GHD Advisory

Asset Management Governance
Charter, Vision, Mission and Potential Models

The Regional Municipality of Niagara

September 2018

GHD

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1. Executive Summary

The Region has embarked on a multi-year phased Asset Management Program to develop and implement leading asset management principles and practices. The current Asset Management design at the Region can be described as a mix of informal Asset Management roles embedded in traditional manager, supervisor and analyst/technician jobs and in some cases dedicated asset management jobs. These all occur at the individual business unit level with limited collaboration across business units. An Asset Management Steering Team was established to initiate and guide the design and implementation of the Asset Management Program at the Region, however at the conclusion of the Phase 1 Asset Management Project, the overview of the program was transitioned to the Region's Corporate Leadership Steering Team.

1.1 Asset Management Governance Models

Four organizational models (based on the above guidelines and principles) listed below are currently being used by municipalities and utilities that have implemented Asset Management (AM) leading practices and have similarities to the Region's operational and business environments (e.g. assets, services and service delivery methods). These models are:

- Model 1: Departmental Asset Management Steering Team (Facilitation and Advisory), Corporate Asset Management Office and Formal Decentralized Departmental Delivery

- Model 2: Corporate Asset Management Steering Team (Senior Level Cross-Departmental Office) and Decentralized Departmental Delivery

- Model 3: Corporate Asset Management Office and Informal Decentralized Departmental Delivery

- Model 4: Corporate Asset Management Steering Team, Asset Management Delivery through Task Teams

An evaluation of the four models against the Region's needs suggests that Model 1 would best meet its needs.

1.2   Asset Management Governance Model Recommendations

A number of recommendations are provided for creating the Region's current Asset Management Governance Model, these are listed below in order of priority:

Immediate

1. Create a Corporate AM Steering Team

2. Create a formal Corporate AM Office (CAM):

   a. Director of CAM

   b. AM Manager and Analyst – Strategy & Integrated Planning

   c. AM Manager and Analyst – Asset Integrity & Productivity

   d. AM Manager and Analyst – Asset Performance & Asset Knowledge

Short term

Following the creation of the CAM office, and based on the results of the detailed organizational impacts of the AM Program, the following recommendations may need to be considered:

1. Rebrand (and augment with minor changes as necessary) existing roles & create AM Manager Position with business unit responsibility for Strategy, Planning, Performance & Knowledge Management

2. Implement a Formal Decentralized Departmental Delivery through formal AM roles and through Networks

Medium Term (AMO and Departmental AM Manager in Place)

1. Rebrand (and augment with minor changes as necessary) existing roles & create Planner/Schedulers to the W/WW and Transportation groups

2. Rebrand (and augment with minor changes as necessary) existing roles & create a Reliability Analyst to the W/WW group

3. Additional considerations regarding the long-term departmental support for AM will be required to determine the potential need to add AM Analyst roles to each department to support with lifecycle management activities.

The proposed organization chart based on the above recommendations is show in Fig 1.1 below:

Figure 1.1 Proposed Asset Management Governance Model
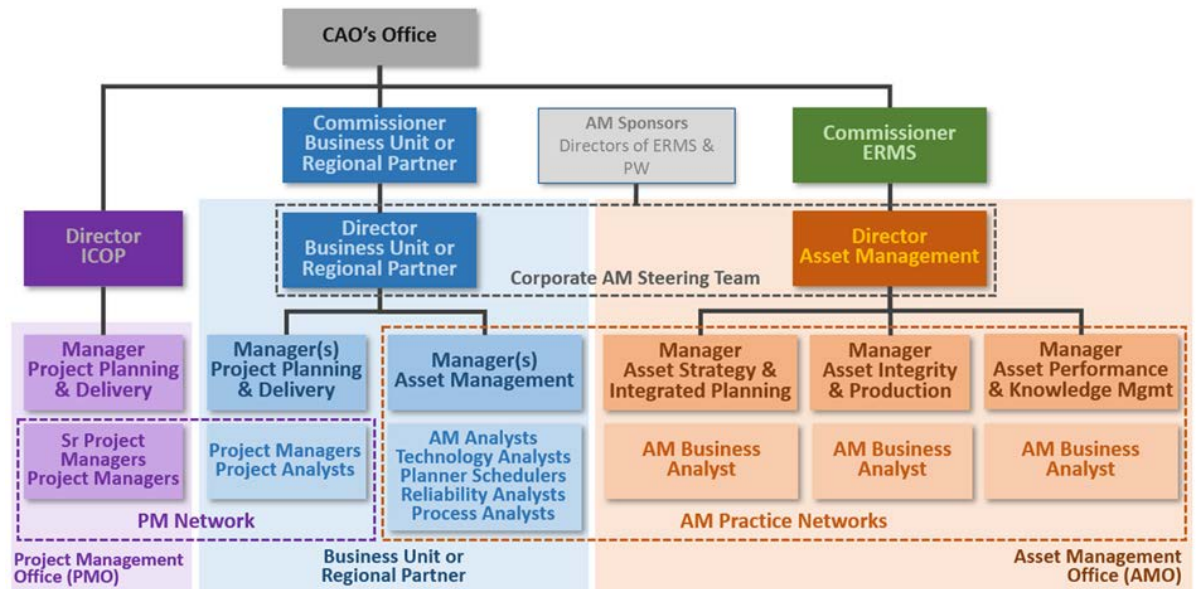
Note: Table 6.6 provides a summary description for each of the proposed roles.

Figure 1.2 below shows the Asset Management Governance Model with the proposed Asset Management Networks (or Communities of Practice) that will enable the desired level of collaboration, coordination and continuous improvement.

It is important to note that the proposed resourcing is reflective of a leading practices governance structure for the Region, and impacts and implementation feasibility will be addressed within the impact assessment.

Figure 1.2 Communities of Practice

Departmental AM Delivery and Coordination (with direct reporting through the Service Departments and matrix networking with the CAM Office)											AM Strategic Development & Coordination
Director of Community & Long Range Planning	Director of NRH	Director of Financial Management & Planning	Director Police Services	Director of Long Term Care	Director of IT	Director of EMS	Director of Facilities	Director of Waste Management	Director Water & Wastewater	Director of Transportation Services	Director Corporate Asset Management (CAM Office)
Manager Long Range Planning	AM Manager Strategy & Planning	AD Budget Planning & Strategy	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager Strategy & Planning	AM Manager – Strategy & Planning (Lead AM Planning Network)
					Asset Management Planning Network						
	AM Technology Analyst	EFMS Analyst/ Technology Lead	Lead Fleet Maintenance Lead (other assets)	AM Technology Analyst	Lead AM Technology Coordination	AM Technology Analyst	Planner/ Schedulers AM Technology Analyst	AM Technology Analyst	Planner/ Schedulers AM Technology Analyst	Planner/ Schedulers AM Technology Analyst	AM Manager Asset Integrity & Productivity (Lead AM Integrity & Productivity Network)
					Asset Management Integrity & Productivity Network						
Manager Community Planning	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	Lead AM Performance & Knowledge Management	AM Manager Asset Performance & KM (Lead of AM Perf & KM Network)
					Asset Performance and Knowledge Management Network						
Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Project Managers (as needed)	Manager Project Delivery (Project Management Office PMO)
					Project Management Network						

1.3   Governance Model Resourcing Summary

It is recommended that the Region transition over the next few years into the full Asset Management Governance Model. Table 1.1 provides a summary of the proposed resourcing for the next two years. New FTEs are shown in orange and positions to be filled by rebranding existing ones are shown in green. After this period, there will be a better understanding of gaps at the tactical and operational level and there will be a need to evaluate requirements for additional Asset Management Analysts in the various departments/business units, and Reliability and Planner Schedulers in the Public Works departments.

Table 1.1 Asset Management Resourcing Impacts

Business Unit	AM Director	AM Manager	AM Analyst	Manager PMO	Program Manager	Project Manager	Reliability Analyst	Process Analyst	Planner Scheduler	Technology Analyst
PMO				As per Project Management Initiative						
CAM	1	3	3							
Public Works		To be decided (TBD)	TBD		New → (New) Rebrand → (Rebrand)		TBD	TBD	TBD	TBD
Other Business Units		TBD	TBD						TBD	TBD

2. Introduction

2.1   Introduction

The Region has embarked on a multi-year phased Asset Management Program to develop and implement leading asset management principles and practices. The Asset Management Program, shown below (Fig 2.1), is focused on improving the Region's overall efficiencies and effectiveness in delivering sustainable services to its customers.

Figure 2.1 Region Asset Management Program Phases
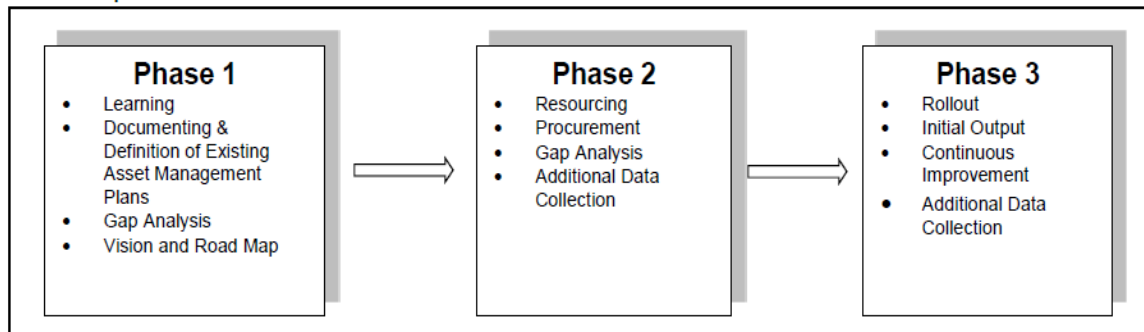
The first phase of the Asset Management Program, which was completed in 2017, involved the development of:

- An Asset Management Strategy that measured the Region's asset management system maturity and outlined actions to achieve efficiency and effectiveness in service delivery across the Region

- An update of the Region's Asset Management Plan to 2016

- An information technology review

The first step of the second phase of the Asset Management Program moves away from the traditional engineering and technical management of assets and addresses governance models that underpin effective processes in managing assets. Therefore there is a shift in focus, concentrating on accountability for assets, decision making processes, asset life-cycle reporting requirements, and communication between asset management policy makers, asset managers and asset users.

