managed? What processes should be implemented to better ensure long-term sustainability? and What Strategies are needed to manage long term sustainability of the asset?	• Capital Program • Rehabilitation Programs such as cleaning and lining • Sewer Pipe Video Programs • Corporate-wide Asset Management Initiative Program • What strategies are needed: A dedicated Corporate Asset Management Team and a Corporate Asset Management Software Program	The connectivity between sustainability goals and outcomes of current business practice may not be known. Initial sustainability assessments for each asset group will, as a minimum, identify and document: o The sustainability goals to be achieved by that asset group; and o All of the programs that are currently implemented or scheduled to be implemented. A general assessment of sustainability under the three main categories Financial, Environmental and Social will be completed if there are no organizational sustainability goals to assess.	The consideration of sustainability issues and the assessment of current sustainability will be more detailed. Assessment statements will be supported by evidence. Assessments will include reviewing strategies that have been implemented to manage assets i.e. maintenance strategies. And assessing whether they are delivering desired outcomes.	Sustainability assessments will include specific measurement, monitoring and reporting of progress towards clearly stated performance targets for sustainability.	

Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Inventory	Asset Inventory is the foundation to help manage the asset. It will help identify the following: How long before we replace the asset, how mush is worth, overall state of the asset, should we keep fixing it or replace it, etc.		**Summary: Most Basic asset inventory are known and recorded with moderate accuracy. However other information such as assets conditions, risks, replacement program, etc. are not recorded, also other technical data such as performance , capacity, etc. are on hard copy and on navaline. In addition, components are listed to a reasonably specific level, improvement is required**	Some attribute information may not be know about the assets. Where key attributes are unknown, some assumptions or default values should be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed	Most attribute information will be known about the assets. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded.	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each asset such as service, capacity and performance data, maintenance history, risk and criticality values condition, financial details and replacement program	Intermediate
Asset Type		What type of asset? Buildings, roads, vehicles,etc	Buildings				
Location		Do we know the location of the assets? Where can the asset be found?	Location known				
Quantity & Size		What is the quantity and size of the asset? Do we have this information?	Known quantity and size (98%)				
Material		information on the asset? What is made of? Do we know this information? Where can it be found?	Yes, construction of buildings known, and can be found in PSA spreadsheets				
Useful Life		what is the expected lifespan? Do we have this information? How is it determined	Expected life varies, but we have the information based on industry standards				
Install Date & Age		Do we know the date the asset was installed or constructed? Do we know the age of the asset?	Yes, for the most part (estimating 90% accuracy by asset component)				
Remaining Life		Do we know the remaining life of the asset? How long it can remain before needs to be replaced or renewed?	Yes, industry standards in combination with visual condition assessment (and other methods of assessment as necessary - i.e. intrusive investigation or testing)				
Asset Components	Help Manage effectively the asset if asset components are itemized	Do we list all asset components that can be replaced independently and/or has different lifespan? For example street light consists of pole and fixture. Life expectancy of the pole is much higher than the fixture	**Summary: Components are listed in the asset inventory to a reasonably specific level, however improvement is needed to record more attribute data such asset condition, technical data (Performance, capacity, etc.), these data are found in hard copy or in Navaline and are not easily accessible. work history not directly link to asset. Components are listed to a reasonably specific level, although it could improve with time and resources**	All Components will be listed in inventory but some attribute information may not be known about the components. Where key attributes are unknown, some assumptions or default values can be used until these can be replaced with verified data. Users of the inventory must be able to clearly tell if recorded attributes are verified or assumed.	Most attribute information will be known about each asset component. The overall accuracy and completeness of information recorded will be moderate to high. Some additional attribute information such as capacity, maintenance history, criticality and financial details may also be recorded	Information will be of high accuracy and completeness with no key attributes being unknown or assumed. More attribute data will be recorded for each component, such as service, capacity values, condition, financial details and replacement program	Intermediate
Attribute Data		What type of attribute data we have? Technical Data such as performance, capacity. Maintenance cost data, work history, valuation data. Where the data is stored?	This amount and detail of this data varies by building and component. Some data is in hard copy format, while some is available in Navaline				

Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Current data, Software and tools	what are the tools? How appropriate? How accurate? How should the outcomes from these tools or systems be used? How confidence are we? Collaboration across the organization? How accurate the data and how do we update ?	What type of software and tools do you use to store and assess the data? Are these tools use to analyze or assess the data, Perform risk evaluation, prioritization, monitor asset conditions, performance, track financial details, etc.	**Summary: FM use excel and Navaline to assess/analyse financial data and establish capital priority requirements based on available data in the system. However the quality and the completeness of data need to be improved such as asset condition e. Also data mining is required to retrieve the correct information and help make informal decision. Excel, Navaline (to some extent). The data is analysed regularly to develop and prioritize capital requirements. We don't have great data readily available on asset condition, although we use some industry standard metrics to evaluate our assets (e.g. Facility Condition Indices). We have been tracking financial details on assets since Navaline was implemented, but some data mining is required to get the right information**	The main details for all key data sets, software and tools will be known and documented. Collaboration across the organization to identify improvements is desired but may or may not occur at this level.	Every data set, software and tool in use within the organization will be known and documented. Collaboration across the organization to identify improvements will have occurred but improvement task may only be noted for future action at this level.	.Every data set, software and tool available or recorded within the organization will be known and documented regardless of whether it is currently in use. The documentation will identify what the current status is i.e. In use or Abandoned etc. The documentation will also identify if it is not in current use, the reason why. The data and systems documented will include: o Both Current records and Historic records; o Past, Archived or Abandoned datasets; o Current Software and Software no longer in use but still owned by the organization and able to be used; and o Tools that are owned by organization irrespective of whether they are being used or not. . Detailed collaboration across the organization to share data, systems and tools and to identify improvements has occurred. . Agreed improvement tasks will be documented and an improvement plan will exist and be in the process of implementation.	Basic
Financial Situation	An understanding of Current Asset Investment is useful to determine: How long before we need to replace this asset; How much money should we put aside per annum to fund asset replacements; What is the asset currently worth (depreciated value in today's dollars); Should we keep fixing it or should we replace it; Should we keep fixing it or replace it; when should we replace it;		**Summary: The replacement /depreciated value are recorder, however it is not clear how the data being updated and if they are current. O&M are not easily accessible. Many of the O&M are recorded in a single budget and not separated, and could required significant data mining to separate. Work history are not linked to single asset. Area of improvement??**	The initial unit rates will be average values without modification for any local conditions. Initial lifespan estimates are relatively generic (possibly manufacturer's values or rates in general use by other organizations), without any modification for local conditions. They are likely to be conservative lifespan estimates without any field verification.	The overall accuracy of cost and lifespan information will have improved and be moderate to high. Local lifespan values would be supported by some field testing.	Replacement values will be of high accuracy and completeness with well documented information on all cost components included and the basis of any assumptions. Lifespan assessments will be supported by verified field data and materials testing. Modifiers will be used as appropriate for increased accuracy for cost and lifespan assessments. Asset replacement and depreciated value information will be used to inform decisions on: o Reducing whole of life costs; o Maintenance strategies; o Extending the life of the asset; o Replacement options; o Risk mitigation; and o The most cost efficient time to implement works.	Basic
Replacement Value	Typical unit rate x modifier x asset data (length, area or number of) = current replacement value. What would cost to replace the asset today?	Do we know the cost to replace the asset today? What method or approach is used to determine the cost?	Yes, we have a good sense of replacement costs which were developed by modeling using common industry software such as RS Means Construction Cost Data. We also have some cases where actual costs are known				
Depreciated Value	(Expected lifespan of asset x modifier) - Current asset age = Remaining Life Current replacement value / Expected lifespan of asset = per annum depreciation Remaining Life x per annum depreciation = current depreciated value	What value is the current asset considering its age (Current depreciated value)? Do we know this information. What method or approach used to calculate this value?	Yes, we know the current asset value and amortization values. Amortization is calculated by a straight line calculation				

Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Historical O&M Costs	The objectives of tracking O&M separately are : Save money, understand the true cost of service, able to make decision when to replace the asset, understand the remaining useful life and long term liability; etc.	Operation & Maintenance Costs. Operation Costs include items such as : Hydro, chemicals ,etc. Maintenance Costs are repaired to the asset. Are these costs recorded separately? Are these costs tracked against each asset? How many year of historical O&M costs are you tracking? are these costs used to develop and implement strategies and practices to help reduce O&M costs or develop another alternatives for replacement or renewal? are these costs easily accessible and transparent? identify Improvements	**Costs for operation and maintenance would generally have to be determined through significant data mining for the most part and are separate from replacement costs, etc. They are tracked against each asset in most cases, but again, data mining would be required to get the information on a facility level. Although O&M costs are recorded, they are not monitored or tracked to great extent, nor are they used as they should be to implement strategies to reduce costs or develop replacement/renewal strategies. This said, we pull together this information on a case by case basis as required if deemed necessary and feasible to do so. The data is not easily accessible. Many buildings O&M data could be in a single budget line. O&M data for a parks building (for example) is not readily accessible by facility management, rather it is departmental based. There is significant room for improvement here and it could be partially resolved by tagging these costs to a specific facility when the cost was incurred. We have a means of doing this in Navaline, but is it not practical**	If costs are not separated, only a combined total can be given. However a plan with timelines to implement the necessary cost recording structure will have been developed and approved. Any new procedures necessary for generating reports on separate operations and maintenance will also have been developed and documented. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	Details of actual operations and maintenance expenditure are recorded separately. Maintenance costs are being tracked against relevant assets. Separately recorded historical cost information for operations and maintenance will be available for at least one previous year, more if possible.	Recording and reporting systems are well established with at least 5 years of historical operations and maintenance data available for analyzing trends. Decisions on effective intervention strategies consider maintenance cost trends. Decisions on asset replacements consider cumulative maintenance cost compared to replacement value at a component level.	
Current O&M Costs		Same	Generally same as above				
Future Capital Costs	Future Capital costs are a fundamental components of ensuring long term sustainable management of the assets. It is usually 20 years forecast	Future Capital Costs include renewal and new assets. Is there at least 20 years cost forecast for future capital costs? What type of future capital costs plan? How accurate are the data? What assumption, considerations, approach, analysis and strategies, etc. being used to determine future capital costs for new and renewal assets?	**Summary: Replacement costs are known, however it is not clear how accurate and if they represent current unit costs and based on likely failure. Also, it is not clear if there are 20 years capital cost for renewal asset. There are not any forecast cost for new assets. Area of improvement.**	At least a 20 year cost forecast for asset renewals will be provided with total costs shown per year. At least a 20 year cost forecast for new assets will also be provided, in a separate table or graph to the renewal cost data, and with total costs shown per year. All assumptions included in the cost estimates will be documented.	Separate future cost forecasts will be available for asset renewals and new assets. The reporting period available for asset renewals is longer than 20 years and reflects the expected lifespan of the assets. All assumptions and basis for estimates will be documented. A rating for the confidence of the data used for future cost forecasts will also be documented.	Future cost forecasts are based on more accurate data and therefore have a medium to high level of confidence. Asset condition and deterioration modelling will be used to more accurately assess likely fail year of existing assets. This information will be used in the future cost forecast for renewals. Similarly more detailed analysis and assessment will be completed for the estimate of future new asset costs. This analysis includes consideration of: o Demand management; o Emerging technology; o Alternative service delivery; o Effects of climate change on future asset needs; o Effects of demographic changes on future asset needs; o Trends in changing attitudes of customers; and o Education options to modify or manage expectations.	Below Basic
Funding Sources		Taxes, Revenue and Loan/Grants. Where the funding will come to support the assets (Maintenance, operations, renewal, new)? Is there a shortfall? Current levels of service affordable??	**Summary: There is an annual shortfall an level of service are not sustainable. However there are no analysis and accuracy for future prediction against income and expenses, in order to identify any concerns.**				Below Basic
Decision Making	The key objectives for desired decision processes are to ensure that: All important decisions are robust, consistent and repeatable; Decisions are not subjective unless this is deemed appropriate; The person accountable for a decision has all the necessary information; and Any assessment tools being used are being applied correctly and appropriately.		**Summary: Decision makers do not have enough information to fully understand the big picture, also data are not share across the organization. The decision process is biases and not based on sound data. Excel software is used ,however it is not capable to analyse the data and make sound decision.**	Many decisions will not have any formal processes and this will be the first evaluation and documentation. The improvement gap will identify many tasks and the list to action should be prioritized.	The overall robustness of decision making will have improved and documentation of processes will be complete. Many improvement tasks may still require action and the list will still be prioritized.	The overall robustness and quality of decision making will be high. Procedures will be in place to easily demonstrate that correct processes were used for all important decisions. Most improvement tasks will already have been implemented and any remaining ones will be low priority items only.	

Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Evaluate Decision Processes		What is the current decision process about asset management? i.e. new or renewal assets, maintenance, operation, policies. Person who make the decision, type of process or information used to make a decision. Are there any tools, methods, software used to assist decision makers? i.e. lifecycle management, business case, etc. Identify Improvement	Overall, the decision process on assets in this organization is biased and not based on sound data. Software is used to an extent (mostly Excel), but not close to the level we should be. Data across the organization is not consistent to allow for sound decision making. Those who make decisions ultimately do not fully understand the big picture, in part because we don't have it, and in part because we don't share what we have. We have a significant issue with "competition for capital"				Basic
Asset Condition	The condition of an asset component is a measure of its physical state compared to a brand new component. Tracking the change in condition over time will: Provide an indicator for rate of deterioration; Identify what type of remedial treatment is appropriate; Help determine the best timing for a remedial treatment; Support more accurate estimates for remaining useful life; and Indicate the most likely year that the asset will fail.		**Summary: The majority of the assets condition including rating, inspection and deterioration are not reliable and not known. There are plan available including SOP to undertake maintenance review but it is not consistent. Work history is not link to individual asset. This area will require significant improvement.**	The condition may not be measured but may be known anecdotally or there may be some holistic indicators that could be stated as an interim position until measured data becomes available. Work history tracking may not be linked to individual asset records and work history records may or may not include costs.	All important assets will have measured condition data recorded and being tracked over time. Work history records will be categorized by work type; be linked to individual assets; and include cost details.	Measured condition data will exist for most assets. Deterioration analysis will be implemented for important assets. Procedures will be in place to use measured condition data to amend planning inputs such as: o Remaining life and likely fail year; o Maintenance strategies; o Replacement options; o Risk mitigation; and o The most cost effective time to implement works.	Basic
Current Condition/Rating		is the current condition of the asset known? Do we rate it?	In some cases ,yes, but not to a degree that is reliable. We rate our facilities by Facility Condition Index				
Monitoring Asset Condition		Do we perform condition inspection and assessment? How often do we inspection/assessment?	We are not consistent enough with this practice although we have a plan and SOP to undertake annual/semi-annual review				
Deterioration of Asset	Help to determine when to replace the asset	Any Deterioration analysis to determine remaining useful life??	Along the same lines as the answer above. We do analysis on a case by case basis as required				
Work History of Asset	Help make a decision when asset can be replaced	do we have work history records? Are these records link to the asset? And are these records reliable to indicate condition and used to inform decision making and optimization	We have inconsistent historical data, which is, in most cases, not linked to the asset in a centralized database (for example). The data that we have is reliable, but it has significant gaps, which makes it unreliable				
Level of Service (LOS)	Level of Service is all about understanding what is being provided by the asset and to whom. The importance of knowing and tracking levels of service includes to: Provide a clear understanding of what value for money is being provided to the community or customers; Optimize operational activity to match the required standard. There may be areas of service delivery that need to be improved to meet the required standard. There may be areas that exceed the required standard and current level of operations could be reduced, saving costs. However until levels of service area known and tracked, it can be hard to identify these situations with any certainty; Identify options for reducing levels of service if affordability becomes an issue. With levels of service being identified in a tangible way, it is easier to identify potential cost trade-offs and understand the consequence of reducing costs; Be able to demonstrate and quantify what impact reduced funds will have on the level of service that can be provided. This is particularly important if budgets constrained and operation and maintenance allocations are reduced	Customer LOS needs to be link to a measurable technical LOS of the Asset. Is the LOS defined as follow: Quantity (total number of assets used to provide the current level of service), Location of assets, Availability (i.e. 24 Hrs. service), Quality (legislation, safety, customer service, etc.). Do we know the cost of the current levels of service, how is the LOS is being tracked and measured? do we know the future levels of service and associated cost? did the City undertake any studies, assessment to identify options to change the levels of service	**Summary : Not Clear. We are lacking in this area overall**	Some effort has been made to quantify in measurable terms, the current level of service being provided. Some indication of the cost of service / level of service relationship will be provided. However the cost of service may only be available as a high-level total cost or as an estimate drawn from combined operation and maintenance costs.	In addition to quantified, measurable level of service statements for the current situation, there is some indication of future desired level or service or at least of future level of service options. Level of service options will have estimated costs calculated but these options may or may not have been consulted with customers.	Current level of service will be defined in measurable terms and will be being tracked through specified performance measures. Costs for current and future level of service options will be recorded. Consultation on desired level of service / cost of service options have been undertaken and an action plan exists for implementing the agreed changes to level of service.	Below Basic

