Master Data - The Case for Maintenance Management".

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Asset Master Data: The Case for Maintenance Management Readiness

2024 AMBC Conference, November 6-7, 2024

PEMAC Asset Management Association of Canada

- Professional association established in 1990
- Growing community of 1,800+ maintenance, reliability and asset *management professionals*
- *Mission: Enable excellence in maintenance, reliability and asset management through collaboration, applied learning, leadership and advocacy*
- Confer professional designations: *MMP, CAMP, CTAM, CPAM, CSAM*
- Founding member of *Worlds Partners in Asset Management* (WPiAM) and contributing member to *Global Forum on Maintenance and Asset Management (GFMAM).*

What Is Asset Master Data and Resource Readiness?

“The provision of all resources, data and information so assets are moved toward a state of preparedness for maintenance and reliability work on the first day they are operational”

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WHY THE NEED FOR MASTER DATA

- Improving asset management (AM) for Canadian municipalities to realize better value from their assets

- Accurate and accessible data and information (or simply data) are essential for all asset lifecycle stages.

- Especially critical for the operation and maintenance stage to achieve master data and resource readiness (MDRR) for maintenance and reliability.

Leveraging Asset Master Data Project

PEMAC partnered with Toronto Metropolitan University and municipal representatives across Canada

Project made possible through the Municipal Asset Management Program, delivered by Federation of Canadian Municipalities and funded by Government of Canada

Project Objectives

1. Enhance standards for maintenance management and reliability engineering

2. Establish effective and efficient asset master data interoperability practices between lifecycle stages

Project Phases

National Survey

1

Data Analysis and Insights Reporting

2

Curriculum Development and Delivery

3

White Paper, Business Case & Guide

4

Educate, Collaborate and Grow

5

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Project Participants

- **27 municipalities** and **71 staff** across Canada, serving populations totaling approximately **16,940,42427**, participated in a national survey
- **21 municipalities** and their **52 staff** attended two cohorts of a six-lesson course titled *"Leveraging Asset Master Data and Information for Maintenance and Reliability Readiness"*
- **21 industry and academic** leaders collaborated in the planning, development, and deployment of the project phases, representing **15 distinct organizations**

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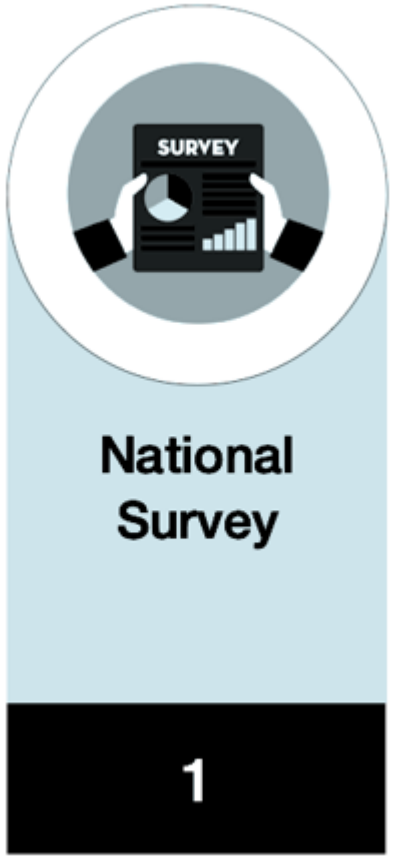
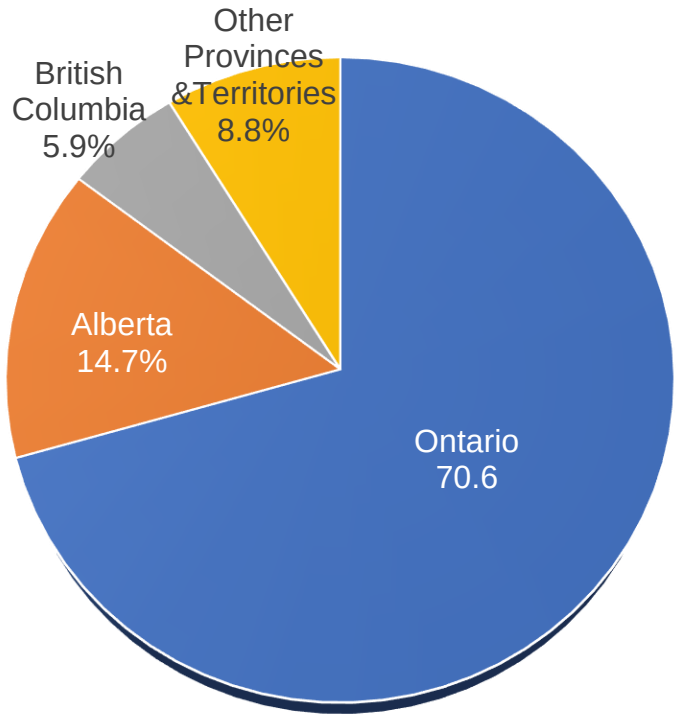
National Survey



