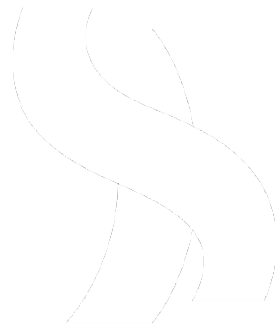


2026



TORONTO PARKING AUTHORITY
REPORT NUMBER: 2024-CS-VAR-2030.30

ASSET MANAGEMENT IMPLEMENTATION

ASSET MANAGEMENT ROADMAP

JULY 31, 2026





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GLOSSARY

Term	Definition
Asset	A physical/non-physical item used to deliver services such as parking, bike share, or EV charging that has potential or actual value to TPA.
Asset Management (AM)	The coordinated activity of an organization to realize value from its assets through the balancing of cost, risk, performance, and sustainability over their lifecycle.
Asset Management Plan (AMP)	A plan that outlines how asset management practices deliver levels of service, considering lifecycle costs, risks, and performance requirements.
Asset Management Strategy (AMSt)	This document – providing details on the development of the Asset Management System and is a direct input into the Roadmap, aiding continuous improvement and alignment with good practice.
Asset Management System (AMS)	A set of interrelated elements—policies, objectives, processes, and technologies—used to implement and continuously improve Asset Management.
CMMS (Computerized Maintenance Management System)	A digital system used to manage work orders, track maintenance activities, and store asset information to support lifecycle management.
Condition Assessment	The process of inspecting and evaluating the physical state and performance of an asset to inform maintenance, renewal, and investment decisions.
Continuous Improvement	The ongoing effort to enhance processes, systems, and performance to deliver better outcomes aligned with organizational and Asset Management objectives.
Enterprise Risk Management (ERM)	The framework used by the organization to assess and manage its risks.
Geographic Information System (GIS)	A spatial data platform used to map, analyze, and manage the location and condition of assets across TPA’s network.
Governance	The framework of roles, responsibilities, and decision-making processes that ensure accountability and alignment of AM practices with corporate objectives.
ISO 55001	The international standard defining terminology, principles, and requirements for an effective Asset Management System.

Term	Definition
Level of Service (LOS)	Measurable performance standards that define how assets or asset services perform from both customer and technical perspectives.
Lifecycle Costing	The total cost of ownership of an asset over its life, including acquisition, operation, maintenance, renewal, and disposal.
O.Reg 588/17	The Ontario regulation that requires municipalities and local boards to prepare and implement Asset Management policies and plans that integrate with financial and service planning.
TPA Roadmap	The continuous Improvement plan that details the planned changes to the Asset Management System.
Risk Management	The coordinated approach to identifying, assessing, and mitigating potential events or conditions that could negatively affect service delivery or organizational objectives.
State of Good Repair (SOGR)	The condition in which an asset is functional, safe, and capable of meeting its intended level of service.
Toronto Parking Authority (TPA)	A self-sustaining agency of the City of Toronto responsible for providing parking, bike share, and electric vehicle charging services.
TransformTO	The City of Toronto’s climate action strategy, which outlines goals to achieve net-zero community emissions by 2040, influencing TPA’s sustainability commitments.



1 EXECUTIVE SUMMARY

From an executive perspective, the Roadmap supports continual improvement in governance, financial stewardship, and strategic oversight, supporting long-term planning, informed investment decision making, and alignment of resources with service and organizational objectives.

This Roadmap provides program leads and staff who are responsible or accountable direction for delivering asset management-related activities and contributing to the development of the Asset Management System. For people outside these groups, this Roadmap forms the basis for Asset Management discussions, as it provides insights into the ongoing continuous improvement activities, giving these groups an understanding of what is coming, the scope of the change activities and how they will be able to support the maturity related improvements.

Figure 1-1 summarizes TPA’s key asset management achievements since the start of the program and illustrates the planned improvements required to enable and grow asset management across the organization.

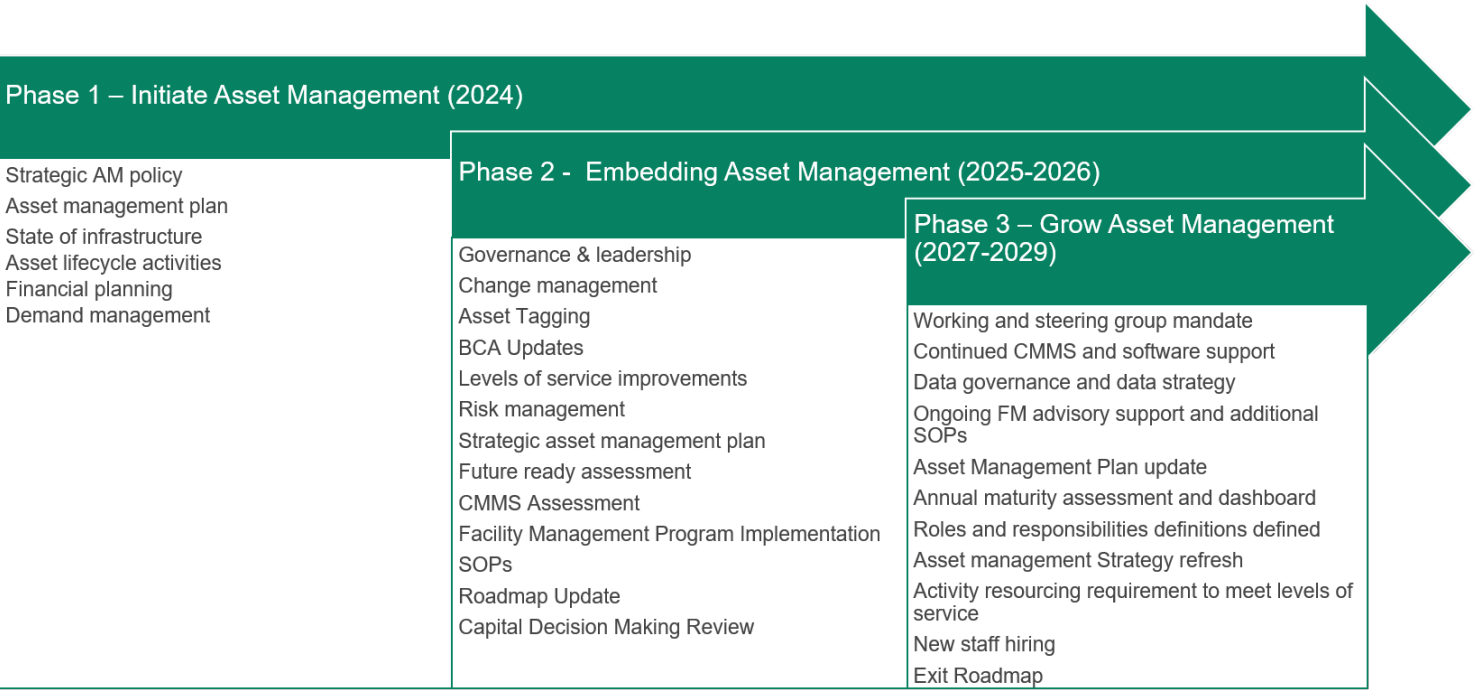


Figure 1-1 Asset Management Achievements

1.1 OVERVIEW

The Toronto Parking Authority (TPA) is a City of Toronto agency (the City), established to provide parking and mobility services. As a self-sustaining agency, TPA operates without taxpayer subsidies, while contributing significantly to the City of Toronto's general revenue fund.

The City mandated that TPA should align with O.Reg 588/17. Understanding the importance of Asset Management, TPA chose to move beyond this requirement and align with good practice as covered in ISO 55000, the international standard. TPA chose the standard as it provides a recognized best practice approach to structuring an Asset Management System (AMS), an important component for successful

delivery of Asset Management related services. TPA also uses ISO aligned Institute of Asset Management material.

