



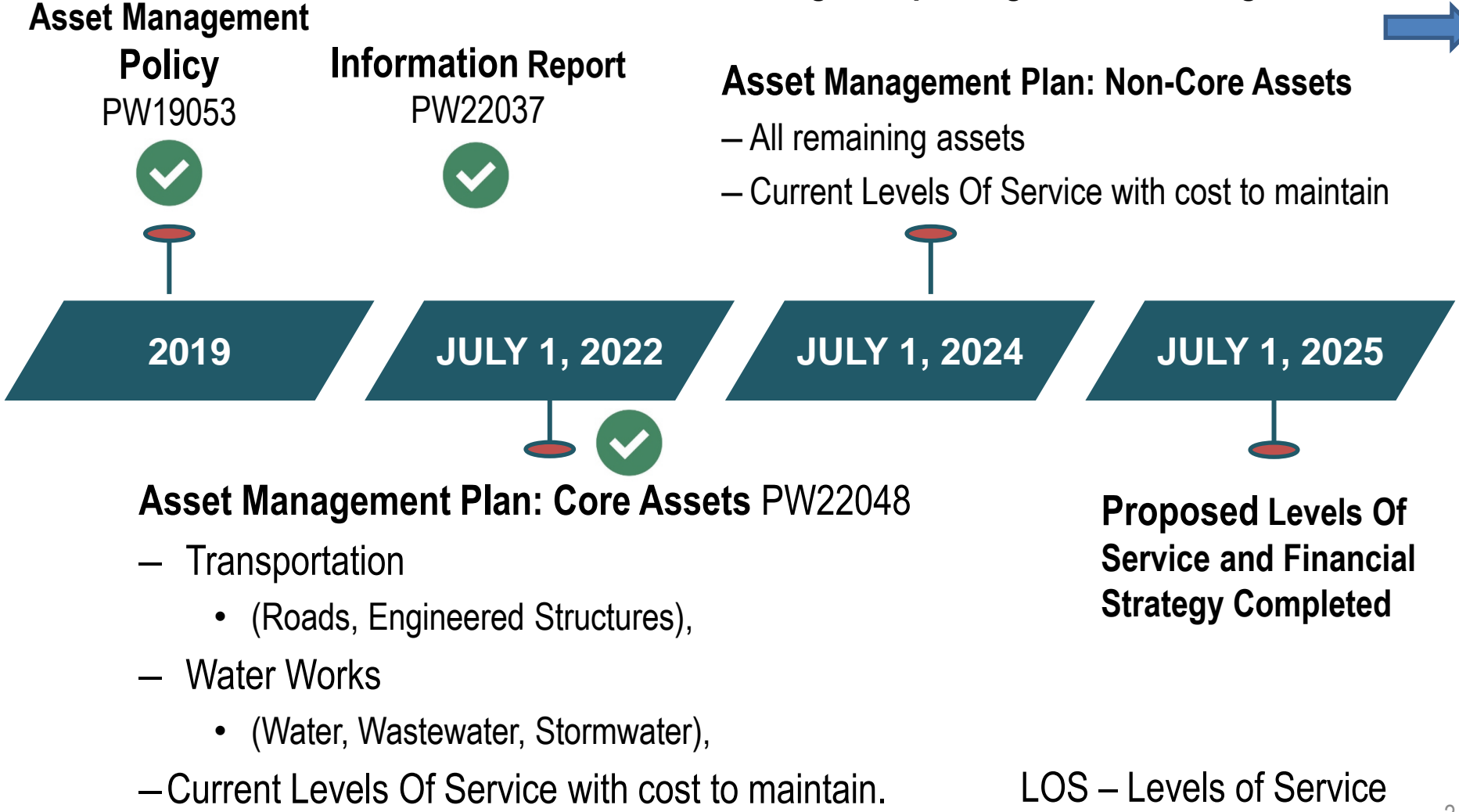
Hamilton

# Waste Management Asset Management Plan

Item 7.1

# Ontario Regulation 588/17 Mandates

Regular updating of Asset Management Plans 



# Asset Management is...

Asset Management is the coordinated activity of an organization to manage assets over their entire lifecycle

What do we own?

What condition is it in?

Where is it?

What needs to be done?

What is it worth?

When does it need to be done by?

This is done by balancing cost, risk and performance to deliver the agreed level of service.

# Maturity Assessment

## AWARE

- Asset information in a combination of sources and formats. Awareness of the need for an asset register (inventory).



## BASIC

- Basic physical asset information is recorded in a spreadsheet format or similar (e.g., location, size, type), but may be based on broad assumptions or not complete.



