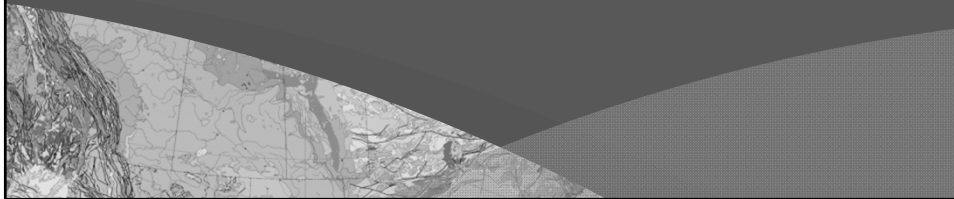


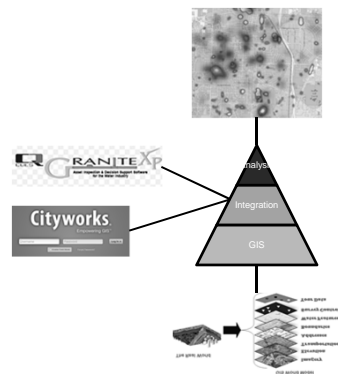
Above & Beyond GIS Centric AMS

City of Beaverton, OR
Mike Jun
(GIS Manager)



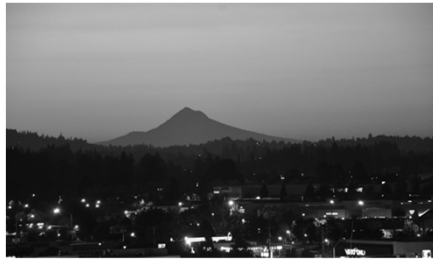
Agenda

- Beaverton City Overview
- Beaverton GIS and AMS History
- Data Integrity
- Software Integration
- Analysis
- Demo
- Q & A



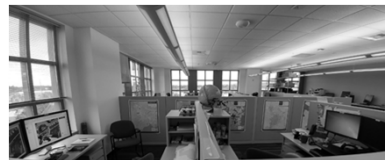
City of Beaverton

- Location: 7 miles west of downtown Portland in the Tualatin River Valley
- Population: 2nd largest city in Oregon, 93,542
- City Limit Areas: 19.61 sq mi, 222 street center miles
- Weather: Average temperature 62 F – 43 F, Average Precipitation 39 inches
- Major Industry: many technology companies and NIKE head quarter
- # of Employees: approx. 600

