

Thursday, October 21, 2021 @ 9am-9:30am

THE FORGOTTEN ASSET

Using Asset Management Planning to
Drive Workforce Development & Succession
Planning

PRESENTER:

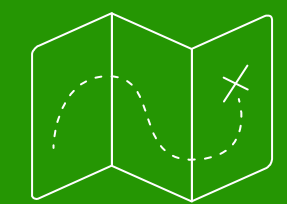
Andrew S. Holt, PE, PP, CME
Executive Vice President



LEARNING OBJECTIVES & PRESENTATION



- Understanding the Need
- Recommended Solution
- Practical Application
- Learning Objectives
 - AMP as Tool for Workforce Development & Succession
- START TODAY!



SETTING THE SCENE



- What can go wrong in the industry?
- What happens when succession planning is not in place?
 - Catastrophic Failures
 - Increased Costs
 - Customer Confidence Lost



ASCE REPORT CARD RESULTS

Drinking Water Infrastructure



Category	1998	2001	2005	2009	2013	2017	2021
Drinking Water	D	D	D-	D-	D	D	C-
Cost to Improve		\$1.3T	\$1.6T	\$2.2T	\$3.6T	\$4.59T	\$5.9T



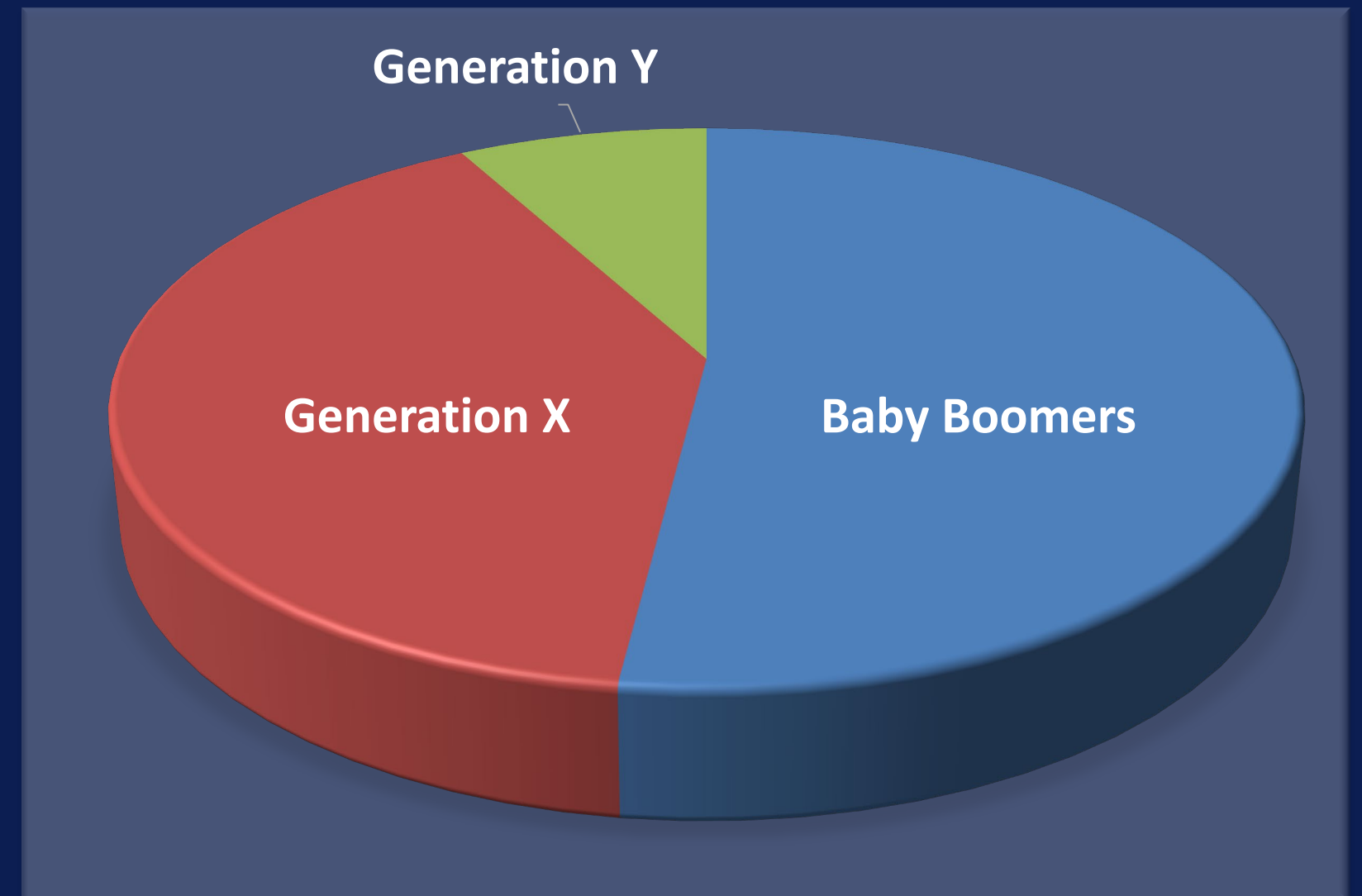
SETTING THE SCENE

- 268 Million people are currently served by public water systems

86%

of the US population

In a typical utility, the generational demographics look like:





THE SILVER TSUNAMI

- Retiring workers leaving a significant void
- Loss of knowledge, talent, and experience is occurring at a greater rate than which it is being replaced



BACKGROUND:

Recent Literary History





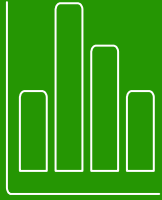
LIMITED INDUSTRY SURVEY

		System	1	2	3	4	5	6	7	Average
		Number of Customers	80	10,000	14,000	14,000	35,000	50,000	50,000	
		Managers	0	1	1	1	1	1	1	1
		Average Age	0	60	52	58	50	54	60	55
		Years Remain	0	2	10	4	15	8	2	7
		System	Average		System	Average		System	Average	
