Strategic Asset Management Plan

Prepared for

Town of Oakville

December 2017

ch2m. SM

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Acronyms and Abbreviations

AMP	Asset Management Plan
AMS	Asset Management System
CAMRA	Comprehensive Asset Management Review and Assessment
IAM	Institute of Asset Management
ISO	International Organization for Standardization
LOS	Levels of Service
SAMP	Strategic Asset Management Plan
TBL	Triple Bottom Line
the Town	Town of Oakville

Executive Summary

This Strategic Asset Management Plan (SAMP) sets out the asset management strategy for the Town of Oakville (the Town) and focuses on creating alignment between the Town's organizational objectives, asset management objectives, and day-to-day asset management activities. The purpose of this SAMP is to document the translation of organizational objectives into asset management objectives, describe the Asset Management System (AMS) and its use to support achievement of asset management objectives, and identify strategic asset management initiatives that the Town will implement to develop the AMS. The AMS demonstrates that the Town's assets are financially sustainable over the life of the assets.

This SAMP covers all physical assets that are owned, operated, or maintained by the Town and managed through the AMS. Within the AMS assets are managed in a strategic, comprehensive, enterprise-wide manner through an integrated business approach that relies on strategies, trained knowledgeable staff, and communication with stakeholders to achieve desired LOS. To put in place the necessary alignment the Town has developed an Asset Management Policy that includes principles that support delivery of the Town's strategic goals. The Town's asset management principles are summarized in Section 3.1.

The Town staff completed a Comprehensive Asset Management Review and Assessment (CAMRA) with CH2M for assets that provide services for Road, Land Improvement, Environmental Networks, Facilities, Transit and Fleet. These results are provided in Section 5. The CAMRA sessions informed the current asset management maturity, as shown in Section 3.4. The Town is currently a Level 2, with some aspects being a Level 3. By implementing the initiatives in the asset management roadmap provided in Appendix A, the Town will move towards a maturity level of 3-4 over the next 5 years.

To achieve the goal of increasing the asset management maturity levels, Town staff have determined an Asset Management Program. This program focuses on three fundamental goals: providing sustainable, high quality service to customers; optimizing asset value while minimizing life cycle costs, and; managing risks to the delivery of established service levels. The Asset Management Program will ensure the sound stewardship of the Town's assets to meet present and future asset management objectives. The Town's asset management objectives are in the form of levels of service (LOS) measures, which cascade vertically from Corporate LOS measures to Technical LOS measures. Further information on asset management objectives, and the Town's asset management decision-making criteria, is provided in Section 4.

Within the Town's Asset Management Program there are eight priority, short-term, initiatives. The aim of each priority initiative is summarized in Table 1-2. Further information is provided in Section 5.2.

Table 1-1. Summary of Priority Initiatives

#	Theme	Aim description
S1	Asset Management Policy & Strategic Asset Management Plan	Aims: • Put in place a concise Asset Management Policy. • Develop the associated strategy document that details how the Policy will be implemented.

S2	Asset Management Leadership & Governance	Aims:
		• Develop asset management governance structure and process
		• Develop roles and responsibilities for individuals and teams:
		  – Asset management sponsor
		  – Asset management steering committee
		  – Asset management lead
		  – Asset management committee/network
		• Develop reporting requirements - progress, benefits, frequency of meetings

Table 1-1. Summary of Priority Initiatives

#	Theme	Aim description
S3	Change Management & Communication Strategies	Aims: • Develop the communications strategy and change management strategy • Proactive approach to change management and communications • Make change sustainable
S4	Levels of Service & Performance Metrics	Aim: • Develop Customer and Asset LOS Framework and associated measures
S5	Asset Management Plans	Aims: • Define the AMP Framework • Develop the AMP

S6	Asset Information Strategy, Standards, Improvement Plan	Aims:
		 • Develop Asset Information Strategy
		   – Documents the approach to the definition, collection, management, reporting, archive, deletion, and overall governance of Asset Information
		 • Develop Data Standards and Information Management
		   – Develop consistent approach to creating/managing data
		 • Develop the Information Management Improvement Plan

S7	Asset Management Risk Framework	Aims: • Develop a Town-wide approach to risk • Pilot enterprise risk assessments • Pilot asset risk assessments
S8	Capital Investment Plan Development & Governance	Aims: • Develop a more consistent approach to business cases, with better definition and justification of the "business need" through data collection and analysis • More robust and transparent approach to investment prioritization

Section 5.2 further describes these asset management improvement initiatives. It provides further description of each priority short-term initiative, and (if applicable) the current progress of the initiative.

The Town has identified risks and opportunities associated with implementing this SAMP and the strategic asset management improvement initiatives. A list of risks and opportunities identified by the Town is provided in Section 6.

This SAMP, along with the asset management roadmap in Appendix A, are living documents that reflect the evolution of asset management practices within the Town. The Town has embedded continual improvement into its Mission Statement and Strategic Plan. To continually evaluate, review, and enhance its asset management practices, the Town is adopting continual improvement activities and promote a culture of continual improvement through disciplined performance management, performance benchmarking, and collection of customer feedback. The asset management improvement roadmap in Appendix A, and the improvement initiatives described in Section 5.2, are aligned with the Town's Strategic Plan and succeed in meeting the Town's mission, through continual improvement of the asset management system.

Introduction

This Strategic Asset Management Plan (SAMP) sets out the asset management strategy for the Town of Oakville (the Town) and focuses on creating a line of sight between the Town's organizational objectives, asset management objectives, and day-to-day asset management activities. The SAMP should be used to guide the setting of asset management objectives, and to describe the role of the asset management system in meeting these objectives. This includes the structures, roles, and responsibilities necessary to establish the asset management system and to operate it effectively. Effective asset management requires guidance from top management and delivery by empowered and competent employees.

This SAMP is the overarching document that sets out the long-term approach to asset management at the Town, along with the further development of the Town's asset management practices, derived from the Asset Management Policy. The Asset Management Policy defines expectations for the management of the Town's physical assets. The SAMP documents senior management commitment to implementing the Asset Management Policy, including commitment to allocate resources, roles, and responsibilities for its implementation. It is anticipated that the Asset Management Policy will remain constant over time, whereas the SAMP will evolve in response to internal and external changes faced by the Town.

2.1   Need and Purpose

The Town is a complex service delivery organization with responsibility for managing a broad range of physical assets. To fulfill its obligations to deliver services to the community, the Town must ensure that assets supporting these services are managed in a way that balances service-level delivery/performance, risk, and affordability. The majority of these assets are long-lived, with useful lives measured in decades. The asset portfolio requires significant ongoing investment with operation, maintenance, renewal, and enhancement activities to ensure asset performance is supporting the delivery of services now and into the future.

The Town's assets are essential to the well-being of the community and have significant budget implications and, therefore, they need to form an integral part of the Town's long-term financial and service delivery planning. The Town of Oakville, like many other municipalities, operates in an environment of budget constraints, resulting in an increasing risk of failing to maintain the existing infrastructure and the levels of service provided. Funding pressures are being created by having to balance capital investments between growth and renewal.

This SAMP is a high-level document aimed at supporting the delivery of the Asset Management Policy, which, in turn, supports delivery of the Town's corporate strategic goals and provides oversight for the asset life cycle activities required to support these goals. This approach provides a clear line of sight between Council's priorities and the day-to-day activities required to support service delivery.

The overall purpose of this SAMP is to:

- **Document** information that specifies how organizational objectives have been translated into asset management objectives.

- **Describe** the asset management system (AMS) and its use to support achievement of asset management objectives, including delivery of appropriate levels of service (LOS) cost-effectively, while meeting legislative requirements and having regard for the long-term stewardship of the asset portfolio.

- **Identify** strategic asset management improvement initiatives that the Town will implement to develop the AMS.

The establishment of asset management objectives should take into account the requirements of relevant stakeholders and of other financial, technical, legal, regulatory, and organizational requirements. These should be derived as part of the SAMP to provide the essential link between the organizational objectives and the Asset Management Plans (AMPs) that describe how those objectives are going to be achieved. The asset management objectives should be consistent and aligned with the organizational objectives, as well as the Asset Management Policy.