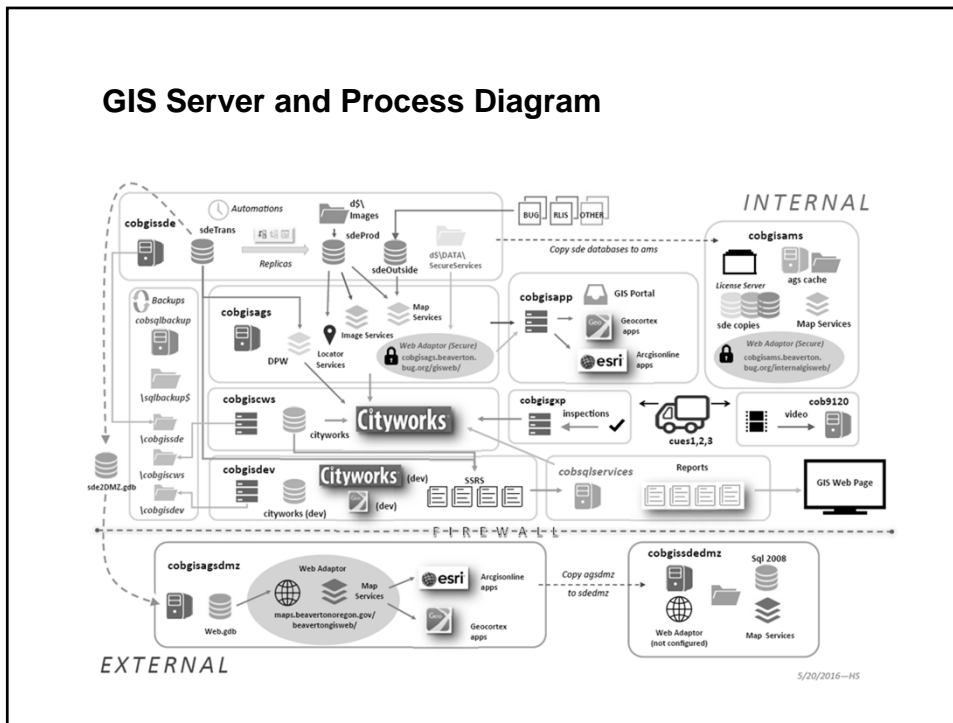


Beaverton GIS

- Officially formed in 1991 at Planning Department
- Moved to ISD in 2002
- Enterprise GIS implemented in 2008
- 232 Beaverton Authoritative GIS Layers
- 9 server machines
- 32 GIS map services
- 15 Online Applications
- 50 Active GIS Users
- 300 customer requests/year
- 1115 GIS Asset update requests/year
- 35 As-Builts update requests/year



