Council and Staff Working Together to Implement your AMP

April 7th, 2016

Gerry Wolting, Public Sector Digest
John Murray, Public Sector Digest
Agenda

1) **PSD Overview** – What we do

2) **Initial Asset Management Plans** – Impacts on departments / engaging council

3) **Break out session # 1** – Your thoughts

4) **Asset Management Road Map** – Developing robust plans and robust AM programs
   - Building staff level capacity
   - Cross departmental communication
   - Benefits for all involved

5) **Break out session # 2** – Your thoughts

6) **Engaging Council in Maintaining and Furthering the Plan**

7) **Concluding Remarks**
What we do

1. Research
   - Public Sector Digest - monthly publication written for public sector practitioners
   - PSD Webinars
   - PSD Municipal Benchmarking – The National Infrastructure Database

2. Technology
   - Developed for local governments to tackle asset management, financial planning/budgeting, and performance measurement

3. Advisory
   - Asset Management Plans (AMPs)
   - Asset Management Roadmaps
   - Water & Wastewater Rate Studies
PSD Findings after 120 plus AMPs
Initial Asset Management Plans

- Time constraints impeded comprehensive analysis; emphasis on rapid completion
- Completed to satisfy provincial requirement
- Started good asset management awareness / education
- But did they promote continued development of A.M.?
- And did they promote cross departmental collaboration?
Do Asset Management Plans Promote Collaboration?

**INFRASTRUCTURE–STRATEGIC PLAN**
Strategic Plan Goals, Asset Performance & Community Expectations, Legislated Requirements

**STATE OF THE CURRENT INFRASTRUCTURE REPORTS**
Asset Inventory, Valuation, Current Condition/Performance, Sustainable Funding Analysis

**EXPECTED LEVELS OF SERVICE**
Key Performance Indicators, Performance Measures, Public Engagement

**ASSET MANAGEMENT STRATEGY**
Best Practices, Risk Management, Life Cycle Intervention Planning

**FINANCING STRATEGY**
Available Revenue Analysis, Develop Optional Scenarios, Define Optimal Budget & Financial Plan

**AMP PERFORMANCE REPORTING**
Project Implementation, Key Performance Measures Tracked, Progress Reported to Senior Management & Council
Engaging Council:
Awareness, Understanding and Communication
<table>
<thead>
<tr>
<th>Asset Category</th>
<th>Condition vs. Performance</th>
<th>Funding vs. Need</th>
<th>Overall Grade</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Network</td>
<td>B</td>
<td>D</td>
<td>C</td>
<td>The vast majority, 90%, of the municipality’s road network is in good (81%) to excellent condition. The average annual revenue required to sustain the paved road network is approximately $883,000. Based on current annual funding of $411,000, there is an annual deficit of $472,000.</td>
</tr>
<tr>
<td>Bridges &amp; Culverts</td>
<td>B+</td>
<td>F</td>
<td>D</td>
<td>The municipality’s bridges &amp; culverts are generally in good to excellent condition. The average annual revenue required to sustain the bridges &amp; culverts is $409,000. Based the current annual funding of $35,000, there is an annual deficit of $374,000.</td>
</tr>
<tr>
<td>Water Network</td>
<td>C</td>
<td>F</td>
<td>F</td>
<td>Nearly 70% of water mains and facilities are in fair to excellent condition, with the remaining 30% in poor to critical condition. The average annual revenue required to sustain East the water network is approximately $423,000. Based on East the current annual funding of $24,000, there is a deficit of $399,000.</td>
</tr>
<tr>
<td>Sanitary Sewer Network</td>
<td>C</td>
<td>F</td>
<td>F</td>
<td>While 100% sanitary sewer mains are in fair to excellent condition, 100% of its facilities are in poor to critical condition. The average annual revenue required to sustain the sanitary sewer network is approximately $114,000. Based on the current annual funding of $28,000, there is an annual deficit of $86,000.</td>
</tr>
<tr>
<td>Storm Sewer Network</td>
<td>B</td>
<td>F</td>
<td>D</td>
<td>All 100% of the municipality’s storm sewer mains are in good condition. The average annual revenue required to sustain the storm sewer network is approximately $33,000. Based on the current annual funding of $0, there is an annual deficit of $33,000.</td>
</tr>
</tbody>
</table>
Infrastructure Replacement Value - $16B
Per Household Value = $114,000
Daily Household Cost Comparisons

