AGENDA – ASSET MANAGEMENT PLANNING

• ASSET MANAGEMENT INITIATIVE PROVINCE OF ONTARIO (MIII)
• PERFORMANCE MEASUREMENT & MANAGEMENT & LINKAGE TO LEVELS OF SERVICE
• ASSET MANAGEMENT PLANS – EARLY FINDINGS, WINS, NO SO GREATS AND LESSONS LEARNED.
What’s Happening in Ontario?

• Detailed asset management plans required by December 31, 2013:
  – Current focus:
    • roads, bridges, water, wastewater, social housing
  – Prerequisite for applying for infrastructure funding
    • previous funding model was based on financial need and condition of assets
      – penalized those who were proactively managing their assets and raising revenues accordingly
  – Funding for developing AMP’s made available to smaller municipalities
Asset Management Plan - Methodology

• State of the Infrastructure – What do we own etc.
• Levels of Service – Does the AMP link to the Organization’s Strategic Plan.
• Asset Management Strategy
• Financial Strategy
State of the Infrastructure Report

- Roads, Bridges, Water, Waste Water & Social Housing assets

- Key Asset Data: Asset Type, Install Date, Description, Location, Replacement Cost, Useful Life.

- Condition Assessment Information

- Policies For Data Verification And Condition Assessments
# 2009 Infrastructure Report Card
## Public Works Assets

<table>
<thead>
<tr>
<th>ASSET GROUP</th>
<th>2009 RATING(^1) and TREND(^2)</th>
<th>COMMENTS (major factors impacting scores)</th>
<th>COMPARATIVE RATING &amp; TREND from 2005 / 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>B+ ➔</td>
<td>Status quo can be maintained with effective renewal investment decisions with advanced AM practices.</td>
<td>B ➔</td>
</tr>
<tr>
<td>Wastewater</td>
<td>B- ➔</td>
<td>Key AM plan improvements for facilities balanced by funding issues - higher energy costs at WWTP, costs for regulatory / environmental compliance and wet weather flow management and allocations needed for laterals.</td>
<td>B ➔</td>
</tr>
<tr>
<td>Storm Water</td>
<td>C- ➔</td>
<td>Condition OK but major concerns over lack of dedicated funding for O&amp;M and capacity impacts of climate change / flooding.</td>
<td>C ➔</td>
</tr>
<tr>
<td>Roads and Traffic</td>
<td>D- ➔</td>
<td>Capacities managed but major concern for backlog and lack of reliable funding. 50% from gas tax / grants not sustainable.</td>
<td>Roads D ➔ Traffic C ➔</td>
</tr>
<tr>
<td>Central Fleet</td>
<td>C ➔</td>
<td>Concerns for renewals without sufficient funds available and user costs not sufficient for full cost recovery.</td>
<td>C ➔</td>
</tr>
<tr>
<td>Corporate Facilities</td>
<td>C- ➔</td>
<td>Change is attributed to significant improvement and focus on asset management processes and new staffing.</td>
<td>F ➔</td>
</tr>
<tr>
<td>Parks &amp; Open Spaces</td>
<td>C- ➔</td>
<td>Concern that O&amp;M funding is not keeping pace with acquisition of new assets. Legislative improvements made in DC assessment.</td>
<td>C ➔</td>
</tr>
<tr>
<td>Public Transit</td>
<td>B+ ➔</td>
<td>Reliance on external funding a risk for long term sustainability. Recent additions plus on-board communications systems.</td>
<td>B ➔</td>
</tr>
<tr>
<td>Waste Management</td>
<td>B- ➔</td>
<td>Future decline expected based on increasing O&amp;M costs with no increases in funding and requirement for capital to address upcoming demands.</td>
<td>C ➔</td>
</tr>
<tr>
<td>Forestry</td>
<td>C- ➔</td>
<td>Challenged by need to increase canopy and lack of sufficient O&amp;M budgets to maintain existing inventory. Concerns for forest health due to pest infestations &amp; intensification.</td>
<td>F ➔</td>
</tr>
<tr>
<td>Cemetery</td>
<td>C ➔</td>
<td>Future concern about balancing issues of adequate capacity with lack of funding for sustainability.</td>
<td>B ➔</td>
</tr>
</tbody>
</table>

**Notes:**
1. The 2009 rating was created on the same basis as the previous 2005 / 2006 reports and is comparable based on the combined consideration of the following three (3) criteria:
   - Condition and performance
   - Capacity vs need
   - Funding vs need.
2. Anticipated future trend based on current programming, level of investment and practices.
Levels of Service

• Establish desired levels of service for each infrastructure program (# or %)
• Key Performance Indicators to track
• Establish current versus expected performance
• Required/Legislated Standards.
Asset Management Strategy