## CORE

- Sufficient information to complete asset valuation (basic attributes, replacement cost, and asset age/life and support prioritization of programs (criticality).
- Asset hierarchy, identification, and attribute systems documented.
- Metadata held as appropriate.



## INTERMEDIATE

- A reliable register of physical, financial and risk attributes recorded in an information system with data analysis and reporting functionality. Systematic and documented data collection process in place.



## ADVANCED

- Information on work history type and cost, condition, performance, etc. recorded at asset component level. Systematic and fully optimized data collection program with supporting metadata.

# What is in the Plan?

## Background and Registry

What service are we providing and how long have we provided it?  
What do we own?

Who are our customers?  
Present/Future  
Registry Measures  
(Condition, Age, expected life, replacement cost)

## Life-Cycle

How do we manage these assets?

Acquisitions,  
Operate,  
Maintain,  
Renew and  
Disposals

## Demand

Who wants to use our service?  
What pressures will we face?

Current Demand  
and future  
demand

## Climate Change

How will climate change affect how we manage our assets?

What mitigation/adaptation strategies will we utilize and what demands/risks will we encounter?

# What is in the Plan?

## Risk Management

How do we manage current and future risks?

Financial, Environmental, Human Safety, Reduction of Service, Legal/Reputational, Cultural/Social Outcomes

## Levels of Service

What are the expectations and how are we delivering on those expectations?

Customer Levels  
Technical Levels of service

## Financial Plan

What is our 'financial' health and how does it look in the future?

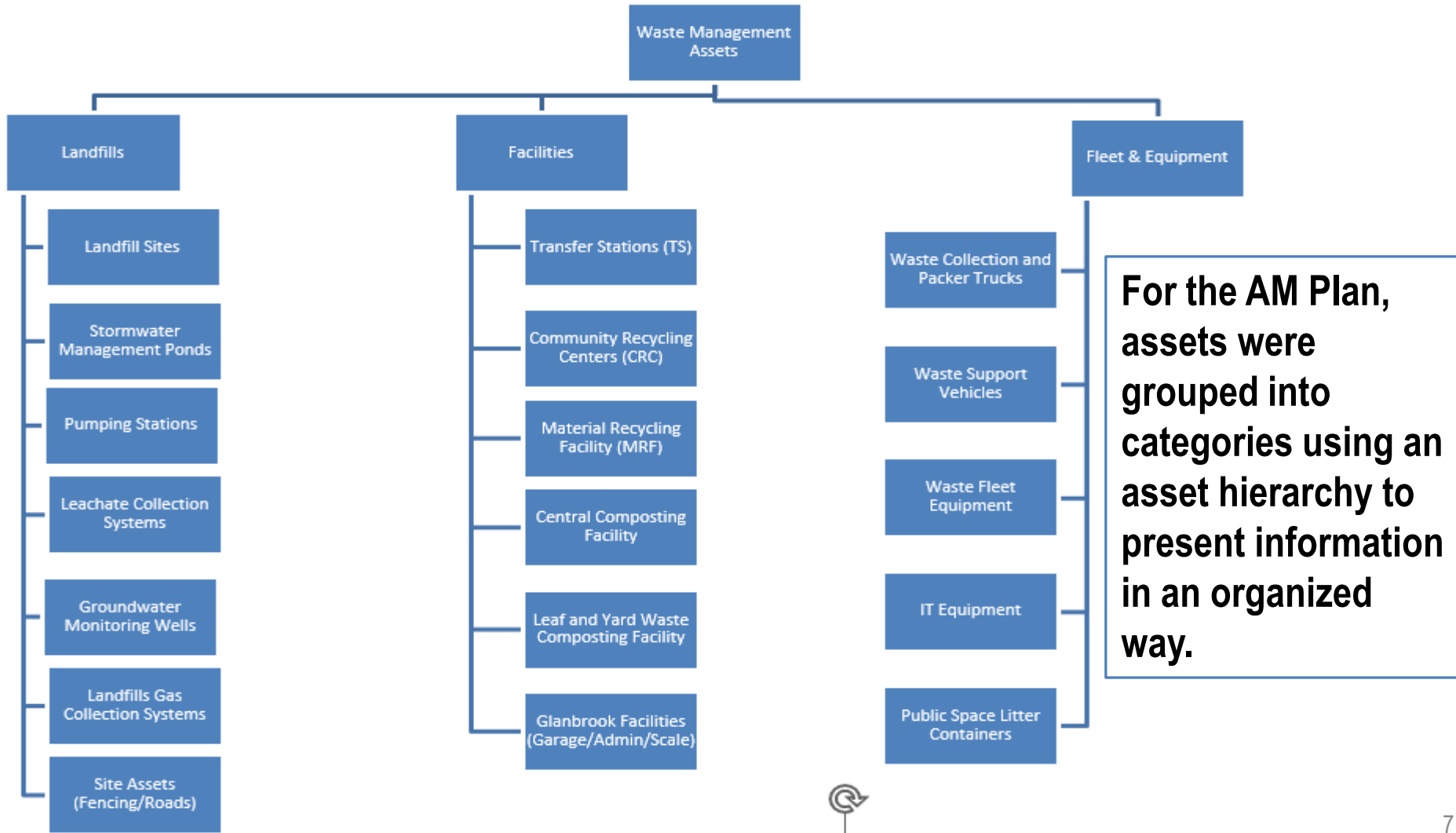
Long-term Financial Plan  
3 Key Financial Indicators  
(Renewals, Operating, Debt)