- Parks & Open Space
- Public Transit
- Waste Management
- Recreation & Culture
- Stormwater
- Water
- Waste Water
- Roads & Bridges
- Coffee
- Cable TV
- Eating Out
- Alcohol & Tobacco

Costs range from $0.00 to $7.00.
Why Does an AMP Need a Financial Strategy?

- The main risks to municipal financial sustainability:
  - The cost of infrastructure
  - Providing levels of service that don’t reflect fiscal capacity
Fiscal Capacity vs Infrastructure Intensity

Growing municipalities ... high fiscal capacity

Stable / declining municipalities ... moderate to weak fiscal capacity

The fortunate few
Financial strategy is critical

Which quadrant applies to your municipality?

Financial strategy is critical

Significant decisions required

Low ← Infrastructure per capita → High
Break Out Session # 1
Break Out Session # 1

- Is your AMP viewed as a strategic document or did you just check the box?
- Which departments were involved?
- Was council engaged?
- How would you address these three issues next time?
PSD Findings after 120 plus AMPs
# Current State of Maturity Analysis

(Critical Activities Path)

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Basic</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Plan (Infrastructure Goals)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Level of Service Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legislative and regulatory requirements</td>
<td></td>
<td>Intermediate</td>
<td>Advanced</td>
</tr>
<tr>
<td>Level of Service framework development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>Basic</td>
<td>Intermediate</td>
<td>Advanced</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Asset Management Strategy</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and future asset performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Growth and demand planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prioritization and program optimization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>Basic</td>
<td>Intermediate</td>
<td>Advanced</td>
</tr>
</tbody>
</table>
Current State of Maturity Analysis
What we have found:

- Lack of Internal Asset Management Teams
  - Little Departmental Collaboration
  - No Dedicated Employees
  - No AM Committee
Current State of Maturity Analysis
What we have found:

- Need to fine tune some basic metrics
  - Useful Life Projections
  - Replacement Costs & Values
  - Finer Segmentation of Assets

What is the current level of service?
Current State of Maturity Analysis
What we have found:

- Lots of additional information not currently used:
  - Engineering / Public Works data sets
  - Facilities / Parks data sets
Current State of Maturity Analysis
What we have found:

- The need to develop some key processes
  - Risk Management
  - Life Cycle Intervention Planning
  - Level of Service Frameworks

What level of service is attainable?
Current State of Maturity Analysis
What we have found:

- The need to build internal capacity
  - Skills / Knowledge Development
  - Cross Functional Team
  - Human Resources
Funding of Tax Based Categories

- Taxes: 15%
- Gas Tax: 14%
- Other: 9%
- Unfunded: 62%

PSD’s findings after 120+ AMP’s

Funding of Rate Based Categories

- Unfunded: 30%
- Rates: 62%
- Other: 8%
- Gas Tax: 0%
Average Total Tax Increase Required for Full Funding

PSD’s findings after 120+ AMP’s

Average Total Rate Increase Required for Full Funding

Sanitary: 22%
Water: 46%
Average Annual Tax Increase Required During Phase-In Period

PSD’s findings after 120+ AMP’s

Average Annual Rate Increase Required During Phase-In Period

Sanitary Water

PSD’s findings after 120+ AMP’s
BREAK
PSD - Asset Management Road Map Process

- Building staff level capacity
- Cross departmental communication
- Providing benefits for all involved
PSD - Asset Management Road Map Process

- Provides continuous improvement of A.M. practices
- It breaks out the core components of A.M. for separate analysis
- Provides a tailored critical activities path
Road Map Components