This version of the SAMP focuses primarily on providing a roadmap to deliver the Town's asset management objectives. The Comprehensive Asset Management Review and Assessment (CAMRA) tool was used to provide a review of the current status of asset management maturity at the Town, as a baseline for identifying future asset management improvements. This SAMP also documents the existing situation, along with initiatives to further develop the Town's asset management objectives.

2.2 Scope

This SAMP covers all physical assets that are owned, operated, or maintained by the Town including all assets that are funded through development charges. This SAMP does not include the strategy to maintain and enhance assets, which is covered separately in the Town's AMPs.

2.3 Related Corporate Documents

There are a number of corporate documents that guide and direct the planning and management of assets and these go some way towards translating organizational goals into asset management objectives (e.g., the linkages between active healthy populations to the number of kilometers of active transportation network).

The Town's asset management-related strategic documents include:

- Asset Management Policy (pending Council approval)
- Asset Management General Policy (for Tangible Capital Assets)
- Asset-Specific Policies:
    - Land
    - Land Improvement
    - Buildings
    - Equipment
    - Vehicles
    - Road Network
    - Environmental Network
    - Communications & Technology

- Procedures
- Strategic Plan 2015-2018

2.4   Asset Management System

An AMS has various components in place to develop and govern asset management activities within an organization. Figure 2-1 shows a high-level, best practice model AMS from the Institute of Asset Management (IAM) that the Town will work on detailing and customizing for the next version of this SAMP, once more of the Town's asset management processes have been developed.
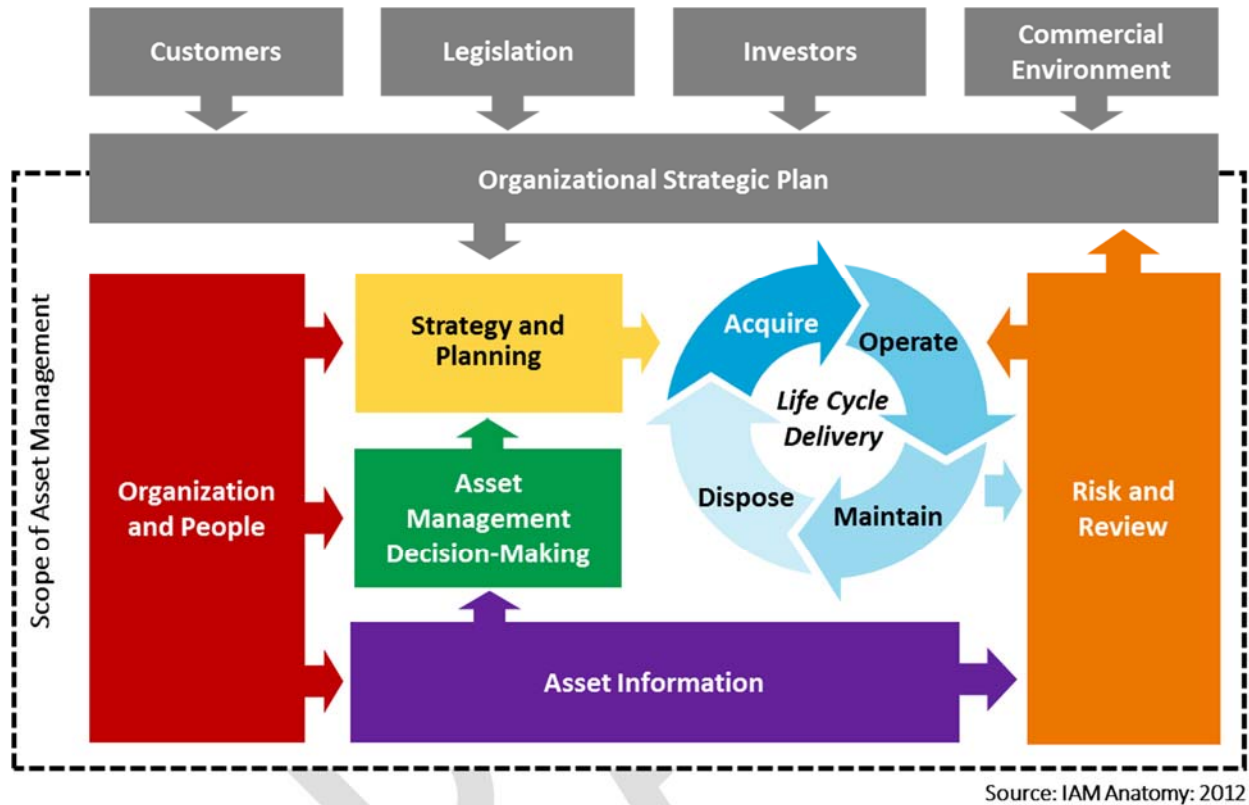
Figure 2-1. General AMS Model

Organizational Context

The Town's asset management approach is to align their asset-related activities to the desired customer LOS and to meet their asset management vision to "*create customer value through enhancing community asset management*".

As stated in the Town's Asset Management Policy, the Town intends to manage infrastructure assets in a strategic, comprehensive, enterprise-wide manner through an integrated business approach that relies on well-devised strategies, trained knowledgeable staff, and good communication with all stakeholders to achieve desired LOS. This requires that all assets be treated as interrelated components in a unified system, rather than as isolated parts.

Asset management at the Town, therefore, relies on four key organizational components being integrated together to achieve the desired service outcomes:

- Well-planned strategies
- Good physical assets
- Highly-trained professionals, with respect to practices and procedures
- Integrated business processes

These components, supported by appropriate technologies, provide a robust foundation for efficient service delivery.

The Town's Asset Management Policy and SAMP form the framework for establishing a clear line of sight between the corporate objectives and strategies and the overall Asset Management Program.

The Asset Management Program encompasses all aspects of the management of each asset through its life cycle by integrating with Council's Strategic Plan, Vision 2057, and other corporate strategic plans to align with the strategic objectives of the Town, as well as with other key business systems, legislation, and regulations. The philosophy is that asset management decisions will be based on:

- The triple bottom line (TBL) pillars of sustainability, that ensure economic, environmental, and social outcomes support the Town's long-term goals.

- Applying "the right intervention, to the right asset, at the right time" recognizing risk and the Town's fiscal constraints.

- A whole-life approach, ensuring that increases or enhancements to the Town's asset base consider impacts on the Town's ability to fund an asset's future maintenance and renewal.

3.1 Strategic Alignment

How the Town's assets are managed and operated plays a key role in achieving the Town's strategic goals and objectives. Many of these goals and objectives are reliant on the long-term sustainability of the Town's infrastructure; therefore, one of the aims of this SAMP is to put in place a clear line of sight between those high-level objectives and the day-to-day activities carried out on the assets, as shown in Figure 3-1.

Figure 3-1. Asset Management – Line of Sight

3.1.1 Alignment with Corporate Strategic Plans

To put in place the necessary line of sight, the Town has developed an Asset Management Policy that includes a set of asset management principles, which support delivery of the Town's strategic goals and objectives. The Town's asset management principles are as follows:

- Forward-Looking and Sustainable
- Sound Asset Information
- Robust, Repeatable and Transparent Decision-Making
- Whole Life-Cycle Cost Perspective
- Risk-Based Perspective
- People-Focused (Customers and Staff)

This SAMP is the basis for delivery of the Asset Management Policy, efficient compliance with the business needs, and achievement of corporate goals. Key corporate strategic planning documents include:

- **Strategic Plan 2015-2018** – sets out the strategic direction for the Town over the term of Council. It serves as the framework to help guide Council's decision-making and resource allocation during the four-year term of office. It includes five key areas of focus for 2015-2018: (1) Good governance, (2) Environmental leadership, (3) Economic growth, (4) Fiscal sustainability, and (5) Outstanding service to residents. The focus areas are connected to specific action items, key measures, and targets, which drive the plan towards Council's vision "*to be the most livable town in Canada*".

- **Vision 2057** – brings together all of the Town's master plans and other key planning initiatives. It includes four key Strategic Directions:

  – Create it! How we will create our community
  – Live it! How we will live in our community
  – Preserve it! How we will preserve our environment
  – Afford it! How we will afford our future

- **Livable Oakville Official Plan** – sets out Council's policies on how Town lands should be used and growth should be managed through to 2031, in order to achieve the Town's vision and mission.