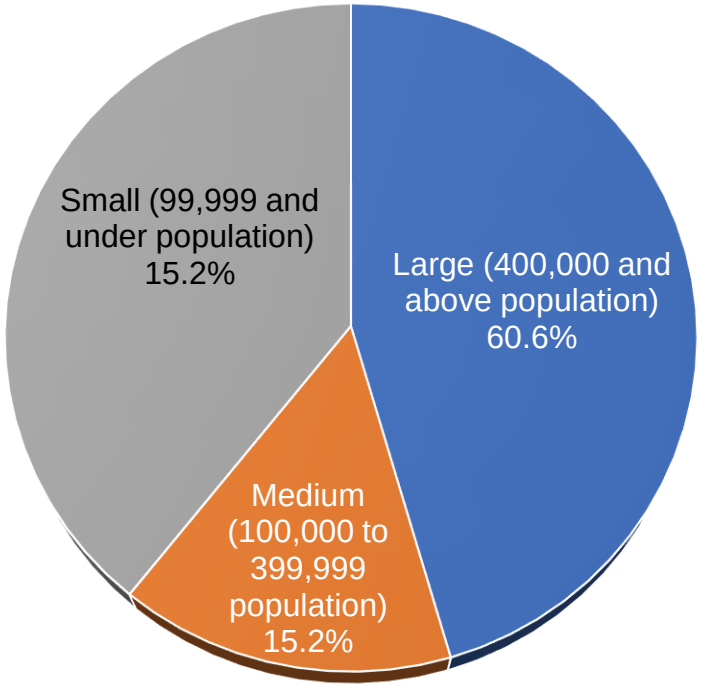
- Canadian municipalities surveyed to determine current state conditions of asset master data
- 3 sections: 1) General Information, 2) Asset Master Data, 3) Asset Management Systems
- Success stories survey aimed to gather information regarding municipalities' exemplary work