- Organizational Cognizance
- Data and information templates
- Condition assessment development
- Legislative / regulatory requirements
- Risk and criticality model development
- Life cycle analysis methodologies
- Project & Program Prioritization
- Financial Strategy Analysis
- Level of Service Model Development
Current State of Maturity Analysis
(Critical Activities Path)

- Self Assessment Tests
- Departmental Interviews
- Collaborative Project
A.M Policy Development

- provides direction to Administration
- ensures uniformity in the interpretation and implementation of strategic objectives
- allows staff to understand expectations and ensure a consistent approach
- coordination and integration of actions and plans
- ensures problems or issues are addressed
A.M. Policy Development

- The Problem / issue that needs to be addressed
  - The purpose of this policy is to ensure the development of the Cities’ asset management program, including roles and responsibilities, to facilitate logical and informed decision making for the management of the City’s infrastructure to support the delivery of sustainable community services.”

- The Players - the individuals and/or groups involved

- A course of action and/or principles

- Alignment to organizational objectives and goals
The Evolution of Asset Data

- Asset ID, location, description data
- Valuation data
- Condition data
- Performance (demand and capacity) data
- Risk data
- Maintenance data
- Life cycle activity data
- Optimised decision data
- Service based data
Asset Age vs Asset Condition

- Condition data builds confidence for future decisions

- Asset age analysis typically overstates needs and overall deficit
  - Often useful life durations are set too short
  - Age is not a good indicator for future failure
When does 50% = 75%?

A: When engineers and accountants get together

Diagram: Depreciation curve with condition and life axes.
Asset Age vs Asset Condition

Assessed vs. Age-Based: **Average Asset Condition Rating (0-100)**

- **Paved Roads**
  - Assessed: 69
  - Age-Based: 40
- **Culverts (Structure)**
  - Assessed: 62
  - Age-Based: 32
- **Bridges (Structure)**
  - Assessed: 59
  - Age-Based: 36
Condition Assessments - Benefits

- Better overall management practices
- Establishment of rehabilitation programs
- Repair schedules and preventive maintenance programs
- Extends asset service life - improves level of service
- Enables accurate asset reporting and better decision making
## Risk / Criticality Assessment

\[
\text{Risk} = \text{Probability of Failure} \times \text{Consequence of Failure}
\]