- **Let's Be Livable Community Sustainability Plan** – encompasses the four pillars of sustainability: economic, cultural, environmental, and social. It is part of the Vision 2057 framework that integrates the Town's master plans and is linked to Council's Strategic Plan.

- **Cultural Plan 2016-2021** – builds on the significant progress of the Town's original cultural plan developed in 2009, "Enabling Culture to Thrive in Oakville: Oakville Strategic Directions for Culture". The Plan vision is to "*be a community where culture inspires, engages and thrives*".

- **Environmental Strategic Plan** – provides opportunities for residents, environmental groups, commercial interests, industry, community associations, educators, and other community stakeholders to identify what they can do to protect and improve their environment, along with the Town of Oakville. Progress on the implementation of the Plan is reported annually to Council. The Plan vision is to "*prioritize energy management in all Town departments, optimize energy usage in facilities, provide access to energy information to all employees responsible for energy management, and minimize the impact of increases in energy costs*".

- **Parks, Recreation, and Library Facilities Master Plan** – ensures that the provision of community parks and recreational and library facilities continues to meet the needs of Town residents. The Plan's vision is to "*ensure the wellbeing of the Town's residents, and the cohesive development of communities through parks, recreation and library facilities and amenities, advancing overall quality of life*".

- **Switching Gears Transportation Master Plan** – addresses the short and long-term opportunities and challenges of getting around the Town through to 2031. Considers all modes of transportation including public transit, walking, cycling, and ride-sharing, as well as strategic roadway improvements to ensure the safe, convenient, and efficient movement of people and goods. The Plan's vision is to "*create a more balanced transportation system that provides a variety of sustainable travel options in Oakville*".

- **Active Transportation Master Plan** – recommends an extensive network of facilities composed of on-road and off-road paths designed to respond to the needs of a range of active transportation users, age, and skill level. The Plan was introduced in 2009 and is currently being updated to assess current conditions and develop an improved implementation plan to expand the network, and promote cycling and walking in Oakville.

Other key strategic planning documents include the Development Charges Background study, Fire Master Plan and Oakville Transit Service Review.

Figure 3-2 shows the correlation between the Town's vision and key strategic plans.

Vision 2057 – Community Building Framework

Livable Oakville: Achieving our Vision
To be the most livable town in Canada

25+ yrs

Guiding principles

| Town of Oakville Strategic Plan | Livable Oakville Official Plan | Integrated Community Sustainability Plan |

4-25 yrs

Key strategic directions

How we build our community
North Oakville implementation
Heritage districts
Zoning by-law/urban design guidelines
Midtown business plan
Growth-area community improvement plans

How we will live in our community
Parks, Recreation, Library master plan
Transportation master plan
Culture Lives Here master plan
Economic development strategy
Youth plan
Harbours master plan

How we will preserve our environment
Environmental strategic plan
Corporate sustainability plan
Natural Heritage System
Forestry plan
Trails master plan
Energy plan

How we will afford our future
Capital forecast
Development charges by-law
Program-based, performance-based budgets
Rates and fees strategy

4 yrs

What we are planning for this term of Council

Council's 2015-2018 Strategic Plan   Corporate business plan

1-3 yrs

What we are doing this year

Departmental budgets and business plans   Annual budgets

Foundation

Sustainable foundation for the future

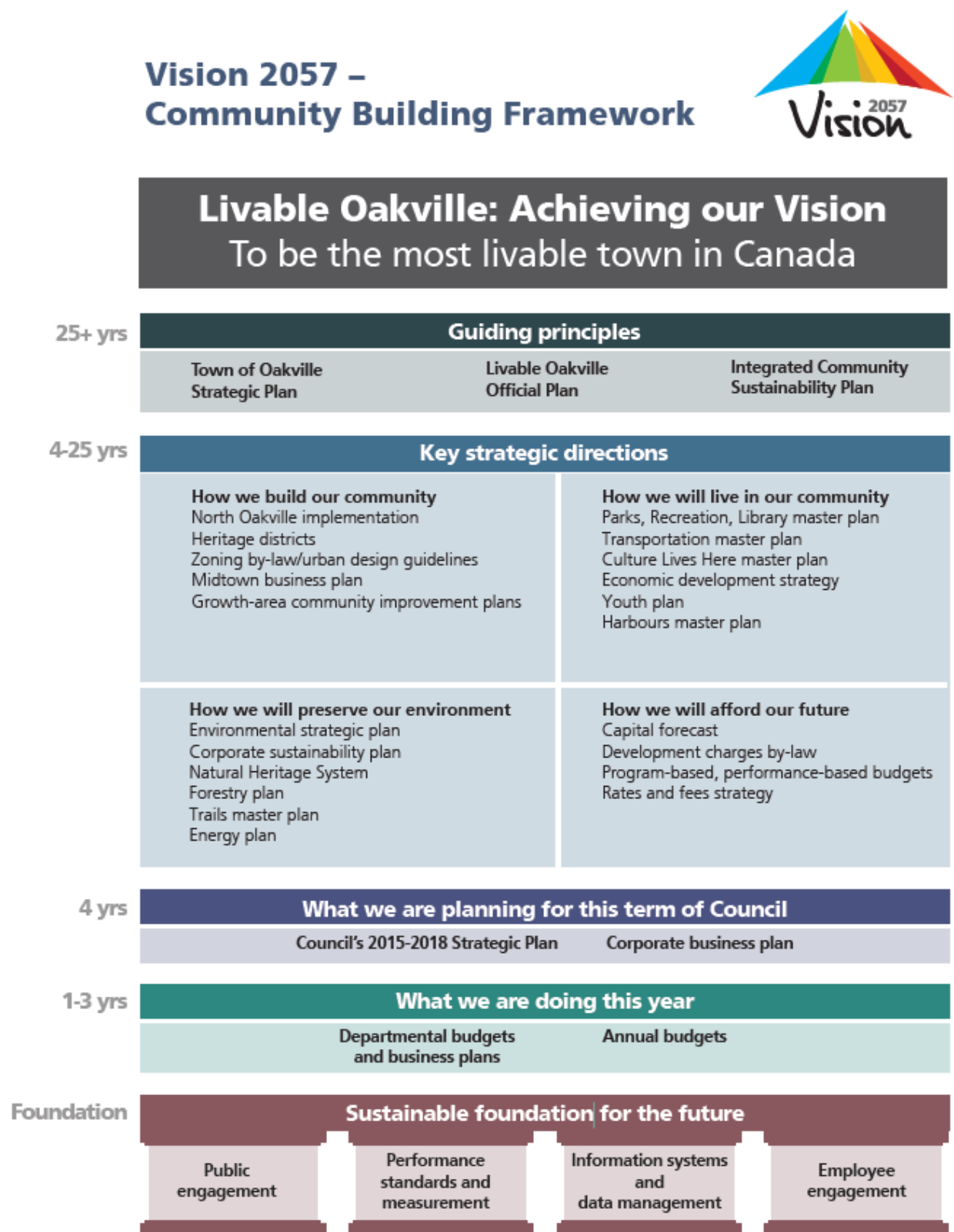| Public engagement | Performance standards and measurement | Information systems and data management | Employee engagement |

Figure 3-2. Vision and Key Strategic Plans

Figure 3-3 shows how the Town's asset management principles can be linked to the Town's strategic directions and focus areas, as described in Council's Strategic Plan 2015-2018, as well as the linkages to the sustainable foundation principles in the Vision 2057 – Community Building Framework (shown in Figure 3-2).