Asset management is considered to be a fundamental element in an asset-intensive organization's operations, as efficient allocation and management of resources are crucial to maximise performance and fulfil strategic goals.

Although the processes to provide a service at the optimum level varies between service areas, asset management generally starts with identifying the need for a new asset, followed by writing asset specifications, forecasting financials related to the asset and predicting its lifecycle, then acquiring, operating, maintaining and renewing the asset, reporting on the asset, and disposing of the asset.

While asset management can be applied in many fields and has a vast interpretation, the principles are the same. Each asset management concept shares the common themes of strategic importance, systematic processes, optimising efficiency, maximising performance and output, and minimising risks, and are applicable to any service area.

This assignment focuses on the governance structures that define, regulate, and control the way in which assets are managed from a business or management point of view. This report will demonstrate how governance structures and policies impact asset management and recommend potential governance models for Niagara Region. Based on feedback from the Corporate Leadership Team, the next part of this assignment will include detailed impact analysis on the selected Regional governance model.

2.2   Background

Asset management elements or practices lead to the sustainable creation, acquisition, maintenance, operation, rehabilitation and disposal of the assets required to deliver municipal services. Asset management is a way of doing business, and a key part of a municipality's culture. Asset management practices need to be aligned with strategic objectives from executive management through to front-line service delivery. To guide staff in delivering services, municipalities typically adopt policies and define management practices and processes. These policies, practices and processes are often referred to as management systems.

An asset management system should be aligned and integrated, where appropriate, alongside other management systems in the municipality, such as financial management, health and safety management and others.

The ISA Asset Management Standard (ISO 55000, 55001 & 55002) also provides guidance on Asset Management governance as shown in Table 2.1 below:

Table 2.1   ISO 55000/1/2 Asset Management System

ISO Clause		AM System Element	Documents	Description
4		Organizational Context	Organizational Plans and Objectives	• Ensure clear understanding of the organizational objectives and mission for stakeholders • Contain existing strategic plans that relate to the assets (e.g. service goals, sustainability)
5		Governance and Leadership	Asset Management Policy	• Articulates senior management commitment to asset management and continual improvement • Provides "top down" direction regarding expectations and mandatory requirements for asset management and defines the key principles that underpin asset management in the municipality
			Asset Management Strategy	• Defines what the organization intends to achieve from asset management activities and by when • Identifies and prioritizes key initiatives that support delivery of the asset management policy • High-level overview of resources, time scales for implementation
6		Planning and Decision-Making	Master Plans Asset Management Plans Maintenance Strategies	• Provide approach to managing the assets over the short, medium, and long term • Outline long-term plans for the assets including service expectations, timelines and funding, and resource requirements
7		Resources and Support		• There are resource implications with this clause that need to be considered in an Asset Management Governance Model
8		Operation (Service Delivery)		• There are resource implications with this clause that need to be considered in an Asset Management Governance Model

ISO Clause		AM System Element	Documents	Description
9		Performance and Condition Evaluations	Performance and Condition Reports	• There are resource implications with this clause that need to be considered in an Asset Management Governance Model
		Stakeholder Engagement		• There are resource implications with this clause that need to be considered in an Asset Management Governance Model
10		Continuous Improvement		• There are resource implications with this clause that need to be considered in an Asset Management Governance Model

The recent publication by the Federation of Canadian Municipalities (FCM), "How to develop an asset management policy, strategy and governance framework: Set up a consistent approach to asset management in your municipality" also identifies the need for an Asset Management Governance Model (Figure 2.2) and provides some insights into good Asset Management governance (discussed below):

Figure 2.2 FCM Asset Management System
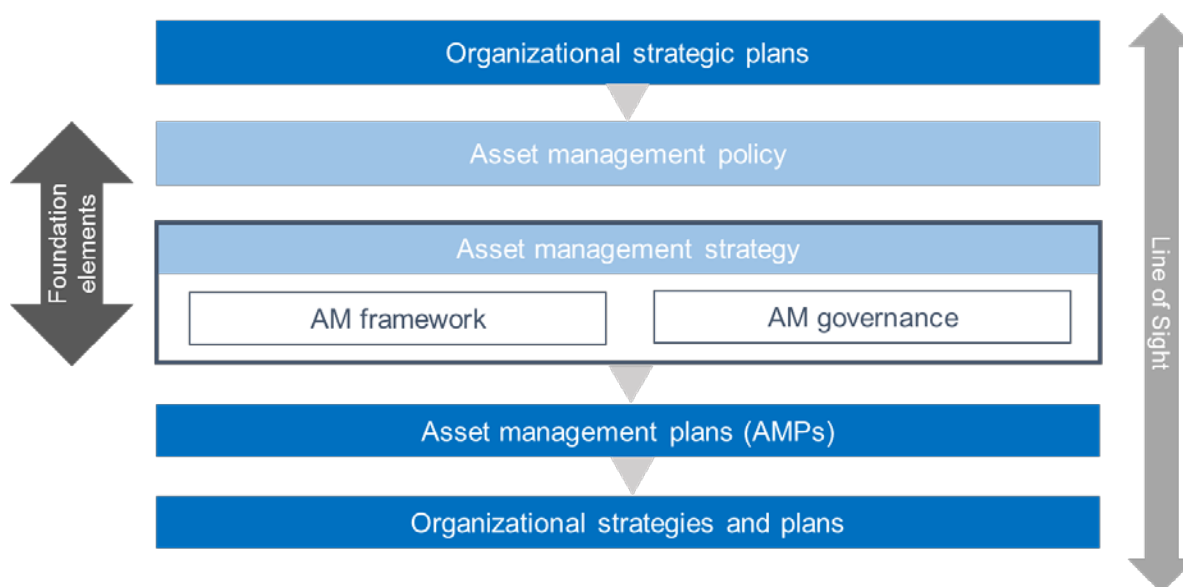
Clear definition and differentiation of roles and responsibilities of the asset manager, and the service providers for operational and maintenance activities is central to asset governance. Thus asset governance emphasises the separation of powers in asset management to increase value through effective management and exploitation of assets.

Asset governance concentrates on the process underlying rules and regulations development, ensuring alignment of asset operations to business goals/strategies. Asset governance emphasises the how and why asset-related policies are developed, especially in ensuring policies are developed in alignment with organizational strategy and goals. Asset governance is also focused on how the organizational structure can support effective asset management practices, especially by creating a more streamlined decision making process and clearer lines of responsibility (for the asset).

In line with the difference in focus between asset management and asset governance, there is a difference in the "standard" that each concept adheres and evaluates themselves against. Due to its engineering/operational focus, asset management refers to the compliance against technical specifications, health and safety standards, and any other operational industry standard. Such a compliance evaluation is executed to ensure that the physical assets acquired are fit for use and will ensure high level performance. Asset governance on the other hand ensures the organization is in compliance with business related industry regulations and rules, and international standards. This is a key requirement in the Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) that requires the municipality to identify a senior executive with responsibility for implementing and managing an asset management program. (Ref. 3(1), 10) An explicit example of the difference between the two is that while asset management concentrates on whether or not a physical asset fulfils technical specifications (such as colour, kilometres recorded, engine cylinders), asset governance ensures reporting of the physical asset (cost, utilisation, etc.) is executed in a standardised manner across the organization and is available upon request for audit.

3. Charter for Asset Management Governance

The Asset Management Governance charter will build high levels of clarity, agreement and motivation among the participants at the beginning of a project. It increases the probability that the Asset Management Governance will be successful, and will achieve high-quality performance and results. It ensures that team members share the same vision for the project and helps to create team behaviours that are stronger than individual behaviours. A draft charter for the Asset Management Program was developed in the previous AM project and is provided in Appendix A. The final charter will align with industry standard and best practice, the Asset Management Policy (in development), the Asset Management Roadmap and applicable Regional policies or By-laws.

3.1   Project Justification

An AM Steering Team was established to get the AM program going. It has enabled initial asset management strategies, frameworks, plans, databases and systems to be established. Development of a Regional Strategic Asset Management Policy is in progress, as is required by O. Reg. 588/17 Asset Management Planning for Municipal Infrastructure before July 1, 2019.

A number of improvement initiatives have been proposed for the Region to take advantage of identified opportunity gaps and improve its asset management maturity scores. The implementation of the improvement initiatives "road map" over the next five years includes development of Regional asset management policies, frameworks, processes, and systems based on best practice and current service area practices, and the adoption of Regional AM practices into service area practices. The governance model required through this period of reviewing, improving and documenting a consistent Regional asset management system will have needs that are different from those at other times.

The Region has identified the following needs:

- The determination and integration of the Region objectives for Asset Management Governance in all the Regional departments
- A collaborative relationship with all governance structures that exist within the Niagara Region departments, including the Niagara Regional Police Services and Niagara Regional Housing

- Integration of information across departments, agencies boards and commissions

- Integration of the Regional one team culture

- Accountability by management and staff within the governance structure

- Support to ensure that there is compliance by the organization to government of Ontario regulations including O. Reg. 588/17 as well as to the Asset Management Policy that is currently under development

- Defined Asset Management practices and procedures to ensure consistency and quality of data

- Protocols for changing and updating data standards, procedures and roles and responsibilities

- Deliverance of Asset Management objectives through effective Asset Management processes while meeting organizational and stakeholder objectives for scope, quality, risk, budget, and time

- Roles and responsibilities and communication lines within the organization clearly defined to carry out Asset Management objectives. Staff awareness of the part they play in ensuring that reliable data is available to support informed decision-making

- Optimization of decision making

- Alignment of capital and financial planning

- Alignment with project management

- Consistency and uniformity of financial reporting

- Consistency and uniformity of Asset Management practices

- Comparability of information between competing asset projects

- Comparisons for asset project alternatives

- Quantification of the impact of Asset Management work not done

- Efficient use of resources to achieve the goals and objectives of the Asset Management Roadmap

- Establishment of an effective process for the change management for the Asset Management Governance Model (framework)

The proposed structure for Asset Management Governance must be flexible to grow and change in an appropriate manner while ensuring strong leadership at the Niagara Region as it progresses and develops on the asset management maturity scale detailed in the Asset Management Roadmap.

