

Asset Management and Capital Planning

CITY OF BEACON

Presentation to the City Council

September 30, 2019

By

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Andy Stewart, Hudson Valley Pattern for Progress

Slide 1

A1 logos for DE, Pattern, image for Beacon City Hall
Andy, 9/19/2019

Collaboration between Delaware Engineering, D.P.C and Hudson Valley Pattern for Progress



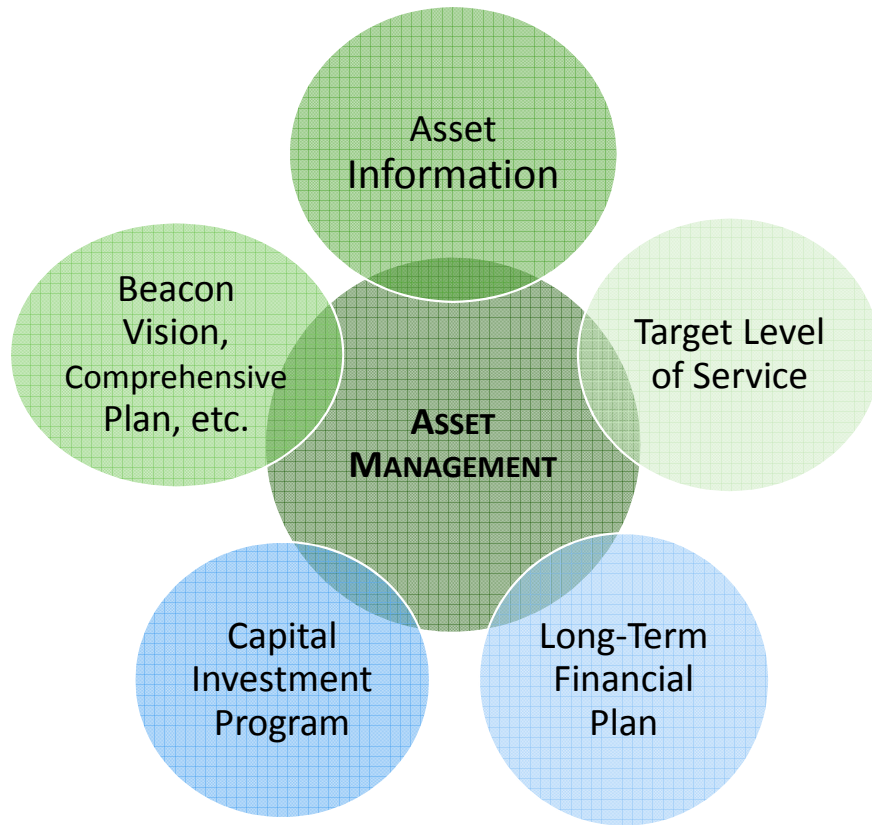
AND A CORE GROUP OF CITY STAFF:

- Mayor - Randy Casale
- City Administrator - Anthony Ruggiero
- Highway Department - Mike Manzi
- Sewer and Water Department - Ed Balicki
- City Engineer - John Russo



CITY OF BEACON
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APPROACH TO ASSET MANAGEMENT



➤ Business Case for Asset Management

- Dynamic Asset Inventory
- Plan Strategic Infrastructure Investments
- Reduce Costly Emergency Repairs

➤ Deliverables

- Excel Inventory “Tool”
- User Manual
- Guide for Asset Management and Capital Planning

➤ Supports

- Management Deliberations
- Prioritization and Budgeting

ASSET INVENTORY

- 22 asset types included
- Over 80,000 data points from:
 - GIS of roads, pipes, etc.
 - Insurance, tax and other records
 - Staff knowledge
 - City plans and reports
 - Field assessment and analysis

ASSET	DESCRIPTION
Wastewater treatment system	\$28.7 million assessed value
Wastewater collection system	Approx. 47 miles of pipe
Manholes	1282
Water treatment system	\$16 million assessed value
Water distribution system	Approx. 21 miles of pipe
Fire hydrants	435
Stormwater structures	Approx. 2070 catch basins
Roads	50.6 miles
Parking lots	705 spaces
Bridges	6
Sidewalks	Approx. 60.5 miles
Vehicles	109
Generators	10
Streetlights	1450
Traffic signals	12
Wayfinding signs	5
Buildings	\$27.8 million assessed value
Recreational Facilities	7 sites, assessed value \$4.55 million
City Lands	76 parcels listed, \$88.8 million assessed value
University Settlement Camp	44 structures with pool