GIS Server and Process Diagram



Beaverton AMS

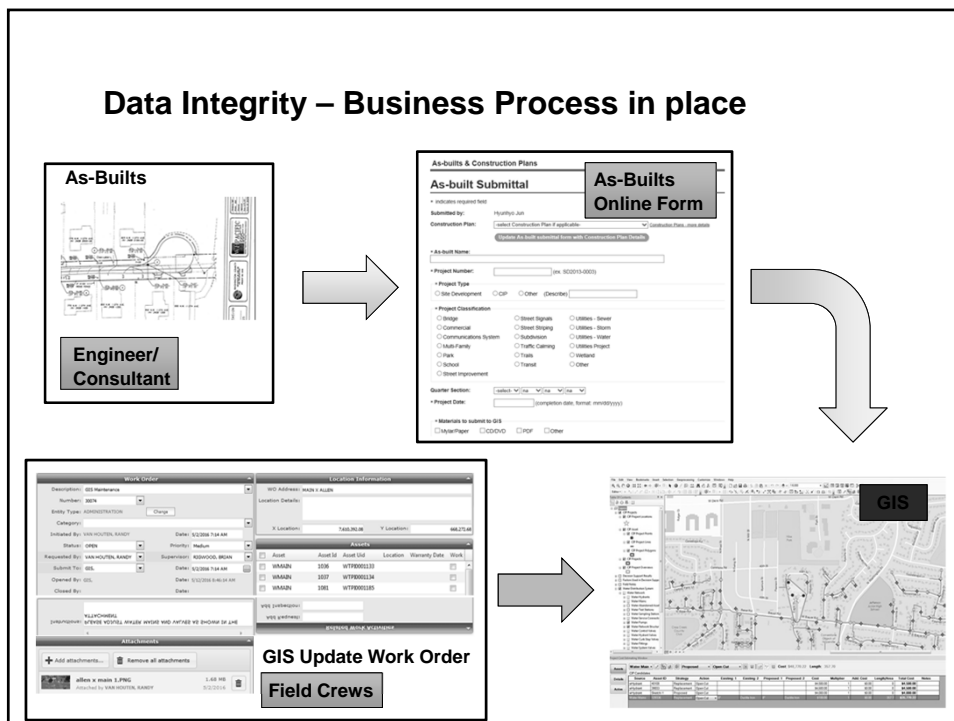
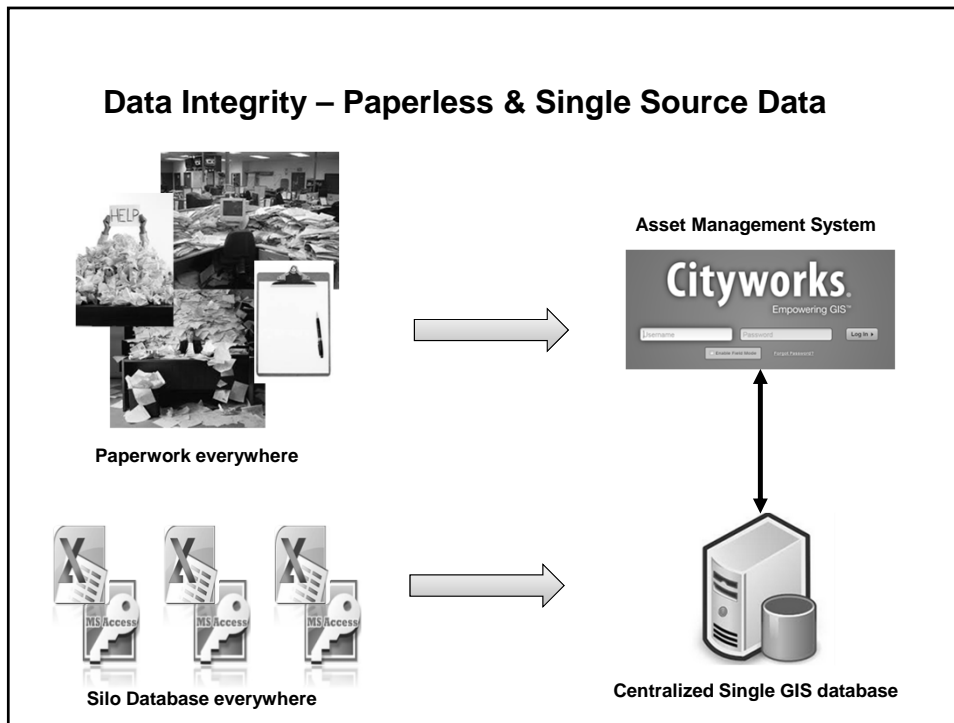
- Oct 2012: • Core team training in Utah
- Feb 2013: • Traffic Sign Implementation
- Jul 2013: • Storm/Sewer Implementation
- Nov 2013: • Street Implementation
- Mar 2014: • Water Implementation
- Jun 2014: • Traffic Signal / Street Light
- Sep 2014: • Landscape Implementation