General Information

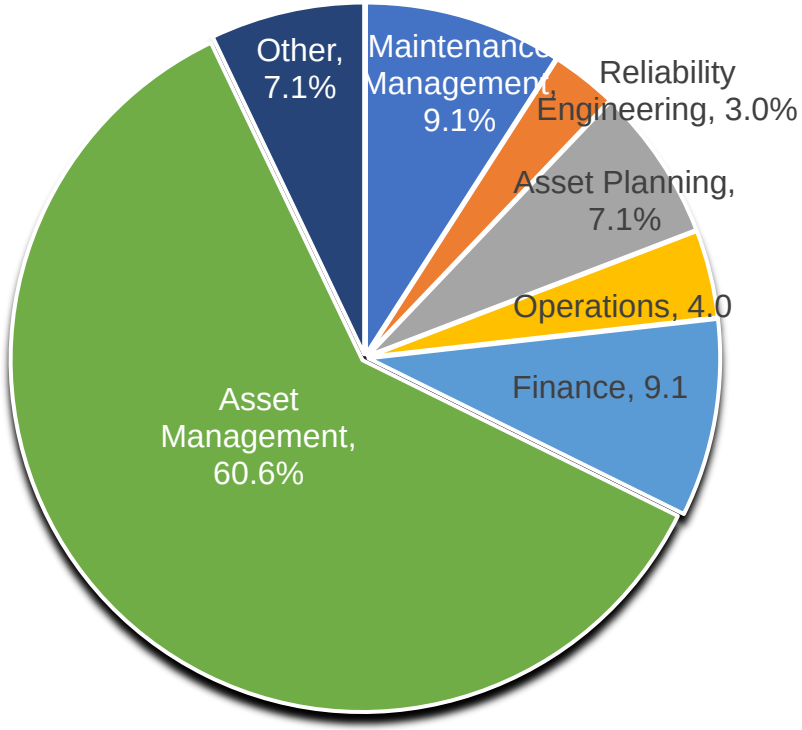
By Province



By Municipal Size



By Department



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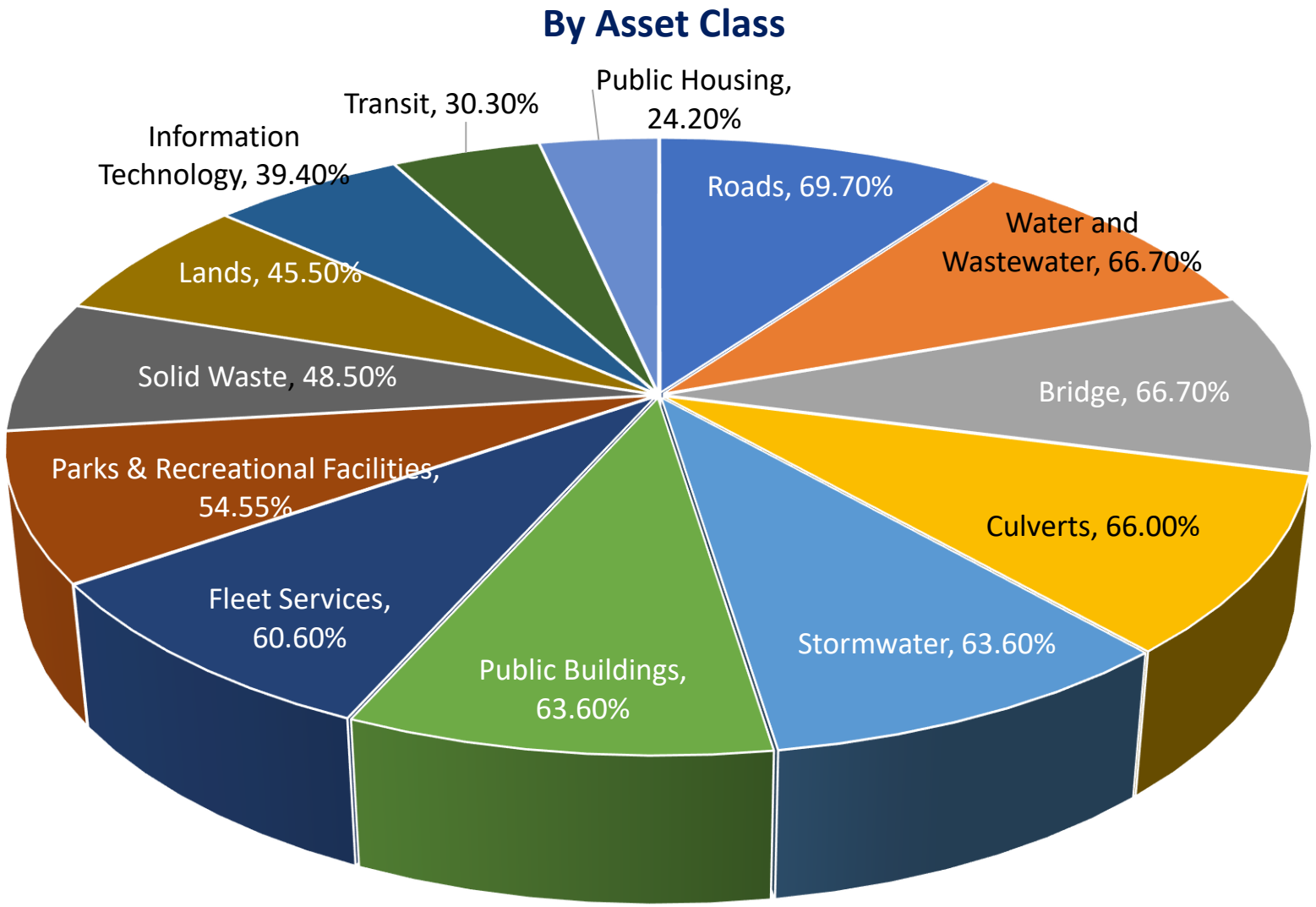
General Information



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Key Findings

- Diverse range of asset management practices
- Significant challenges in standardization and interoperability reflecting different stages of asset management maturity
- Requirement for collaboration, integrating various departments and leveraging collective expertise

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Asset Master Data Findings

- 75% of municipalities collect most types of asset master data at one or more lifecycle stages
- Data predominantly collected during the “O & M” stage (61.7%),
- Methods of collecting data vary
- Spreadsheet-based methods commonly used for data storage

Asset Management Systems Findings

- 47% of have developed AMPs while only 16% have established processed to monitor implementation
- 31% maintain asset data inventories, ranging from limited to comprehensive
- 33.% - fulltime resourced maintenance planning function with formal processes
- Most used data storage systems: CMMS (46.6%), GIS (58.6%)
- 37 % of maintenance work executed by trades is captured in a single system
- 28 % - have reliable engineering structure and team
- 56% - future lifecycle costs not considered in asset procurement

Leveraging Asset Master Data Course

- Six-week course - live online
- Practical knowledge to improve organization's MDRR
- 13 learning outcomes
- Featured presentations, group discussions, and five assignments
- Two cohorts of municipal teams, Fall 2023 and Winter 2024

