Enterprise Asset Management (EAM) Program and Project Overview

Presentation for

City Council Infrastructure Committee
Item 11
July 22, 2015
Overview

1. The Infrastructure Problem
2. Asset Management – The EAM Program
3. The Software Solution - The EAM Project
   - SAP EAM Solution
   - Riva Modeling - Asset Management Planning Tool
Currently, there are many disparate and outdated departmental systems and no effective approach for managing these assets citywide.

How Big is the Problem?

- Aging and deteriorating assets
- Backlog of deferred maintenance and capital projects
How Big is the Problem?

The Multi-Year Capital Plan

<table>
<thead>
<tr>
<th>$ in millions</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Total Needs</td>
<td>$632.1</td>
<td>$805.8</td>
<td>$733.9</td>
<td>$808.9</td>
<td>$892.4</td>
<td>$3,873.1</td>
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<tr>
<td>Funding</td>
<td>425.3</td>
<td>528.7</td>
<td>359.0</td>
<td>348.8</td>
<td>501.9</td>
<td>2,163.8</td>
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<tr>
<td>Gap</td>
<td>$206.7</td>
<td>$277.1</td>
<td>$374.9</td>
<td>$460.1</td>
<td>$390.5</td>
<td>$1,709.3</td>
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The bottom line...

We need a strategy to effectively manage our infrastructure assets
What is Asset Management?

A best practice for managing infrastructure capital assets to minimize the total cost of owning and operating them while delivering the desired service levels.
What is Asset Management?

Provides a mechanism to answer critical questions:

- What is the condition of our assets?
- What is the required sustainable level of service?
- Which assets are critical to sustained operations?
- What are our best maintenance and capital investment strategies?
- What is our best long-term funding strategy?
EAM Program
Office of the DCOO, Infra/Public Works

Condition Assessments

Departmental AM Efforts

AM Strategy, Policy, and Plans

Other AM-related efforts (e.g. setting Service Level Standards)

EAM Project
Implementation of Business Processes and Software Solution
Why an Enterprise Asset Management (EAM) Solution/System?

A software tool is critical to implementing Asset Management, given the
- Large number of City assets
- Complex and significant amount of information that must be collected and analyzed
- Need to optimize the City’s limited funds
The City chose to implement the SAP EAM solution because it

- Enables participating departments to integrate with existing SAP applications in the City
- Leverages existing investments in SAP
- Meets the City’s asset management capability needs
How are Other Governments and Utilities Managing Their Infrastructure Assets?

- Many large cities/organizations have implemented an EAM System
- Many city/organizations in the San Diego region have implemented/are implementing EAM Systems
US Cities/Organizations Using SAP EAM

Cities
- City of Phoenix, AZ
- City of San Antonio, TX
- City of San Luis Obispo, CA
- City of Tacoma, WA
- City of Toledo, OH
- City of Dallas, TX

Counties
- Clark County, NV
- County of Bernalillo, NM
- Collier County, FL
- Monroe County
- Erie County, NY
- Snohomish County, WA

Other Public Sector
- Port of San Diego
- Colorado DoT
- Commonwealth of Pennsylvania
- Penn DoT
- PA Turnpike
- North Carolina DoT
- CA Dept. Water Resources
- San Diego Metro Transit System
- Harris County Metro, TX
# The EAM Project - A Citywide Strategic Initiative

<table>
<thead>
<tr>
<th>Departments In Phase 1</th>
<th>Division</th>
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<tbody>
<tr>
<td>Public Utilities</td>
<td>Water Systems Operation</td>
</tr>
<tr>
<td></td>
<td>Water Construction and Maintenance</td>
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<tr>
<td></td>
<td>Wastewater Treatment and Disposal</td>
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<td></td>
<td>Wastewater Collection</td>
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<td></td>
<td>Customer Support Division</td>
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<td></td>
<td>Engineering and Program Management</td>
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<tr>
<td>Public Works</td>
<td>Engineering and Capital Projects</td>
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<tr>
<td></td>
<td>Facilities</td>
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<td></td>
<td>Publishing Services</td>
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<tr>
<td>Transportation and Storm Water</td>
<td>Storm Water</td>
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<tr>
<td></td>
<td>Streets</td>
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<tr>
<td></td>
<td>Transportation Engineering and Operations</td>
</tr>
<tr>
<td>Information Technology</td>
<td>Wireless Technology</td>
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Consultant Support for EAM Project