Key Asset Management Principles	How we will create our community	How we will live in our community	How we will preserve our environment	How we will afford our future	Good governance	Environmental Leadership	Economic Growth	Fiscal Sustainability	Outstanding service to residents	Public engagement	Performance standards and measurement	Information systems and data management	Employee engagement
	Key Strategic Directions				Key Focus Areas					Sustainable Foundation for the Future			
1 Forward-Looking & Sustainable	○	○	○			○	○	○					
2 Sound Asset Information	○	○		○				○			○	○	
3 Robust, Repeatable & Transparent Decision-Making				○	○							○	
4 Whole Life-Cycle Cost Perspective				○				○					
5 Risk-Based Perspective			○	○				○	○				
6 People-Focused (Customers & Staff)	○	○							○	○			○

Vision: *To be the most livable town in Canada*

Figure 3-3. Relationship of Asset Management Principles to Strategic Plan

3.1.2   Integrated Asset Management Planning

Future service planning will increasingly need to balance the social, environmental, and economic interests of the community with their capacity and preparedness to pay for services, both now and into the future. This SAMP is a key component of that process.

Along with the Asset Management Policy, the SAMP is a key component of the planning integration process. Important to the success of the integrated planning process is the development of department-level AMPs. These plans include information related to all key physical assets required to support the delivery of agreed LOS, along with the associated funding requirements. These plans will also need to be revised periodically in light of the service decisions resulting from the integrated planning process. As such, future strategic decisions can be made having the full understanding of the assets needed to support the delivery of the service.

Figure 3-4 outlines the process designed for Council and Town staff to integrate strategic planning into their daily activities and decision-making, as presented in Council's Strategic Plan 2015-2018. This process can be adapted to asset management decision-making, in order to ensure alignment with corporate strategic objectives.
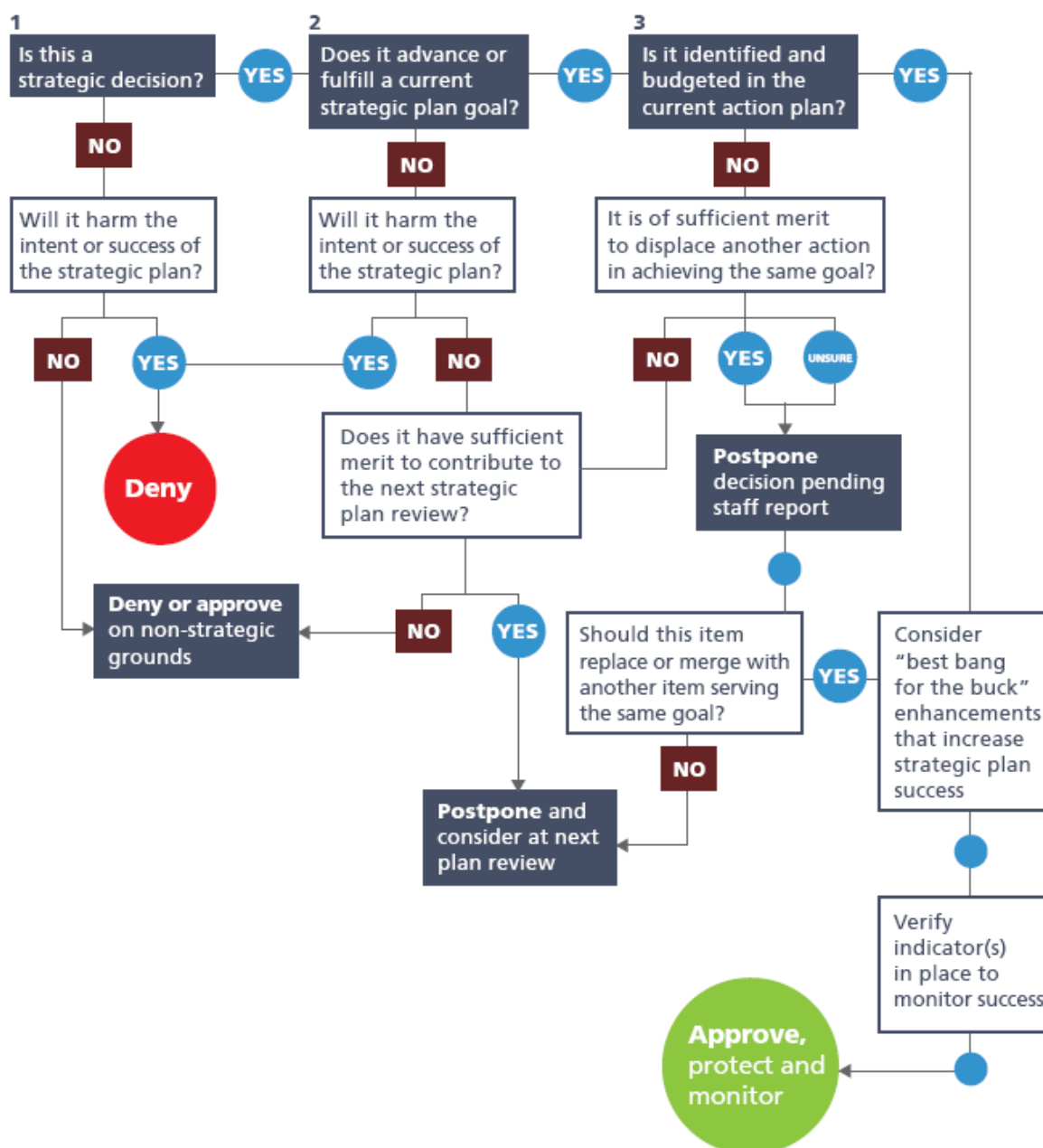
Figure 3-4. Town of Oakville Strategic Decision-Making Process

3.2   Organizational Opportunities and Challenges

The Town's suite of strategic planning documents sets out the environmental and business context of the Town and identifies several opportunities and challenges. In developing asset management objectives and decision-making criteria, the Town will aim to focus its asset management approach on realizing those objectives and mitigating potential challenges.

Key opportunities include:

- Capitalizing on growth while making sure the Town stays livable, affordable, and desirable
- Retaining and expanding businesses, maintaining the Town's competitive position in the marketplace
- Building on local cultural trends and connecting the arts community to economic development, downtown revitalization, cultural tourism, workforce development and retention, creative place-making, and multiculturalism

Key challenges include:

- Developing corporate key performance measures
- Ensuring that people in every community have what they need to lead healthy lives
- Supporting and enhancing active transportation
- Expanding the community engagement program
- Promoting environmental best practices in Town capital projects and private development
- Managing the Town's land supply in a way that contributes to customer values
- Ensuring the Town is resilient to climate change; being able to protect Town assets from extreme rain events, flood events, freeze-thaw cycles, change in mean temperatures, etc.

The Town will continue to develop its asset management objectives and decision-making criteria so they align with the opportunities and challenges facing the Town.

3.3   Needs and Expectations of Stakeholders

A number of stakeholders, both internal and external, will be affected by, and have an interest in, the operational and service changes that can occur from implementation of the SAMP. Their needs (and the risks that will arise, if their needs are not met) must be understood and addressed in order for the SAMP to be successfully implemented.

The Town has identified a high-level list of internal and external stakeholders (see below), which will be further developed as the Town progresses its Asset Management Program.

Internal Stakeholders:

- Town Council
- Senior Management Team
- Finance Department
- Planning Department
- Engineering Department

External Stakeholders:

- Residents
- General public
- Private groups and sports associations
- Industrial, commercial, and institutional users
- Developers
- Provincial Government
- Federal Government

For all identified internal and external stakeholders, the Town is committed to clear, consistent, and timely communications, and to incorporating their priorities in the development and implementation of the SAMP and related plans.