It is also expected that the recommended Asset Management Governance should be reflective of all relevant industry best practices and meets all requirements under O. Reg. 588/17.

3.2 Stakeholders

The Region's stakeholders are listed in the Table 3.1 below together with their interest in Asset Management:

Table 3.1 Asset Management Stakeholders

Type	Stakeholder	Interest in Asset Management
Internal	Staff	- Adequate resources to manage assets (do the right thing) - Adequate processes to manage projects (do things right) - Improved collaboration & coordination - Reduced risk taking - Quality service delivery - Customer satisfaction - Pride in the Region
	Middle Management	- Effective planning (growth, renewal/replacement & maintenance) - Adequate resources to manage assets (do the right thing) - Improved collaboration & coordination - Regulatory compliance - Reduced risk taking - Quality service delivery - Customer satisfaction - Pride in the Region
	Senior Leadership	- Confidence that budget requests are realistic - Fiscal responsibility in delivery of service - Minimum cost of asset ownership - Managed risk

Type	Stakeholder	Interest in Asset Management
		• Quality service delivery • Regulatory compliance • Customer satisfaction • Pride in the Region
Political	Regional Council	• Confidence that budget requests are realistic • Minimum cost of asset ownership • Managed risk • Quality service delivery • Customer satisfaction • Pride in the Region
External	Lower Tier Municipalities	• Confidence that budget requests are realistic • Quality service delivery • Customer satisfaction
	Residents (Housing)	• Reliable, safe and timely service delivery • Low cost of service
	Community	• Quality service delivery • Customer satisfaction • Pride in the Region
	Regulators	• Regulatory compliance (normal operations) • Compliance with Asset Management Regulation
	Developers	• Clarify Asset Management standards and specifications that impact their developments • Cost (including development charges) impacts on their development projects

3.3   Elevator Speech

At the project kick-off meeting, initial communication about the project and the Asset Management Governance Model from consultation with key stakeholders was developed in the form of an "Elevator Speech", as provided below:

What is the project about?

We set the foundation for our Asset Management Program with the completion of our Asset Management Policy, Framework and Strategy. We are now ready to develop an Asset Management Governance model to support implementation of the Asset Management Strategy and support the overall sustainability of our Asset Management Program Leadership. Our Asset Management will help us do the right work, on the right assets, at the right time, for the right cost and for the right reason.

What process is being followed?

Our consultant, GHD will be working closely with us to develop a governance model that works for us and fits with the way we do our tasks, our people, structure and culture. We will ensure engagement of staff to get feedback, validation of approach and outcomes through a peer review of other municipalities.

How will it impact the work we do?

The governance model will provide, the right level of resources, training, capability, empowered staff, collaboration and guidance to execute Asset Management work efficiently and effectively. There will be transparency in decision making (our goal is evidenced based decision making). It will help get the right resources at the right time to support the lifecycle management strategies that need to be implemented. It will also give us confidence that staff are balancing Cost – Level of Service (LOS) – Risk (doing the right tasks at the right time and the right costs). We will achieve consistency / standardization in Asset Management and be seen as leaders in Asset Management practices.

What will we achieve?

We will achieve a high performance governance model that supports implementation of our Asset Management Strategy, Empowerment of the work force, Clarity of Asset Management roles / responsibilities and Embed Asset Management into the overall culture at the Region (Asset Management will be business as usual for our staff).

4. Vision and Mission for AM Governance

4.1 Vision for Asset Management Governance

Achieve a high performing Asset Management Governance model that empowers our staff, supports implementation and sustenance of our Asset Management Strategy and Program and fits with the way we do work and our culture. The Asset Management Governance model:

- Supports a pragmatic approach to Asset Management / practical approach

- Creates a sustainable Asset Management program

- Covers all elements of Asset Management – including lifecycle of Asset Management – and considers the disciplines involved in effective Asset Management at the Region

- Adds to our unique culture and aligns with the Region's values, goals and objectives – leading to a better future

- Helps 'Shape Niagara', including helping each Council shape its priorities

- Is agile and adaptive to the Region's changing needs

- Sets the stage for continuous improvement and innovation.

4.2 Mission for Asset Management Governance

The Asset Management Governance initiative will be implemented over a one to two year period (including role integration) and will be sustained into the future to provide an Asset Management Governance model that supports the Asset Management Strategy and Program across the organization, considering work tasks, people, structure and culture. The Asset Management Governance model will provide the resources, training, capability, collaboration and guidance to execute Asset Management work efficiently and effectively.

5. Approach to AM Governance Models

The following discussion provides an overview of relevant organization design concepts and principles and potential models that were considered in determining the most suitable one for the Region.
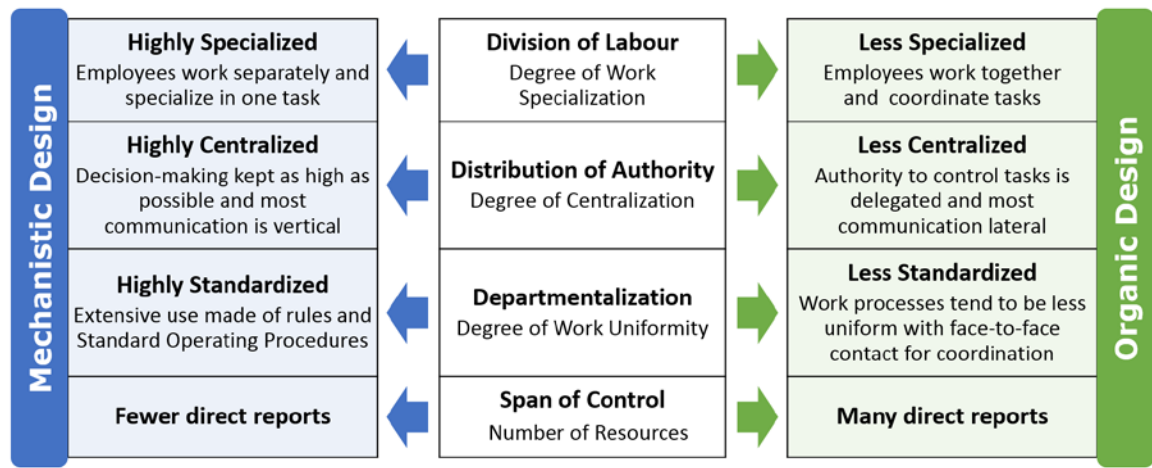
5.1 Background on Organizational Design

The structural configuration of an organizational design is the way work is divided and how it achieves coordination among its various work activities around the asset lifecycle from determining needs based on specified performance criteria to planning, acquiring, operating, renewing and disposing of assets. An organizational design structure resolves the two basic tasks of getting work done by:

- Enabling performance management by dividing up the work in the organization into logical units, and
- Ensuring the work gets done by providing the coordination and control of work.

5.2 Organization Design Concepts

Understanding the assets and the work needed around the lifecycle (plan, design, create, operate, maintain rehabilitate/replace and dispose) of these assets to create a service is fundamental to the organizational design process. Organization design is the series of management decisions needed to achieve the Region's vision and mission that gets translated into the strategies and tactics in the Strategic Plan. Figure 5.1 below shows four key organization concepts that can be considered in developing a suitable design for the Region, these include: Division of Labour, Distribution of Authority, Departmentalisation and Span of Control. The resulting organization design options can span from mechanistic to matrix or a combination in between.

Figure 5.1 Mechanistic vs. Organic Organizational Designs

Mechanistic Design		Organic Design
Highly Specialized Employees work separately and specialize in one task	**Division of Labour** Degree of Work Specialization	**Less Specialized** Employees work together and coordinate tasks
Highly Centralized Decision-making kept as high as possible and most communication is vertical	**Distribution of Authority** Degree of Centralization	**Less Centralized** Authority to control tasks is delegated and most communication lateral
Highly Standardized Extensive use made of rules and Standard Operating Procedures	**Departmentalization** Degree of Work Uniformity	**Less Standardized** Work processes tend to be less uniform with face-to-face contact for coordination
Fewer direct reports	**Span of Control** Number of Resources	**Many direct reports**

5.3 Organizational Design Principles

The most successful and effective Asset Management governance models in place at other municipalities and utilities share many of the same organizational design principles. The most common of these are as follows:

- Reflect the strategic vision, mission and values of the organization as well as the vision for Asset Management strategy implementation.

- Reallocate and balance human resources and workload across positions within existing and vacant positions and provide for appropriate critical functions.

- Acknowledge and leverage the existing skill and expertise areas of management and staff; acknowledge the strengths of management and staff involved and identify and create opportunities for further enhancing skills (gap and skills analysis – development and succession planning).

- Reflect the organization's current Human Resources policies and practices.

- Adhere to Collective Agreements.

- Decisions will consider the best interests of the organization, customer and staff.

- Roles, responsibilities, communication links and decision making rights will be clearly defined.

- The structure will support the integration of Asset Management across the organization and the necessary interdepartmental relationships required

for moving the organization towards its vision so that activities that need to be coordinated fall within program boundaries.

- Enable the organization to attract and retain the right people/skills.

- Provide for performance measurement of Asset Management program delivery.

- The structure will be flexible to support and adapt to future Asset Management needs.

5.4 Potential Benefits to Developing an AM Governance Model

The Region was found to have an overall maturity rating reflective of the early stages of "Establishing" of Asset Management practices. The current approach to Asset Management governance is a key inhibitor to Asset Management development at the Region and is characterized by:

- A lack of Corporate-wide Asset Management Steering team (with departmental representation) to provide guidance and direction for the Asset Management Program

- A lack of dedicated departmental Asset Management roles to lead implementation and sustain best practices in the department

- A lack of formalized collaboration and coordination across business units with respect to lifecycle analysis and decision making

- A lack of formalized networks/forums or communities of practice for knowledge sharing and enabling continuous improvement.

An effective Asset Management Governance Model can help the Region address the challenges to Asset Management development listed above.

An Asset Management Governance Model is intended to ensure that there is effective collaboration and coordination around all business processes (planning, core service delivery, performance management, and the enabling processes; data/technology, people and finance). With the right Asset Management Governance Model in place overall Asset Management Program development can be expedited and new ways of working can be quickly integrated into the Asset Management culture at the Region.