• Non Infrastructure solutions – actions, policies, planning
• Lifecycle Management Review
• Growth and Demand
• Trends
• Project Prioritization.
  – Risk Matrix
  – Benefits
Financing Strategy

• Detailed yearly expenditures
• Previous audit approved related expenditures
• Yearly revenues – confirmed sources
• Assumptions – Alternate scenarios
• Plan for the impacts of any funding shortfalls.
Financial Strategy Component of an AMP

1. Integration of AMP results with a Financial Plan (FP)
2. Consideration of all available infrastructure financing tools
3. Minimum 10 year forecast
4. Clear documentation of key assumptions
5. Documentation of alternative scenarios considered
6. A plan for the impacts of any resulting funding shortfall

Note: Provincial (Ontario) wording includes phrases such as “demonstrate a concerted effort”
Asset Management Plan Framework

1. **Infrastructure – Strategic Plan**
   - Strategic Plan Goals, Asset Performance & Community Expectations, Legislated Requirements

2. **State of the Current Infrastructure Reports**
   - Asset Inventory, Valuation, Current Condition / Performance, Sustainable Funding Analysis

3. **Expected Levels of Service**
   - Key Performance Indicators, Performance Measures, Public Engagement

4. **Asset Management Strategy**
   - Life Cycle Analysis, Growth Requirements, Risk Management, Project Prioritization Methodologies

5. **Financing Strategy**
   - Available Revenue Analysis, Develop Optional Scenarios, Define Optimal Budget & Financial Plan

6. **A.M.P Performance Reporting**
   - Project Implementation, Key Performance Measures Tracked, Progress reported to Senior Mgmt. & Council
The Challenge - Measuring and Monitoring Levels of Service
One Option - The Balanced Scorecard and Strategy Map

- Develop Asset Management Performance Road Map
- Assign Priority Weighting to Each Asset Management Objective
- Link Asset Type to Each Asset Management Objective
- Determine Performance Indicators
Kennedale family oriented, economically prosperous, business friendly and conveniently located, providing opportunities to live, work and play.

**STAKEHOLDER**

- S1 Achieve a Thriving Community
- S2 Be a Sustainable & Attractive City
- S3 Be Family Oriented

**INTERNAL**

- I1 Provide Excellent Services
- I2 Enhance Business Climate
- I3 Expect Operational Excellence
- I4 Ensure Public Health & Safety
- I5 Enhance Partnerships

**FOUNDATION**

- E1 Build Exceptional Talent
- E2 Foster Pride in Ownership
- E3 Leverage Technology

**FINANCIAL**

- F1 Balance the Tax Base
- F2 Expect Fiscal Responsibility
- F3 Leverage Resources

**CORE VALUES: INTEGRITY ACCOUNTABILITY TEAMWORK INNOVATION COMMITMENT**
Kennedale family oriented, economically prosperous, business friendly and conveniently located, providing opportunities to live, work and play.

**S1 Achieve a Thriving Community**

**S2 Be a Sustainable & Attractive City**

**S3 Be Family Oriented**

**I1 Provide Excellent Services**

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**I3 Expect Operational Excellence**

**I4 Ensure Public Health & Safety**

**I5 Enhance Partnerships**

**E1 Build Exceptional Talent**

**E2 Foster Pride in Ownership**

**E3 Leverage Technology**

**F1 Balance the Tax Burden**

**F2 Fiscally Responsible**

**F3 Leverage Resources**
## Performance Indicators (reported annually)

<table>
<thead>
<tr>
<th>Strategic Indicators</th>
<th>percentage of total reinvestment compared to asset replacement value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>completion of strategic plan objectives (related to transportation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial Indicators</th>
<th>annual revenues compared to annual expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>annual replacement value depreciation compared to annual expenditures</td>
</tr>
<tr>
<td></td>
<td>total cost of borrowing compared to total cost of service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tactical Indicators</th>
<th>percentage of road network rehabilitated / reconstructed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>overall road condition index as a percentage of desired condition index</td>
</tr>
<tr>
<td></td>
<td>overall bridge condition index as a percentage of desired condition index</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational Indicators</th>
<th>percentage of road network inspected within last 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>percentage of bridge / large culvert structures inspected within last two years</td>
</tr>
<tr>
<td></td>
<td>operating costs for paved roads per lane km</td>
</tr>
</tbody>
</table>
Some Early Findings

- Communicating with Council – Bridge example
- Program Based versus Project Based - Neighbourhoods
- Technologies = Savings – Trenchless – Volume Based
- Condition versus Financial Reporting – Asset Network
- Desire for comparative data – Elected
- Simplifying the message – Some examples
Change in Approach Needed