3.4 Asset Management Maturity

CH2M conducted CAMRA assessments with the Town the results of which are provided in Section 5. These CAMRA assessments informed the determination of the Town's current asset management maturity, as shown in Figure 3-5. The Town is currently at Level 2, with some aspects leaning towards Level 3.
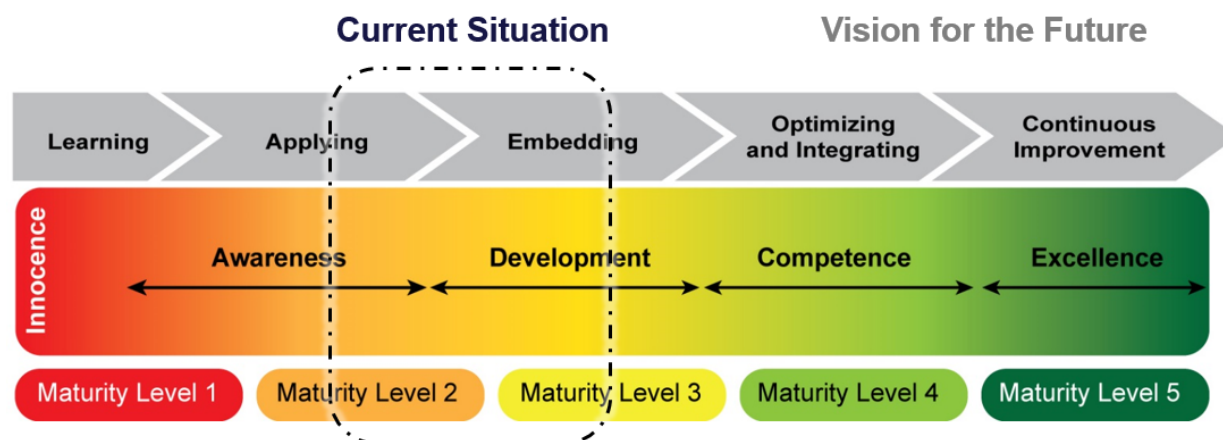
Figure 3-5. Town of Oakville Asset Management Maturity

By implementing the initiatives in the asset management roadmap provided in Appendix A, the Town will move towards a maturity level of 3-4 over the next 5 years.

3.5 People Skills and Competencies

The Town's AMS requires a systematic approach to defining, developing, and assuring the competence of its people and teams. Proactive management of competencies enables managers and staff to deliver the line of sight needed between community outcomes, organizational strategies, plans and work activities.

The Town already has in place an Asset Management Training Program that has enabled staff to acquire a consistent level of understanding of asset management approaches and practices, which has benefited a wide range of staff. The Town's Asset Management Office maintains a list of all Town staff that have attended CH2M's 2-Day Asset Management Training Course. The Town's Asset Management Office and Human Resources Department have reviewed a complete list of Town staff and identified those individuals requiring no asset management training, 1-day training, 2-day training without an exam, and 2-day training with an exam. The next step is the creation of an Asset Management Competency Framework that will enable competency requirements to be identified and planned for individuals.

Development of an Asset Management Competency Framework is part of a continual improvement cycle to achieve the right asset management skills and experience in the Town departments. It will enable the departments to identify generic asset management development needs and to report these needs to the corporate asset management team in a structured way, such that the information can be aggregated across all departments. From this understanding of development needs, the corporate asset management team will be able to develop/acquire/update asset management training packages that are made available across the Town. Use of this approach can then be applied at three levels:

- **Individual**: as part of annual review and career development planning with individuals

- **Team (within departments)**: as part of the identification of recruitment requirements to fill major gaps in team capability

- **Organization (corporate)**: to help to clarify and rationalize roles and responsibilities across teams

The Town will improve the competencies of its asset management staff by:

- Developing an Asset Management Competency Framework.
- Assessing the required competencies and levels of competencies for all asset management roles.
- Mapping staff to asset management roles and determining individual competency requirements.
- Developing training programs aimed at providing staff with the required competencies.

Asset Management Objectives and Decision-Making Criteria

The following subsections describe the Town's asset management objectives and decision-making criteria.

4.1 Asset Management Objectives

The Town's Asset Management Program focuses on three fundamental goals:

- Providing sustainable, high quality service to customers
- Optimizing asset value while minimizing life cycle costs and ensuring that assets are financially sustainable over the life of the assets
- Managing risks to the delivery of established service levels

The Asset Management Program will ensure the sound stewardship of the Town's assets in order to meet present and future customer service commitments in the most effective and efficient manner.

A key role of the SAMP is the translation of organizational objectives into measurable asset management objectives and these asset management objectives are then delivered through the AMPs.

The Town's asset management objectives are in the form of LOS measures, which cascade vertically from Corporate LOS measures to Technical LOS measures. Figure 4-1 shows how LOS measures can be aligned from the corporate performance vision, down to day-to-day asset management decision-making (at the Technical LOS level), ultimately enabling customers to assess the suitability, affordability, and equity of services offered.

Figure 4-1. Alignment of Levels of Service to Corporate Strategy

With regard to the development of the Customer and Technical LOS measures, the Town has been making good progress and further work is planned, as per the Priority Initiatives outlined in Section 5. The LOS Framework for each asset class will be included in the AMP.

The AMP includes a qualitative overview of the LOS delivered for each network of assets, as assessed against a set of core values including:

- Accessibility
- Quality
- Availability
- Reliability
- Safety
- Shine (aesthetics)

4.2   Asset Management Decision-Making Criteria

The Town's asset management decision-making criteria, along with their relative weightings, are provided in Table 4-1.

Category	Criteria	Definition	Weight
Maintain Service	Maintaining Regulated Service Outputs	Maintains the aspects of service as set down in existing legislation/regulation or with regard to public health.	25%
	Maintaining Discretionary Service Outputs	Maintains the aspects of service as directed by current Town Policies, Strategies, etc.	
	Maintaining Aesthetic Service Outputs	Maintains aesthetic aspects of a service.	
Growth & Service Enhancements	Growth	Either supports business development or enables growth of the Town.	17%
	Enhance Aesthetic Service Outputs	Enhances aesthetic aspects of a service.	
	Enhance Discretionary Service Outputs	Enhances the aspects of service as directed by new Town Policies, Strategies, etc.	
Safety & Regulatory	Maintaining Safety	Maintains the safety aspects of a service.	38%
	Safety Improvement	Improves the safety aspects of a service.	
	New Regulations	Makes changes to the service to meet new regulatory requirements.	
Sustainability	Environmental Improvement	Makes changes to the service to improve environmental/sustainability aspects. May include changes staff working environment.	20%
	Financial Sustainability	Replaces existing infrastructure to improve operational efficiency. Eg (Spend to Save)	
	Resilience	Hardens the assets against natural or man-made threats or improves resiliency.	

Strategic Asset Management Initiatives

Achieving the goals of the Asset Management Policy will require improved asset management practices, competencies, and capabilities both within the individual departments and across the Town as a whole.

Achieving consistency in the application of asset management practices across the organization requires a well-defined approach. This approach must be structured and clearly communicated so that everyone is aware of their roles and all are working toward a common purpose – the delivery of services and achieving the Town's objectives.

Accomplishment of this goal will require the following activities:

- Adhering to good asset management practices.

- Continually improving asset management tools and procedures and fostering the sharing of information across Town departments so that everyone can use the best information available as part of their decision-making.

- Developing business processes and procedures for key business activities.

To advance the state of asset management practice, an asset management assessment (using the CAMRA tool) was carried out as part of development of this SAMP.

5.1   CAMRA Results

To date, the Town has conducted CAMRA workshops for the Road, Land Improvement, and Environmental Networks, and assets managed by Facilities, Transit and Fleet. This section reports on these asset groups for which CAMRA workshops have been completed. Table 5-1 shows a summary of CAMRA workshops that have been conducted with the Town.

Table 5-1. Summary of CAMRA Assessments

Asset Category	CAMRA Assessment Status
Road Network	Completed – January 20, 2016
Land Improvement Network	Completed – January 19, 2016
Environmental Network	Completed – January 20, 2016
Facilities	Completed – September 18th, 2017
Transit	Completed – September 25th, 2017
Fleet	Completed – September 28th, 2017

There were 32 questions posed to Town staff during the CAMRA workshops conducted on January 19, 2016 (Land Improvement Network), January 20, 2016 (Road Network and Environmental Network), September 18th 2017 (Facilities Services), September 25th 2017 (Transit Services), and September 28th 2017 (Fleet Services).

Figures 5-1 and 5-2 show the current and forecasted maturity levels of the Town for each theme over the short, medium, and long-terms.