To effectively develop the Asset Management Program, the Region needs an appropriate level of Capability based on best practices, and all Region staff need to be able to execute this Capability effectively in all relevant business

processes. An appropriately resourced Asset Management Office, reporting at the right level to have proper influence can focus on Capability development: creating the necessary strategies and frameworks at the corporate level, and providing guidance and support to their colleagues in the various departments. Similarly, dedicated Asset Management staff in the various departments can take ownership for Asset Management execution and sustenance of best practices at the departmental level. Networks and communities of practice can encourage coordination around the asset life cycle, collaboration, knowledge sharing and continuous improvement. The end result and benefit to the Region is that there will be transparency and accountability at all levels of the organization ensuring that the Region complies with O. Reg. 588/17 and everyone is working on the:

- Right activities (project management/delivery operations, maintenance etc.);
- at the right time;
- for the right reason; and
- for the right cost.

Senior managers and political decision makers would then have the confidence that they are operating a lean organization and have quantified and understand the risks to the business and the optimal cost of asset ownership to meet set service levels.

5.5   Current Organizational Design

The current Asset Management design at the Region can be described as a mix of informal Asset Management roles embedded in traditional manager, supervisor and analyst/technician jobs and in some cases dedicated asset management jobs. These all occur at the individual business unit level with limited collaboration across business units.

An Asset Management Steering Team was established to initiate and guide the design and implementation of the Asset Management Program at the Region, however at the conclusion of the Phase 1 Asset Management Project, this has been replaced by a Finance led project team for the Asset Management Governance Model Project.

Program Financial Specialists (PFS) are deployed in a matrix type structure, embedded in the various business units but reporting to the Financial Office. This

allows for centralised budget planning. PFS also provide administrative support with respect to financial technology and business processes in the business unit.

A similar arrangement is in place for IT support at the Business Unit level.

These organizational designs can be leveraged to build a more effective Asset Management Governance Model. Figure 5.2 below shows the current Asset Management organization chart at the Region:

Figure 5.2 Current Asset Management Organization Chart

5.6   Key Findings and Opportunity Gaps

A review of the existing organization charts and job descriptions at the Region and information obtained from interviews with senior leaders, middle management and staff highlighted the findings and opportunity gaps that are captured in Table 5.1 below. This information provides guidance for the proposed Asset Management Governance Model recommendations in Section 6.

Table 5.1 Summary of Findings, Conclusions/Opportunity Gaps

Findings	Conclusions / Opportunity Gaps
A. Organizational Design	
The Corporate Leadership Team (CLT) is supportive of Asset Management Development at the Region and is reflected in an assigned Asset Management Sponsor at the executive level. There is no Asset Management Steering Team in place.	A cross departmental Asset Management Steering Team will enable Asset Management development and buy in at the departmental level. A formal Corporate Asset Management Office and decentralized Asset Management Roles in the various business units will support the Region's Asset Management Maturity goals.
The overall organization design at the Region is "functional" and the various project teams try to implement Asset Management best practices concepts by influencing other Offices in a matrix organization design.	The current functional organizational design limits Asset Management related collaboration, coordination and continuous improvement.
An Asset Management Project Team has been established to guide the implementation of the current Asset Management Governance Model Project.	The Asset Management Project team is an excellent idea for Asset Management development at the Region, however, it is short term (project focused).
A PMO support office is being considered and a PM Network is being implemented at the Region. There are no other Asset Management Community of Practices where departmental representatives meet on a regular basis to share information and best practices for Asset Management across the organization.	The PMO and a strong PM Network is an important and essential Asset Management Community of Practice. The PM Community of Practice is a good idea and this concept can be extended to specific Asset Management focus areas to be more meaningful.
There is a governance model in place for IT assets and solutions to support Region business processes. This model also allows for appropriate interaction with many Offices (e.g. the CLT, IT Governance Community, IT Projects).	This is a good example at the departmental level of a governance model to manage IT assets.
There are Program Financial Specialists (PFS) embedded in various business units to provide timely financial support.	The use of PFS at the business unit level is a good Asset Management governance practice. PFS role can be supplemented

Findings	Conclusions / Opportunity Gaps
	with AM Analyst resources to support strategic AM financial activities.
B. Asset Management Roles CAM Office	
No Corporate Asset Management Office in place.	Limited coordination and collaboration across Offices. Lack of confidence in budget requests and decisions coming up to the CLT and Council.
C. Asset Management Roles Departmental	
Strategy & Integrated Planning Asset Management strategy is based on the Asset Management Phase 1 development work that has been completed in the previous year, however, on going Asset Management development has been on hold pending completion of the Asset Management Governance Model Project. There are current manager positions responsible for asset growth and renewal planning in each of the departments or business units. These roles are limited in some cases and well developed in other groups. *Asset Performance Management & Knowledge Management* Level of service development and performance and monitoring varies across business units and tends to be very mature for regulatory compliance. Asset knowledge management varies across the organization and is still very dependent on individuals in the business units – there has been some improvement with the capture of asset knowledge in core/enterprise systems (e.g. CMMS, GIS, FIS).	Opportunity to augment Asset Planning role to create more comprehensive Asset Management Strategy and Planning roles. Opportunity to formalise Level of Service and Performance Management. Opportunity to formalise Knowledge Management.

Findings	Conclusions / Opportunity Gaps
There is business analyst support for each of the departments in the form of the Program Financial Specialist (PFS).	The PFS role can be supplemented with AM Analyst resources to support strategic AM financial activities
Asset Integrity and Productivity All business units conduct asset integrity/condition assessment – some of this is very comprehensive and is based on asset criticality (e.g. W/WW, Transportation and Housing/Facilities). However there are no common asset integrity protocols across the Region. Maintenance planning and scheduling is done formally for short lived assets (e.g. Fleet, EMS). In many areas planning and scheduling varies from simple to informal – resulting in reactive maintenance. The W/WW group conducts process optimization reviews to ensure that the treatment processes are optimal. Asset reliability analysis and continuous improvement is very formal for fleet and EMS assets, however, this is informal for other asset classes.	Opportunity to provide Region wide guidance and standards for asset integrity and productivity management. Formalized Planning & Scheduling roles will help improve asset reliability, effective asset lives and drive a proactive approach to maintenance. Formal planning and scheduling for W/WW and Transportation work would be foundational in creating a proactive work environment and preventive maintenance optimisation. Opportunity to extend asset reliability, performance and effective life though Reliability Engineering.
Capital Project Delivery There is a PM support office initiative being considered that will improve project delivery effectiveness across the Region.	A Corporate focus on integrated project delivery is a best in class Asset Management practice. There is an opportunity to ensure that the development of a centralized PM delivery (PMO) and decentralized PM delivery at the business unit is aligned to the Asset Management Governance Model.
D. Resourcing Strategy	
Funding pressures have resulted in an overall lean organization at the Region.	This has limited the ability to add new FTEs – especially where these new roles may be considered to be "support".

Findings	Conclusions / Opportunity Gaps
Asset Management is currently being delivered at the departmental level as part of staff' current roles and often as one off initiatives/tasks.	Political decision makers think that Asset Management is part of the job of existing staff and may not be convinced that dedicated Asset Management resources are needed.

6. Potential Asset Management Governance Models

From the previous section it is clear that the Region can benefit from a more structured approach to Asset Management Governance. This proposed Asset Management Governance model should focus on implementing the recommendations of the Asset Management Policy (that is being developed), the Asset Management Framework, the Asset Management Roadmap Initiatives and set the stage for sustenance of the new Asset Management culture at the Region. The Asset Management Governance Model should also enable the Region to comply with the new O. Reg. 588/17 Asset Management Planning for Municipal Infrastructure. Based on research of best in class Asset Management Governance and the ISO 55000 Asset Management requirements for Asset Management Governance, a number of models have been developed and evaluated. These are discussed below:

6.1   Asset Management Governance Models

Four organizational models (based on the above guidelines and principles) listed below are currently being used by municipalities and utilities that have implemented Asset Management leading practices and have similarities to the Region's operational and business environments (e.g. assets, services and service delivery methods):

- Model 1: Departmental Asset Management Steering Team (Facilitation and Advisory), Corporate Asset Management Office and Formal Decentralization Departmental Delivery

- Model 2: Corporate Asset Management Steering Team (Senior Level Cross-Departmental Office) and Decentralized Departmental Delivery

- Model 3: Corporate Asset Management Office and Informal Decentralized Departmental Delivery

- Model 4: Corporate Asset Management Steering Team, Asset Management Delivery through Task Teams

Each of these models are discussed below together with the advantages, disadvantages and which municipalities currently use the model.

6.1.1 Model 1

Departmental Asset Management Steering Team (Facilitation and Advisory),
Corporate Asset Management Office and Formal Decentralization Departmental
Delivery – details in Table 6.1 and Figure 6.1 below:

Table 6.1 Model 1 Details

Municipalities with this Model	Advantages	Disadvantages	Notes
• Sydney Water • Columbus Department of Public Utilities • Auckland Council (New Zealand) • City of Calgary • Toronto Water • City of London • City of Winnipeg • City of Windsor • City of Mississauga • City of Grande Prairie	• Consistency in Asset Management practices. • Standardization of tools and templates. • Autonomy and flexibility. • Collaboration. • High level of specialization & technical knowledge. • Dedicated Asset Management Office roles. • Clear career paths & succession planning. • Ownership of Asset Management remains with the Departments.	• Adversarial relationships if the Asset Management Office is perceived to be prescriptive with policies and standards. • Resistance to corporate guidelines. • Additional staffing may be required.	• Many organizations have found that this is the most successful governance model for the ongoing implementation of an Asset Management Program. • Allows for frequent, consistent collaboration and communication across the organization. • Allows for consistency in strategy but also provides for the flexibility in implementation unique to the service area assets and operating environment.