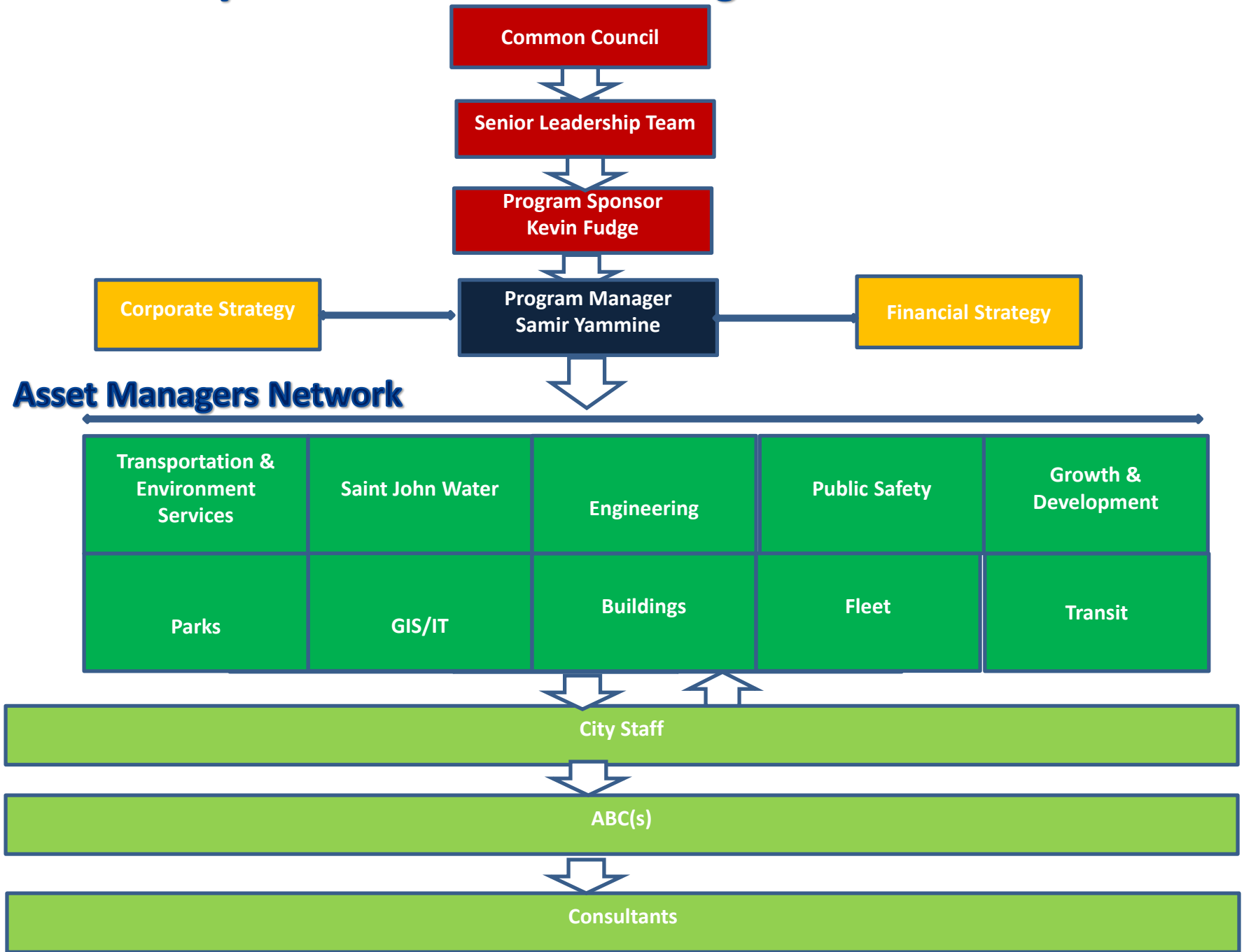
Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	Type of Information Required	Comments	Level Basic	Level Intermediate	Level Advance	Current Level
Asset Maintenance Strategy	An Asset Maintenance Strategy is a document that identifies the: Key goals that maintenance activities seek to achieve; Service level to be maintained; Parameters or criteria to be used for decision-making; and Rules and standards that the activity must comply with or within which it must operate.	What type of maintenance strategy or best practice being implemented to help maintain the asset in cost effective and sustainable manner? Do we monitor the performance of the asset maintenance performance? Do we control maintenance activities? Do we regularly review the maintenance outcomes? identify improvements	**Summary: PM program is used on many assets and has translated into reduction in maintenance cost and repairs. Maintenance works are review as best possible. There is no formal asset maintenance strategy in place or any improvement ha been documented. Detailed: We have preventative maintenance programs for many of our asset components, which are based on best practice. Our PM program is not perfect by any means, but not at the bottom of the scale either as evidenced by the amount of reactive repairs we undertake. We control the maintenance activities, and review outcomes as best as possible**	An Asset Management Strategy will exist. However it may or may not be detailed. An initial strategy may only highlight a few major issues pending future review of the strategy. A review process including a decision on what outcomes will be monitored and the procedure for monitoring these will be documented and in place.	The effectiveness of the Asset Maintenance Strategy will have been assessed at least once and the strategy reviewed. Improvements identified from the strategy review will be documented in the Asset Management Improvement Plan or have been completed. The improved strategy will be fully documented and implemented.	The process for assessment of the Asset Maintenance Strategy (or strategies) will be fully integrated within the organization's business practice. A regular review of the maintenance outcomes will be completed annually in conjunction with the assessment of the effectiveness of the maintenance strategy. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Asset Renewal Alternative	To assess Asset Renewal Alternatives means to look at: Technologies and methods to replace an asset by a method that is different to how the asset was originally installed; or Technologies and methods that do not replace the asset but are appropriate to the circumstances; or New and emerging technologies relating to asset replacement or in-place rehabilitation.	What practices, approach, strategies, etc. being used to assess renewal alternatives? Do we used business case? Do you look to extend the life expectancy or use different technologies? Life cycle management, etc. Do you use software or process for assessment of alternatives? identify improvements	**There is no asset renewal strategy in place or used to investigate alternative. This is done case by case basis over the years. There is no software to perform this strategy. Detailed: We rarely get down to this level, although we have in special cases over the years. It is definitely not the norm to do intensive business case or life cycle analysis. We do not have software that would readily support strategic renewal approaches**	Some consideration of whether viable alternatives exist for proposed renewal projects will be undertaken. However the process may be simple and only involve one or two people. Whatever the current process is and any tools or software programs (if any) used, should be documented in a standard operating procedure.	The process for assessment of alternatives for renewal projects will have been reviewed. Improvements identified from the process review will have been documented in the Asset Management Improvement Plan or have been completed. The improved process will be fully documented and implemented.	The process for assessment of alternatives for renewal projects will be fully integrated within the organization's business practice. A regular review of the process will be completed annually at or about the time that the assessment of renewal alternatives is undertaken. Any improvements identified in the annual review will be completed or documented in the Asset Management Improvement Plan.	Basic
Legislation, Regulation, Standards	Legal Obligations and Standards relates to all legislation, regulation, policies, standards and any other requirements that impact on or relate in some way to the assets or the services associated to them. Essentially, reference should be given to any document that: Sets out parameters within which the asset must be operated; or Has a requirement or condition that the asset must comply with (i.e. the 'rules'). These requirements can generally be grouped into legal obligations (legislation and regulation) and general standards (industry best practice, guidelines, organizational policy).	List of legal obligations, standards and guidelines, corporate policy, etc. that impact on or related in anyway to the physical assets. Identify methods to monitor compliance. Do we track of current compliance status?	**Summary: All legal obligation, regulations and codes are listed and identified, also compliances are checked and monitored. Detailed: Building, Plumbing, Electrical, Fire Codes, Regulation 91-191, Elevator Act, Asbestos Program, etc. etc. We monitor compliance with these codes, acts, and regulations as closely as possible, and non-compliance is always a priority**	As a minimum the first list of references to the legal obligations and standards for the assets will identify the names of all key documents, but may not necessarily reference all of the rules within the document.	The list of referenced documents for legal obligations and standards will include either a general description of the types of rules within each document or a sub-list of the key rules that are relevant. The collated list of references will also indicate against the key rules, whether compliance is checked or monitored and if so provide some detail about the monitoring.	The information in the collated list of legal obligations and standards will be more detailed. A summary of the current state of compliance in regard to key rules will be documented along with reference to any remedial procedures that must be taken in the case of non-compliance. Reference will be included as to where details of any measured compliance data can be reviewed. Consideration will have been given to any opportunities to optimize compliance monitoring and a compliance monitoring plan should exist. Consideration has also been given to whether any opportunities exist for operational efficiencies and the outcome documented and where appropriate auctioned or scheduled for future action.	Intermediate

Department	Facility Management	Date: July18, 2016					
Manager Name	Trevor Gamblin						
	Objective	**Type of Information Required**	**Comments**	**Level Basic**	**Level Intermediate**	**Level Advance**	**Current Level**
Sustainability	A Sustainability Assessment is a review of whether or not sustainability goals are being met. In the context of asset management practice this will include an assessment of current business processes and outcomes relative to sustainability goals. The sustainability goals of an organization are usually documented in a Sustainability Plan or Charter. They may also be incorporated into the Strategic Goals. All activities within an organization should be consistent with achieving sustainable outcomes. The overall objective of Asset Management Practice is sustainability.	One of the City Corporate Strategic objective is : Sustainable Infrastructure. What processes are currently in place that contribute towards sustainability?. What is the current assessment of how sustainably the assets and activities are being managed? What processes should be implemented to better ensure long-term sustainability? and What Strategies are needed to manage long term sustainability of the asset?	**Summary: Sustainability is not being measured or managed adequately if we look at our portfolio of assets. Consistent metrics for assets across the organization that takes into account risk, life cycle costs, capital costs, CC priorities, strategic plans, etc. are needed to make sound decisions that will result in the long term sustainability of our assets. We need a City-wide Asset Management Program / System / Software in order to get here, and in order to be consistent and confident in our decision making**	The connectivity between sustainability goals and outcomes of current business practice may not be known. Initial sustainability assessments for each asset group will, as a minimum, identify and document: o The sustainability goals to be achieved by that asset group; and o All of the programs that are currently implemented or scheduled to be implemented. A general assessment of sustainability under the three main categories Financial, Environmental and Social will be completed if there are no organizational sustainability goals to assess.	The consideration of sustainability issues and the assessment of current sustainability will be more detailed. Assessment statements will be supported by evidence. Assessments will include reviewing strategies that have been implemented to manage assets i.e. maintenance strategies. And assessing whether they are delivering desired outcomes.	Sustainability assessments will include specific measurement, monitoring and reporting of progress towards clearly stated performance targets for sustainability.	Basic

APPENDIX 5-4

Asset Management Governance Framework

City of Saint John Asset Management Governance



APPENDIX 6

REQUEST FOR PROPOSALS

The City of Saint John

Request for Proposals

for

2016-092202P – Consulting Services – Asset Management Road Map

Saint John, New Brunswick

Request for Proposals No.: 2016-092202P

Issued: Wednesday, August 10, 2016

Submission Deadline**:** Thursday, August 25, 2016 at 4:00 p.m. (Saint John time)

TABLE OF CONTENTS

PART 1 – INTRODUCTION

1.1 Invitation to Proponents

(1) This Request for Proposals ("**RFP**") is an invitation by The City of Saint John (the "**City**") to prospective proponents to submit proposals for the provision of consulting services for the development of an Asset Management Road Map**,** as further described in Part 2 – The Deliverables (the "**Deliverables**").