This Roadmap details improvements used to move TPA to its target of aligning with good practice.

1.2 DRIVING TARGETED IMPROVEMENTS

There are many improvement areas, defined by the Roadmap, to address each of these TPA uses the Institute of Asset Management 10-component model. To improve the overall maturity level, each of the identified component areas are being addressed.

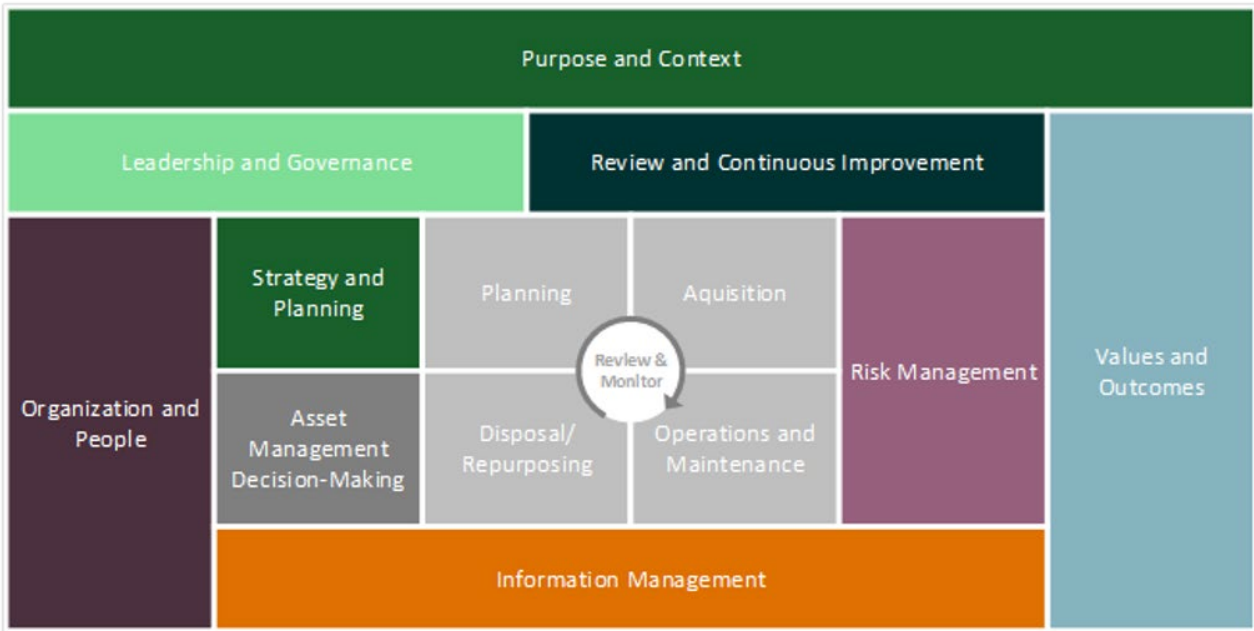


Figure 1-2 Anatomy of Asset Management, Asset Management framework. source: IAM, 2024

1.3 FORECASTED MATURITY IMPROVEMENTS

At the start of the Asset Management development program, and using a combination of the ISO 55001 standard and IAM 10-Component model, TPA was initially assessed as having an opening maturity rating of 1.2, where:

- Level 0 – is innocent,
- Level 1 – is aware of good practice
- Level 2 – is developing towards good practice
- Level 3 – competent practice and alignment with good practice.
- Level 4 – relates to business optimization, where TPA is tailoring good practice to its specific needs
- Level 5 – is excellent and aligned with best practice, or is creating best practice for TPA’s specific requirements



At the end of 2025 a desktop assessment placed TPA’s Asset Management maturity between Aware and Developing, resulting in a score of 1.5. This level of movement, at the start, required significant effort across all areas of the standard, as core documents had to be developed. This Roadmap supports increasing TPA’s maturity score to 2.2, representing a Developing-Competent level, and then to 2.8, representing a move towards Competent practice and place where steady incremental improvements are being achieved. After this point, TPA will focus on specific improvements that add value to its activities, supporting partial movement toward an Optimized state (Level 4). In limited cases that have clear and definable benefits, TPA will seek to achieve Excellence (Level 5).

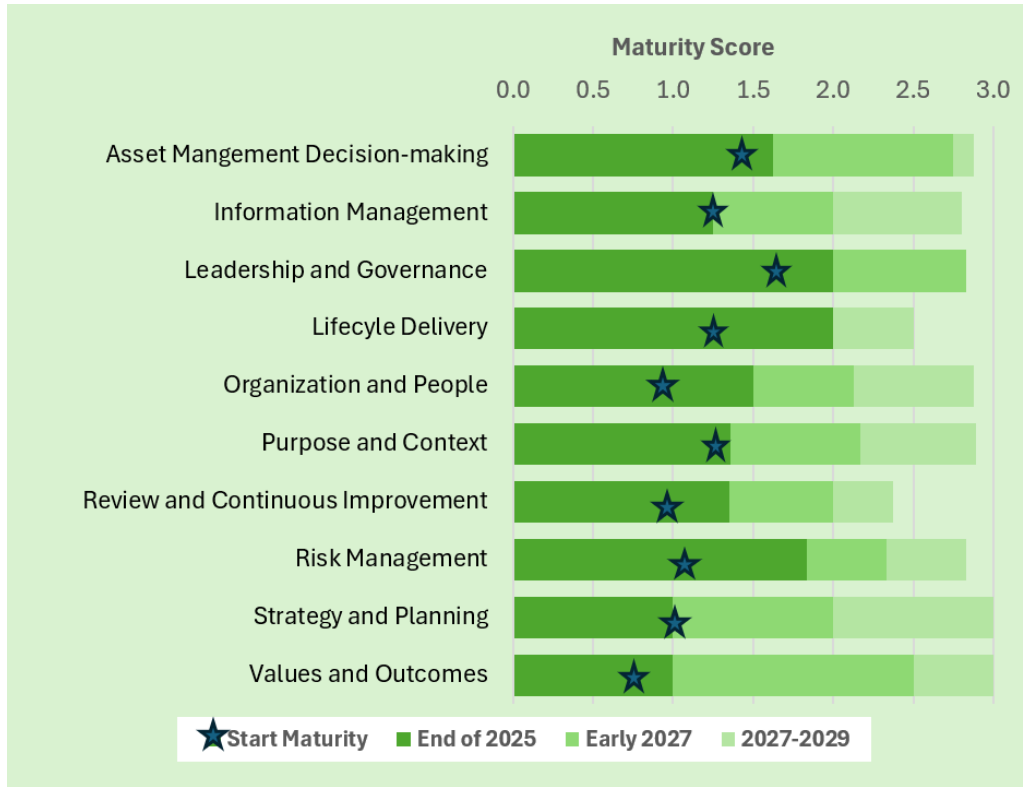


Figure 1-3 Forecasted Maturity Levels Based on the 10-Component Model (IAM)

1.4 IMPROVEMENT ACTIVITIES

The following activities will move the overall maturity from 1.4-1.5 to 2.3, over the next 6 months. The following table highlights tasks current being undertaken within the current approved budget.