Figure 6.1   Model 1: Corporate AM Steering Team, Corporate AM Office, Formal Decentralized Departmental Delivery through Networks
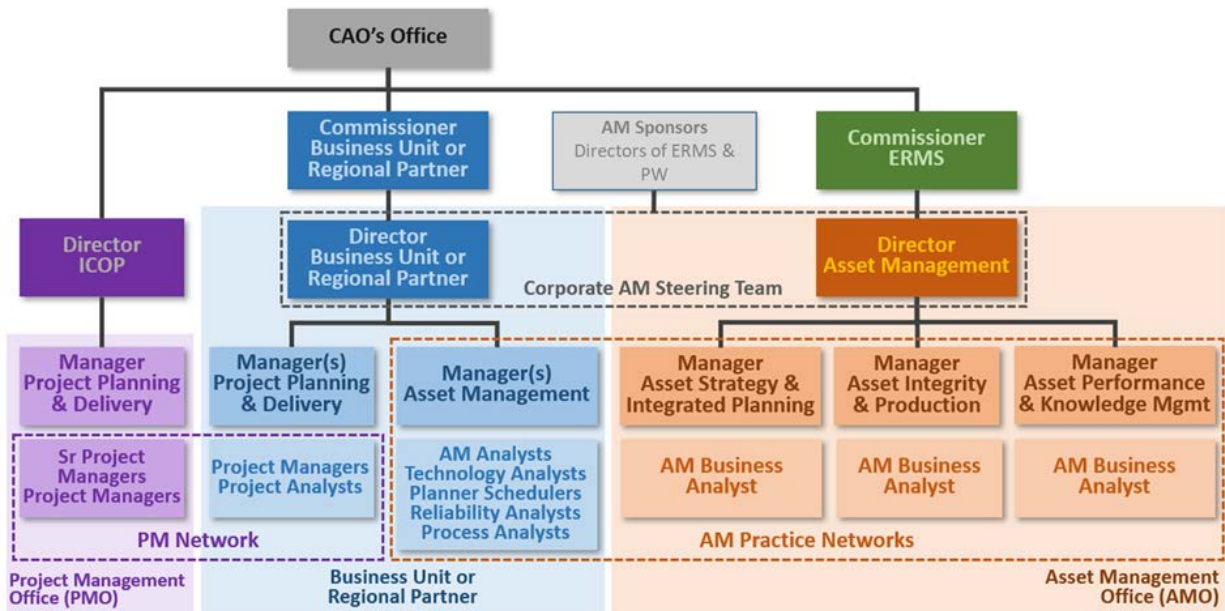
Note: Table 6.6 provides a summary description for each of the proposed roles.

6.1.2 Model 2

Corporate Asset Management Steering Team (Senior Level Cross-Departmental Office) and Decentralized Departmental Delivery. The Region of Niagara is mostly aligned to this model with an initial Asset Management Steering Team for the Asset Management Strategy project (now disbanded) and Asset Management being done at the departmental level with formal and informal Asset Management roles. Details are provided in Table 6.2 and Figure 6.2:

Table 6.2 Model 2 Details

Note the Region of Niagara is more aligned to this AM Governance Model

Municipalities with this Model	Advantages	Disadvantages	Notes
• Palm Beach County Water Utility (USA)	• All Departments are involved in Asset Management	• Lengthy implementation.	• This is the easiest route for municipalities as it

Municipalities with this Model	Advantages	Disadvantages	Notes
• Tacoma Water • Region of Niagara	strategic & tactical decision making. • Departments control what is implemented and the level of support they require. • No new hires. • Overall it does not involve a significant change program.	• Lack of consistency. • Lack of accountability and authority. • Difficulty reaching consensus on key decisions. • Staff may be overloaded. • Concerns for long term viability of Asset Management Steering Team. • Will take longer to show benefits of Asset Management Implementation. • Work flow and information sharing silos that currently exist are unlikely to change.	requires no additional staff. • However, committee members have to work on Asset Management as well as their normal jobs. And commitment to the program wavers as other priorities get in the way • Implementation of Asset Management elements vary in consistency and maturity • Change management can be a challenge

Figure 6.2 Model 2: Corporate AM Steering Team (Senior Cross-Departmental Office), Decentralized Departmental Delivery
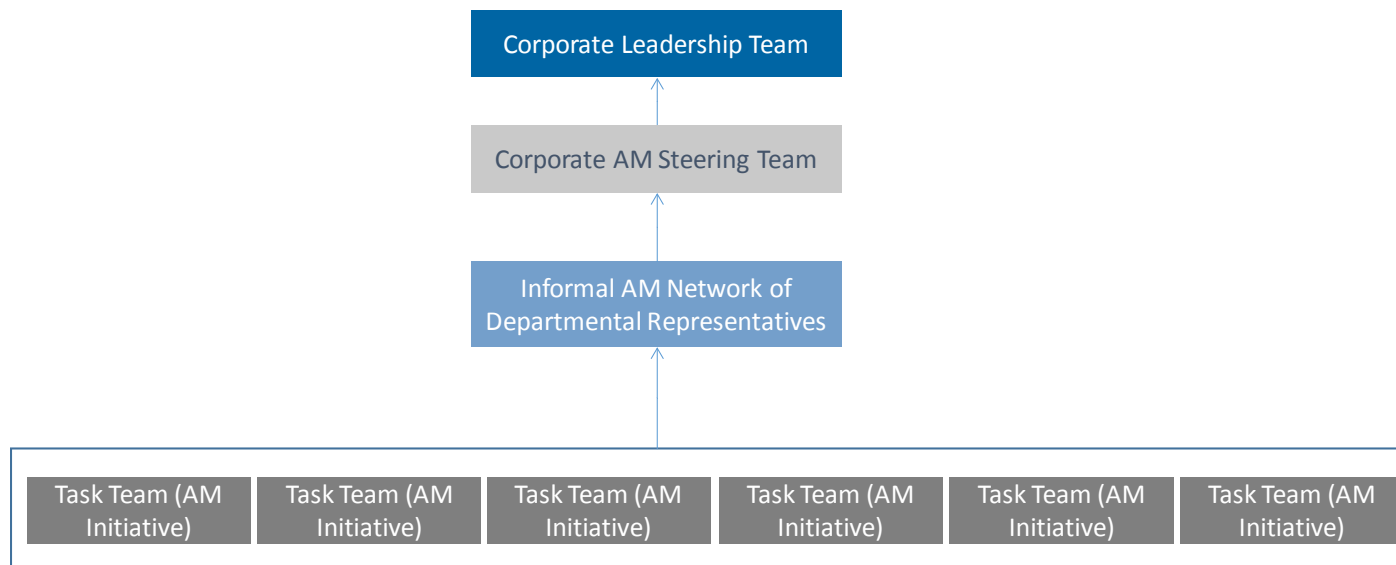
6.1.3 Model 3

Corporate Asset Management Office and Informal Decentralized Departmental Delivery. Details are provided in Table 6.3 and Figure 6.3 below:

Table 6.3 Model 3 Details

Municipalities with this Model	Advantages	Disadvantages	Notes
• Seattle Public Utilities (USA) • Washington Suburban Sanitation Commission (USA) • Most UK Utilities (e.g. Scottish Water) • City of Brampton • City of Ottawa • City of Barrie • Region of Peel	• Accountability for Asset Management is a core function. • Consistency and tight control over all aspects of Asset Management.	• Departments could fear that the Asset Management Office will take over their operations. • Asset Management Office could become disconnected from operational business units.	• This approach has not worked well and many municipalities that started down this route have now moved to implementing Model 1. • Implementation of Asset Management elements vary in consistency and maturity • Change management can be a challenge

Municipalities with this Model	Advantages	Disadvantages	Notes
			• The Corporate Asset Management Office struggles to be seen as helpful and not prescriptive

Figure 6.3 Model 3: Corporate AM Office, Informal Decentralized Departmental Delivery
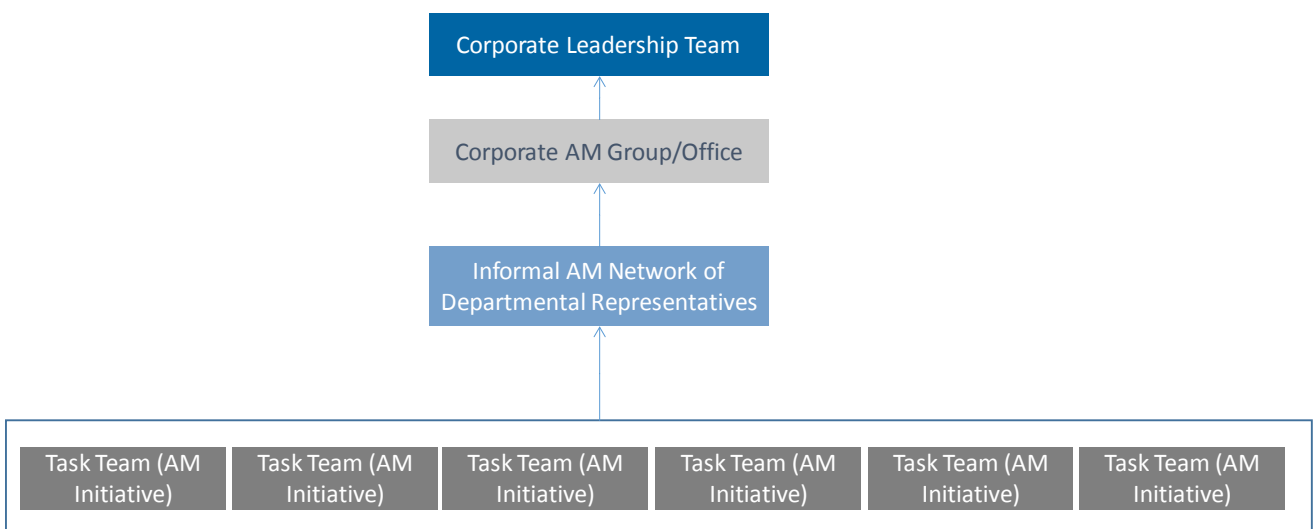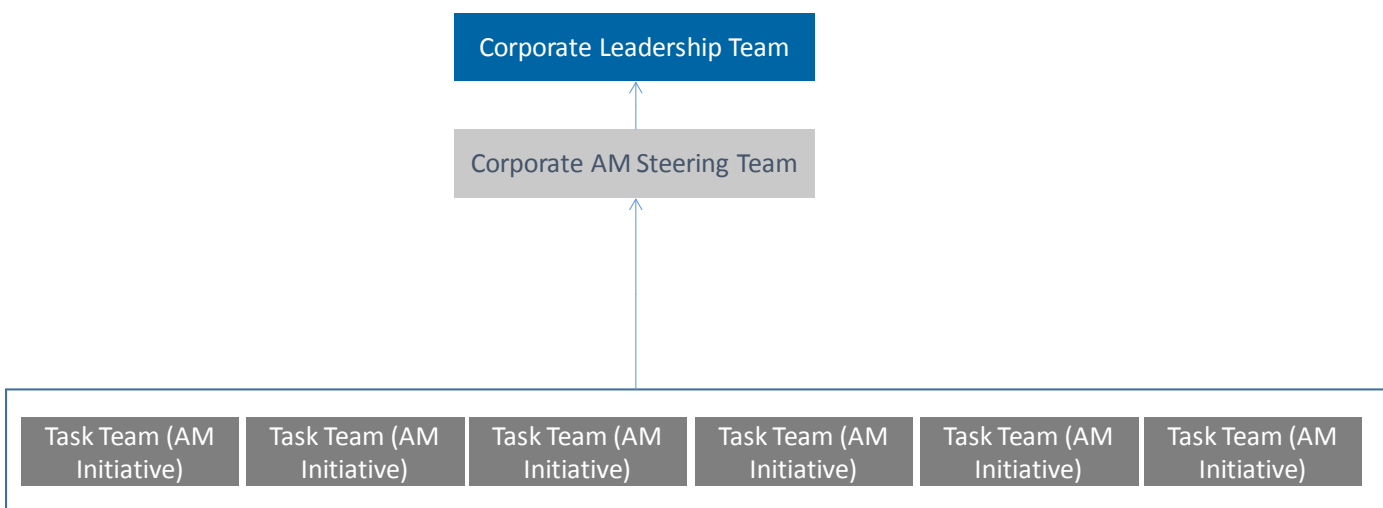