1.2 RFP Contact Person

(1) For the purposes of this procurement process, the "**City Contact**" shall be:

Chris Roberts, SCMP, CPPB
Procurement Specialist
The City of Saint John
Email: mat-man@saintjohn.ca

1.3 Type of Contract for Deliverables

(1) The City will issue a Purchase order to the successful proponent for the scope of services detailed in this request for proposal.

1.4 No Guarantee of Volume of Work or Exclusivity of Contract

(1) The City makes no guarantee as to the value or volume of the Deliverables. The contract to be entered with the selected proponent will not be an exclusive contract for the provision of the described Deliverables. The City may contract with others for same or similar to the Deliverables or may obtain the same or similar to the Deliverables internally.

1.5 Agreement on Internal Trade

(1) Proponents should note that procurements falling within the scope of Chapter 5 of the Agreement on Internal Trade are subject to that chapter but that the rights and obligations of the parties shall be governed by the specific terms of this RFP. For further reference, please see the Internal Trade Secretariat website at http://www.ait-aci.ca/index_en.htm.

[End of Part 1]

PART 2 – THE DELIVERABLES

2.1 Description of Deliverables

(1) This RFP is an invitation to submit offers for the provision of consulting services for the development of an Asset Management Road Map**,** as further described in Appendix D – RFP Particulars – Section A - The Deliverables.

[End of Part 2]

PART 3 – EVALUATION OF PROPOSALS

3.1 Timetable

(1) The RFP timetable is tentative only, and may be changed by the City at any time.

Issue Date of RFP	Wednesday, August 10, 2016
Deadline for Questions	Wednesday, August 17, 2016, 4:00 p.m. (Saint John Time)
Deadline for Issuing Addenda	Thursday, August 18, 2016, 4:00 p.m. (Saint John Time)
Submission Deadline	Thursday, August 25, 2016, 4:00 p.m. (Saint John time)
Rectification Period	3 Business Days
Anticipated Deadline for Selection of Highest Ranked Proponent	September 19, 2016

3.2 Submission Instructions

(A) Proposals Should Be Submitted at Prescribed Location

(1) Proposals should be submitted at:

The City of Saint John
Materials Management, 2nd Floor
175 Rothesay Avenue
Saint John, New Brunswick, E2J 2B4 (the "**Prescribed Location**")

Attention: Chris Roberts, SCMP, CPPB

(B) Proposals Should Be Submitted in Prescribed Manner

(1) Proponents should submit one signed original and three bound copies of the technical proposal and supporting information, and one signed original copy and three bound copies of the financial proposal and supporting information.

(2) The technical proposal should be sealed in an envelope, clearly indicating the proponent's name and address and marked: "**Technical Proposal: 2016-092202P – Consulting Services - Asset Management Road Map**".

(3) The financial proposal should be sealed in a separate envelope, clearly indicating the proponent's name and address and marked: "**Financial Proposal: 2016-092202P – Consulting Services - Asset Management Road Map**".

(4) Proposals sent by fax or email will be rejected.

(C) Proposals Should Be Submitted on Time

(1) Proposals shall be submitted at the Prescribed Location on or before the Submission Deadline. Proposals submitted after the Submission Deadline will be rejected.

(2) Immediately following the Submission Deadline, proposals will be publicly opened in the office of the City Contact, at the Prescribed Location. Only the names and addresses of the proponents will be made public.

(D) Amendment of Proposals

(1) Proponents may amend their proposals prior to the Submission Deadline by submitting the amendment in a sealed package to the Prescribed Location. The sealed package shall be prominently marked with the RFP title and number and the full legal name and return address of the proponent. Any amendment should clearly indicate which part of the proposal the amendment is intended to affect.

(E) Withdrawal of Proposals

(1) At any time throughout the RFP process, a proponent may withdraw a submitted proposal. To effect a withdrawal, a notice of withdrawal must be sent to the City Contact and must be signed by an authorized representative. The City is under no obligation to return withdrawn proposals.

3.3 Stages of Proposal Evaluation

(1) The City will conduct the evaluation of proposals and selection of the highest ranked proponent in the following three stages described in further detail below:

(a) Stage I – Mandatory Requirements and Rectification
(b) Stage II – Evaluation of Rated Criteria and Pricing
(c) Stage III –Selection and Final Negotiation

(A) Stage I – Mandatory Requirements and Rectification

Submission and Rectification Period

Stage I will consist of a review to determine which proposals comply with all of the mandatory requirements. Proposals failing to satisfy the mandatory requirements as of the Submission Deadline will be provided an opportunity to rectify any deficiencies. Proposals satisfying the mandatory requirements during the Rectification Period, as described in Part 3 – Section 3.1 – Timetable will proceed to Stage II. Proposals failing to satisfy the mandatory requirements within the Rectification Period will be excluded from further consideration. The Rectification Period will begin to run from the date and time that the City issues its rectification notice to the proponents.

Mandatory Submission Forms

Other than inserting the information requested on the mandatory submission forms set out in this RFP, a proponent may not make any changes to any of the forms.

Submission Form (Appendix A)

Each proponent must complete the Submission Form and include it with their technical proposal. The Submission Form must be signed by an authorized representative of the proponent.

Pricing Form (Appendix B)

Each proponent must complete the Pricing Form and include it with their financial proposal. The Pricing Form must be completed according to the instructions contained in the form. Fees must be provided in Canadian funds, inclusive of all costs, applicable duties, overhead, and insurance costs, except for HST/GST.

Reference Form (Appendix C)

Each proponent must complete the Reference Form and include it with its technical proposal.

Other Mandatory Requirements

Each proposal must:

(a) Be in English.
(b) Be for the entire scope of work as described in Appendix D – Section A - The Deliverables. Incomplete proposals or proposals for only part of the Deliverables described in Appendix D may be disqualified.

(B) Stage II – Evaluation of Rated Criteria and Pricing

Stage II will consist of a scoring by the City of each qualified proposal on the basis of the rated criteria and the pricing in accordance Appendix D – Section B – Evaluation Criteria.

(C) Stage III – Selection and Final Negotiation

Once the proposals have been evaluated as per Stage II, the top-ranked proponent will be selected to enter into direct negotiations.

During the negotiation, the City will provide the top-ranked proponent with any additional information and will seek further information and proposal improvements. After the negotiation, the top-ranked proponent will be invited to revise its initial proposal and submit its BAFO to the City.

[End of Part 3]

PART 4 – TERMS AND CONDITIONS OF THE RFP PROCESS

4.1 General Information and Instructions

(A) Proponents to Follow Instructions

(1) Proponents should structure their proposals in accordance with the instructions in this RFP. Where information is requested in this RFP, any response made in a proposal should reference the applicable part, section, subsection or paragraph numbers of this RFP.