		License Operator	2.7		Technician	5		Managers	1	
		Average Age	51		Average Age	45		Average Age	55	
		Years Remain	11		Years Remain	17		Years Remain	7	
		Asset Plan Exist	Y	N	N	Y	N	Y	N	3/7
		Planned	Y	N	Y	Y	Y	Y	N	5/7



LIMITED INDUSTRY SURVEY FINDINGS

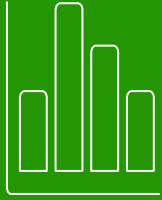
- Utilities report less than adequate resources to keep up with all work.
- Large and small utilities are experiencing similar issues.
- All Utility Managers do not have a formal succession plan.
- The majority of Utilities either have or plan to implement asset management planning within the next year.



DEMOGRAPHIC STATISTICS

Population Age	Census Year 2000	% of Total -2000	Census Year 2010	% of Total -2010	Census Year 2020	% of Total -2020
18-44	112 Million	65%	113 Million	58%	109 Million	57%
45-64	62 Million	35%	81 Million	42%	83 Million	43%

Source: United States Department of Labor Bureau of Labor Statistics Report
on Population and Age of the National Workforce, 2020



DEMOGRAPHIC STATISTICS

Population Age	Year 2015	Percent of Total (2015)	Year 2020	Percent of Total (2020)
18-44	81 Million	59%	89 Million	59%
45-64	57.5 Million	41%	61.2 Million	41%

*Source: United States Department of Labor Bureau of Labor Statistics Report
on Population and Age of the National Workforce, 2020*



WHAT CAN WE DO?

It's not all dire news –
retirement ages are
stretching

Most systems are
implementing Asset
Management Planning

- **Simple**
- **Understandable**
- **Updateable**

Asset Management
Planning can be
modified to address
workforce as an asset.