6.1.4   Model 4

Corporate Asset Management Steering Team, Asset Management Delivery through Task Teams. Details are provided in Table 6.4 and Figure 6.4 below:

Table 6.4 Model 4 Details

Municipalities with this Model	Advantages	Disadvantages	Notes
• City of Lincoln (Nebraska, USA) • Town of Orangeville • Strathcona County	• Departments are involved in both Asset Management strategic and tactical decision making. • Departments have a forum for discussing	• Lengthy implementation. • Lack of consistency. • Lack of accountability and authority.	• This is another route for municipalities as it requires no additional staff and Asset Management Steering Team members have to work on Asset

Municipalities with this Model	Advantages	Disadvantages	Notes
	implementation and support needs for Asset Management and in this way have some control on what is implemented and the level of support received. • No new hires required.	• Meetings can be adhoc and attendance can be seen as optional. • Staff may be overloaded. • Competing objectives duplication of frameworks and the development of standalone solutions.	Management as well as their normal jobs. • Implementation of Asset Management elements vary in consistency and maturity • Change management can be a challenge • This model has not been very successful.

Figure 6.4 Model 4: Corporate AM Steering Team, AM Delivery through Task Teams

Corporate Leadership Team

Corporate AM Steering Team

Task Team (AM Initiative) | Task Team (AM Initiative) | Task Team (AM Initiative) | Task Team (AM Initiative) | Task Team (AM Initiative) | Task Team (AM Initiative)

Further evaluation of the four potential models is provided in Table 6.5 below. The scoring basis for the table is:

- Categories with a scoring continuum of a maximum score of 5 and a minimum score of 1
- A score of 1 least reflects the intent concept and a score of five fully realizes the intent of the concept

In GHD's experience, Model 1 is one of the stronger organizational designs, more widely adopted and incorporates many of the Asset Management leading design principles discussed previously.

Table 6.5 – Evaluation of Asset Management Governance Models

Organizational Design Principles	Model 1	Model 2	Model 3	Model 4
TOTAL SCORE	**42 / 50**	**26/ 50**	**30/ 50**	**24/50**
Corporate Asset Management (CAM) Office	Allows for autonomy and flexibility of CAM while still encouraging consistency and collaboration. Score -4	Lengthier implementation time and reduced consistency and accountability. Score - 3	Less collaborative with risk of CAM becoming disconnected from operational business units. Score - 2	Lengthier implementation time and reduced consistency and accountability. Score - 1
Reallocate and balance human resources and workload across positions within existing and vacant positions and provide for appropriate critical functions.	Core Asset Management responsibilities shouldered by CAM Score - 4	Asset Management responsibilities loaded on top of regular job duties for Asset Management Steering Team members. Score - 2	Core Asset Management responsibilities shouldered by CAM. Score - 4	Asset Management responsibilities loaded on top of regular job duties for Asset Management Steering Team members. Score - 2

Organizational Design Principles	Model 1	Model 2	Model 3	Model 4
Acknowledge and leverage the existing skill and expertise areas of management and staff; acknowledge the strengths of management and staff involved and identify and create opportunities for further enhancing skills (gap and skills analysis – development and succession planning).	Ownership of Asset Management remains with the Departments facilitating leverage of embedded skill and expertise. Clear career paths and succession planning for Asset Management. Score - 4	All Departments are involved in Asset Management strategic and tactical decision making. Score - 4	Tight control on over all aspects of Asset Management maintained by CAM. Risk of missing opportunities to leverage embedded skill and expertise. Clear career paths and succession planning for Asset Management. Score - 3	All Departments are involved in Asset Management strategic and tactical decision making. Score - 4
Reflect the organization's current Human Resources policies and practices.	Additional staffing is required. Score - 2	No new hires required. Score - 4	Additional staffing may be required. Score - 2	No new hires required. Score - 4
Decisions will consider the best interests of the organization, customer and staff.	Collaborative approach with ownership of Asset Management retained by Departments. Score - 5	Will take longer to show benefits of Asset Management implementation. Score - 2	Less collaborative with tight control over all aspects of Asset Management residing with CAM. Score - 3	Will take longer to show benefits of Asset Management implementation. Score - 2
Roles, responsibilities, communication links and decision making rights will be clearly defined.	Dedicated CAM roles. Collaborative approach with ownership of Asset Management retained by Departments Score - 5.	Informal delivery model. Lack of accountability and authority. Score - 2	Dedicated CAM roles. CAM could become disconnected from operational business units. Score - 3	Informal delivery model. Lack of accountability and authority. Score - 2

Organizational Design Principles	Model 1	Model 2	Model 3	Model 4
The structure will support the integration of Asset Management across the organization and the necessary interdepartmental relationships required to move the organization towards its vision so that activities fall within program boundaries.	Promotes consistency in Asset Management practices. Collaborative approach Score - 5	Lack of consistency. Workflow and information sharing silos that currently exist are unlikely to change. Score - 2	Consistency and tight control over all aspects of Asset Management. Less collaborative with risk of CAM becoming disconnected from operational business units. Score - 3	Lack of consistency. Potential for competing objectives (duplication of frameworks and development of standalone solutions). Score - 2
Enable the organization to attract and retain the right people/skills.	Dedicated CAM roles. Clear career paths and succession planning for Asset Management. Score - 5	Asset Management responsibilities loaded on top of regular job duties for Asset Management Steering Team members. Score - 3	Dedicated CAM roles. Clear career paths and succession planning for Asset Management. Score -4	Asset Management responsibilities loaded on top of regular job duties for Asset Management Steering Team members. Score - 3
Provide for performance measurement of Asset Management program delivery.	Promotes consistency in Asset Management practices. Collaborative approach. Score - 4	Lack of consistency. Lack of accountability and authority. Score - 2	Consistency and tight control over all aspects of Asset Management. Less collaborative with risk of CAM becoming disconnected from operational business units. Score - 3	Lack of consistency. Lack of accountability and authority. Score - 2
The structure will be flexible to support and adapt to future Asset Management needs.	Autonomy and flexibility. Collaborative approach. Score - 4	Workflow and information sharing silos that currently exist are unlikely to change. Score - 2	Tight control over all aspects of Asset Management maintained by CAM. Score - 3	Potential for competing objectives (duplication of frameworks and development of standalone solutions). Score - 2

6.2 Asset Management Governance Model Considerations

Of the four models reviewed in the previous section, Model 1 is best suited to the Region and would be characterized by:

- Departmental Asset Management Steering Team
- Corporate Asset Management Office
- Formal Decentralized Departmental Delivery and Coordination

The previous work completed on asset management has been instrumental in establishing key Asset Management strategies and frameworks and the initial Asset Management Plans at the Region as well as establish overall awareness on Asset Management best in class practices. However, to effectively improve Asset Management maturity at each of the Region's departments/service areas it is necessary to consider another iteration of the current Asset Management practices. This model should not only focus on ongoing strategy development but also departmental Asset Management delivery and coordination. Asset Management governance should continue to comprise of a small Office of specialized Asset Management staff and can be referred to as the Corporate Asset Management (CAM) Office. The Formal Decentralized Delivery would be guided by Asset Management practitioners embedded in the various departments and will form various networks to coordinate Asset Management activities with representatives from the CAM Office. Work Offices (or Task Teams) should be created, with appropriate members from any of the departments to implement the updated Asset Management Strategy and associated Asset Management Roadmap. As Asset Management initiatives are identified and implemented, progress should be reported back up to the CAM Office and the Asset Management Steering Committee periodically. The value propositions for this model are summarized below:

- Allows for autonomy and flexibility of CAM while still encouraging consistency in Asset Management practices and collaboration.
- Will seek to realign and balance human resources and workload across positions within existing and vacant positions and provides for appropriate critical functions.
- Core Asset Management responsibilities shouldered by CAM through dedicated CAM roles and clear career paths and succession planning for Asset Management.
- Acknowledges and leverages the existing skill and expertise areas of management and staff; acknowledges the strengths of management and

staff involved, and identifies and creates opportunities for further enhancing skills (gap and skills analysis – development and succession planning).

- Ownership of Asset Management remains with the Departments/Divisions facilitating leverage of embedded skill and expertise.

- Aligns with the Region's Human Resources policies and practices.

- Decisions will consider the best interests of the organization, customer and staff.

- Collaborative approach with ownership of Asset Management retained by Departments/Divisions.

6.3   Asset Management Governance Model Recommendations

A number of recommendations are provided for updating the Region's current Asset Management Governance Model, these are listed in the following Table 6.6 and are aligned to the conclusions and opportunity gaps discussed above in Table 3.

