Communicating an Evidence Based Asset Management Program

By Daryush Esmaili
Agenda
Communicating Asset Management

Introduction
- Challenges
- Service-Supporting Assets

Governance and Strategic Direction
- Getting to know the stakeholders
- Integration into Budget Processes
- Establishing the Strategic Direction
- Be open about what you know and do not know

Telling the Story
- Communication process
- Guelph’s AM implementation

Levels of Service Impacts
- Expected Levels of Service
- Linking Levels of Service to Budgeting
- Establishing evidence-based metrics
Communicating Asset Management

About Guelph

- Single-tier municipality 100 km west of Toronto.
- Population of approximately 130,000.
- 500 km infrastructure network.
- $4 billion asset portfolio.
- Implemented Corporate Asset Management in 2016.
Our Challenge
Communicating Asset Management

So what does this mean?
How does it impact me?

Communicating Asset Management

- How long will I have to wait in line?
- Will I be at risk of flooding?
- Will you meet my basic needs?
- Can we still get from A to B?
- Will you be there in an emergency?
- Will the land be ready to develop?
- How often will you collect my waste?
- Will I be able to find a parking space?
- Can we still play safely?
- Will you be there in an emergency?
Our Service-Supporting Assets

Communicating Asset Management

$4.1 billion to replace today

or

$30,000 per Guelph resident
**Communicating Asset Management**

**Telling the Story**

- **Get to know the stakeholders**
  - Review the PSAB register
  - Meetings
  - Forming the AM Steering Committee
  - External consultation plan

- **Integration into Budget Processes**
  - Reinforcing the key messages
  - Integrated budget planning

- **Asset Management Introduction**
  - Get everyone on the same page
  - Council Presentations
  - Internal Presentations

- **Define the Strategic Direction**

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**Year 1**

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Communicating an Evidence Based Asset Management Program

2017 Municipal Finance Forum
Reinforcing the Messages

Communicating Asset Management

Be open about what you know and do not know
- Assumptions
- Guestimates
- Real data

Communicate impacts to levels of service
- Cost of Service
- Risks
- Not meeting Levels of Service

Continued integration in Budget Processes
- Reinforcing the messages
- Assisting in Capital Budget coordination

Long term financial plan integration
- Master planning processes

Year 1 Continued

Year 2 and beyond

Communicating an Evidence Based Asset Management Program
2017 Municipal Finance Forum
Multi-Disciplinary Approach

Getting to know the Stakeholders

Understanding Requirements
- AM Policy and Strategic Direction
- Define Levels of Service and Performance
- Forecast Future Demand
- Assess Asset Condition
- Understand the Asset Base (the Inventory)
- Identify Asset and Business Risk

Lifecycle Management Strategies
- Financial and Funding Strategies
- Capital Works Strategies
- Maintenance Strategies
- Operational Strategies

Decision Making Techniques

Asset Management Enablers
- Asset Management Teams
- Asset Management Plans
- Information Systems and Tools
- Quality Management
- Continuous Improvement

Asset Management Enablers
- Requirements Definition
- Asset Planning
- Asset Creation / Acquisition
- Operations and Maintenance
- Asset Monitoring
- Disposal
- Asset Revaluation
- Asset Renewal / Rehab

Service Delivery

Council, Senior Management
Communications
Each Department
GIS and IT
Legal
Human Resources

Finance
Operations
IT

Legal
Each Department
GIS and IT
Legal
Human Resources

Council, Senior Management
Communications
Each Department
GIS and IT
Legal
Human Resources

Finance
Operations
IT
Governance Structure

Getting to know the Stakeholders

Service Providers and Working Groups
Deliver and manage the service from day to day

Corporate Asset Management
Work with service providers and working groups to generate AM documents

Asset Management Steering Committee
Review documents, and provide feedback

Asset Governance
Approve and/or provide feedback
The Value Proposition:

- Helps **protect and enhance** the quality of life in Guelph by ensuring the **best possible decisions** regarding our assets.
- Supports **evidence-based business cases** for budgets and long term financial forecasts.
- Drives **longer term thinking** and planning.
- Supports financial **sustainability**.
Going Back to the Basics

Asset Management Introduction

Making the Best Possible Decisions About Assets

Managing Risks

Optimizing Lifecycle Costs

Providing Satisfactory Levels of Service

All based on a clear understanding of the long term objectives and purpose
Reinforcing Key Messages
Integration into Budget Processes

- **2013** – City 2014 Capital Budget Key Messages – Infrastructure Gap and Asset Management is a priority
- **2015** – City 2015 Capital Budget Key Messages – “Taking Care of What We Own”
- **2016** – “Options on how to address funding of infrastructure”
Documents in the AM System

Define the Strategic Direction

Organizational Strategic Plans
Outlines the organizational vision, goals and objectives

Asset Management Policy and Strategic Direction
Outlines the principles, requirements and responsibilities for asset management, linked to the organizational strategic objectives

Corporate Asset Management Plan
Outlines the objectives, practices, and action plans for asset management improvement, audit and review.