	Theme	Current			Short			Medium			Long		
		Environment	Land Improvement	Roads	Environment	Land Improvement	Roads	Environment	Land Improvement	Roads	Environment	Land Improvement	Roads
1	Organizational Strategic Plans												
2	Monitoring Performance Against The Organizational Strategic Plans												
3	Scope of the Management System												
4	Asset Management Policy & Strategic Asset Management Plan												
5	Asset Management Leadership & Governance												
6	Asset Management Roles & Responsibilities												
7	Master Plan For Dev. Of Asset Mgt Bus. Processes & Procedures												
8	Master Plan for Dev. of Asset Mgt Skills & Competences												
9	Master Plan For Dev. of Asset Mgt Information Technology												
10	Service Performance Measures/ Levels of Service												
11	Future Trends (Impact Of Growth)												
12	Legal, Regulatory & Statutory Requirements												
13	Asset Inventory												
14	Asset Information												
15	Information Management												
16	Business Applications												
17	Risk Framework - Strategic Level & Asset Level												
18	Optimized Asset Intervention Planning												
19	Asset Management Plans												
20	Capital Investment Plan Development & Governance												
21	Capital Projects - Planning, Design & Construction												
22	Operations Management												
23	Maintenance Management												
24	Investigation & Recording Of Routine Asset Failures & Reactive Work												
25	Materials Management												
26	Emergency Preparedness & Response												
27	Control of Documented Information												
28	Learning & Development												
29	Knowledge Retention & Succession Planning												
30	Asset Management Quality Assurance & Management Review												
31	Continual Improvement Culture												
32	Communication & Change Management												

Legend: 1, 1.5, 2, 2.5, 3, 3.5, 4, 5

Figure 5-1. Current and Forecasted Maturity for each Asset Management Themes for the Roads, Land Improvement, and Environment Networks
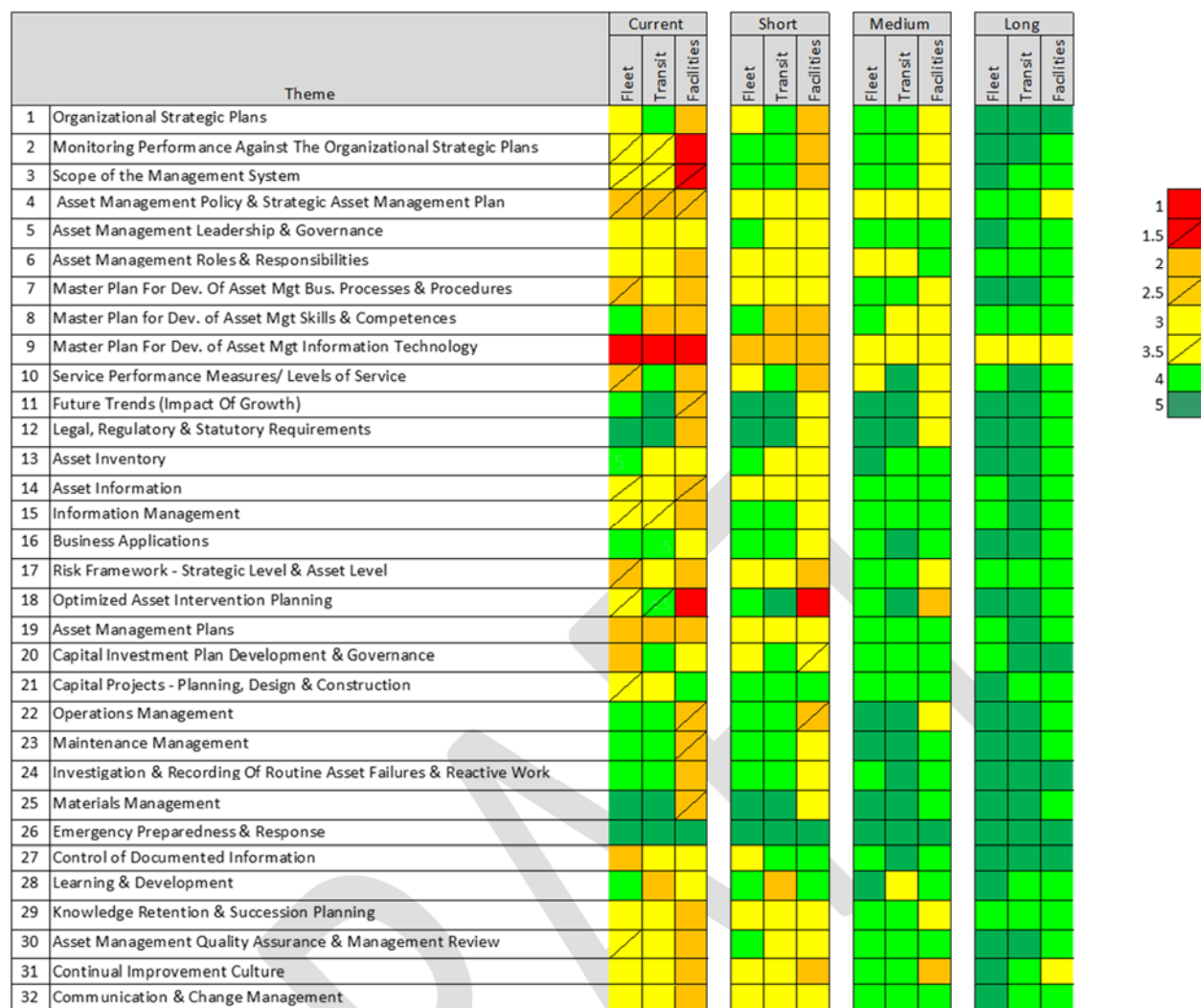
Figure 5-2 Current and Forecasted Maturity for each Asset Management Theme for the Facilities, Transit, and Fleet Assets

Figure 5-3 shows the general phasing of asset management improvement initiatives. Short-term initiatives are identified as mid-2018, medium-term as mid-2019, and long-term as the end of 2022. The actual timescales for delivery for the medium and long-term initiatives will be subject to review, following the completion of short-term initiatives.

Figure 5-3. Phasing of Asset Management Improvement Initiatives — a matrix showing proposed improvement phasing (Short / Medium / Long) across asset themes and categories (Environment, Land Improvement, Roads, Fleet, Transit, Facilities).

| #	Theme	Short Env	Short Land Imp	Short Roads	Medium Env	Medium Land Imp	Medium Roads	Long Env	Long Land Imp	Long Roads	Short Fleet	Short Transit	Short Facilities	Medium Fleet	Medium Transit	Medium Facilities	Long Fleet	Long Transit	Long Facilities
1	Organizational Strategic Plans							M	M		■	■	■	■		■	■	■	■
2	Monitoring Performance Against The Organizational Strategic Plans							M	M	M	■	■	■			■	■	■	■
3	Scope of the Management System	■	■	M							■	■	■	■	■	■	■	■	■
4	Asset Management Policy & Strategic Asset Management Plan	■	■	■							■	■	■		■	■	■	■	■
5	Asset Management Leadership & Governance	M	■	■							■	■		■	■	■	■	■	■
6	Asset Management Roles & Responsibilities				■		S						■	■	■	■	■	■	■
7	Master Plan For Dev. Of Asset Mgt Bus. Processes & Procedures	M	■	■							■	■	■	■	■	■	■	■	■
8	Master Plan for Dev. of Asset Mgt Skills & Competences				S		S				■	■	■	■	■	■	■	■	■
9	Master Plan For Dev. of Asset Mgt Information Technology	■	■	■							■	■	■	■	■	■	■	■	■
10	Service Performance Measures/ Levels of Service	■	■	■							■	■	■				■	■	■
11	Future Trends (Impact Of Growth)		4		S	4	S				■	■	■	■	■	■	■	■	■
12	Legal, Regulatory & Statutory Requirements								S		■	■	■	■	■	■	■	■	■
13	Asset Inventory					L	S				■	■	■	■	■	■	■	■	■
14	Asset Information				S						■	■	■	■	■	■	■	■	■
15	Information Management				S						■	■	■	■	■	■	■	■	■
16	Business Applications		4			4		M	4	S	■	■	■	■	■	■	■	■	■
17	Risk Framework - Strategic Level & Asset Level						S				■	■	■	■	■	■	■	■	■
18	Optimized Asset Intervention Planning						S				■	■	■	■	■	■	■	■	■
19	Asset Management Plans	■	■	■							■	■	■	■	■	■	■	■	■
20	Capital Investment Plan Development & Governance				S						■	■	■	■	■	■	■	■	■
21	Capital Projects - Planning, Design & Construction				S						■	■	■			■	■	■	■
22	Operations Management										■	■	■	■	■	■	■	■	■
23	Maintenance Management						S				■	■	■	■	■	■	■	■	■
24	Investigation And Recording Of Routine Asset Failures & Reactive Work	M		M				■		■	■	■	■	■	■	■	■	■	■
25	Materials Management		4			4		■		■	■	■	■	■	■	■	■	■	■
26	Emergency Preparedness & Response	4	4	4	4	4	4	4	4	4									
27	Control of Documented Information							M	S		■	■	■	■	■	■	■	■	■
28	Learning & Development				■	■	■				■	■	■	■	■	■	■	■	■
29	Knowledge Retention & Succession Planning						S				■	■	■	■	■	■	■	■	■
30	Asset Management Quality Assurance & Management Review							S	M	M	■			■		■	■		■
31	Continual Improvement Culture				L	■								■	■	■	■	■	■
32	Communication & Change Management	M	M	M									■	■	■	■	■		