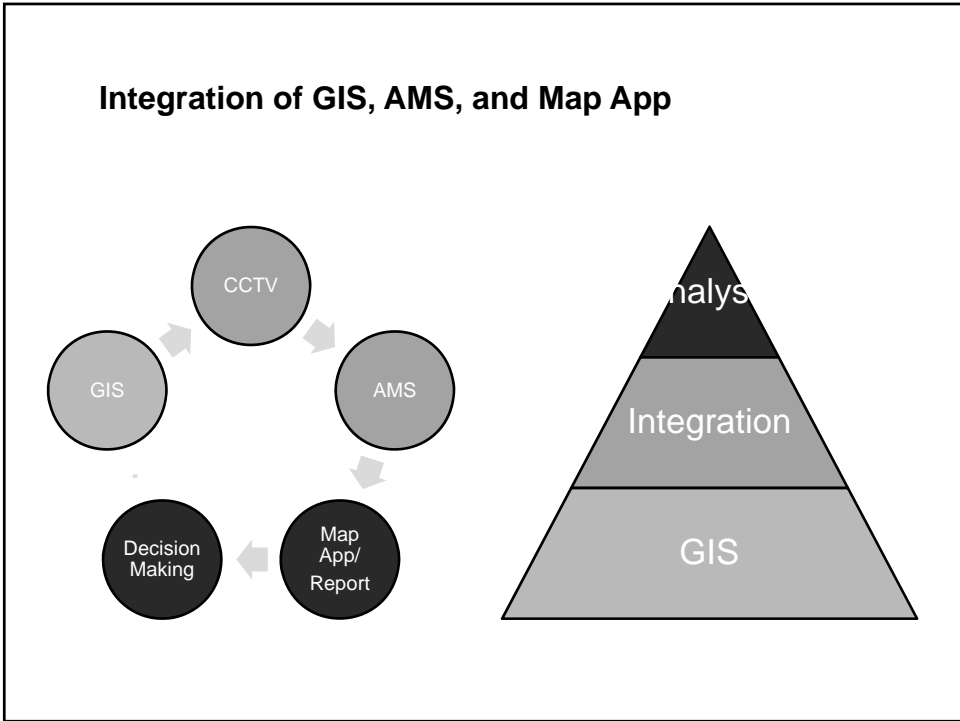


- Jul 2016: • Fleet (RTA fleet management)

- 2nd Phase:
- Time sheet Integration
 - UI Customization
 - Mobile App Implementation
 - Utility Billing Integration
 - Citizen Request
 - Integration with call center(OPS & Police)