(B) Information in RFP Only an Estimate

(1) The City and its representatives shall not be liable for any information or advice or any discrepancies or errors or omissions that may be contained in this RFP or an Addenda, appendices, data, materials or documents (electronic or otherwise) attached or provided to the proponents pursuant to this RFP.

(2) The City and its advisors make no representation, warranty or guarantee as to the accuracy of the information contained in this RFP or issued by way of addenda. Any quantities shown or data contained in this RFP or provided by way of addenda are estimates only and are for the sole purpose of indicating to proponents the general scale and scope of the work. It is the proponent's responsibility to obtain all the information necessary to prepare a proposal in response to this RFP.

(C) Proponents Shall Bear Their Own Costs

(1) The proponent shall bear all costs associated with or incurred in the preparation and presentation of its proposal, including, if applicable, costs incurred for interviews, and/or presentations.

4.2 Communication after Issuance of RFP

(A) Proponents to Review RFP

(1) Proponents shall promptly examine all of the documents comprising this RFP, and

(a) Shall report any errors, omissions or ambiguities; and

(b) May direct questions or seek additional information in writing by email to the City Contact on or before the Deadline for Questions. All questions submitted by proponents by email to the City Contact shall be deemed to be received once the email has entered into the City Contact's email inbox. No such communications are to be directed to anyone other than the City Contact. The City is under no obligation to provide additional information, and the City shall not be responsible for any information provided by or obtained from any source other than the City Contact.

(2) It is the responsibility of the proponent to seek clarification from the City Contact on any matter it considers to be unclear. The City shall not be responsible for any misunderstanding on the part of the proponent concerning this RFP or its process.

(B) All New Information to Proponents by Way of Addenda

(1) This RFP may be amended only by an addendum in accordance with this subsection. If the City, for any reason, determines that it is necessary to provide additional information relating to this RFP, such information will be communicated to all proponents by addenda. Each addendum forms an integral part of this RFP.

(2) Such addenda may contain important information, including significant changes to this RFP. Proponents are responsible for obtaining all addenda issued by the City. Addenda may be obtained from the City's website (www.saintjohn.ca) under the menu option "Tender and Proposals". In Appendix A, proponents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

(C) Post-Deadline Addenda and Extension of Submission Deadline

(1) If any addendum is issued after the Deadline for Issuing Addenda, the City may at its discretion extend the Submission Deadline for a reasonable period of time.

(D) Verify, Clarify and Supplement

(1) When evaluating responses, the City may request further information from the proponent or third parties in order to verify, clarify, or supplement the information provided in the proponent's proposal. The City may revisit and re-evaluate the proponent's response or ranking on the basis of any such information.

(E) No Incorporation by Reference

(1) The entire content of the proponent's proposal should be submitted in a fixed form, and the content of websites or other external documents referred to in the proponent's proposal will not be considered to form part of its proposal.

(F) Proposal to Be Retained by the City

(1) The City will not return the proposal or any accompanying documentation submitted by a proponent.

4.3 Debriefing

(A) Debriefing

(1) Upon written request from any proponent, the City may provide a more detailed oral debriefing either by phone or in person, as required by the proponent. The written request shall be submitted to the City Contact no later than 15 calendar days after such notification.

(2) The acceptance of the successful proposal shall not be discussed during a debriefing.

(B) Procurement Protest Procedure

(1) The parties shall attempt to negotiate all disputes in good faith.

(2) In the event the parties are unable through good faith negotiations to mutually resolve any dispute, controversy or claim arising out of, in connection with, or in relation to the interpretation, performance or breach of this RFP, such dispute, controversy or claim shall be referred to the dispute resolution procedure in accordance to Part 4 – Section 4.8 – Dispute Resolution Procedure.

4.4 <u>Prohibited Conduct</u>

(A) Proponent Not to Communicate with Media

(1) A proponent may not at any time directly or indirectly communicate with the media in relation to this RFP or any agreement entered into pursuant to this RFP without first obtaining the written permission of the City Contact.

(B) No Lobbying

(1) A proponent may not, in relation to this RFP or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful proponent.

(C) Illegal or Unethical Conduct

(1) Proponents shall not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud or collusion. Proponents shall not engage in any unethical conduct, including other inappropriate communications, offering gifts to members of Common Council, employees, officers or other representatives of the City, deceitfulness, submitting proposals containing misrepresentations or other misleading or inaccurate information, or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFP.

(F) Past Performance or Inappropriate Conduct

(1) The City may prohibit a proponent from participating in the procurement process based on past performance or based on inappropriate conduct in a prior procurement process.

(2) Such inappropriate conduct shall include, but not be limited to the following:

(a) All the conducts as described in Part 4 – Section 4.4;

(b) The refusal of the proponent to honour its pricing or other commitments made in its proposal; or

(c) Any other conduct, situation or circumstance determined by the City, in its sole and absolute discretion, to constitute a Conflict of Interest.

4.5 Confidential Information

(A) Confidential Information of City

(1) All information provided by or obtained from the City in any form in connection with this RFP either before or after the issuance of this RFP:

(a) Is the sole property of the City and must be treated as confidential;

(b) Is not to be used for any purpose other than replying to this RFP and the performance of any subsequent Contract;

(c) Must not be disclosed by the proponent to any person, other than persons involved in the preparation of the proponent's proposal or the performance of any subsequent contract, without prior written authorization from the City; and

(d) Shall be returned by the proponents to the City immediately upon the request of the City.

(B) Confidential Information of Proponent

(1) A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the City. The confidentiality of such information will be maintained by the City, except as otherwise required by law or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to the City's advisors retained for the purpose of evaluating or participating in the evaluation of their proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the City Contact.

4.6 Procurement Process Non-Binding

(A) No Contract A and No Claims

(1) The procurement process is not intended to create and shall not create a formal legally binding bidding process and shall instead be governed by the law applicable to direct commercial negotiations.

(2) For greater certainty and without limitation:

(a) This RFP shall not give rise to any Contract A based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and

(b) Neither the proponent nor the City shall have the right to make any claims (in contract, tort, equity or otherwise) against the other with respect to the award of a contract, failure to award a contract or failure to honour a response to this RFP.

(B) No Contract until Execution of Written Contract

(1) The RFP process is intended to identify the highest ranked proponent for the purposes of entering into a contract. No legal relationship or obligation regarding the procurement of any good or service shall be created between the proponent and the City by the RFP process until the issuance of a purchase order for the acquisition of such goods and/or services.

(C) Non-Binding Price Estimates

(1) While the pricing information provided in responses will be non-binding prior to the issuance of a purchase order, such information will be assessed during the evaluation of the responses and the ranking of the proponents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation, ranking or contract award.

(D) Disqualification for Misrepresentation

(1) The City may disqualify the proponent or rescind a contract subsequently entered into if the proponent's response contains misrepresentations, omissions, or any other inaccurate, misleading or incomplete information.

(E) Cancellation

(1) The City may cancel or amend the RFP process without liability at any time.

4.7 <u>Governing Law and Interpretation</u>

A. Governing Law

(1) The terms and conditions in this Part 4:

(a) Are included for greater certainty and are intended to be interpreted broadly and separately (with no particular provision intended to limit the scope of any other provision);

(b) Are non-exhaustive (and shall not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations); and

(c) Are to be governed by and construed in accordance with the laws of the province of New Brunswick and the federal laws of Canada applicable therein.