Legend:
- ■ Proposed Improvement
- (blank) No Improvement Proposed
- S Proposed Initiative with Implementation Timescale Altered ("S", "M", and "L" reflect initial timescale)
- 4 No Initiative Proposed (# value represents the current situation score)

A draft implementation roadmap (Appendix A) has been developed that considers overall phasing of the initiatives to close the gaps identified for the Town.

5.2   Priority Initiatives

There were eight priority (short-term) initiatives identified in the March 22, 2016 workshop, which are summarized in Table 5-2, along with a high-level description of the intended aims/outputs.

Table 5-2. Summary of Priority Initiatives

#	Initiative	Description
S1	Asset Management Policy & Strategic Asset Management Plan	Aims: ● Put in place a concise Asset Management Policy ● Develop the associated strategy document that details how the Policy will be implemented Outputs: ● Strategy detailing: – Asset management alignment with corporate plans and goals – Asset management performance targets – The required asset management practices required to achieve the future vision – High-level overview of resources, roles and responsibilities, timescales for implementation – Description key initiatives that support delivery of the Policy
S2	Asset Management Leadership & Governance	Aims: ● Develop asset management governance structure and process ● Roles and responsibilities for individuals and teams: – Asset management sponsor – Asset management steering committee – Asset management lead – Asset management committee/network ● Reporting requirements - progress, benefits, frequency of meetings Outputs: ● Agreed approach to the resourcing and governance of the Asset Management Program
S3	Change Management & Communication Strategies	Aims: ● Develop the communications strategy and change management strategy ● Proactive approach to change management and communications ● Making change sustainable Outputs: ● Communications Plan – What? – Who? – When? – How? ● Change Management Plan
S4	Levels of Service & Performance Metrics	Aims: ● Develop Customer and Asset LOS Framework and associated measures Outputs: ● Agreed performance reporting framework for use at the corporate, department, and divisional levels ● LOS framework agreed and piloted for a range of asset types

Table 5-2. Summary of Priority Initiatives

#	Initiative	Description

S5	Asset Management Plans	<u>Aims</u>:
		• Define the AMP Framework
		• Develop the AMP
		<u>Outputs</u>:
		• Demonstrate that:
		  – LOS are being met in the most effective and efficient manner
		  – Due regard is being given to the long-term stewardship of the asset base
		• Show how regulatory compliance will be achieved and growth accommodated while maintaining the asset stock
		• Communicate and justify funding requirements

S6	Asset Information Strategy, Standards, Improvement Plan	• Asset Information Strategy
		  – Documents the approach to the definition, collection, management, reporting, archive, deletion, and overall governance of Asset Information
		  – Appropriate hierarchy
		  – Appropriate attributes
		  – Understand informational needs
		  – Planning (Corporate, Strategic, etc.)
		  – Operational (Operations, Maintenance, etc.)
		  – Customer (Requests, Performance, etc.)
		  – Assess current and future practices
		  – Balance life cycle costs and benefits
		  – Aim is to sustain levels of data quality required to support asset management activities
		• Data Standards and Information Management
		  – Need to ensure that asset information is collected, categorized, and provided to agreed levels and timescales
		  – Consistent approach to creating/managing data
		  – Data entry standards
		  – Processes for the management and governance of data and information
		• Information Management Improvement Plan
		  – Costs, benefits, and timescales for improvements
		  – Prioritized plan for the collection/refresh of data
		  – Risk-based

S7	Asset Management Risk Framework	<u>Aims</u>: • Develop a Town-wide approach to risk • Pilot enterprise risk assessments • Pilot asset risk assessments (aligned to Corporate Risk Framework) <u>Outputs</u>: • Corporate Risk Framework • Asset Risk Frameworks • Will feed into maintenance planning, vulnerability assessments, capital planning, condition assessments, etc.

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Table 5-2. Summary of Priority Initiatives

#	Initiative	Description
S8	Capital Investment Plan Development & Governance	Aims: • Better definition and justification of the "business need" – data driven • Consistent approach to business cases • More robust and transparent approach to investment prioritization • Benefits-based approach • Build on existing approaches Outputs: • Evidence-based business cases (risk and LOS) • Whole life costs approach to option selection • Town-wide approach to investment prioritization

The following subsections describe initiatives S1 to S8, along with an additional initiative (S9) for asset management awareness training. The subsections provide further description of each priority short-term initiative, and (if applicable) the current progress of the initiative.

5.2.1 Asset Management Policy & Strategic Asset Management Plan (S1)

The Town's Asset Management Policy (A-BMG-004) was approved by Council in September 2017.

This document serves as the Town's preliminary SAMP.

5.2.2 Asset Management Leadership & Governance (S2)

The aim of this initiative is to develop an asset management governance structure and process that will clearly outlined roles and responsibilities for individuals and teams, as well as reporting requirements.

This initiative aligns with the following principles in the Asset Management Policy: "Robust, Repeatable and Transparent Decision-Making" and "People-Focused (Customers and Staff)".

This initiative has been set up through recent asset management improvement initiatives, and will continue through regular, quarterly meetings of the asset management working group.

5.2.3 Change Management & Communication Strategies (S3)

The aim of this initiative is to develop strategies for a proactive approach to change management and communications – to make change sustainable.

This initiative aligns with the following principle in the Asset Management Policy: "Forward-Looking and Sustainable".

This initiative has been initiated through recent asset management improvement initiatives, and will be continued through regular, quarterly meetings of the asset management working group.

5.2.4 Levels of Service & Performance Metrics (S4)

The aim of this initiative is to develop customer and technical LOS frameworks and associated measures.

This initiative aligns with the following principle in the Asset Management Policy: "People-Focused (Customers and Staff)".

At the writing of this SAMP, the initial version of LOS and performance metrics has been drafted. The next phase is to set targets and objectives, and link the LOS and performance metrics to a separate corporate initiative, which will drive efficiencies from the LOS.

This initiative is planned to be completed by Q1 of 2019, in parallel with the second phase of development of the AMP and alongside the separate corporate initiative to drive efficiencies from the LOS.

5.2.5 Asset Management Plan (S5)

The first version of the Town's AMP is underway .

This initiative aligns with the following principles in the Asset Management Policy: "Sound Asset Information", "Whole Life-Cycle Cost Perspective", and "Risk-Based Perspective".

5.2.6 Asset Information Strategy, Standards, Improvement Plan (S6)

The aim of this initiative is to develop and document strategies to ensure that data quality is sufficient to support asset management activities, to improve data and information management processes, and to identify and document appropriate data entry standards.

This initiative aligns with the following principles in the Asset Management Policy: "Sound Asset Information" and "Robust, Repeatable and Transparent Decision-Making".

The key tasks for the delivery of this initiative are to:

- Identify the core asset management processes currently in place such as LOS, AMPs, Business Cases and their primary data and information needs for the asset portfolio.

- Conduct a gap analysis and determine the major data quality issues affecting the decision-making processes, for example, lack of O&M data for life cycle expenditure calculations.

- Create asset data and information strategies that set out a multi-year improvement program.

With improved data and information management, future asset management decision-making will be able to evolve into information-driven methodologies.