Table 1-1 Activities planned for the next 12-24 months

Task	Targeted AMS Component
Future Decision-Making Process Mapping – helping to integrate risk, planning tools, AMP forecasting, supporting sustainable Asset Management.	Asset Management Decision Making
Integrated Risk Framework – documenting the risk framework, to create consistency across TPA, linking organizational and Asset Management assessment processes.	Risk Management

Task	Targeted AMS Component
Performance Reporting Including Stewardship/ AMS Measures – Developing a set of key performance indicators that will be used to support decisions, and which will guide data collection programs.	Values and Outcomes
Data Collection and Reporting Strategy – Developing a strategy that details what data is to be collected, when it will be collected and who is responsible.	Values and Outcomes
Change Management Plans – Supporting improvement activities in this Roadmap, and linking other SOC, FM (CMMS) related activities, making sure they are integrated and move at a consistent pace.	Review and Continuous Improvement
Activity Resourcing Requirements to Meet Level of Service – Understanding the cost of delivering maintenance activities, helping to link cost of service and targeted service levels. An important part of developing sustainable programs.	Lifecycle Delivery
Ongoing FM Advisory Support and Operations SOP – FM is developing in parallel with the AM improvements activities. This work makes sure these activities are integrated and support each other, and where required procedures are developed and documented.	Lifecycle Delivery
AM Training – This task covers training for TPA staff – supporting raised awareness and competency. Competency and training are key performance indicators that TPA is tracking.	Organization and People.

Future activities for the next 12 to 36 months that will increase the maturity level to 2.8 outline in the following Table.

Table 1-2 Activities Planned for the next 24-48 months

Task	Targeted AMS Components
Define Roles and Responsibilities for other staff – This has been complete for some key staff. Creating this will help staff understand their role in the Asset Management System,	Organization and People
Hire AM Staff - additional AM support staff to support implementation of asset management across the organization. Dedicated staff will improve speed and outcomes of implementation.	Organization and People
Updating Working and Steering Group Mandates – As the Asset Management System Improves, the focus of these groups will change. Updating the mandate and focus areas, helps these	Organization and People



Task	Targeted AMS Components
groups play an active role in improving Asset Management across TPA.	
Computerized Maintenance Management System and Software Implementation Support – A CMMS will be procured. This work helps to make sure the CMMS can deliver AM related expectations for reporting and long-term forecasting.	Information Management
Activity Resourcing Requirements to Meet Level of Service – Understanding the cost of delivering maintenance activities, helping to link cost of service and targeted service levels. An important part of developing sustainable programs.	Lifecycle Delivery
This task covers training for TPA staff – supporting raised awareness and competency. Competency and training are key performance indicators that TPA is tracking.	Organization and People.
Data Governance and Data Strategy Review – aligning data collection and performance reporting. Data is expensive and time consuming to collect. This review makes sure the data being collected is used as part of the decision making and reporting processes.	Information Management
Annual Maturity Assessment and Dashboard – to assess the achieved maturity improvement and to develop future plans	Review and Continual Improvement
Asset Management Plan Update – in preparation for the 2030 official update.	Strategy and Planning
Asset Management Strategy refresh – to formally record the findings of the maturity assessment and to align with updated organizational and city strategies.	Strategy and Planning
Exit Roadmap – to provide a way forward on completion of the AM contract.	Review and Continual Improvement

1.5 RESOURCES

Implementation of asset management requires investment of resources across the organization to receive the full benefits. Governance of the program will be provided through an asset management steering team consisting of key directors. Implementation of program initiatives will be through groups of staff assigned for short periods of time. These groups will arise and dissolve based on initiatives being developed and skill sets needed.

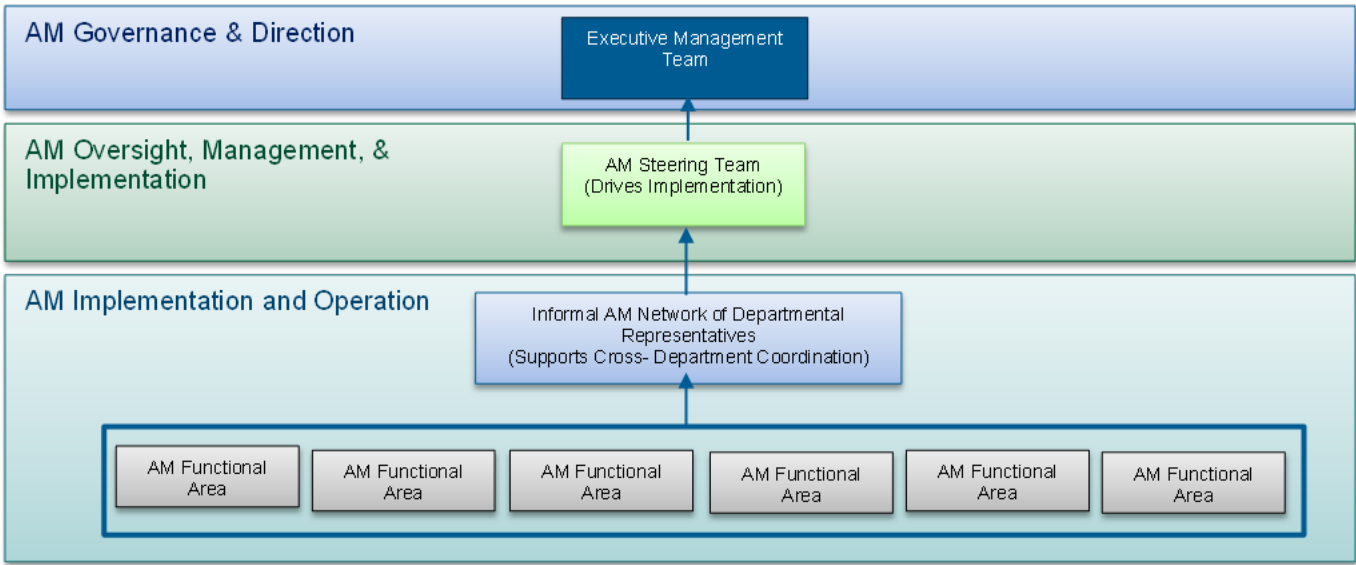


Figure 1-4: Asset Management Governance Structure

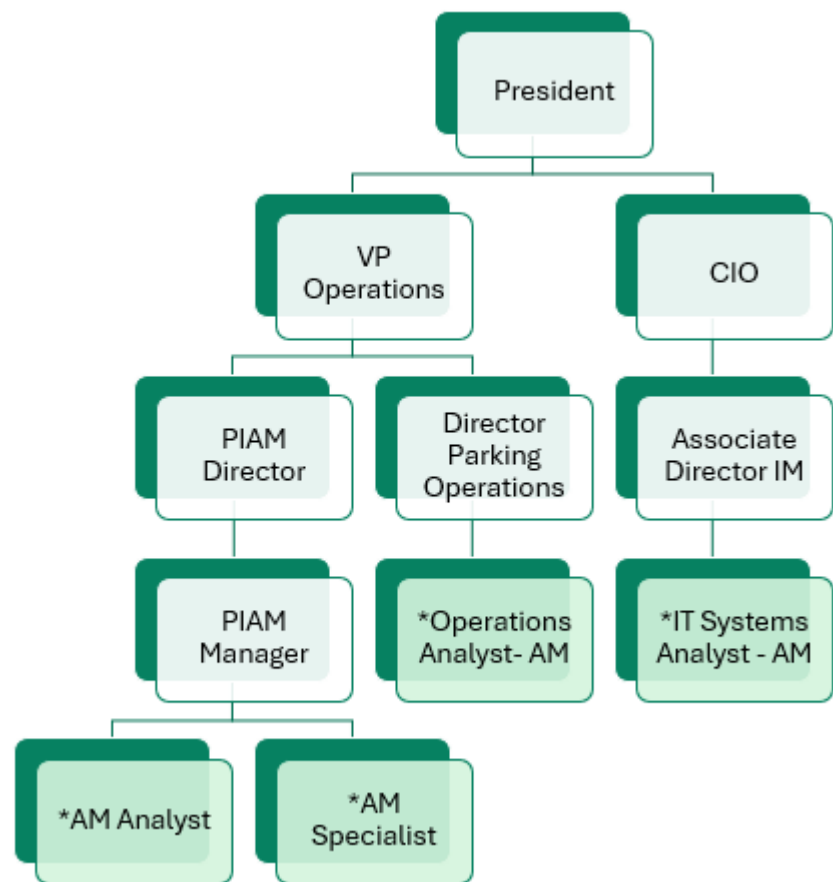
To improve the implementation of asset management, additional staff are recommended, supporting growth towards the steady state maturity level covered in Section 2.0.