- SAP consultants on board early
- Business Process Consultant
- Systems Integrator

Project Pilots

- SAP 3D Visual Enterprise
- Riva Modeling
SAP Enterprise Asset Management
Asset-Based Infrastructure Planning

- Asset Accounting
- Maintenance Management
- GIS
- Asset-Based Analysis, Planning, and Prioritization
- Budgeting
- Project Portfolio Management
- Projects

Requests for new infrastructure projects + Non-asset based project requests
Asset Management Planning (AMP)

- Comprehensive and integrated software solution using a risk-based approach to support long-range infrastructure asset management planning, decision making and optimization activities
The Riva Core Solution: Planning for Assets and Projects

The Solution:

What’s Managed:

ASSETS

PROJECTS

The Workflow:
Planning Tools

![Graph 1: Actual vs Target Level Of Service](image1.png)

- Condition For Enterprise
- Adjusted Condition For Enterprise

![Graph 2: Cashflow Projection](image2.png)

- Cost For Enterprise
- Budget Inflated For Enterprise
- Cumulative Balance For Enterprise

![Budget Setting](image3.png)

- Short Description: Annual Budget Growth Rate (%)
  - Enterprise: 2,600,000
  - 3

Showing all 1 rows.

Save

Refresh list and discard changes
Optimization
How can we best spend our limited funds to most effectively manage our infrastructure assets?
Questions?
End
The City’s EAM Project

<table>
<thead>
<tr>
<th>Phase 1 – Participating Departments</th>
<th>Phase 1 – Impacted Departments</th>
<th>Future Phases</th>
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<tbody>
<tr>
<td>Department of Information Technology</td>
<td>Development Services</td>
<td>Met with Staff</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>Financial Management</td>
<td>• Environmental Services</td>
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<tr>
<td>Public Works</td>
<td>Office of the Comptroller</td>
<td>• Fire-Rescue (Equipment)</td>
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<tr>
<td>Transportation &amp; Storm Water</td>
<td>Purchasing &amp; Contracting</td>
<td>• Park &amp; Recreation</td>
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<td>Office of the Treasurer</td>
<td>Pending Meetings</td>
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<tr>
<td><strong>Ongoing Coordination</strong></td>
<td></td>
<td>• Library</td>
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<tr>
<td>• Open Data</td>
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<td>• Police</td>
</tr>
<tr>
<td>• GIS</td>
<td></td>
<td>• Public Works - Fleet Services</td>
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<tr>
<td>• CRM/311 and Code Compliance</td>
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<td>• Real Estate Assets (Property Management)</td>
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<td>• Docs Management</td>
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<tr>
<td>• Condition Assessments</td>
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<tr>
<td>• DSD PTS Replacement</td>
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Riva Sites by Industry

**Public Sector**
- City of Burnaby
- City of Brandon
- City of Calgary
- Halton Region
- City of Ottawa
- City of Abbotsford
- Halifax Regional Municipality
- City of Kitchener
- City of Prince George
- County of Simcoe
- City of Toronto
- City of Kamloops
- County of Lambton
- Region of Peel
- York Region
- Medicine Hat
- Tauranga
- Oakland County
- DC Gov

**Water**
- WSSC
- Mei Netanya
- Akron Water
- Virginia Beach
- Charleston Water System
- HERA

**Electric**
- ActewAGL
- EWEB
- Oakville Hydro

**Gas**
- Enbridge Gas Distribution
- HERA
Washington Suburban Sanitary Commission manages $15 billion worth of net assets with Riva

- Automated 30-year capital plan is always up to date
- Need for external consultants greatly reduced
- Flexible solution supports continuous improvement through configuration
- Oracle and Esri environments
City of Toronto, Parks, Forestry & Recreation uses Riva to plan and monitor capital projects for assets valued in excess of $5.5 billion

- Source inventory system for all assets
- Integration to GIS for spatial views and asset updates
- Automated budget fitting and transparent prioritization
- Up-to-the-minute project and expenditure tracking
City of Toronto, Facilities and Real Estate, uses Riva for Long-Range Planning of over 400 Buildings ($3B Net value)

- Consistency and improved data quality
- SAP PM & SAP RE integration linked Capital Planning and Operations
- Automated budget fitting and transparent prioritization
- One-click BCA report generation in minutes instead of weeks