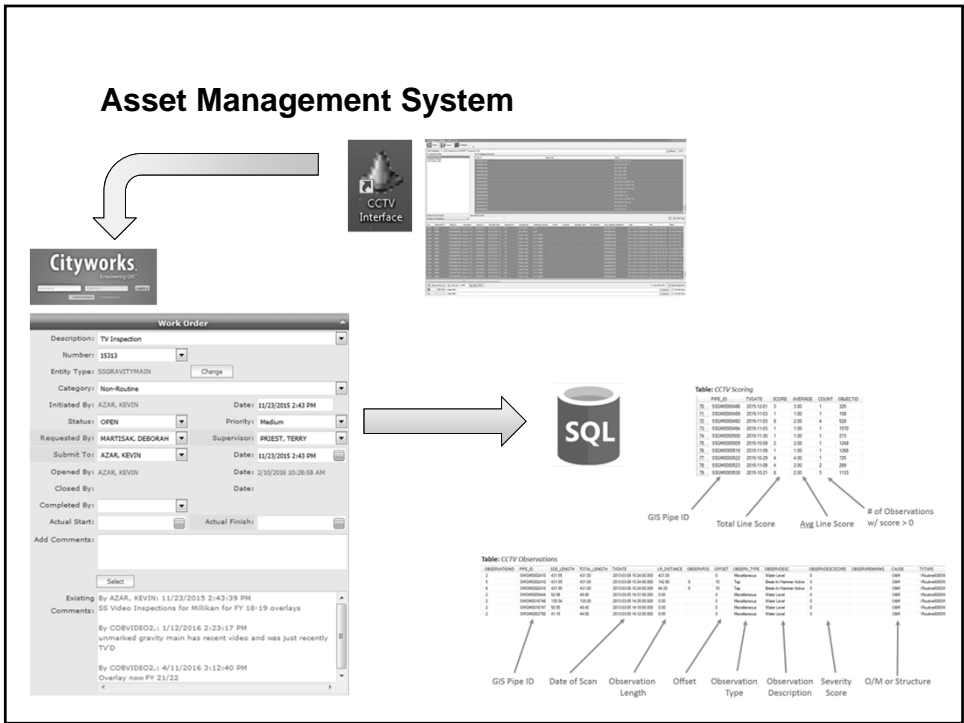




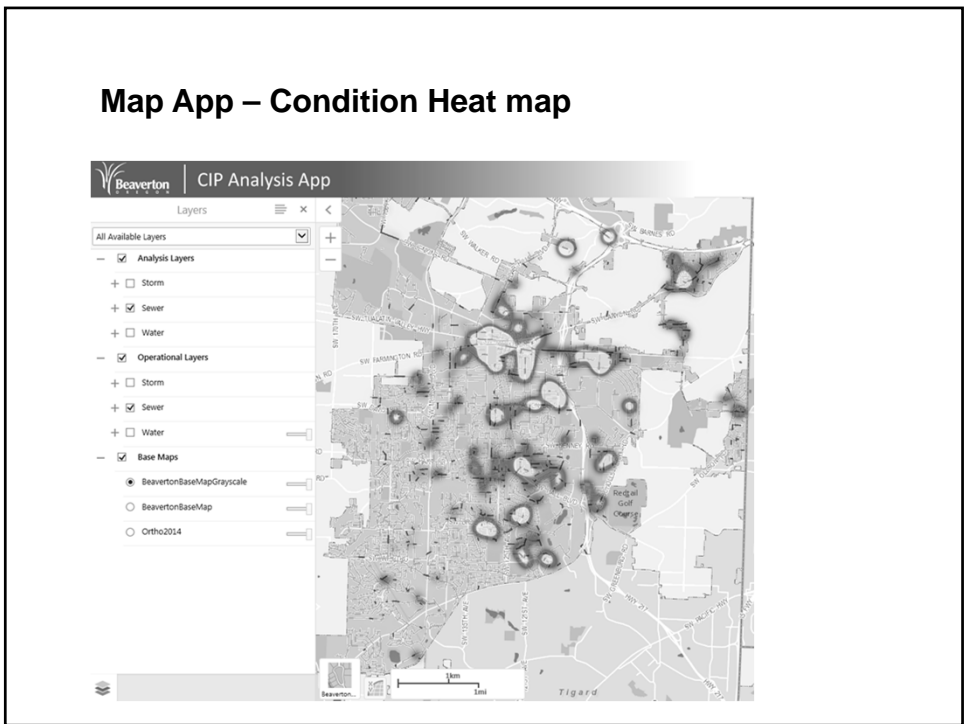
Granite XP(CCTV Pipeline Inspection)

The screenshot shows the Granite XP software interface for CCTV pipeline inspection. The interface includes a list of inspection points on the left, a central video feed showing a pipeline interior, and a control panel on the right. An inset image shows a close-up of a pipeline joint with a measurement of 48.5 ft.