Table 1-3 Proposed New Asset Management Roles

Role	Primary Accountability	What this Role Does
AM Specialist	Asset Management Program leadership	Responsible for what Asset Management is at TPA: sets direction, governance, and standards; ensures compliance; embeds AM culture and practices across TPA.
AM Analyst	Analysis, performance, and reporting	Turns asset data into insights; supports planning and budgeting decisions; monitors performance, risk, and lifecycle outcomes.
AM Operations Analyst	Lifecycle Delivery	Connects AM plans with day-to-day operations and capital delivery; ensures maintenance and projects align with lifecycle and service objectives.
AM IT Systems Analyst	Asset Data and Systems Enablement	Maintain standards for asset data and systems that are reliable, integrated, and decision-ready across IT, GIS, finance, and operations systems.



The proposed new staff will integrate into the org chat in 3 separate departments, PIAM, Parking



Operations and IT.

Figure 1-5: Org. chart showing location of requested additional staff

1.6 MEASURING SUCCESS

To track progress and confirm that the Roadmap is being implemented successfully, TPA will use a combination of annual maturity assessments, staff training measures, and roadmap progress tracking. Annual maturity assessments will show whether the Asset Management System is improving as intended, while training measures will confirm that staff awareness and competency are increasing. Progress against the Roadmap will also be reviewed through staged checkpoints to confirm that key activities are being completed within the planned timelines. The results of these reviews will inform updates to the Asset Management Strategy and future Roadmap.



2 INTRODUCTION

The following section provides an overview of TPA and details the purpose of this Roadmap.

2.1 OVERVIEW

TPA is a City of Toronto agency, established to provide parking and mobility services. As a self-sustaining agency, TPA operates without taxpayer subsidies, while contributing significantly to the City of Toronto's general revenue fund.

The City mandated that TPA should align with O.Reg 588/17. Understanding the importance of Asset Management, TPA chose to move beyond this requirement and align with good practice as covered in ISO 55000, the international Asset Management standard. TPA chose the standard as it provides a recognized best practice approach to structuring an Asset Management System (AMS), an important component for successful delivery of Asset Management related services. TPA also uses ISO aligned Institute of Asset Management material. The Roadmap R2 supports the implementation of good Asset Management practice across TPA.

2.2 THE PURPOSE OF THIS ROADMAP

As a key to successful implementation of Asset Management, TPA created this Roadmap. The aim of this, and future versions, of this Roadmap is to provide guidance on specific improvement activities, that will improve Asset Management maturity, while setting realistic targets for each stage of improvement. The Roadmap is a continuation of the Asset Management Strategy, providing a specific schedule of activities and a scope of work for each.

TPA has an on-going process to improve its Asset Management maturity level. TPA's final aim is to achieve a steady state where only targeted added-value improvements are required. To assess the level of improvement TPA uses the Institute of Asset Management rating scale.

The Institute of Asset Management rates maturity on a 0–5 scale, where:

- Level 0 is innocent,
- Level 1 is aware of good practice
- Level 2 is developing towards good practice
- Level 3 competent practice and alignment with good practice.
- Level 4 relates to business optimization, where TPA is tailoring good practice to its specific needs
- Level 5 is excellent and aligned with best practice, or is creating best practice for TPA's specific requirements

Up to the end of 2025, and based on the first round of improvements, a desktop assessment found that TPA's Asset Management maturity was between Aware and Developing, with an overall score of 1.5. This level of movement, at the start, requires significant effort across all areas of the standard, as documents have to be developed. In future improvements the documents are being maintained and the Asset Management System Improved.

The increase in maturity to 1.5 reflects the successful implementation of the original Asset Management Roadmap, which focused on establishing the foundational elements of an Asset Management System. Key achievements delivered through the original roadmap are illustrated in Figure 2-1 and provide the foundation for the next phase of Asset Management improvements.

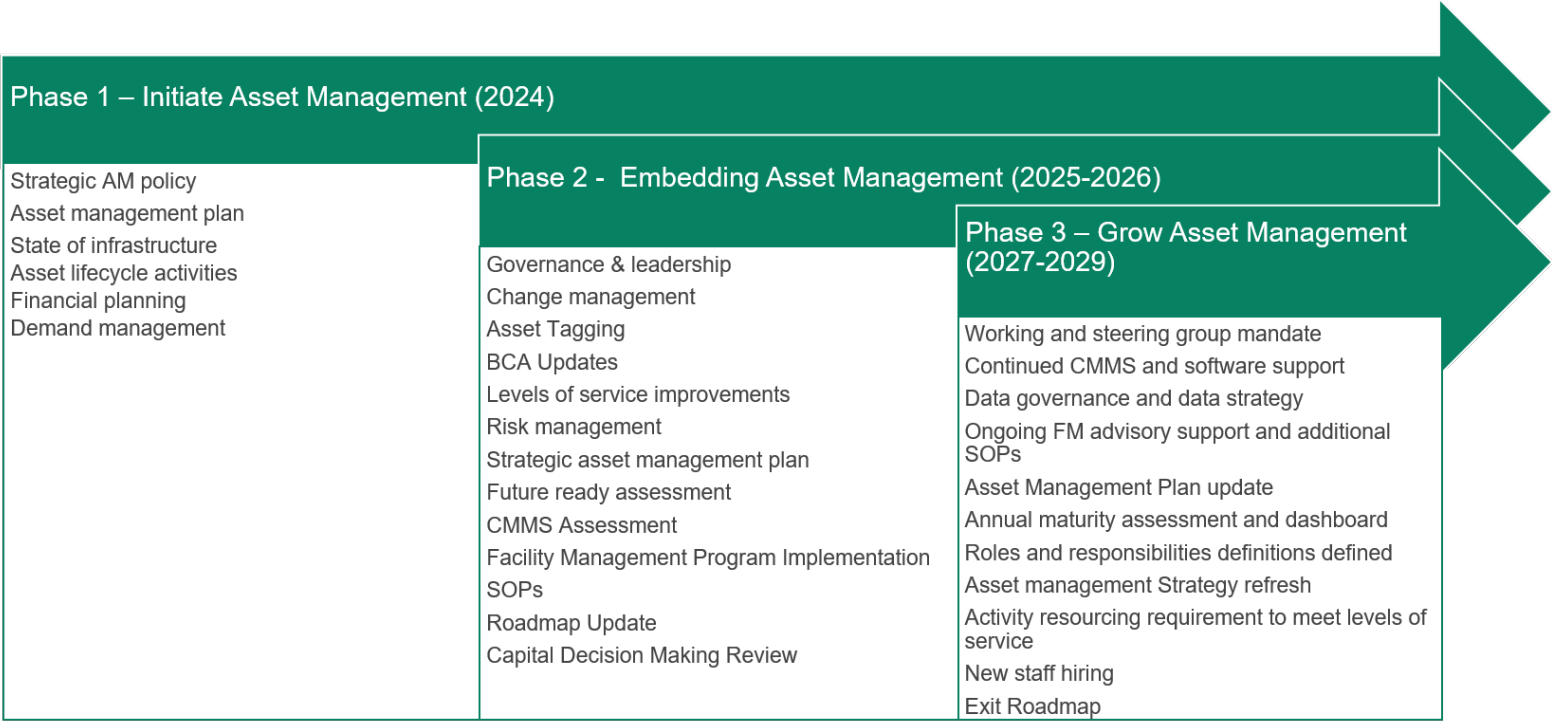


Figure 2-1 Asset Management Achievements since 2024 and Path to Asset Management Future

This Roadmap supports increasing TPA's maturity score to 2.3, reflecting a Developing-Competent level, with future improvements moving the maturity level to 2.8. At 2.8 TPA will be entering Competent and the desired steady-state target. After this point, TPA will focus on specific improvements that add value to its activities, supporting partial movement toward an optimized state (Level 4). In limited cases that have clear and definable benefits, TPA will seek to achieve Excellence (Level 5).