<table>
<thead>
<tr>
<th>Probability of Failure</th>
<th>Consequence of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 1</td>
<td>2</td>
</tr>
<tr>
<td>7,577.48 feet</td>
<td>893,815.84</td>
</tr>
<tr>
<td>40,181.19 feet, sq ft</td>
<td>7,599,954.50</td>
</tr>
<tr>
<td>High 5</td>
<td>1</td>
</tr>
<tr>
<td>17,170.23 feet</td>
<td>1,564,273.36</td>
</tr>
<tr>
<td>24 Assets</td>
<td>21,021.3 feet, sq ft</td>
</tr>
<tr>
<td>3 Assets</td>
<td>1,196.37 feet, units</td>
</tr>
<tr>
<td>1 Asset</td>
<td>438.45 feet</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>62</td>
</tr>
<tr>
<td>679 Assets</td>
<td>40,181.19 feet, sq ft</td>
</tr>
<tr>
<td>205 Assets</td>
<td>44,303.47 feet, units, mile</td>
</tr>
<tr>
<td>165 Assets</td>
<td>5,029.09 feet, units, sq ft</td>
</tr>
<tr>
<td>222 Assets</td>
<td>8,891.51 feet, units, sq ft</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>124,145.94 feet, units</td>
</tr>
<tr>
<td>93,464.19 feet, units</td>
<td>$15,768,427.84</td>
</tr>
<tr>
<td>171 Assets</td>
<td>66,827.05 feet, units</td>
</tr>
<tr>
<td>102 Assets</td>
<td>8,036.56 feet, units</td>
</tr>
<tr>
<td>33 Assets</td>
<td>$8,932,122.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>36,599.05 feet, units, sq ft</td>
</tr>
<tr>
<td>17,555.75 feet</td>
<td>$1,275,795.11</td>
</tr>
<tr>
<td>160 Assets</td>
<td>58,591.54 feet, sq ft, units</td>
</tr>
<tr>
<td>69 Assets</td>
<td>31,155.23 feet, units</td>
</tr>
<tr>
<td>7 Assets</td>
<td>$2,335,179.02</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>68,912.68 feet, sq ft</td>
</tr>
<tr>
<td>17,571.72 feet</td>
<td>$1,523,077.64</td>
</tr>
<tr>
<td>17 Assets</td>
<td>17,692.92 feet, units, sq ft</td>
</tr>
<tr>
<td>14 Assets</td>
<td>18,194.01 feet, sq ft</td>
</tr>
<tr>
<td>5 Assets</td>
<td>851.01 feet, units</td>
</tr>
<tr>
<td>58 Assets</td>
<td>$2,149,881.21</td>
</tr>
<tr>
<td>55 Assets</td>
<td>$276,328.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>47</td>
</tr>
<tr>
<td>68,912.68 feet</td>
<td>$14,465,281.35</td>
</tr>
<tr>
<td>22 Assets</td>
<td>17,571.72 feet</td>
</tr>
<tr>
<td>17 Assets</td>
<td>17,692.92 feet</td>
</tr>
<tr>
<td>12 Assets</td>
<td>18,194.00 feet</td>
</tr>
<tr>
<td>10 Assets</td>
<td>851.01 feet</td>
</tr>
<tr>
<td>10 Assets</td>
<td>$2,149,881.21</td>
</tr>
<tr>
<td>5 Assets</td>
<td>$276,328.13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consequence of Failure</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>17,170.23 feet</td>
<td>$1,564,273.36</td>
</tr>
<tr>
<td>24 Assets</td>
<td>21,021.3 feet, sq ft</td>
</tr>
<tr>
<td>3 Assets</td>
<td>1,196.37 feet, units</td>
</tr>
<tr>
<td>9 Assets</td>
<td>3,034.18 feet</td>
</tr>
<tr>
<td>1 Asset</td>
<td>438.45 feet</td>
</tr>
</tbody>
</table>

**RISK**
Consequence of Failure (Cof)

The consequence of failure relates to the magnitude, or overall effect, that an asset’s failure will cause.

- Will determine which assets are critical for service delivery
- Will determine the level of information required in regards to probability of failure
Model Development - Field Data required

Criticality 1 – No data required, run asset to failure
Criticality 2 – Desktop analysis (use information available internally)
Criticality 3 – Scheduled field check (cursory asset condition data)
Criticality 4 – Detailed condition assessment data
Criticality 5 – Engineering review and monitoring (field sensors for rate of deterioration / real time monitors).
Risk – The Planning Framework

Consequences of Failure
- Economic Impact
- Operational Impact
- Environmental Impact
- Social Impacts

Criticality Model
- Economic Impact
- Operational Adequacy
- Regulatory Compliance
- Economic Efficiency

Probability of Failure
- Condition & Reliability
- Operational Adequacy
- Regulatory Compliance
- Economic Efficiency

Decision Model

Business Case

Long Range Forecast
- Lifecycle Models
- “What if?” Analysis
- Sustainable Funding
- Full Cost of Services

Planning Tools

Capital Program
- Urgent Action
- Planned Action
- Repair & Renewal
- New Growth
- Others?

Maintenance Program
- Planned Work
- Predictive Work
- Preventive Work
- Others?

Inspection Program
- Trouble Reports
- Visual Inspection
- Testing Regiment
- Flow Monitoring
- Others?