## Continuous Improvement

What are our plans to get better?

What do we plan to do  
Who's doing it?  
For how much?  
When will it be done by?

# Waste Management Asset Hierarchy



# State of Waste Management Assets

Asset Category	Replacement Value(\$M)	Weighted Average Age in Years	Weighted Average Condition
<b>Landfills</b>	\$258.2	42 Years (43% RSL*)	Fair
Data Confidence	Low	Low	Low
<b>Facilities</b>	\$284.6	23 Years (63% RSL*)	Good
Data Confidence	Medium	High	High
<b>Fleet &amp; Equipment</b>	\$17.2	5 (26% RSL*)	Poor
Data Confidence	Medium	High	Low
<b>Total</b>	<b>\$560.0</b>	<b>39 (43% RSL*)</b>	<b>Fair</b>
Data Confidence	Low	Low	Low

**\*RSL: Refers to the average Remaining Service Life for assets in that category.**



# Key Findings from the Report

## ASSET REGISTRY INFORMATION

- No condition information was available for Landfills or Fleet and Equipment. The Condition was based on assumptions using Age or Subject Matter opinion;
- Facilities condition (CRC/TRF/Glanbrook/CCF/MRF) is based on Facility Condition Index (%FCI); and,
- Investigating implementing an asset registry for all assets has been identified as a Continuous Improvement item that has defined inspection/condition evaluation intervals.

# Key Findings from the Report - continued

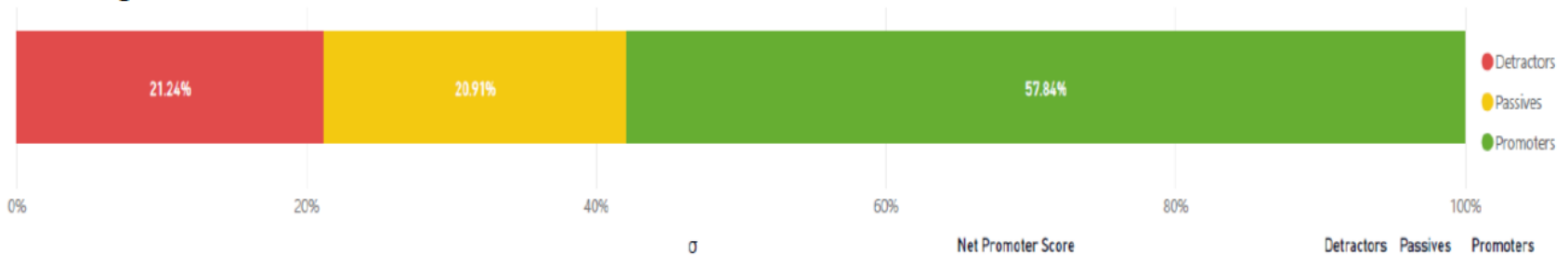
## LEVELS OF SERVICE

- ✓ **Customer** (Survey Respondents):
  - Had differing opinions on a reduction in garbage pickup frequency to consider supporting and /or promoting in the future;
  - Felt it was important to consider new waste management processes (waste to energy, pelletization etc.);
  - On average, would prefer Waste Management to maintain current levels of service and minimize tax rate increases;
  - Felt Waste Management had Good Performance over the last 24 months;
  - Felt waste management provided Good value for money; and,
  - Agreed that waste collection vehicles were operated safely in the community.