2.3 WHO IS THE ROADMAP FOR?

The Roadmap is intended to support senior management by providing visibility of how Asset Management improvements contribute to good governance practice, service level management, risk-based decision-making, investment prioritization, funding requirements, and broader business outcomes.

All members of staff should understand their role in the AMS and how they contribute to improved outcomes. As such, the Roadmap is for program leads and for those members of staff who are responsible/accountable for delivering AM related activities. For people outside these groups, this Roadmap forms the basis for discussions, as it provides insights into the ongoing continuous improvement activities, giving these groups an understanding of what is coming, the scope of the change related work and how they will be able to support the maturity related improvements.



3 THE ASSET MANAGEMENT SYSTEM

The Asset Management System (AMS) is what is being improved, as it supports service delivery and the achievement of TPA’s objectives. An AMS is a series of processes and enablers such as IT, used by TPA to deliver Asset Management activities. This section provides context for later improvements that focus on specific areas covered by the Asset Management Anatomy.

3.1 ASSET MANAGEMENT SYSTEM OVERVIEW

The AMS is sub-divided into the ten components as presented in Figure 3-1. The grey boxes cover the lifecycle AM processes addressed by ongoing activities. The Asset Management Strategy covers all components, helping to set the future direction by creating the link between organizational and Asset Management objectives. The AMP details the specific management strategies applied to assets that support TPA services, including asset strategies, application of decision-making processes, risk management and performance management as covered by values and outcomes. To improve the overall maturity level, each of the component areas are being steadily improved.



Figure 3-1 Anatomy of Asset Management, source: IAM, 2024

3.2 WORK TO DATE TO INCREASE MATURITY

To support AMS improvements and to move towards good practice, TPA did the following:

- Development of TPA’s Asset Management policy, setting good practice Asset Management guidelines

- Development of a governance plan including outlining roles and responsibilities
- Identification of asset related risks and rating these risks, supporting improved decision-making
- Creation of steering and working groups to drive good practice implementation
- Building inspections to update data for use in SOI reporting and to support improved decision-making processes
- Creation of TPA’s first O.Reg 588/17 Aligned Asset Management Plan
- A review of the Facilities Management system and recommended improvement actions including the development of standard operating procedures.

3.3 THE FUTURE STATE OF THE ASSET MANAGEMENT SYSTEM

The target Competent maturity level represents the consistent execution of asset management processes, the use of reliable and trusted data, and risk-based decision-making embedded within routine planning and investment activities. Achievement of this future state is directly supported by the roadmap initiatives, which strengthen key elements of the asset management system, including governance, asset information, lifecycle planning, risk management, levels of service, and decision-support processes. As these roadmap actions are implemented, TPA’s asset management capabilities will progressively mature, enabling more proactive, data-driven, and sustainable infrastructure planning and investment decisions.



4 IMPROVEMENT ACTIVITIES

This section outlines the proposed improvement activities, their general scope of work, the benefits they will bring and the general timeline for these activities and the improvement areas that are being targeted. The following sections on the next few pages outline the near term and mid-term improvement tasks.



4.1 CURRENT ROADMAP ACTIVITIES

TPA’s currently funded work plan includes the following tasks. Completion of these tasks will improve the overall mature to 2.3.

Table 4-1 2026 Improvements

WBS	Task	Targeted Component	Early 2026	End of 2026	Start Date	End Date	Stage Gate Measure	Scope of Work	Benefits to TPA
1.0	Documenting the Roadmap	Strategy and Planning	1.0	2.0	09-Mar-26	04-Sept-2026	Reviews at 10%, 25%, 50%, 80% and 90%	TPA will develop an updated Roadmap that provides clear guidance on the targeted activities that lead to the planned future maturity levels. TPA Roadmap (this and future documents) will clearly outline the expected improvement in maturity, and the specifics related to the tasks to be completed.	The Roadmap provides clear guidance on the activities required to implement each stage of the AMS improvements, helping TPA to achieve its target maturity level within the defined timeline. Implementing the AMS helps to support better decision making, more proactive management of TPA’s assets and alignment with the Asset Management Regulations as defined in O.Reg 588/17.
2.0	Future Decision-Making Process Mapping	Asset Management Decision Making	1.6	2.8	15-Jun-26	18-Dec-26	- Initial decision structure provided for commentary before workshops. - Review for validation post workshop. - Reviews of future state post workshop.	Mapping out the current processes used to make decisions, including data collection, long-term plan development, and risk management. The current state map will help TPA understand where it can improve and will help in the development of the future state process. After the current decision-making process and desired improvements are known, TPA will develop a future state process, showing how decision-making will be carried out. The future state will show how enablers such as the CMMS and other tools will be used to support improved outcomes.	TPA has a strong focus on improving service levels, meeting growth, supporting the City’s NetZero Targets and maintaining its assets in a sustainable way. Mapping future decision processes supports improved long-term risk management, sustainable investments, and the ability to understand what impacts population growth, climate change and other demands have on risk and sustainable management. As such, TPA will have an improved picture of future needs.
3.0	Integrated Risk Framework	Risk Management	1.8	2.3	20-Jul-26	23-Nov-26	- Approval of asset-based risk process - Approval of service-based risk process - Approval of corporate alignment	TPA has developed and applied a risk framework, but it needs to be formally documented. This project will document the framework, linking Asset Management and organizational risk processes, describing how TPA assesses risk, including the rating criteria and scoring methods. It will also clarify roles and responsibilities for creating, maintaining, and managing the risk register and the individual risks in the register.	A documented approach to assessing and managing risk helps to create consistency, allowing all risks to be directly compared. In addition, as TPA moves towards steady state document processes are required for key areas of the AMS. Documenting the process will also support TPA as it moves towards a self guided improvement program as standard procedures will be available.



WBS	Task	Targeted Component	Early 2026	End of 2026	Start Date	End Date	Stage Gate Measure	Scope of Work	Benefits to TPA
4.0	Performance Reporting Including Stewardship/ AMS Measures	Values and Outcomes	1.0	2.5	09-Mar-26	07-Dec-26	- Performance Measures for LOS approved - Targets of LOS approved - AM performance targets approved	TPA has identified Asset Management performance measures. This project will use these to identify key performance indicators that will be used to track current service levels and help to set service targets.	Regular reporting helps to understand how TPA is tracking against its targets and what actions are required to meet these targets, helping to inform long-term planning and active risk management, which in turn helps to create a sustainable Asset Management program, along with justifiable costs.
5.0	Data Collection and Reporting Strategy	Values and Outcomes	1.0	2.5	08-Jun-26	21-Dec-26	- Approval of Gaps found in BCA / Inspection process - Approval of inspection process - Approval of data needs for performance - Approval of collection process	The data collection strategy will specify the required data, its role in performance reporting, collection frequency, and the attributes to be stored in the Common Data Environment.	Creating a long-term view and developing a sustainable Asset Management program, and compliant Asset Management Plan, requires quality data. This project works to define the data collection program, making sure the needed data is in place.
6.0	Change Management Plans	Review and Continuous Improvement	1.4	2.0	06-Jul-26	21-Dec-26	- Validation of change tactics - Validation of change strategy / tactics timing	There are several related changes occurring at TPA, including, the SOC Business Transformation, the procurement and implementation of a CMMS, and Facilities Management and Asset Management System improvements. TPA is progressing all aspects in parallel. All of these different components have different change management risks. This project will update the change management plan that supports the AM and FM changes and makes sure progress across other change areas continues to be aligned.	The change management plan actively manages the risks associated with the maturity improvement and other associated programs, working to identify the change obstacles and put plans in place to mitigate these challenges. The plan supports TPA in meeting the improvement program timelines and in adoption of AM across the organization.
7.0	Ongoing FM Advisory Support and Operations SOP	Asset Management Decision Making (operational planning and control)	1.6	2.0	03-Aug-26	06-Aug-29	- Approval of SOP list - Review / approval of workshop outcomes	FM is in a parallel development state. This project is an advisory support role, that will help to create new SOPs and direction as and when required.	The support roles ensure AM and FM continue to be aligned, supporting organization awareness and change management activities.