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Leveraging Asset Master Data Course

Lever 1

Maintenance & Reliability Readiness

Lever 3

Environmental Sustainability (Circular Economy)

Course Lessons

Lesson 1: Introduction

Lesson 2: Lifecycle Planning

Lesson 3: Design & Build

Lesson 4: O&M

Lesson 5: Disposal

Lesson 6: Technology Roles

Lever 2

Digital Technologies
GIS, CMMS, BIM, PdM, CBM

Lever 4

Guidelines and standards
ISO 55000 I GFMAM

Assignments

1. National Online Survey
2. Asset Failure Study
3. Mini Case Study (MDRR)
4. Interoperability Gap Analysis
5. Lesson Discussions

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Project Recommendations

1. Standardization and integration of data management
2. Technological advancements and predictive analytics
3. Capacity building and skills development
4. Policy development and compliance

Benefits of Master Data and Resource Readiness

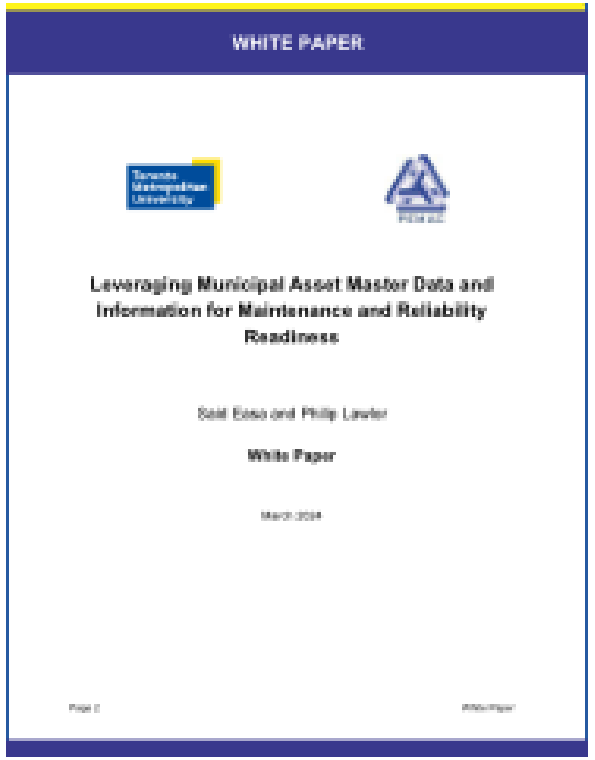
1. Strategic – Alignment maintenance strategies to AM objectives

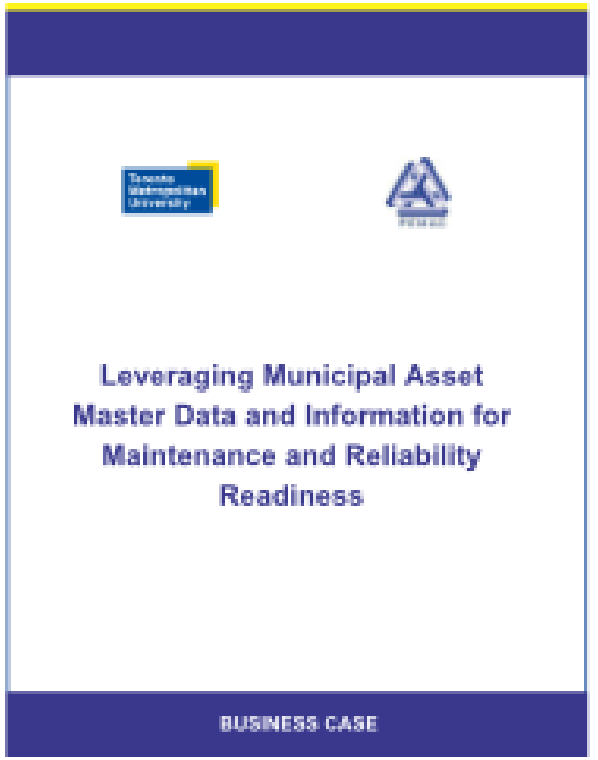
2. Operational – Issues management, asset integrity, reliability/efficiency, asset life

3. Financial – resource and value optimization, risk reduction, budget predictability

4. Environmental and Social – environmental sustainability, community trust and satisfaction

Knowledge Products





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Next Stage

Educate, Collaborate and Grow

5

- Commitment to build on foundational work created by this project
- Delivery of a Maintenance Management Readiness course in spring 2025
- Offer Asset Management Professional (AMP) courses through FCM's Local Leadership for Climate Adaptation program

QUESTIONS?

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THANK YOU

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