Response Toolbox

Probabilistic
- CoF
- PoF

Rating Systems

Institutional
- Rating Systems

CityWide
- Software Solutions
- A Division of PSD

LAS MFOA SYMPOSIUM
## Life Cycle Framework Development

<table>
<thead>
<tr>
<th>TREATMENT</th>
<th>AVERAGE UNIT COST (PER SQ. M)</th>
<th>ADDED LIFE (YEARS)</th>
<th>COST OF ACTIVITY/ADDED LIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBAN RECONSTRUCTION</td>
<td>$205</td>
<td>30</td>
<td>$6.83</td>
</tr>
<tr>
<td>URBAN RESURFACING</td>
<td>$84</td>
<td>15</td>
<td>$5.60</td>
</tr>
<tr>
<td>RURAL RECONSTRUCTION</td>
<td>$135</td>
<td>30</td>
<td>$4.50</td>
</tr>
<tr>
<td>RURAL RESURFACING</td>
<td>$40</td>
<td>15</td>
<td>$2.67</td>
</tr>
<tr>
<td>DOUBLE SURFACE TREATMENT</td>
<td>$25</td>
<td>10</td>
<td>$2.50</td>
</tr>
<tr>
<td>ROUTING &amp; CRACK SEALING (P.M)</td>
<td>$2</td>
<td>3</td>
<td>$0.67</td>
</tr>
</tbody>
</table>
Decision Tree Development

- **Water Mains**
  - **Criticality A**
  - **Criticality B**
    - **Capacity Needs**
      - yes: **Replace**
      - no: **4 Breaks or 2 in last 3 years**
        - yes: **Replace**
        - no: **W. Quality Issues**
          - yes: **Maintenance & Monitor**
          - no: **2 or 3 breaks**
            - yes: **Structural Lining**
            - no: **Cement Mortar Lining**
How much money do we need?

Age Based Analysis
Condition Based Analysis
Risk Based Analysis
Life Cycle Based Analysis
Optimised Analysis
 Desired Levels of Service

- Set desired levels of service for each infrastructure program
- Use performance measures to track targets
- Establish current performance and expected performance
- A.M. plan should outline how to bridge any gaps.
# LOS Framework Development

<table>
<thead>
<tr>
<th>Service</th>
<th>Service Goal</th>
<th>Technical LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible</td>
<td>Affordable</td>
<td>Cost of Customer Billing / Service Connection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>O&amp;M Cost ('000) / km Length</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accommodate Growth</td>
</tr>
<tr>
<td>Safe</td>
<td>Keep employees safe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protect the Public</td>
<td>% of Inoperable or Leaking Hydrants</td>
</tr>
<tr>
<td>Reliable</td>
<td>Sufficient quality / quantity</td>
<td># of Water Pressure Complaints by Customers / 1,000 People Served</td>
</tr>
<tr>
<td></td>
<td></td>
<td># of Water Quality Customer Complaints / 1,000 People Served</td>
</tr>
<tr>
<td></td>
<td>Uninterrupted Service</td>
<td># of Main Breaks / 100 km Length</td>
</tr>
<tr>
<td>Regulatory</td>
<td>Meet License - Safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meet License - Environment</td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td>Responsive</td>
<td>Customer requests will have a 24 hr response time.</td>
</tr>
<tr>
<td></td>
<td>Accurate</td>
<td></td>
</tr>
</tbody>
</table>
Trends influencing LOS

- Climate change
- Aging infrastructure
- Uncertainty in growth forecasts
- Declines in water consumption
- Socio-Political expectations
- Declining senior gov’t grants
Financial Strategy Roadmap

1) Know your costs
2) Track your assets & costs for both operational & management purposes
3) Determine your AMP financial requirements based on replacement costs
4) Analyse your financial capacity
5) Determine how your numbers relate to your comparators
6) Develop scenarios for consideration
7) Make recommendations
Analyze Your Financial Capacity

1) Basic:
   • Finance department has the information
   • Future investments are compared to income predictions

2) Intermediate:
   • Increased detail & accuracy; improved collaboration between stakeholders