4.2 FUTURE ROADMAP ACTIVITIES

The current funded work plan is expected to be complete in early 2027. To continue improvements in Asset management, TPA has considered the following tasks. These will help TPA achieve the desired 2.8 maturity state.

Table 4-2 2027/2029 Improvements

WBS	Task	Targeted AMS Components	Early 2026	End of 2026	Start Date	End Date	Stage Gate Measure	Scope of Work	Benefits to TPA
1.0	Define Roles and Responsibilities for other staff	Organization and People	1.5	2.1	11-Jan-27	31-May-27	- Approval of roles needing review - Approval of language changes	Some key roles have been defined, to date. This project extends the scope of past work by defining the roles and responsibilities of core Asset Management staff.	Central to meeting maturity level targets is an understanding of AM at all levels. Defining further AM responsibilities for more roles, helps to extend awareness and improve Asset Management outcomes.
2.0	Workforce Development	Organization and People	1.5	2.1	01-Feb-27	31-Mar-28	- Role descriptions reviewed and approved - Interviews completed with potential candidates - Roles onboarded	As TPA develops asset management capabilities and begins to implement asset management internally additional roles are needed to continue the growth and achieve success.	When asset management does not have staff dedicated to implementation the benefits are often not achieved or are dramatically delayed. There is also a risk of staff burnout if asset management responsibilities are assigned to current roles without support.
3.0	Working and Steering Group Mandates	Organization and People	1.5	2.1	05-Apr-27	26-Jul-27	- Mandates approved - Terms of reference updated - Priorities confirmed	As TPA improves its maturity, the specific areas to be improved will change for the working and steering groups. The scope of the work is to review current progress and work with the two groups to define the priorities for the upcoming improvement program and their role and responsibilities in supporting these improvements.	These groups provide oversight and are key to driving the Asset Management improvement program forward, and TPA achieving its target maturity level in the defined timelines.
4.0	Computerized Maintenance Management System and Software Implementation Support	Information Management	1.3	2.0	04-Jan-27	31-Dec-29	TBD after software selection and mandate defined	A Computerized Maintenance Management System (CMMS) will be procured by TPA to support improved FM and other maintenance and operational activities. This system has to align with overarching AM objectives and also has to align with how the Asset Management team develop long-term plans and report on the state of good repair of the assets. This project will be an advisory support role to make sure this	From an Asset Management perspective understanding costs is an important component of long-term planning. From an FM point of view making sure maintenance an operations activities are tracked and reported is an important part of meeting timeliness, cost and other service level expectations.



WBS	Task	Targeted AMS Components	Early 2026	End of 2026	Start Date	End Date	Stage Gate Measure	Scope of Work	Benefits to TPA
								alignment occurs, for the CMMS and for other IT related items such as an inventory system and a decision-support system.	
5.0	Activity Resourcing Requirements to Meet Level of Service	Asset Management Decision Making (operational planning and control)	1.6	2.8	12-Apr-27	01-Nov-27	- Service activities confirmed - Resource assumptions approved - Cost inputs validated - LOS resourcing approved	Understanding cost of maintenance and operational related services is key to balancing capital and operational programs. To understand service costs for key services a resource plan with a plant/labour/materials details list for main activities, will be created, helping to understand the cost of delivering targeted service levels.	Affordability is a central part of operations and maintenance activities. This component of work links the ground level activity costs, to the defined service targets. And in doing so helps to develop risk balanced sustainable programs.
6.0	Asset Management Training	Organization and People	1.5	2.1	01-Jun-27	22-Dec-27	- Training audience and content approved - Next training initiatives approved	This task covers training for TPA staff, supporting raised awareness and competency. Competency and training are key performance indicators that TPA is tracking.	Understanding Asset Management ideas means everyone as a common idea of what TPA is working towards and why, which helps to rollout the targeted improvements across the organization.
7.0	Data Governance and Data Strategy Review	Information Management	1.2	2.0	25-Oct-27	18-Sept-28	- Confirmation of data KPI results - Root Cause Analysis review - Updates approved	The data strategy will have been in place for a year. During this time further AMS improvements will have occurred, key performance indicators will be better understood, and new decision-process will have been developed. This project reviews the current data strategy and data governance plan, to make sure the documents intent still supports the delivery of Asset Management objectives.	Collecting data can be a costly process. Collecting data that is no long-ter needed, creates extra costs, and provides limited value. Aligning data collection strategies with current AMS and AM needs help to create an effective data collection program. As old data is retired, and new data is adopted governance expectation will also change. TO make sure quality data continues to be collected a review of the governance structure will also be carried out.
8.0	Annual Maturity Assessment and Dashboard	Review and Continual Improvement	1.4	2.0	07-Dec-26	08-Jan-29	- Maturity review completed - Dashboard reviewed - Results approved	Update the maturity assessment, based on the ISO 55001 standard. The maturity assessment will be based on a desktop review of current progress. A dashboard will be created, comparing past scores, current scores, and future targets. This work will form the input into the updated strategy.	Development of the Annual Asset Management Maturity Assessment, to track progress and to guide future plan updates. This includes creation of a dashboard.



WBS	Task	Targeted AMS Components	Early 2026	End of 2026	Start Date	End Date	Stage Gate Measure	Scope of Work	Benefits to TPA
9.0	Asset Management Training	Organization and People	1.5	2.1	01-Jun-28	22-Dec-28	- Training needs approved - Training content approved	This task covers training for TPA staff, supporting raised awareness and competency. Competency and training are key performance indicators that TPA is tracking.	Understanding Asset Management ideas means everyone has a common idea of what TPA is working towards and why, helping to roll out the targeted improvements across the organization.
10.0	Asset Management Plan Update	Strategy and Planning	1.0	2.0	11-Apr-27	20-Dec-29	Approval of each section prior to AMP integration	An O.Reg 588/17 Asset Management Plan update will be due in 2029. This work relates to updating key sections of the plan, providing supporting analytics, including linking climate change, population growth and other asset related demands and their impact on strategic growth.	As a steady state AMS is created, this project will create a plan that TPA can be used as a starting point for developing a new AMP for the next official plan update. This will help to simplify the process for developing the next official AMP.
11.0	Asset Management Strategy Refresh	Strategy and Planning	1.0	2.0	08-Jan-29	14-May-29	- Strategy scope approved - Maturity findings confirmed - Draft strategy reviewed - Final strategy approved	The environment in which TPA operates, and outside demands will have changed since the last plan update. This new plan will address changes to provincial strategies, and other demands, and will integrate these and the requirements set out in TPA's strategy, into the new Asset Management Strategy. The plan will identify current and future state expectations which will form an input into the exit Roadmap.	An updated Asset Management Strategy works to make sure TPA's AM related activities are fully aligned with the organizational and provincial strategies.
12.0	Exit Roadmap	Review and Continual Improvement	1.4	2.0	02-Apr-29	09-July-29	- Improvement actions identified and prioritized 10, 25, 50, 80, 90% Draft roadmap reviewed - Final roadmap approved	The scope will cover the development of the latest version of the Roadmap including providing detailed information of the activities to be carried out, their scope, benefits, schedules and specific objectives. Creating a detailed work record that can be progressed.	The Roadmap will support TPA in its steady state journey by identifying targeted areas for improvement taking these areas to optimizing or excellence, where require.
13.0	FM Support	Asset Management Decision Making (operational planning and control)	2.0	2.8	July 2027	July 2028	TBD based on specific requests	Provided training and implementation support as required and provide additional SOP documents up to 20.	Improve facility management program implementation and support team with training and documentation.