- **Up to 2012:**
  - CK used a financial approach
    - as demonstrated by previous slides
    - lost effectiveness over time
- **In 2013:**
  - CK changed to a service delivery approach
    - specific detail as to consequences of inadequate funding
    - see next few slides
  - Initiated a service review to determine what services we should be in
    - goal is to reallocate existing funds to infrastructure and strategic challenges
## Infrastructure … 2013 Budget Proposals

<table>
<thead>
<tr>
<th>Structure</th>
<th>Current Inventory</th>
<th>Incremental Funding % Required over Current Budget</th>
<th>Inventory Impact</th>
<th>Incremental Funding % Required over Current Budget</th>
<th>Inventory Impact</th>
<th>Incremental Funding % Required over Current Budget</th>
<th>Inventory Impact</th>
<th>Inventory Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridges/Culverts &gt; 10’</td>
<td>850</td>
<td>6.00</td>
<td>0</td>
<td>3.0</td>
<td>(62)</td>
<td>1.0%/year - 6 yr</td>
<td>(45)</td>
<td></td>
</tr>
<tr>
<td>Culverts &lt; 10’</td>
<td>16,002</td>
<td>0.84</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Asphalt Roads (mi)</td>
<td>950 mi</td>
<td>4.00</td>
<td>0</td>
<td>0.0</td>
<td>(30 mi/year)</td>
<td>0.0</td>
<td>(30 mi/year)</td>
<td></td>
</tr>
<tr>
<td><strong>Total % Tax Increase</strong></td>
<td><strong>10.84</strong></td>
<td><strong>3.0</strong></td>
<td><strong>0</strong></td>
<td><strong>1.0%/year - 6 yr</strong></td>
<td><strong>0</strong></td>
<td><strong>1.0%/year - 6 yr</strong></td>
<td><strong>0</strong></td>
<td><strong>$1.2M/year - 6 yr</strong></td>
</tr>
<tr>
<td>$ Impact</td>
<td><strong>$13.0</strong></td>
<td></td>
<td></td>
<td><strong>$3.6</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$1.2M/year - 6 yr</strong></td>
</tr>
</tbody>
</table>

Option 1 … immediate 11%

Option 2 … immediate 3%

Option 3 … 1% for 6 years
Bridge Example

What Does Investment Mean?
• Funds will be allocated to renewal to ensure the long-term sustainability of a bridge

What Does Divestment Mean?
• No funds will be allocated to maintain or renew a given bridge site.
• Public safety will be ensured by means of biannual inspection and the use of load ratings as required.
• When a bridge reaches its lifecycle and warrants closure due to safety, it will be eliminated from service and the bridge inventory.
• Criteria used for determining divestment:
  – Annual funding
  – AADT … average annual daily traffic
  – Roadway classification
  – Impact on property, residence, emergency services and businesses
  – Redundancy in road network
Investment Strategy … bridges that will be invested in over the next 10 years
A New Approach to Capital Asset Management

Developing Local Government Asset Management Plans

Divestment Strategy ... bridges that will be put out of service over time.
Did the Change Impact Decision Making?

Chatham-Kent Infrastructure
Actual Tax Increases vs. Funding Requirements

We literally “changed the curve”

Actual tax increase for infrastructure in 2013

Increase required in each of the next 10 yrs for full funding

- Actual tax increase for infrastructure phase-in that year (not incl inflation)
- Required tax increase for each of the next 10 years to achieve full funding
Local / Collector Rd. Methodology

Provincial Surplus Funds 2009-2011:

• 95 Lane Miles
• 16 Neighbourhoods
• Cost of ($33.5 mill)

Regular Resurfacing Method:

• Cost of ($56 mill)

Savings - $22.5 mill
Sewer Main Lining Program Implementation

• **155 Miles lined to date**
• $67 mill spent 2005 – 2012
• Approx $170 mill – Open Cut Replacement
• Less Community Disruption (green tech)
## Roadway – Performance Measures

### Roadway - Optimum Performance Measures

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Network Impact %</strong></td>
<td>2.5%</td>
<td>3.0%</td>
<td>4.0%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>LNKM Rehabilitation / Replacement</strong></td>
<td>162.6</td>
<td>195.1</td>
<td>260.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Replacement Cycle (years)</strong></td>
<td>40</td>
<td>33</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Funding Requirement</strong></td>
<td>$47M</td>
<td>$57M</td>
<td>$76M</td>
<td></td>
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</table>