[End of Part 4]

APPENDIX A– SUBMISSION FORM

(A) Proponent Information

Please fill out the following form, and name one person to be the contact for your response to this RFP response and for any clarifications or amendments that might be necessary.	
Full Legal Name of Proponent:	
Any Other Relevant Name under Which the Proponent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code:	
Phone Number:	
Fax Number:	
Company Website (If Any):	
RFP Contact Person and Title:	
RFP Contact Phone:	
RFP Contact Facsimile:	
RFP Contact E-mail:	

(B) Acknowledgment of Non-Binding Procurement Process

The proponent acknowledges that the RFP process will be governed by the terms and conditions of this RFP, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal legally binding bidding process, and that there will be no legal relationship or obligations created until the City and the selected proponent have executed issued a purchase order.

(C) Ability to Provide Deliverables

The proponent has carefully examined this RFP documents and has a clear and comprehensive knowledge of the Deliverables required under this RFP. The proponent represents and warrants its ability to provide the Deliverables required under this RFP in accordance with the requirements of this RFP for the fees set out in the Pricing Form and has provided a list of any subcontractors to be used to complete the proposed contract.

(D) Mandatory Forms

The proponent encloses as part of the proposal the mandatory forms set out below:

FORM	INITIAL TO ACKNOWLEDGE
Submission Form	
Pricing Form	
Reference Form	

Notice to proponents: There may be forms required in this RFP other than those set out above. See the Mandatory Requirements section of this RFP for a complete listing of mandatory forms.

(E) Non-Binding Price Estimates

The proponent has submitted its fees in accordance with the instructions in this RFP and in the Pricing Form set out in Appendix B. The proponent confirms that the pricing information provided is accurate. The proponent acknowledges that any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact the acceptance of its quotation or its eligibility for future work.

(F) Addenda

The proponent is deemed to have read and accepted all addenda issued by the City prior to the Deadline for Issuing Addenda. The onus remains on proponents to make any necessary amendments to their proposal based on the addenda. The proponent confirms that it has received all addenda by listing the addenda numbers or, if no addenda were issued, by writing the word "None" on the following line: _____. Proponents who fail to complete this section will be deemed to have received all posted addenda.

(G) No Prohibited Conduct

The proponent declares that it has not engaged in any conduct prohibited by this RFP.

(H) Disclosure of Information

The proponent hereby agrees that any information provided in this proposal, even if it is identified as being supplied in confidence, may be disclosed where required by law or if required by order of a court or tribunal. The proponent hereby consents to the disclosure, on a confidential basis, of this proposal by the City to the City's advisers retained for the purpose of evaluating or participating in the evaluation of this proposal.

_____ _____

Signature of Witness Signature of Proponent Representative

_____ _____

Name of Witness Name

_____

Title

_____

Date

I have the authority to bind the proponent.

APPENDIX B – PRICING FORM

(A) Pricing Form

(1) Complete the following table to provide the costs of the required consulting services based on the RFP document, and exclusive of HST/GST. Proponents are free to add additional information as required.

ITEM	COST
Total Cost - Phase I	
Total Estimated Cost – Phase II	
Development of the Corporate Asset Management Policy	
Development of the Asset Management Strategy	
Development of the Corporate Risk Management Framework	
Development of the Asset Management Assessment	
Development of the Asset Management Desired State and Improvement Activities	
Development of the Asset Management Improvement Plan (Roadmap)	
HOURLY RATES	
Team Member	**Rate**

APPENDIX C – REFERENCE FORM

Each proponent is requested to provide three references from clients who have obtained similar goods or services to those requested in this RFP from the proponent in the last two years.

Reference #1

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment:	

Reference #2

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment:	

Reference #3

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment:	

APPENDIX D – RFP PARTICULARS

(A) The Deliverables

GENERAL

The City has prepared this Request for Proposal (RFP) for Proponents interested in providing consulting services to the City of Saint John to develop an Asset Management Roadmap.

The requirements stated in this RFP are anticipated by the City at the time of writing this document, but may change or be refined in the course of the evaluation and award process.

Although this engagement is specifically for Phase I, the City recognizes the benefit of potentially engaging the same Consultant for the subsequent Phase II. Submitted project fees and work proposed to be completed during this subsequent phase are to be part of submitted proposals for Phase I. The project fees and work proposed for Phase II will be included as part of the proposal selection decision process and as a point of discussion for potential engagement of consulting services for this subsequent phase. The City reserves the right to award Phase II at the same time as Phase I or at a future time.

1.0 BACKGROUND

The City of Saint John has been actively working to help develop a comprehensive Asset Management Program (AMP) including practices across the organization and City Agencies, Boards and Commissions.

The objectives of the AMP are as follows, but not limited to:

- Comply with the Gas Tax Fund Agreement Dec 2017 deadline and secure other grants/funding
- Reduce risk exposure to the City
- Understand the costs of providing services (i.e. Level of Service)
- Demonstrate investment accountability to residents and business
- Make better decisions on when to replace, renew or decommission assets with long term sustainable investment plans

The City of Saint John's vision for the future is underpinned by its goal to be a service-based, results-oriented, high-performance public service organization. This requires a multi-disciplinary approach, across all service areas, ensuring that community outcomes are delivered in a sustainable way.

Good asset management practice is essential for municipalities like Saint John that are dependent on the function and performance of their physical assets in the delivery of services to the community. Well maintained infrastructure is crucial to the economic stability, public safety and quality of life.

The City currently maintains an extensive inventory of public infrastructure across multiple service areas as shown in Table 1. Based on current net book value, the City owns over $1.3 billion worth of tangible capital assets. The 2016 replacement cost for this infrastructure is estimated to be nearly $2 billion using the 2016 first quarter Canadian Price Index (CPI) or the Non-Residential Building Consumer Price Index (NRBCPI).

Table 1: City of Saint John Public Infrastructure Summary

Service Area	Asset Description	Quantity
Transportation	Roads, Sidewalks, Storm Water, Traffic Lights, Street Lights, Ponds, etc.	• Streets - 571 km (1246 lane-km) • Sidewalks - 372 km • Street Light Fixtures / Poles - 1049 • Traffic Light Fixtures - 85 • Storm water – 322 km • Retaining Wall - 142
Water and Wastewater Facilities	Waste Water and Water Pumping Stations Including Water and Waste Water Treatment Plants	• Lift Stations – 69 • Water Pumping Stations – 14 • Treatment Plants - 5 • Hydrants - 2085 • Water Storage Tanks – 7
Water Distribution Networks	Underground Water Pipes	• Underground Pipes - 567 km • Number of Valves -7,842 • PRV - 34 • Dams – 14
Sanitary Sewer Collection Networks	Underground Sewer Pipes, Underground Combined Sewer Pipes	• Underground Pipes - 340 km • Forcemain Sewer Pipes - 51K km • Combined Pipes – 65 km
Fleet & Small Equipment	City vehicles Including Fire and Light to Heavy Trucks	• Fleet- 350 • Small Equipment-800
IT	IT Equipment	• IT - 700
Transit Buses	Saint John Transit Buses	• Buses – 56 • Handibuses – 8 • Vehicles - 7
Buildings	City Owned Buildings Including Agencies, Boards and Commissions (ABC) Buildings	• City Owned Buildings - 75 • ABC(s) Buildings - 10 • Total Area - 1.5 Million Sq. ft.
Parks/Land Improvement	Parks including Playgrounds	• Parks - 63

**Note – asset quantities shown in table are based on current data sources*

Over the years, the City has implemented some elements of asset management in various service areas, but not in a consistent, structured, or integrated approach across the organization. The City also lacks policies, processes, tools and software to support asset management. As a result, they are currently facing a number of infrastructure challenges and issues including:

- Affordable water rates;
- Deteriorating road conditions;
- No long term capital investment plans;
- Formalized risk management is not integrated into decision making;
- Levels of service are not defined or cost implications understood;
- Inability to fully understand the consequences of decision making; and
- Little integrated decision making across assets.