Asset System Management Plans
Provides an overview of the asset/service, levels of service, demand forecasts, lifecycle activities, and financial forecasts

Operational Plans and Work Programs
Guides day to day activities of staff and contractors.

Jan 2017
March 2017
In progress
Ongoing
Rationale for the Strategic AM Policy

Define the Strategic Direction

- Defines where we are heading on our asset management journey.
- Sets out the key principles and goals that will guide our mission.
- Outlines our vision of success, and how progress will be measured.
- Included in the Appendix of the 2017 Corporate Asset Management Plan.
How the Policy was Developed

Define the Strategic Direction

- Collaborative approach.
- Workshops with Council and the Asset Management Steering Committee.
- Established collective goals and guiding principles.
- Will serve as our guide on our asset management journey.
Keeping things Simple
Define the Strategic Direction

Asset Management Policy

Special Council Workshop
January 23, 2017

What is Asset Management?

A combination of management, financial, economic, engineering, operations and other practices applied to assets with the objective of providing the required level of service and minimizing risks in the most cost effective manner.

Why is Asset Management Important?

Asset management:

- Helps protect and enhance the quality of life in Guelph by ensuring the best possible decisions regarding our assets;
- Supports evidence-based business cases for budgets and long-term financial forecasts;
- Drives longer term thinking and planning;
- Supports financial sustainability; and
- Is a requirement of Federal and Provincial funding.

What is Council’s Role in Asset Management?

- Approve the strategies and plans as proposed by the City;
- Serve as representatives of stakeholder and community needs; and
- Approve funding for both capital and operating budgets associated with Asset Management through the annual budget.

What does the Policy Include?

- Terms and Definitions
- Background (of the asset management program and policy)
- Policy Statement
- Scope of the Asset Management System
- Asset Management Mission, Goals and Principles
- Review Period
- Roles & Responsibilities
- Contact Information

Why do we need the Policy?

- It sets out the principles by which the organization intends to apply asset management to achieve its organizational objectives; and
- It is a potential requirement of future regulations.

Making the Best Possible Decisions About Assets
Providing Satisfactory Levels of Service
Managing Risks
Optimizing Lifecycle Costs

Based on a clear understanding of the long term objectives and purpose
Communicating our Capabilities

Be open about what you know and do not know

Several Maturity Assessments Available

- Provides a maturity index for each area of the asset management system.
- Links to best practices.
- Provides guidance on the implementation in each area.
Communicating Data Confidence
Be open about what you know and do not know

<table>
<thead>
<tr>
<th>Data Quality Rating</th>
<th>Equivalent Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>80%-100%</td>
<td>No assumptions, with the age and value known. Reliable data source (e.g. structural report, building condition assessment, database with proven track record).</td>
</tr>
<tr>
<td>4</td>
<td>60%-79%</td>
<td>No assumptions, with the age and value known. Data is moderately reliable (e.g. out of date inventory or study, purchasing records, and internally maintained records).</td>
</tr>
<tr>
<td>3</td>
<td>40%-59%</td>
<td>One reliable data source, including minor assumptions from moderately reliable source (e.g. out of date inventory or study, purchasing records, internally maintained records).</td>
</tr>
<tr>
<td>2</td>
<td>20%-39%</td>
<td>Data from significantly out of date documents (i.e. seven or more years), relatively unreliable documents, or anecdotal, but both age and replacement value.</td>
</tr>
<tr>
<td>1</td>
<td>1%-19%</td>
<td>Moderately reliable data available for age or value, but not both. Second item not from a reliable source.</td>
</tr>
<tr>
<td>0</td>
<td>0%</td>
<td>No data available.</td>
</tr>
</tbody>
</table>
## Communicating an Improvement Plan

Be open about **what you know and do not know**

<table>
<thead>
<tr>
<th>Asset System</th>
<th>Average Data Confidence Percentage</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Facilities</td>
<td>74%</td>
<td>Based on previous building condition assessments, structural assessments and insurance values for facilities. Some building condition assessments and structural assessments are five or more years old.</td>
</tr>
<tr>
<td>Contaminated Sites</td>
<td>28%</td>
<td>Detailed remediation costs understood for 11 of 40 sites. The understanding of the scale and complexity of remediation work will grow through more enhanced monitoring and inspection programs planned for the next 10 years.</td>
</tr>
<tr>
<td>Corporate Vehicles and Equipment</td>
<td>71%</td>
<td>Data was based on detailed budget sheets, where are likely moderately out of date, however validated against purchase orders, tender documents and details stored in Oracle Work and Asset Management.</td>
</tr>
<tr>
<td>Parking</td>
<td>38%</td>
<td>Minimal documented information was available for parking lots; however condition assessment reports are available for structures. Data for the parking lots have been collated based on anecdotal information.</td>
</tr>
</tbody>
</table>
## Communicating Funding Gaps