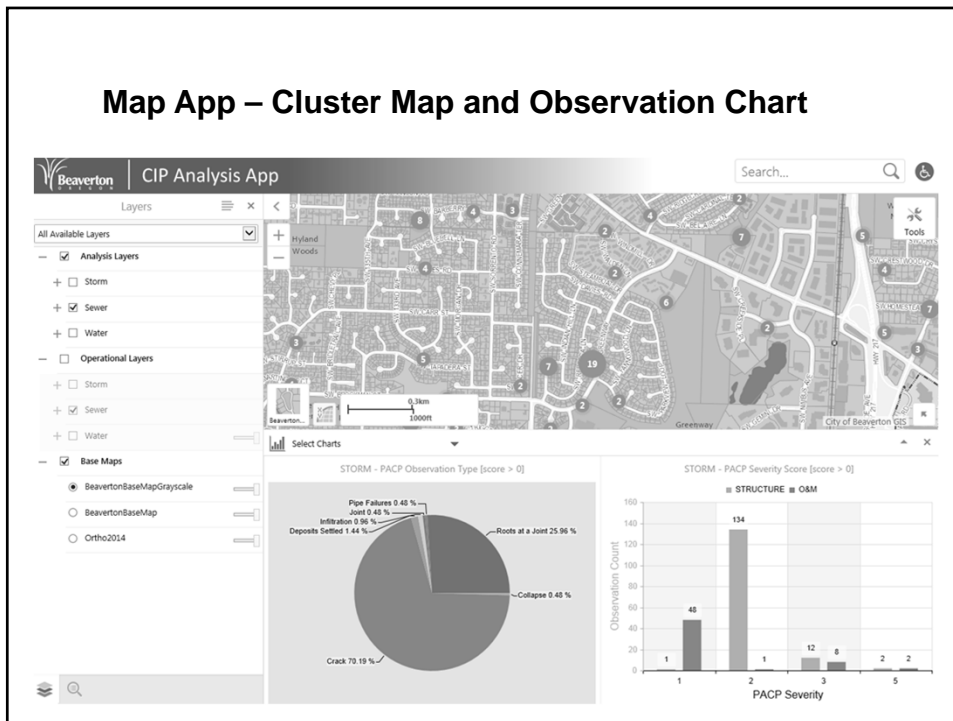
Asset Management System



Map App – Condition Heat map



Map App – Cluster Map and Observation Chart

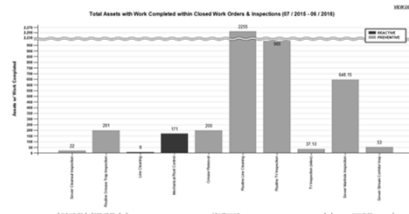


Activity Tracking

Sewer Maintenance Program
 Total Assets with Work Completed within Closed Work Orders & Inspections
 Year: 2015 Dates: 07/2015 - 06/2016

Work Order / Inspection	NOVEMBER	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FISCAL TOTALS
Preventive Work Orders														
General Trip														
Roofline Drainage Pipe Inspection	462	72	76	51										201
Sewer Cleanout														0
Roofline Cleanout Inspection	412													0
Sewer Manhole														0
Roofline Manhole Inspection	2,962													0
Sewer Gravity Main														0
Chemical Alert Control	8,213													0
Grease Removal	8,213					239	7							200
Roofline Line Clearing	8,213	127	221	99	122	729	689	482	48					2,295
Roofline TV Inspection	8,213	39	219	278	74					204	2			989
Preventive Inspections														0
Sewer Lateral Line	0													0
Sewer Lateral Inspection	0													0
Sewer Cleanout														22
Sewer Cleanout Inspection	493	3	2	12	2			2	8			2		22
Sewer Manhole														648
Sewer Manhole Inspection	2,962	80	0	201	70		27	43	129	46	27	0		648
Sewer Stream Condition Insp	2,962								59					53
Sewer Gravity Main														37,533
TV Inspection (M&D)	276,400	4,721	2,137	8,033	4,511		3,222	2,229	7,440	1,891	1,642	1,94		37,533

Reactive/Proactive maintenance Program



Performance Measurement



Sewer Gravity Main - Routine Line Cleaning
% of Assets Cleaned - FY 2015



Storm Gravity Main - Routine Line Cleaning
% of Assets Cleaned - FY 2015

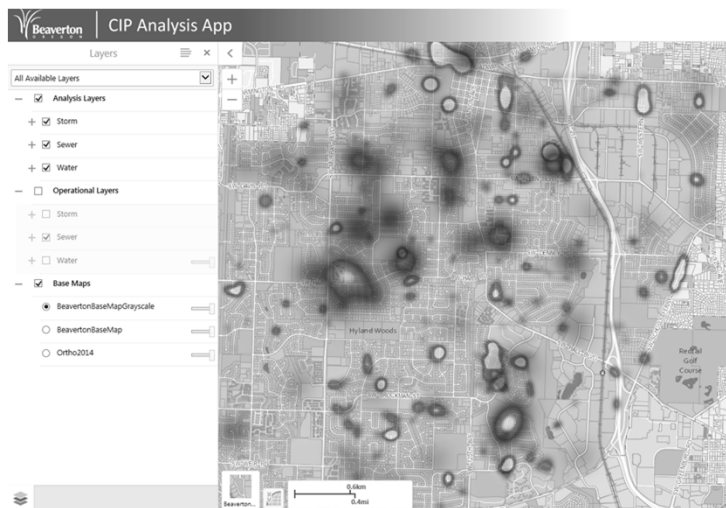


Street Lines - Overlay
% of Assets Completed - FY 2015

- Sewer pipes are required to clean up at least every 4 years
- Storm pipes are required to clean up at least every 6 years
- % of Overlay project completion

Assist Decision Making

Which area should we focus on next 5 years to improve our underground utilities?



Above & Beyond GIS

Questions?