5 END STATE MATURITY SCORE

This Section outlines the expected improvements to the AMS. These improvements are based on the IAM 10-Component Model. The forecasted maturity scores represent the expected end state of the AMS if the Roadmap activities are implemented as planned (See Figure 5-1).

5.1 PLANNED COMPONENT LEVEL OUTCOMES

Competent is the targeted level of maturity TPA will achieve by 2028. Competent is a consistent execution of AM processes, with trustworthy data, and risk-based decision-making all used as part of the proactive and routine planning process. How TPA will achieve this outcome is covered in Figure 5-1, which shows improvements by area. The activities covered in Section 4.0, along with proven implementation of these activities leads to the new higher scores. Progress toward these target maturity levels should be reassessed periodically, either annually or following the completion of significant roadmap milestones, to evaluate progress and identify opportunities for further improvement.

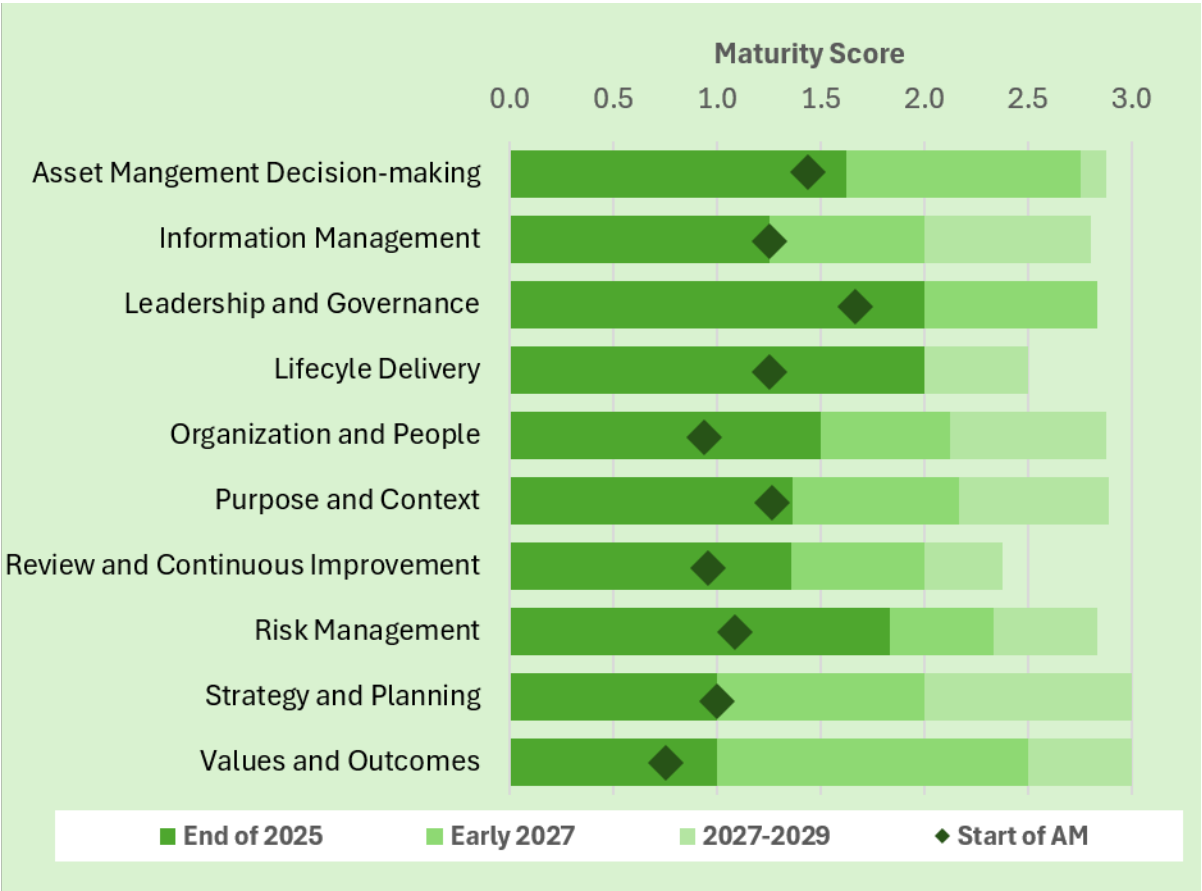


Figure 5-1 Forecasted Maturity Levels Based on the 10 Component Model (IAM)

Table 5-1 shows the steady increase in maturity rating since TPA started on its improvement journey. The small early jump to 1.5 reflects the time to create many of the core documents, e.g. policy, strategy, risk management plans, Asset Management Plan. More significant improvements

then follow as these core documents exist and form part of the continuous improvement of the Asset Management System.

Table 5-1 Forecasted Ratings by Improvement Area

ID	Description	Initial Maturity Score	End of 2025 Score	Current Program up to 2027	Future Program Score 2027 onwards
1	Purpose and Context	1.3	1.4	2.2	2.9
2	Leadership and Governance	1.7	2.0	2.8	2.8
3	Review and Continuous Improvement	0.9	1.3	2.0	2.4
4	Organization and People	0.9	1.5	2.1	2.9
5	Strategy and Planning	1.0	1.0	2.0	3.0
6	Asset Management Decision-Making	1.4	1.6	2.4	2.9
7	Information Management	1.3	1.3	2.0	2.8
8	Lifecycle Delivery	1.3	2.0	2.0	2.5
9	Risk Management	1.1	1.8	2.3	2.8
10	Values and Outcomes	0.8	1.00	2.5	3.0
Average score across all areas		1.2	1.5	2.2	2.8



6 ASSET MANAGEMENT RESOURCES

Implementing asset management requires coordinated efforts across TPA. A review of the current the current governance of asset management created an updated future state for asset management governance. This structure allows for direction of asset management to be developed and approved by the asset management steering team. The implementation of asset management through focused implementation teams consisting of TPA staff best aligned and/or most impacted by the skill or task being improved. This structure creates ownership and helps with corporate buy-in of asset management.