Faced with deteriorating assets, increased demands, and budgetary constraints, the City has embraced the need to implement an Asset Management Program to ensure sustainable long term planning and management of its public infrastructure.

The City of Saint has develop an Asset Management Program Project Charter and have conducted an In-House Asset Management Assessment (Appendix E)

2.0 OBJECTIVE

The objective of the Asset Management Roadmap Phase I is to outline the recommended improvement initiatives aimed at moving the City towards best practice asset management, including the required methodologies, activity tools and processes, covering the scope of work, target start and completion dates and the resources required to implement each of the recommended initiatives, which will help the City of Saint John move forward with Phase II of the Asset Management Program. Phase II of the program will include the following:

- Develop a Corporate Asset Management Plan
- Develop a Capital Investment Plan
- Develop a Long Term Financial Plan
- Implement an Asset Management Information System

The attached In house assessment should be used as a guideline to develop the Roadmap. However, the City of Saint John is open to other approaches to develop the asset management program. As such, proponents are welcome to provide and detail alternatives.

3.0 SCOPE OF WORK

The City is seeking a consultant team to develop an Asset Management Roadmap for the City of Saint John infrastructure as indicated in Table 1.

In addition, the consultant shall be required to provide separate costing and their methodology for Phase II. However, the City reserves the right to not proceed with Phase II, and/or to amend the scope of work for either phase at any time.

The consultant shall be required to make two presentations to Council for Phase I.

Phase I

The consultant is required to develop the following **deliverables**:

- **Corporate Asset Management Policy (including key principles)**

  This should articulates Council's commitment to asset management and provide principle statements to guide staff in carrying out the organization's business strategies, plans and activities.

- **Asset Management Strategy**

  This high level document describes a strategy for achieving and sustaining the level of asset management practice that the City wishes to target and implement.

- **Corporate Risk Management Framework**

  The risk management framework outlines an approach the City will implement as part of its AM Program for managing the risks associated with providing services. A formalized Risk Management Plan will be subsequently developed by the City based on this initial work.

- **Asset Management Assessment** - Conduct a detailed review of the current asset management practices across the organization.

  This review will include consultations with all city departments engaged in management and operations of municipal infrastructure. The assessment will consider the City's asset management methods, tools, current state of asset management practices according to a defined assessment framework. The current practices will be assessed and benchmarked according to leading industry practices to identify key gaps.

- **Asset Management Desired State and Improvement Activities**

  Based on the findings from the detailed Asset Management practices review, the consultant will work with the City to establish an achievable, sustainable and risk managed desired state of AM that the City wishes to target for each service area. This in turn will be used to identify the key activities at the strategic, tactical, and operational levels of asset management needed to close the gaps.

- **Asset Management Improvement Plan *(Roadmap)***

  The AMP Improvement Plan documents contains improvements identified in the previous two tasks and establishes a prioritized roadmap outlining how each activity will be completed from 2017 to 2020 to improve asset management practices within the City. The plan will incorporate previous work tasks including the AMP strategy, risk management framework and desired state. The plan will identify scope of work, deliverables, resourcing, and target dates, with an on-going monitoring / review process. The plan will also outline the recommended process and stakeholders requirements, etc. to implement asset management tool(s) to support the desired state.

Phase II

As part of Phase II, the consultant is required to provide separate costing and their methodology to develop the City of Saint John Asset Management Plan to comply with the provincial guidelines and regulations. However, the City of Saint John is open to other approaches to implement Phase II of the asset management program. As such, proponents are welcome to provide and detail alternatives.

4.0 TIMELINE AND DELIVERABLES

The City of Saint John is planning to start working in February 2017 on the development of a corporate asset management plan and a long term financial plan. The City is aiming to have both plans completed by December 31, 2017. Therefore, it is critical that the Asset Management Roadmap is completed by January 31, 2017.

The consultant is to provide delivery of the following, as per the proposed schedule:

- Presentation to Council between October and November 2016;
- Phase I Preliminary report submitted by December 31, 2016;
- Phase I Final report including all the deliverables submitted by January 31 , 2017;
- Presentation to the City and Council by February 13, 2017.

(B) Evaluation Criteria

(1) The following is an overview of the categories and weighting for the rated criteria relevant to the evaluation of proposals under this RFP.

Evaluation Criteria	Content	Weight
Quality	• Quality and completeness of submission	5
Introduction and Project Appreciation	• Understanding of the Development of Asset Management Program (AMP) • Set out team's approach Understanding of assignment • Understanding the role of the Proponent	5
Proponent Profile	• Name, business address, telephone, website address of the firm(s); • Headquarters and regional business offices; • Date that the business was established and history of the firm(s); • Description of business structure (corporation, partnership, LLC); • Organization chart of the firm(s) or team assembled.	30
Proponent Roles and Qualifications	• Key Personnel qualifications and experience, including a short biography of Key Personnel • Key Personnel roles and responsibilities	45

Evaluation Criteria	Content	Weight
	• Two (2) references for Key Personnel • Resumes for Key Personnel • Demonstrated success and specialized experience in providing similar services of the type described in this RFP for at least three (3) projects of similar size and scope. Provide references complete with addresses, contact person name, phone number, and e-mail address. • Evidence that the key management/personnel/staff/ support staffs assigned to this project have the qualifications and experience to successfully provides the requisite services. Provide resumes of all proposed staff assigned to the Project.	
Availability	• Discuss availability of Key Personnel	15
Methodology	• Approach to work • Proposals must provide a detailed work plan and proposed schedule consisting of a flowchart or narrative description of the required tasks and estimated durations of these tasks under normal circumstances. The Proponent must clearly describe the methods proposed for carrying out the development of the Roadmap and Phase II	50
Value Added	• Additional information, specialized knowledge and options	10
Proponent Costs and Remuneration	• Total fixed fee for Phase I • Total estimated fee for Phase II • Cost for each of the deliverables of Phase I • Disbursement cost estimate • Terms and conditions under which the Proponent might request a variation in the fixed fee • Fee schedule for Proponent including titles and hourly rates for additional services	40

APPENDIX E – IN-HOUSE ASSET MANAGEMENT ASSESSMENT

Available for download on the City's website under "Current Tenders and Proposals"