Table 6.6   Summary of AM Governance Recommendations

Recommendation Overview	Recommendation Details
A. Organizational Design	
A true Corporate focus is needed for improving overall Asset Management maturity at the Region Adopt Organization Design Model 1	Make the following organization changes, building on the existing Asset Management governance elements: • Create a Corporate Asset Management Steering Team • Create a formal Corporate Asset Management Office • Implement a formal Decentralized Departmental Delivery through formal Asset Management roles and through Networks
	A dedicated Corporate Asset Management Team and decentralized Asset Management staff will be better positioned to implement and sustain best in class Asset Management practices at the Region
Establish and charter formal networks to enable standardization, collaboration, coordination and continuous improvement in Asset	**Project Management Network:** continue implementing the PM Network as per the recommendations of previous initiatives. This will provide a forum for project managers to standardize and establish consistency in project delivery across the Region's asset classes.

Recommendation Overview	Recommendation Details
Management practices and concepts at the Region	Implement the following additional networks/communities of practice • **Asset Management Planning Network:** Provide a forum for Asset Management practitioners to standardize and establish consistency in Asset Management practices and concepts, related Asset Management strategy, capital planning, budgeting and integrated project coordination across the Region's asset classes • **Asset Management Productivity Network:** Provide a forum for Asset Management practitioners to standardize and establish consistency in O&M practices and concepts related to maintenance/work order management, reliability and continuous improvement across the Region's asset classes • **Asset Knowledge and Performance Management Network:** Provide a forum for Asset Management practitioners to standardize and establish consistency in Asset Performance Management and Knowledge Management across the Region's asset classes
Build on the PFS role for Asset Management at the Business Unit by adding AM Analyst resources	PFS role can be supplemented with AM Analyst resources to support strategic AM financial activities
B. Asset Management Roles CAM Office	
Create and staff a Corporate Asset Management Office	Create a Corporate Asset Management Office reporting to the Commissioner ERMS. Build out the CAM Office as follows: Director CAM Office • Provides Region-wide leadership in the development and sustainability of the Asset Management program • Provides leadership to Asset Management roles in CAM and the various related network teams • Works collaboratively with PMO to meet and implement project planning and delivery objectives • Takes ownership for overall Asset Management maturity improvement at the Region • Realizes the value proposition for investing in Best in Class Asset Management practices and concepts CAM Manager, Strategy & Integrated Planning

Recommendation Overview	Recommendation Details
	• Leads the implementation of Planning related initiatives on the Asset Management Roadmap
	• Provides leadership for the Asset Management Strategy/Planning, & Project Network
	• Coordinates the development of the Region-wide Asset Management Plan
	• Provides quality assurance of the Region's Capital Program developed by each department
	• Develops and updates processes around Asset Management Planning
	• Undertakes external environmental scans and develops external and internal inputs for Asset Management
	CAM Manager, Asset Integrity & Productivity
	• Leads the implementation of O&M related initiatives on the Asset Management Roadmap
	• Provides leadership for the Asset Management Productivity Network
	• Oversees the implementation and monitors the effectiveness of the Asset Management Condition Assessment Program for the Region
	• Prepares the Region's State of the Asset Report
	• Develops, implements and supports a Region-wide asset reliability program
	• Coordinates the development of the Region's Asset Management Continuous Improvement Program – to be developed
	CAM Manager, Asset Performance & Asset Knowledge Management
	• Leads the implementation of Performance and knowledge related initiatives on the Asset Management Roadmap
	• Reviews and updates the Region's Asset Management Performance Management system on a regular basis (at least annually) to reflect substantial changes and/or improvements to Asset Management
	• Coordinates the implementation of the Asset Management Knowledge Management Strategy and monitors and reports on knowledge management performance
	• Updates Asset Management Knowledge in the key areas/categories (electronic, paper etc. – focus should be to have all knowledge in electronic form)

Recommendation Overview	Recommendation Details
	• Leads the development of the Asset Management Communication program • Leads the development and implementation of the Asset Management Training program
C. Project Management Office	**Recommendations**
Ensure that the PM Office captures the key roles expected for effective integrated capital project delivery	Project Management and Delivery is an important pillar of Asset Management and there needs to be good alignment and coordination of the PMO with the CAM Group Project Management Office (Positions/Roles) necessary to support Asset Management Goals and Objectives: Manager PMO • Work collaboratively with CAM Director to coordinate and achieve AM goals and objectives related to project planning and delivery • Provides leadership for the PM Office and the PM Network • Oversees and manages the Organizational Change Management Process for projects • Manages and provides oversight of project portfolio • Ensures consistency for project management approach and practice Program Managers • Develops and maintains Region PMBOK • Develops and maintains Project Management Information System (PM Portal & PM Software) • Develops and maintains the Project Management Dashboard • Conducts ongoing PM Training • Conducts ongoing project reviews • Conducts project audits • Provides support to PM in RFP/Tendering stage of the project lifecycle Participates in PM Network meetings and activities
D. Asset Management Roles Departmental	**Recommendations**

Recommendation Overview	Recommendation Details
Rebrand existing role and create a Departmental CAM Manager, Strategy & Planning Position to include business unit responsibility for Strategy, Planning, Performance and Knowledge Management	CAM Manager *(Strategy and Planning):* • Leads the implementation of Asset Management Roadmap initiatives at the department/Business Unit level • Leads the development and update of the Asset Management Plan • Leads the development of risk profiles, input to the capital plan and budget coordination • Integrated capital project delivery (infrastructure projects) coordination • Conducts medium and long term analysis using the Decision Support System (DSS) Tool for modelling asset deterioration, levels of service and to develop the long term investment profile for the asset base (Asset Performance and Asset Knowledge Management) • Develops and maintains the LOS Framework for the department, tracks asset performance (condition assessment, availability, capacity etc.) • Conducts an asset knowledge gap analysis, develops and implements a knowledge management plan for the department's assets • Provides input for implementation of an electronic document management system • Provides input into the overall Asset Management Training Plan and deliver training as necessary
Determine Need for Departmental AM Analyst roles to support financial and lifecycle management activities	Business Analysis (Asset Management Focus): • Budget planning and control • Asset financial investment planning • Risk profile development • Business case evaluation (for capital project requests) • Asset scenario modeling using the Decision Support System
Rebrand Planner/Schedulers to the W/WW and Transportation groups	Maintenance Optimization and Reliability – rebrand one Reliability Analyst to the W/WW operations (could extend to other groups based on the return on the investment) • Develops asset criticalities • Conducts reliability centered maintenance studies/pilots on critical assets

Recommendation Overview	Recommendation Details
Rebrand a Reliability Analyst to the W/WW group Rebrand a Technology Analyst to W/WW, Transportation, Long Term Care, Police and EMS group	• Conducts PM Optimization analysis • Conducts Root Cause Failure analysis • Conducts continuous improvement training for staff and facilitate CI initiatives Maintenance Planning and scheduling – rebrand two Planner/Schedulers, one each in W/WW and Transportation • Develops and maintains the maintenance dashboard • Conducts basic and advanced work order planning & scheduling • Conducts preventive maintenance optimization exercises • Analyzes asset data and conducts root cause analyses and reliability improvement initiatives • Provides input into ongoing work management system development Asset Management Technology Analyst (as part of the business unit roles): • Provides departmental level input for technology and data asset management • Actively provides and supports departmental requirements for ongoing system development lifecycle activities for Asset Management technology enablers
Resourcing strategy	
Hire Director and Manager roles for the CAM Office – leverage existing vacancies if possible Rebrand existing roles in the Business Units to align with desired Asset Management positions/roles	Rebrand existing roles at the departmental level to meet Asset Management resourcing needs Utilize long term vacancies (Region-wide) to fill new CAM Office roles Set up temporary Task Teams to undertake Asset Management improvement projects on - these teams will disband on completion of the project.
	Provide the rationale to Political Decision-makers for Asset Management Development at the Region

The changes discussed above are shown in Figures 6.5 and 6.6 below. Detailed roles and responsibilities for all asset management positions and networks or communities of practice will be provided in Tech Memo 2 (Task 3 deliverable) where the organizational impacts are analysed. Consider additional FTEs (new) if the above

does not yield the desired positions and gain Council approval for funding the recommendations of the Asset Management Governance Model.

Implementation priorities:

Immediate

1. Create a Corporate AM Steering Team
2. Create a formal Corporate AM Office (CAM):
   a. Director of CAM
   b. AM Manager and Analyst – Strategy & Integrated Planning
   c. AM Manager and Analyst – Asset Integrity & Productivity
   d. AM Manager and Analyst – Asset Performance & Asset Knowledge

Short term

Following the creation of the CAM office, and based on the results of the detailed organizational impacts of the AM Program, the following recommendations may need to be considered:

1. Rebrand (and augment with minor changes as necessary) existing roles & create AM Manager Position with business unit responsibility for Strategy, Planning, Performance & Knowledge Management
2. Implement a Formal Decentralized Departmental Delivery through formal AM roles and through Networks

Medium Term (AMO and Departmental AM Manager in Place)

1. Rebrand (and augment with minor changes as necessary) existing roles & create Planner/Schedulers to the W/WW and Transportation groups
2. Rebrand (and augment with minor changes as necessary) existing roles & create a Reliability Analyst to the W/WW group
3. Additional considerations regarding the long-term departmental support for AM will be required to determine the potential need to add AM Analyst roles to each department to support with lifecycle management activities.

In addition, a RACI Chart will be provided as part of Tech Memo 2 in line with the key elements of asset management to show who is Responsible, Accountable, Consulted and Informed (RACI).

As the Region continues to focus on the development of its Asset Management processes and practices, it will reach a level of relative Asset Management maturity

at which point the Region should consider transitioning its Asset Management governance structure to one that treats Asset Management more as "business as usual". The Asset Management governance structure at maturity is characterized by the following:

- Primary role of the CAM Office continues but the focus of Asset Management becomes innovation and continuous improvement using data to drive optimal decision making. The CAM Office may report elsewhere in the organization if innovation and continuous improvement becomes a key strategy at the Region and has executive sponsorship.
- The Asset Management Steering Committee is dissolved as the need to provide overall guidance and direction for Asset Management development across the Region is reduced, the Corporate Asset Management Office is fully resourced and the Asset Management Networks are in place and functional.
- Elimination of Task Teams as Asset Management improvement projects becomes less frequent.