# Key Findings from the Report - continued

## LEVELS OF SERVICE – Customer

Figure 9: Net Promoter Score



	Net Promoter Score	Detractors	Passives	Promoters
<b>All Service Areas</b>	<b>22.8</b>	<b>32.37</b>	<b>321</b>	<b>316</b>
Yard Waste Program	18.1	51.88	22	33
Garbage Collection Program	21.9	49.71	26	35
Community Recycling Centre/Transfer Station	16.7	48.39	21	38
Green Bin Program	23.9	41.92	33	31
Blue Box Program	23.2	41.71	36	30
Trash Tag Program	23.8	36.36	34	30
Bulk/Large Item Pick Up Program	20.3	33.83	27	34
Recycling and Waste Collection Calendar (mailed annually in March to single family homes)	23.0	26.32	40	32
Education in Schools / Community Groups / Multi-Residential Buildings	27.0	21.25	24	15
Reuse Stores at Community Recycling Centres	22.4	15.46	29	24
Recycle Coach APP	30.3	-10.77	29	14

# Key Findings from the Report - continued

## LEVELS OF SERVICE

### ✓ Technical

- At this time the ***Technical Levels of Service (LOS)*** are largely derived from the existing Public Works Scorecard Reporting;
- Additional Technical LOS developed around the acquisition of additional collection vehicles related to growth;
- Additional Technical LOS developed around Facility Condition Index of Waste Management Facilities; and,
- Additional Technical LOS developed around Fleet Renewal.

# Key Findings from the Report - continued

## ✓ Demand Management

- Household Growth is the main driver for Acquisitions;
- Environmental Awareness is a demand driver for waste processing; and,
- Regulatory Change impacts service demand i.e. Expanded Producer Responsibility.

## ✓ Risk Management

- Critical assets:
  - Leachate Pumping Station – Failure of the Pump System can cause embankment failures and/or overflow storage systems; and,
  - Landfill (Open) – Loss of ECA permit impacts the ability to accept and manage waste.

# Key Findings from the Report - continued

## ✓ **Climate Change Mitigation**

- Renewal amounts for facilities and vehicles don't currently consider cost for current low carbon transformation targets:
  - Waste Management is a key contributor to the Target that by 2050 - 95% of organic waste is sent to anaerobic digestion for local energy use;
  - Facility replacement costs should be modified to reflect the cost of net zero buildings for buildings requiring replacement in 2050 or after;
  - Facility projects to retrofit facilities to 50% energy efficiency by 2050 need to be planned; and,
  - Vehicle replacement costs should be modified to reflect green alternatives;
    - No green alternatives for heavy vehicles are currently available, although Waste Management is leading the way with Natural Gas Packer vehicles as an interim measure.

# Key Findings from the Report - continued

## LIFECYCLE MANAGEMENT

### ✓ Acquisition

- Major known Acquisitions (**\$14.5M**) TS and CRC Improvements; (**\$13M**) for Stage 3 Development of the Glanbrook Landfill; (**\$1.6M**) for additional collection vehicles

### ✓ Operations & Maintenance

- The largest operations cost is employee-related (**\$12.2M**), and Contracted costs (**\$73.8M**)
- The largest maintenance costs are surrounding CCF Equipment Replacement (**\$36M**), Open and Closed Landfill Maintenance and Capital Program (**\$8.4M**), (**\$2.8M**) for TS/CRC Maintenance and Capital Program and (**\$3.3M**) for MRF Maintenance and Capital Program. These costs are defined in the budgets.

### Data Note:

The 2023 Approved Budget and 10-year Capital were used for the preparation of this AM Plan

# Key Findings from the Report - continued

## ✓ Renewal

- Backlog amount of **\$737K** based on known estimated service life and ages:
  - Backlog items include:
    - Vehicle Renewal for vehicles beyond Estimated Service Life; and,
    - Some Site Assets at Landfills (fencing/roads).
- Major Renewal items planned over the next 10 years are **\$5M** for renewal of the leaf and yard waste composting facility (additional funds may be needed for expansion);
- **\$4.1M** for waste collection vehicles;
- **\$2.4M** in renewing public space litter collection containers; and,
- Renewal of the Open Landfill is just beyond the current timeline of this AM Plan but will appear in future years.