3) Advanced:
   • Forecasts are well researched and based on good strategy; high levels of confidence
   • Good documentation with multiple scenarios considered
Other Financial Roadmap Components

1) Determine how your numbers relate to your comparators
   • A Council’s willingness to address its infrastructure deficit is affected by neighboring municipalities’ budget decisions
   • Know your comparators’ infrastructure positions, strategies & trends

1) Develop scenarios for consideration
   ▪ Create multiple options to demonstrate the interaction between resources and service levels
     ▪ Short & long-term

2) Make recommendations
Break Out Session # 2
Break Out Session # 2

- Would the Road Map process help address your AM challenges & why?
- What else is required?
- What are we missing?
Engaging Council in Maintaining

& Furthering the Plan
What Are Senior Leaders Looking For?

- The ability to:
  - understand present day issues at a high level in order to address them in an informed way
  - speak to the future intelligently & strategically
  - enable their teams to formulate credible plans to get there
  - communicate complex issues in an understandable way to:
    - their organization
    - their peers
    - their Council
    - their residents
Working With Council to Implement the Plan

- Creating the plan is challenging
  - Think back to 2013 😊

- Implementing the plan may be even more challenging:
  - Staff resources & expertise
  - Contract resources
  - Financial resources:
    - Difficulty raising/implementing new revenues beyond operating pressures
  - Reallocating existing revenues
  - Methods of prioritization:
    - New services
    - Existing services
Working With Council to Implement the Plan

- Engaging Council:
  - Initial engagement
    - Done in first cycle of AMP’s
  - Updating Council incrementally:
    - New requirements
    - New information
    - Each time AMP is utilized
  - What should staff be telling Council?
    - Short term
    - Long term
    - Context
  - What format should be used?
  - Who should represent administration?
  - What questions should we expect Council to ask?
What Information Should We Present to Council

- What do we have?
- What condition is it in?
- What is our current service level?
- What is our target service level?
- What's the funding gap?
- What are the consequences of not addressing it?
- What options do we have?
- What can we expect from senior governments?
- What are others doing?
Working With Council to Implement the Plan

- What’s the cost of not implementing the plan?
  - Less focus on strategy?
  - Less success in funding opportunities?
  - Missed rehabilitation opportunities with attractive ROI’s?
  - Missed opportunities for technological advances?
  - Missed opportunities for reviewing service levels?
  - Will investors have less confidence?
  - Scarce resources going to new programs vs existing challenges?
Working With Council to Implement the Plan

- **Common opportunities for improvement:**
  - Viewing an AMP as a “check box” requirement rather than a strategic planning tool
  - Short-term vs long-term thinking
  - Missing rehabilitation events that have proven ROI’s
  - Discounting the difference between one time funding vs annual funding
  - Clinging to the possibility that senior governments will make up the majority of the deficit
  - Missing or understating user pay opportunities
Common opportunities for improvement (Continued):

- Adding assets with little or no strategic value prior to making funding progress on existing assets

- Inability to make the tough decisions:
  - required to decrease asset inventory costs
  - required to reallocate existing funding

- Inability to communicate a complex issue in an understandable way
- Staff understating the issues at hand
- Investing in information but letting it grow stale over time
- Loosing site of the impact of the cumulative deficit
Benefits Realized from Good Asset Management Practice

- Council awareness and involvement in the challenges of addressing the infrastructure deficit.
- Establishment of long term capital programs optimizing limited available funds
- Better communication amongst internal stakeholders and a focus on continuous improvement.
- The establishment of alternate technologies = significant cost savings
Benefits Realized from Good Asset Management Practice

- Better alignment between finance and engineering (PW)

- The robust AMP and process will be a catalyst of conversation, generating ideas, changing philosophies, and starting innovations for better management practices.

- A review of management practices & policies to better align with sustainable goals.
Questions

Gerry Wolting
Public Sector Digest

gwolting@publicsectordigest.com

John Murray
Public Sector Digest

jmurray@publicsectordigest.com

Website: www.publicsectordigest.com