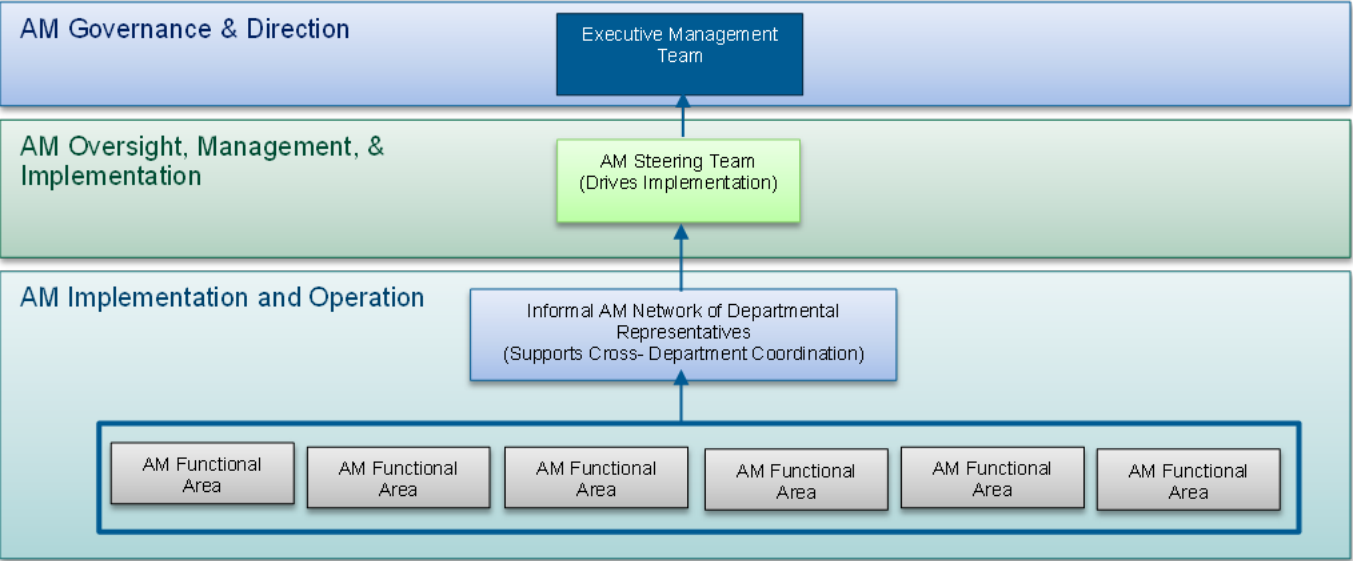


Figure 6-1: Asset Management Governance Structure.

In addition to this governance structure, aligning with the Business Case for Asset Management Resources, TPA will require further staff, to support the rising level of asset management maturity.

6.1 RESOURCING JUSTIFICATION

TPA is advancing its approach to AM and has committed to aligning with ISO 55000 good practice. While external support has helped the improvement journey, long-term success of the program depends on building internal capability to lead, coordinate, and sustain asset management practices across the organization. Without dedicated resources, the AM program risks delays, inconsistent implementation, loss of corporate knowledge, and missed opportunities. Investing in AM provides significant financial returns, with life cycle cost savings of 15 to 40% reported in the first ten years based on a case study presented in the International Infrastructure Management Manual (IIMM, 2015).

To create corporate asset management knowledge, a focused AM team is proposed, providing leadership, analytical support, operational integration, and information governance. The team does not replace existing staff. These new staff will enable better decisions, provide clearer accountability, and will continue to strengthen alignment between strategy, planning, operations, and investment.

6.2 RESOURCES

To support the growth towards the steady state maturity level covered in Section 2.0.

Table 6-1 Proposed New Asset Management Roles

Role	Primary Accountability	What this Role Does
AM Specialist	Asset Management Program leadership	Responsible for what Asset Management is at TPA: sets direction, governance, and standards; ensures compliance; embeds AM culture and practices across TPA.
AM Analyst	Analysis, performance, and reporting	Turns asset data into insights; supports planning and budgeting decisions; monitors performance, risk, and lifecycle outcomes.
AM Operations Analyst	Lifecycle Delivery	Connects AM plans with day-to-day operations and capital delivery; ensures maintenance and projects align with lifecycle and service objectives.
AM IT Systems Analyst	Asset Data and Systems Enablement	Maintain standards for asset data and systems that are reliable, integrated, and decision-ready across IT, GIS, finance, and operations systems.

How these roles sit within the organization is presented in Figure 6-1.

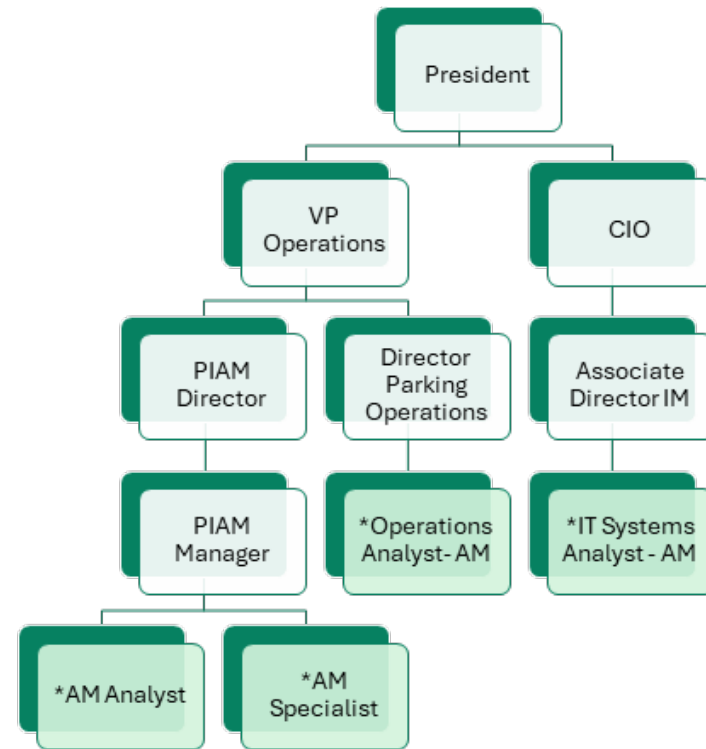


Figure 6-2 Proposed Roles and Their Location in TPA

6.3 HIRING

The following table provides details of when the highlighted team members should be onboarded.

Table 6-2 New Start Hiring Schedule

Role	Timeline	Justification
AM Specialist	Early 2027	The AM improvement program would benefit from an AM Specialist.
AM Analyst	Mid – Late 2027	Data from KPIs and the CMMS are core to this role. As they come online, the analyst will be required to present the data related insights.
AM Operations Analyst	Late 2027-2028	Once the CMMS is in operation the analyst will have the data to track performance of operations.
AM IT Systems Analyst	Early 2027	A specialist in this area should actively contribute to the development of the underlying CMMs data structures, procurement and system integration.



7 MEASURING SUCCESS

Implementation of asset management is a corporate wide initiative that takes years of iterations to realize full potential. Regularly measuring success of implementation is critical to maintain momentum and see improvements in the shorter-term. This also allows for early course correction if value has not been realized.

TPA has created key performance indicators to track the success of the Asset Management program and the improvements to the Asset Management System. As TPA matures the measures utilized to track system improvements will evolve to provide more meaningful insights.

7.1 INPUT MEASURES

Input measures are used to influence the system, with the aim of improving system outputs. These measures may also be called lead measures as they are intended to lead to results.

For the current stage of implementation, TPA has developed two lead measures. These measures relate to improving asset management awareness and skills through training and tracking the implementation of the tasks defined in the roadmap.

Table 7-1 Asset Management System Input Measures

Measure(s)	Method of Measurement	Target
Asset Management staff training	Total number of hours per year	10 hours/person/year
	Number of hours per person in key AM Role	20 hours/person/year
Roadmap improvement program progress	Actual progress versus planned progress	Alignment with program

7.2 OUTPUT MEASURES

Output measures result from changes TPA has made to its AMS and are tracked to assess how effective these changes were. These measures may also be called lag measures as they are the outcome of activities.

TPA has developed two output measures. These measures align with the input measures and focus on the outcomes of implementation of the roadmap and the training program uptake.

Table 7-2 Asset Management System Output Measures

Measure(s)	Method of Measurement	Target
Number of staff with AM competency training	Percentage of people in key roles	>=80%
Asset Management awareness	Maturity Rating as per ISO55001, based on a 0-5 IAM scale	Steady State (assumed between 2.5 and 3) Future target 3.0 average with specific areas >=3.