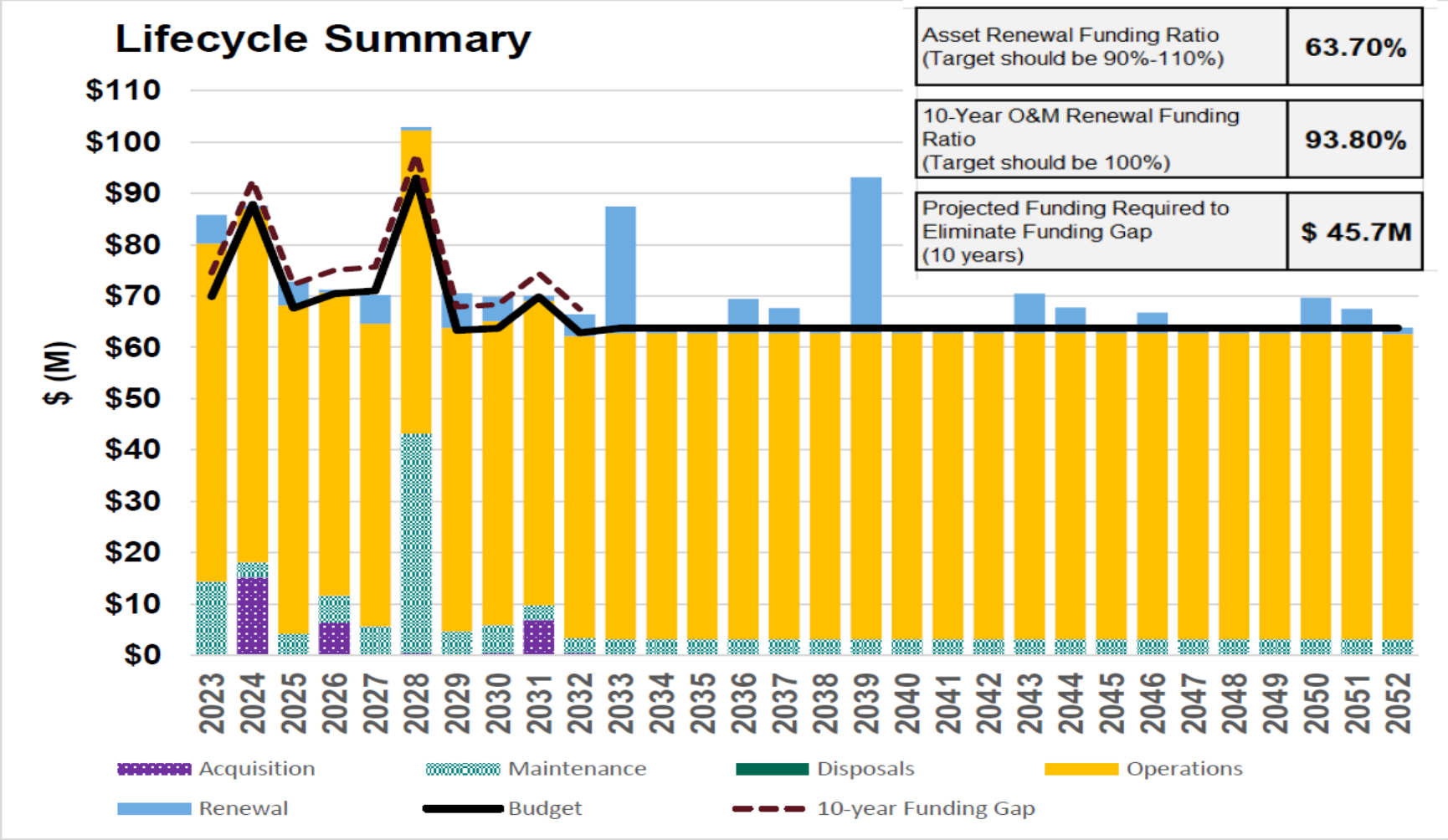
# Key Findings from the Report - continued

## FINANCIAL MANAGEMENT

- **Current Funding Gap: \$4.6M annually with Low-Medium confidence**
- **Asset Renewal Funding Ratio (ARFR): 63.7%**
  - This is the Ratio of Renewal Needs estimated by Estimated Service Life and the funding available to renew assets.
  - Renewal needs spike in 2033 and 2039 relating to Transfer Stations
- **10-Year Operating, Maintenance & Renewal Ratio: 93.8%**
  - Measure of Renewal, Operating and Maintenance Costs as a percentage of available budget. Assumptions did not escalate the operating budget and capital budgets. In most cases, assuming that **Needs = Budget**, this assumption will develop further as AM Plans improve and needs are likely underestimated.

# 30 Year Projection

Figure 15: Summary of Current Asset Forecast Costs In 2023 Dollars



# Next Steps

- Presented to GIC for approval with other Asset Management Plans (Hamilton Police Service and Parking) on December 6th, 2023 - PW23073
- After approval of the AM Plan from Council, Corporate Asset Management will begin to work with staff on the identified Continuous Improvement items.
- Asset Management is a Journey, and each iteration will improve – Plans will be updated Regularly
- Better Understand Asset Lifecycle Needs (i.e. the right treatment at the right time, not just doing what we can because of budget availability etc.)
- Update Asset Management Plans for Future Level of Service by July 1, 2025
- Working with Waste Management to Align Future LOS to Solid Waste Management Master Plan