### Roadway - Rehabilitation / Replacement Measures

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</thead>
<tbody>
<tr>
<td><strong>LNKM Rehabilitation / Replacement</strong></td>
<td>67.5</td>
<td>75.4</td>
<td>72.3</td>
<td>94.5</td>
<td>83.7</td>
<td>147.0</td>
<td>196.0</td>
<td>257.0</td>
<td>143.0</td>
<td>232</td>
<td>*322</td>
<td>202</td>
</tr>
<tr>
<td><strong>Network Impact %</strong></td>
<td>1.1%</td>
<td>1.2%</td>
<td>1.2%</td>
<td>1.5%</td>
<td>1.3%</td>
<td>2.4%</td>
<td>3.1%</td>
<td>3.9%</td>
<td>2.2%</td>
<td>3.6%</td>
<td>4.9%</td>
<td>3.1%</td>
</tr>
<tr>
<td><strong>Replacement Cycle (years)</strong></td>
<td>90</td>
<td>81</td>
<td>84</td>
<td>65</td>
<td>74</td>
<td>42</td>
<td>32</td>
<td>26</td>
<td>45</td>
<td>28</td>
<td>20</td>
<td>32</td>
</tr>
</tbody>
</table>

Note * - Due to low cost preventative maintenance rehabilitation strategies (195 ln-kms), as well as the Linc resurfacing (50 ln-kms).
Total Cost Per Household: $128,180

- Road Network
  Total Replacement Cost: $98.6 million
  Cost Per Household: $66,236

- Sanitary Sewer Infrastructure
  Total Replacement Cost: $9.1 million
  Cost Per Household: $7,884

- Storm Sewer Network
  Total Replacement Cost: $11.7 million
  Cost Per Household: $7,864

- Water Distribution Network
  Total Replacement Cost: $49.4 million
  Cost Per Household: $42,814

- Bridge and Culverts
  Total Replacement Cost: $5 million
  Cost Per Household: $3,382
Each asset category was rated on two key, equally weighted (50/50) dimensions: **Condition vs Performance**, and **Needs vs Funding**.

See the “What condition is it in?” section for each asset category for its star rating on the Condition vs Performance dimension.

See the “How do we reach sustainability?” section for each asset category for its star rating on the Needs vs Funding dimension.

The ‘Overall Rating’ below is the average of the two star ratings converted to letter grades.

<table>
<thead>
<tr>
<th>ASSET CATEGORY</th>
<th>OVERALL RATING</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Network</td>
<td>D</td>
<td>While a significant portion (54%) of the Township’s road network is in Good to Excellent condition, nearly a quarter is in poor or critical condition. Further, the road network is critically underfunded, meeting only 11% of the funding requirements. Warwick has a unique opportunity to fund the traditionally tax funded portion of the AMP through landfill revenues as opposed to taxes.</td>
</tr>
<tr>
<td>Bridges and Culverts</td>
<td>B</td>
<td>Nearly 42% of the Township’s bridges and culverts are in poor or critical condition, with only 18% in Excellent or Good condition. However, the Township has a significant surplus in available funding for this asset group. See the Financial Strategy section for an optimized allocation of funding between the Roads Network, Bridges &amp; Culverts, and Storm Sewers to improve overall grading.</td>
</tr>
<tr>
<td>Water Distribution Network</td>
<td>B</td>
<td>Over 90% of the Township’s water distribution assets are in Excellent or Good condition, with none in Critical Condition. However, the Township lacks sustainable funding, with only 69% of the funding needs met.</td>
</tr>
<tr>
<td>Sanitary Sewer Network</td>
<td>B</td>
<td>100% of the Township’s assets are in Excellent or Good condition. However, there’s a funding shortfall of 10%. We recommend that wastewater revenues are increased by 1.1% per year over 5 years to reach a sustainable funding level. See the Financial Strategy section for details.</td>
</tr>
<tr>
<td>Storm Sewer Network</td>
<td>B</td>
<td>Only 28% of the Township’s storm sewer assets are in Excellent or Good condition, with 43% in Poor or Critical Condition. However, the Township has a significant surplus available for meeting the funding requirements. See the Financial Strategy section for an optimized allocation of funding between the Roads Network, Bridges &amp; Culverts, and Storm Sewers to improve overall grading.</td>
</tr>
</tbody>
</table>
Daily Household Cost Comparisons

[Bar chart showing comparisons between what needs to be spent each year and what was spent in 2012 for various household costs, including Alcohol & Tobacco, Eating out, Cable TV, Coffee, Long-Term Care, Recreation & Culture, Housing, Forestry & Horticulture, Waste Management, Public Transit, Parks & Open Space, Cemetery, Corporate Facilities, Road Network and Transportation System, Storm Water, Wastewater, Water.]
Developing Local Government Asset Management Plans

[Graph showing asset management plans for different years and categories, including concrete poles, LINC, metal poles, luminaires, minor annuals, RA, RC, RHVP, RL, signal controllers, street signals, UAMI, UAMJ, UC, and UL.]
Developing Local Government Asset Management Plans

- UAMI
- Cost: $6,302,039.63
- Percent: 4.37%
- Total: $144,309,437.72
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