Estimated external consultant resources: $50,000

5.2.7 Asset Management Risk Framework (S7)

The aim of this initiative is to develop a Town-wide approach to risk and, in so doing, develop both corporate and asset risk frameworks.

This initiative aligns with the following principle in the Asset Management Policy: "Risk-Based Perspective".

The key tasks for the delivery of this initiative are:

- Create a simple, concise risk management standard for the Town that sets out basic risk approaches and terminology to be applied to all assets within the portfolio.

- Develop risk framework, and risk criteria (likelihood and consequence matrices) for each asset network that are aligned to customer LOS.

- Conduct pilot risk assessments on a range of asset-related issues to test and validate the risk management processes and equip staff to conduct risk assessments in a consistent manner.

- Define an implementation plan for each asset network.

An organization-wide risk management process will enable the evolution to risk-based decision-making.

Estimated external consultant resources: $100,000

5.2.8 Capital Investment Plan Development & Governance (S8)

The aim of this initiative is to test and validate the Town's business cases and ensure a consistent, robust, and transparent approach to prioritizing investments, to meet the Town's LOS requirements.

This initiative aligns with the following principles in the Asset Management Policy: "Forward-Looking and Sustainable", "Robust, Repeatable and Transparent Decision-Making", "Whole Life-Cycle Cost Perspective", and "Risk-Based Perspective".

The key tasks for the delivery of this initiative are:

- Test the business case methodology to ensure risk-based, information-driven decision-making.
- Conduct pilot business case challenge sessions on a range of projects across the asset networks.
- Test and refine the investment prioritization criteria for each of the asset networks.
- Test and refine the investment prioritization methodology to apply across all asset networks.

Implementing a robust and transparent business case methodology will provide senior management with confidence that people are consistent in their decision-making, and that it is information-driven and based on risk.

Estimated external consultant resources: $100,000

5.2.9 Asset Management Awareness Training (S9)

Asset management training has been integral to developing competence within a core group of asset management practitioners. Future training will raise awareness of asset management for staff across multiple departments, including how their work contributes to successfully meeting LOS and achieving the Town's asset management objectives.

The following asset management awareness training will be provided to Town staff in various departments, with the intent to raise awareness of good practice asset management:

• Module 1 - Introduction to Asset Management
• Module 2 – Asset-Related Risk
• Module 3 - Asset Management Life Cycle
• Module 4 - Asset Information
• Module 5 - Financial and Business Impacts (including AMPs)

Training forms a part of the overall learning model, where on-the-job experiences, mentoring and formal learning are required for staff development. The model is representative of the following:

• Development from on-the-job experiences that include challenging assignments and other opportunities to build skills through applying them at work.

• Development from learning from others, including mentoring relationships and experiences, as well as coaching and management feedback.

• Development from formal learning, including online and classroom courses, reading professional books/articles, and attending webinars.

Asset management awareness training will contribute to the formal learning requirements of staff.

Estimated external consultant resources: $75,000

Risks and Opportunities

The Town has identified risks and opportunities associated with implementing this SAMP and the strategic asset management initiatives described herein. The following subsections summarize the identified risks and opportunities.

6.1   Risks

The main risks that the Town will manage during implementation of this SAMP and the strategic asset management initiatives are as follows:

- The ongoing financial sustainability of the strategic initiatives will be managed within the program's set limits, to 2023 and beyond.

- Training, education, and knowledge development will be provided to ensure staff competencies are maintained during the process of change that is required during implementation.

- Communications will be planned to ensure that they permeate through to staff at the Town who are affected by the changes required during implementation.

- Staff will be engaged to ensure they understand their contribution to asset management, and how their activities for the Town can positively influence the intent of this SAMP.

- Town leaders and management will be consulted and informed, to ensure that acceptance for strategic asset management initiatives is understood.

- The strategic initiatives will achieve the Town's objectives, notably affordability, sustainability, resiliency, and maximizing value from assets.

- The improved processes and procedures implemented for the strategic initiatives will be adaptable to possible changes to legislation and regulations.

6.2   Opportunities

The main opportunities that the Town will leverage during implementation of this SAMP and the strategic asset management initiatives are as follows:

- The approved program, until 2023, will allow federal funding sources to be applied for and obtained, to benefit citizens.

- Forward-planning of the strategic asset management initiatives will allow for coordination with other Town programs.

- Town leaders, management, and staff will be viewed as leaders in good asset management practice amongst other Ontario municipalities.

- Implementation of the strategic asset management initiatives will improve procedural efficiencies through implementation of good asset management practice.

- Staff morale will be increased through an understanding that the asset management system will be improved during the program's implementation.

- Changes to the way in which asset management is conducted at the Town will enact an organizational culture change.

- The SAMP and these strategic initiatives will be used to implement global asset management good-practice, and progress towards compliance with international standards (e.g., ISO 55001).

Continual Improvement and Monitoring

This SAMP, along with the asset management roadmap (Appendix A), are living documents that will continue to reflect the evolution of asset management practices within the Town. The Town has embedded continual improvement into its Mission Statement and its Strategic Plan.

From the Town's Mission Statement:

> *We create and preserve Canada's most livable community that enhances the natural, cultural, social and economic environments. We achieve this by continuously improving programs and services that are both accessible and environmentally and fiscally sustainable.*

From the Town's Strategic Plan (2015-2018):

> *The Town's strategic plan is a continual work in progress. Over time, new priorities, new opportunities, new demands and new challenges will emerge, and incorporating annual business plans into the Town's strategic planning process ensures us the flexibility to respond quickly and effectively to these changing directions.*

In order to continually evaluate, review, and enhance its asset management practices, the Town is adopting a number of continual improvement activities and will promote a culture of continual improvement through disciplined performance management, performance benchmarking, and collection of customer feedback.

The asset management improvement roadmap (Appendix A), and improvement initiatives described in Section 5.2, are aligned with the Town's Strategic Plan and succeed in meeting the Town's mission, through continual improvement of the asset management system.

Throughout implementation of the asset management improvement roadmap, annual reviews of the performance of the program will be conducted. The review will consist of internal evaluation, together with the results of benchmarking, audit results, and assessments of current and best practices.

Appendix A
Asset Management Roadmap

Town of Oakville Asset Management Roadmap

Focus Areas	2017	2018	2019	2020	2021	2022	2023 +
	Understanding →			Development →		Competence →	Excellence →
Strategy	S1 – AM Policy & SAMP		M3 – Master Plan for Dev. of AM Bus. Processes & Procedures		L1 – Organizational Strategic Plans		
	S4 – LOS & Performance Metrics				L2 – Monitoring Performance Against the Organizational Strategic Plans		
	S5 – Comprehensive Asset Management Plans		M4 – Master Plan for Dev. of AM Skills & Competencies	M4 – Implement Master Plan of AM Skills & Competencies	L3 – Legal, Regulatory, & Statutory Requirements	L8 – Update Asset Management Plans	
			M5 – Master Plan for Dev. of AM Software and Tools	M6 – Future Trends (Impact of Growth)			
Physical Assets			S6 – Asset Information Strategy, Standards, & Improvement Plan	M8 – Investigation & Reporting of Asset Failures & Reactive Work	L4 – Business Applications		
		S7 – AM Risk Framework	M10 – Optimized Asset Intervention Planning	M9 – Information Management	L6 – Control of Documented Information		
		S8 – Capital Investment Plan Development & Governance					
			M7 – Asset Inventory Improvement				
Organization/People	S2 – AM Leadership & Governance	S2 – AM Leadership & Governance (ongoing asset management working group activities)					
	S3 – Change Mgt & Communication Strategies	S3 – Change Mgt & Communication Strategies (ongoing asset management working group activities)					
		S9 – Asset Management Awareness Training		M14 – Learning & Development	M16 – Continual Improvement Culture		
			M2 – AM Roles & Responsibilities	M15 – Knowledge Retention & Succession Planning			
Business Processes			M1 – Scope of the Management System	M12 – Operations Management	L5 – Materials Management		
			M11 – Capital Projects - Planning, Design, & Construction		L7 – AM Quality Assurance & Mgt. Review		
			M13 – Maintenance Management				