INVENTORY SUPPORTS BUDGETING AND PLANNING

Road Info							Presence						
Block ID	DOT ID	Street Name	Start Intersection	End Intersection	Length (feet)	No. of Lanes	Sewer	Storm	Water	One Way	Type	Width	Depth
1	184478	SLOCUM RD	ROUTE 9D	N RIVER DR	843.37		Y				A Asphalt (flexible)		
2	184478	SLOCUM RD	FAIRWAYS LN	SLOCUM RD	536.49		Y				A Asphalt (flexible)		
3	100505	ROUTE 9D	ROUTE 9D	WOLCOTT AVE D	686.39						O Overlay		
4	301995	FAIRWAYS LN	FAIRWAYS LN	CUL DE SAC	208.01		Y	Y			A Asphalt (flexible)		
5	301995	FAIRWAYS LN	SLOCUM RD	CUL DE SAC	686.39		Y	Y			A Asphalt (flexible)		
6	184398	HENRY ST		WASHINGTON AVE	920.86						A Asphalt (flexible)		
7	184509	WASHINGTON AVE	OLD TOWN RD	HENRY ST	1452.30						A Asphalt (flexible)		
8	184509	WASHINGTON AVE	HENRY ST	WASHINGTON AVE	754.04						A Asphalt (flexible)		
9	184503	VAN NESS RD	ROUTE 9D		1348.80		Y				A Asphalt (flexible)		
10	186898	WATER ST	SPRING VALLEY ST	E MAIN ST	498.65		Y	Y	Y	YES	A Asphalt (flexible)		
11	186763	ELIZA ST	CHURCH ST	OAK ST	335.57		Y	Y	Y		A Asphalt (flexible)		
12	186763	ELIZA ST	OAK ST	VERPLANCK AVE	298.03		Y	Y	Y		A Asphalt (flexible)		
13	186869	S WALNUT ST	BEACON ST	CATHERINE ST	250.34		Y	Y	Y		A Asphalt (flexible)		
14	186869	S WALNUT ST	CATHERINE ST	DEWINDT ST	172.05		Y	Y	Y		A Asphalt (flexible)		
15	186741	CLIFF ST	MAIN ST	COMMERCE ST	231.34		Y	Y	Y	YES	A Asphalt (flexible)		
16	186807	LEONARD ST	AMITY ST	GROVE ST	609.01		Y	Y	Y	YES	A Asphalt (flexible)		
17	186845	RED FLYNN DR	BEEKMAN ST	LONG DOCK RD	264.00						A Asphalt (flexible)		
18	186780	HARBOR HILL CT	DAVIES AVE	HARBOR HILL CT	298.33			Y			A Asphalt (flexible)		

BOTTOM UP AND TOP DOWN COST ANALYSIS COMPARISONS

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
39	Watermain									Watermain						
40	Rate per LF		\$150	1. Enter bid rate per linear foot of pipe size of interest						Funds available		\$75,000	1. Enter funding available			
41	Length of pipe segment (ft)		843	2. Enter linear feet to be replaced						Rate per LF		\$150	2. Enter bid rate per linear foot			
42	Cost per replacement		\$126,450	Resulting cost of replacement						Length of pipe		500	Resulting length of pipe that could be re			
43																
44	Sewer Main									Sewer Main						
45	Rate per LF			1. Enter bid rate per linear foot of pipe size of interest						Funds available			1. Enter funding available			
46	Length of pipe segment (ft)			2. Enter linear feet to be replaced						Rate per LF			2. Enter bid rate per linear foot			
47	Cost per replacement		\$0	Resulting cost of replacement						Length of pipe		#DIV/0!	Resulting length of pipe that could be re			
48																
49																
50	Other infrastructure1									Other infrastructure1						
51	Cost Each			1. Enter bid rate per unit (ie, Catch basin, manhole, hydrant)						Funds available			1. Enter funding available			
52	Number per segment			2. Enter number of units per segment						Cost per unit			2. Enter bid rate per unit (ie catch basin,			
53	Project Cost		\$0	Resulting cost for units						Number of units		#DIV/0!	Resulting number of units that could be			
54																
55																
56	Other infrastructure2									Other infrastructure2						
57	Cost Each			1. Enter bid rate per unit (ie, Catch basin, manhole, hydrant)						Funds available			1. Enter funding available			
58	Number per segment			2. Enter number of units per segment						Cost per unit			2. Enter bid rate per unit (ie catch basin,			
59	Project Cost		\$0	Resulting cost for units						Number of units		#DIV/0!	Resulting number of units that could be			
60																
61	Removal Cost			Add cost for removal of asphalt (if needed)												
62																
63	Excavation Cost			Add cost for excavation (if needed)												
64																
65																
66	TOTAL		\$126,450													

Bottom Up Cost Analysis:

- Project-Based Math
- Objective Budgeting

Compare for Informed Decisions Regarding Budgets And Priorities

Top Down Cost Analysis:

- Budget-Based Math
- Subjective Budgeting

USER MANUAL

Guide to:

- Sort and filter data
- Update data
- Conduct cost analysis
- Edit & maintain data
- Log change history
- Document control
 - Quality Control

**Water lines, stormwater,
sewer lines, water treatment
facility, wastewater treatment
facility**

- Data update after replacement projects are completed

Roads

- Data update after pavement or reconstruction projects, especially important to update water, sewer and stormwater system work done at the same time in those worksheets

Vehicles

- Update when vehicle is added to or removed from the fleet

**Streetlights, traffic lights,
way-finding signs**

- Update when replaced

**Buildings, City Land,
University Settlement**

- Update when projects are completed or property ownership changes

**Bridges, Stormwater MS4
inspections**

- Update asset when inspected under regulatory programs

FUNDING FOR CAPITAL PROJECTS AND EQUIPMENT

Methods of Finance to Consider	Asset Management Activity		
	Repair & Maintenance	Replacement & Upgrade	Expansion & New
Pay as You Go	X	X	
Bonded Debt/Loan		X	X
Lease/Purchase			X
Outright Grant	X	X	X
Fee for Services	X	X	X
Public Private Partnership	X	X	X
Land Developer Investment		X	X

CITY OF BEACON: A CULTURE OF ASSET MANAGEMENT

- Consider the impact of economic, demographic and housing trends on the tax base and infrastructure
- Align asset management, capital planning, and vision for the City
- Technological innovations aids integration of work order software with asset management, GIS, tablets and finance
- Adopt an asset management policy to institutionalize asset management as an organizational priority, embedded in the City's culture, and the subject of continuous attention.

thank you!