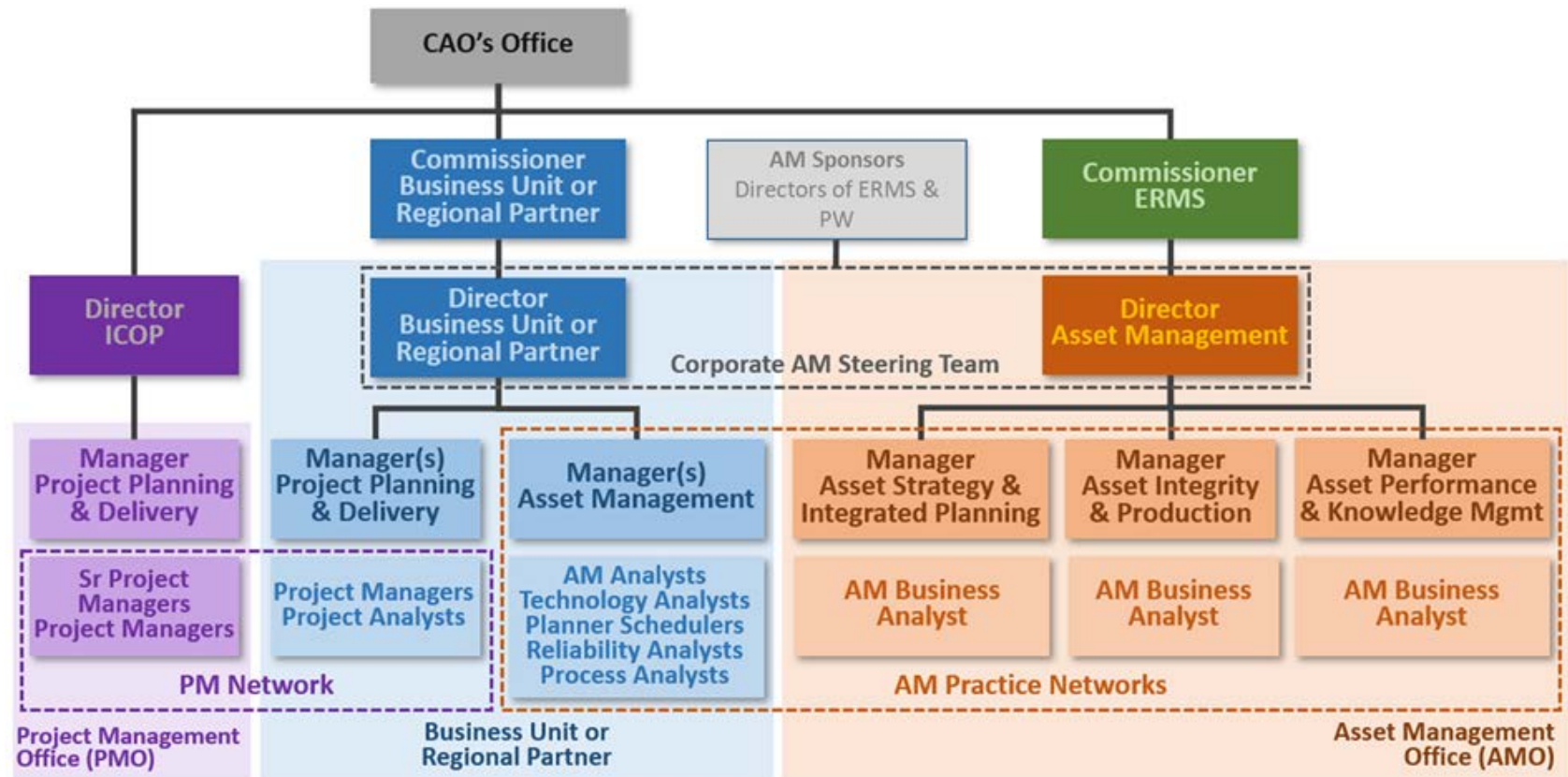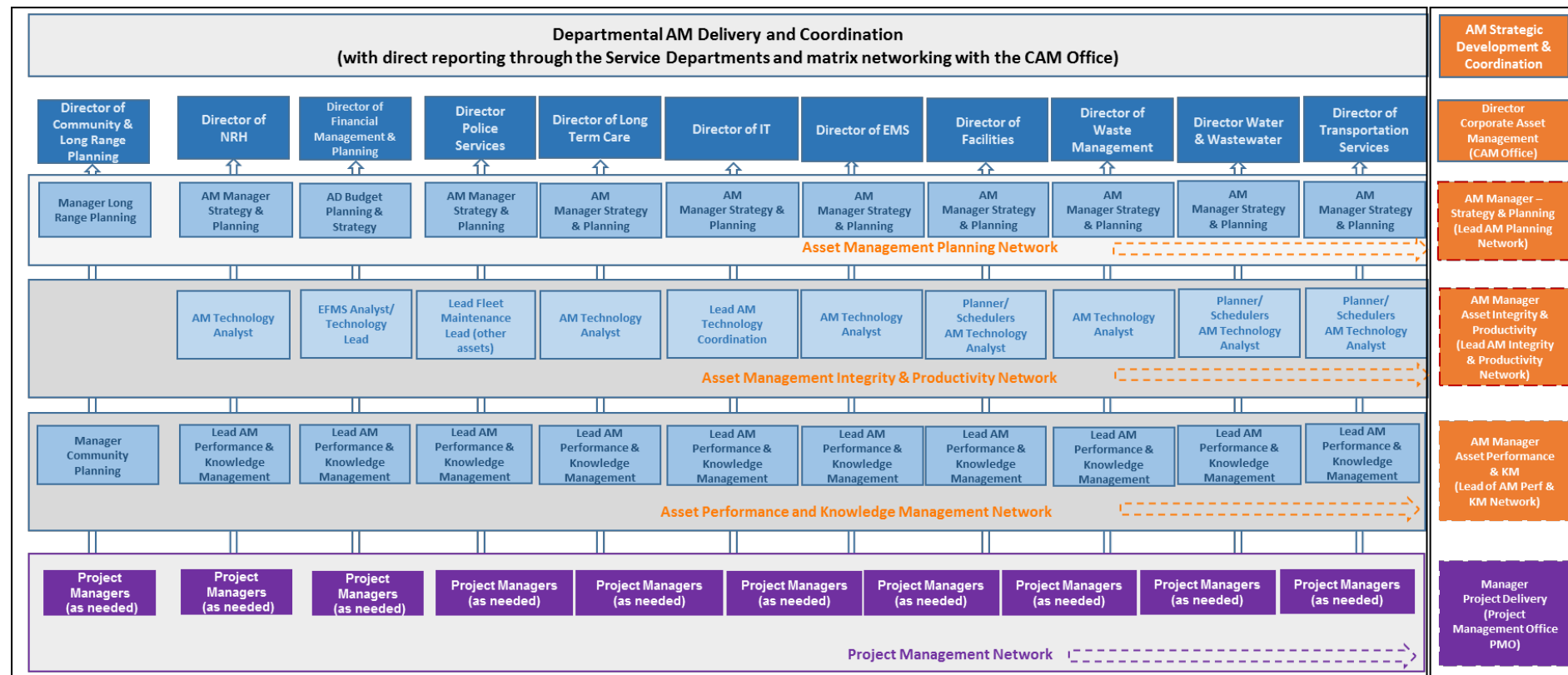**Figure 6.5   Proposed Asset Management Governance Model**

Figure 6.6 below shows the Asset Management Governance Model with the proposed Asset Management Networks (or Communities of Practice) that will enable the desired level of collaboration, coordination and continuous improvement.

It is important to note that the proposed resourcing is reflective of leading practices governance structure for the Region, and impacts and implementation feasibility will be addressed within the impact assessment.

Figure 6.6 Communities of Practice

6.4   Governance Model Resourcing Summary

It is recommended that the Region transition over the next few years into the full Asset Management Governance Model. Table 6.7 provides a summary of the proposed resourcing for the next two years. New FTEs are shown in orange and positions to be filled by rebranding existing ones are shown in green. After this period, there will be a better understanding of gaps at the tactical and operational level and there will be a need to evaluate requirements for additional Asset Management Analysts in the various departments/business units, and Reliability and Planner Schedulers in the Public Works departments.

Table 6.7 – Asset Management Resourcing Impacts

Business Unit	AM Director	AM Manager	AM Analyst	Manager PMO	Program Manager	Project Manager	Reliability Analyst	Process Analyst	Planner Scheduler	Technology Analyst
PMO				As per Project Management Initiative						
CAM	1	3	3							
Public Works		To be decided (TBD)	TBD	New → Rebrand →			TBD	TBD	TBD	TBD
Other Business Units		TBD	TBD						TBD	TBD

Appendix A – Asset Management Program Charter

Asset Management Program Charter

Niagara Region's Asset Management project is focused on improving the Regions' overall effectiveness as it continues to provide its customers high quality services while balancing cost of service and risk.

The following Vision, Mission and Program Measures of Success will guide implementation.

Vision

Achieve excellence and efficiency in service delivery through all Region owned assets, at sustainable asset lifecycle costs, and acceptable levels of risk.

Mission

Asset management development at the Region is continuous and will be sustained into the future to provide levels of service (LOS) that the community and stakeholders need and are willing to pay for through:

Preservation of assets

Financial sustainability

Skilled and knowledgeable people

Protection of the environment

Consideration of health and safety implications

Compliance with all applicable regulations

Sustainable growth

This will be embraced by staff and stakeholders, as they communicate a common purpose through use of current and accurate information, and application of consistent leading asset management principles and practices. Asset management is and will continue to be incorporated with other initiatives within the Region such as growth, planning processes and, development approvals.

Project Measures of Success

✓ Consistent with leading practices (ISO 55000, IIMM and SIMPLE AMP guideline)

✓ Informs lifecycle management decision making related to maintenance, renewal and capital programming based on levels of service, cost of service and risk considerations

✓ Objective prioritisation of capital needs across business lines

✓ Addresses financial, operational, administrative, regulatory and strategic Region wide requirements that contributes to our goal of economic prosperity

✓ Provides for a common organization wide approach to AM with clear accountabilities, roles and responsibilities and governance

✓ Achieve the desired culture change for excellence in AM

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