Communicate impacts to levels of service

<table>
<thead>
<tr>
<th>Asset Group</th>
<th>2006-2010 Average</th>
<th>2011 Grade</th>
<th>2012 Grade</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water System</td>
<td>D (66%)</td>
<td>B (81%)</td>
<td>A (90%)</td>
<td>The Water System 2012 budget is 90% of the Average Annual Cost. This is an improvement from the 2011 budget levels, and a significant improvement from the 2006-2010 average.</td>
</tr>
<tr>
<td>Wastewater System</td>
<td>D (63%)</td>
<td>C (71%)</td>
<td>C (79%)</td>
<td>The Wastewater System 2012 budget is approximately 79% of the Average Annual Cost. This is insufficient to maintain the system in perpetuity; however it is an improvement from previous years.</td>
</tr>
<tr>
<td>Storm System</td>
<td>F (32%)</td>
<td>F (36%)</td>
<td>F (41%)</td>
<td>The Storm System 2012 budget is significantly inadequate to sustainably maintain the system. It meets neither the Average Annual Cost, nor the needs for the current decade.</td>
</tr>
</tbody>
</table>
Expected LOS based on Current Budgets

Communicate impacts to levels of service
Expected LOS based on Current Budgets

Communicate impacts to levels of service

![Graph showing expected LOS based on current budgets and annual cost over years.](Image)
## Evidence-based Metrics

Communicate impacts to **levels of service**

### Service Statement:
Efficiently providing operational and accessible roads and right-of-ways at the appropriate quality that support drivers, cyclists and pedestrians.

<table>
<thead>
<tr>
<th>Key Service Attribute</th>
<th>LOS Statement</th>
<th>Customer/Council Performance Measures</th>
<th>Technical Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient</td>
<td>Providing an efficient transportation network</td>
<td>Cost to provide service ($/household)</td>
<td>Annual operating budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average asset renewal rate (# years)</td>
<td>Average annual capital expenditure</td>
</tr>
<tr>
<td>Operational</td>
<td>Providing an operational road network that is safe for drivers, pedestrians and cyclists</td>
<td># of vehicle, cyclist, and pedestrian incidents</td>
<td>% of bridges and structures above the target condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of sidewalks above the target condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of locations with poor condition road signs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of locations with inadequate traffic signals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of complaints of unsafe roads</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of time when MMS are achieved as per O. Reg 239/02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of roads with necessary half load limit signage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of cyclist complaints of unsafe catchbasin covers</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of roads/paved area above the target condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of gravel roads above the target condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of roads/paved area that meet the target quality level</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of gravel roads that meet the target quality level</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of sidewalks that meet the target quality level</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of cycling lanes that meet the target quality level</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>% of bridges that meet the target quality level</td>
</tr>
</tbody>
</table>
| Quality                | Providing a transportation network at the appropriate quality | % of right-of-ways that meet the target quality level |}

Service Statement:
Efficiently providing operational and accessible roads and right-of-ways at the appropriate quality that support drivers, cyclists and pedestrians.
Simplifying the Message: Dashboards

Communicate impacts to levels of service

- **Energy management**
  - 329 YTD kWh, energy consumption per person
  - Meets or Exceeds Target

- **Daily water use**
  - 167 Litres of water used per person per day
  - Collecting data

- **Water production trend**
  - 16,940,220 Cubic metres of clean water produced
  - Collecting data

- **Water reduction target**
  - 4,887 Litres reduced in daily water production
  - Collecting data

- **Landfill diversion**
  - 59% Residential waste diverted from landfill
  - Needs Improvement
Closing Remarks
Communicating Asset Management

- Requirements for asset management are increasing.
- A collaborative approach is essential – be open about data confidence and improvement plans.
- We talk about backlogs, infrastructure deficits and funding gaps but we should also show the impacts on service.
- A robust levels of service framework can serve as an effective tool for decision making:
  - Think from the customer’s perspective (what are they receiving).
  - Link budgets and funding levels to service performance.
Thank you
Questions and Discussion

Daryush Esmaili
Manager of Corporate Asset Management
جو 519-822-1260 x 2765
✉️ Daryush.Esmaili@guelph.ca