ASSET MANAGEMENT PLANNING

The Asset Management Approach includes the following steps:



Asset inventory – list of assets



Condition assessment – current capacity, function, maintenance



Useful life forecast – remaining service life before failure



Criticality and prioritization – ranking of all components in terms of their impact on stated levels of service goals



Funding Plan – financial impacts of the overall repair and replacement schedule developed.

ASSET MANAGEMENT PLANNING

The Asset Management
LEVEL OF SERVICE GOALS:

- Customer expectations and the price customers are willing to pay
- Legislative requirements and environmental standards
- Availability of resources and financial constraints
- The utility's asset and business capabilities or service delivery

Many Asset Management programs are customizable

Every category is affected by the adequacy of the workforce



ASSET INVENTORY

Part 1

Inventory List	
Asset Name	Location
Associated Asset	Associated Location
Asset ID (optional)	Asset Size (optional)
Asset Latitude (optional)	Asset Longitude (optional)
Material (optional)	Storage Capacity in Days (optional)
Linear Feet (optional)	Acres of Land (optional)



ASSET INVENTORY

Part 2

Asset Category			
<input type="checkbox"/> Source <input type="checkbox"/> Pumping Facility <input type="checkbox"/> Treatment <input type="checkbox"/> Storage <input type="checkbox"/> Distribution <input type="checkbox"/> Other			
Asset Type			
<input type="checkbox"/> Wells and Springs <input type="checkbox"/> Intake Structures <input type="checkbox"/> Pumping Equipment <input type="checkbox"/> Disinfection Equipment <input type="checkbox"/> Hydropneumatic Tanks <input type="checkbox"/> Concrete & Metal Storage Tanks <input type="checkbox"/> Transmission Mains <input type="checkbox"/> Distribution/ Collection Mains	<input type="checkbox"/> Valves <input type="checkbox"/> Computer Equipment/ Software <input type="checkbox"/> Transformers/ Switchgears/ Wiring <input type="checkbox"/> Motor Controls/Drives <input type="checkbox"/> Sensors <input type="checkbox"/> Buildings <input type="checkbox"/> Service Lines	<input type="checkbox"/> Hydrants <input type="checkbox"/> Treatment Equipment <input type="checkbox"/> Lab/Monitoring Equipment <input type="checkbox"/> Tools and Shop Equipment <input type="checkbox"/> Transportation Equipment <input type="checkbox"/> Security Equipment <input type="checkbox"/> Land	<input type="checkbox"/> Galleries and Tunnels <input type="checkbox"/> Meters <input type="checkbox"/> Raw Water Reservoirs <input type="checkbox"/> Generators <input type="checkbox"/> Liquid Waste Handling & Disposal <input type="checkbox"/> Solid Waste Handling & Disposal <input type="checkbox"/> Wells <input type="checkbox"/> Springs <input type="checkbox"/> Other
Asset Status			
<input type="checkbox"/> Active <input type="checkbox"/> Not in Use – Abandoned <input type="checkbox"/> Not in Use – Back Up <input type="checkbox"/> Future Investment			
Can this Asset be Repaired? <input type="checkbox"/> Yes <input type="checkbox"/> No		Can this Asset be Rehabilitated? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Asset Replaced (optional):		Show asset in schematic? <input type="checkbox"/> Yes <input type="checkbox"/> No	



ASSET INVENTORY

Part 3

Condition	
<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair (Average) <input type="checkbox"/> Poor <input type="checkbox"/> Very Poor	
Is the asset maintained according to manufacturer's recommendations? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Capacity	
<input type="checkbox"/> Fullsized <input type="checkbox"/> Oversized <input type="checkbox"/> Undersized	
Consequence of Failure	
<input type="checkbox"/> Insignificant – CoF of 2 <input type="checkbox"/> Minor – CoF of 4 <input type="checkbox"/> Moderate – CoF of 6	
<input type="checkbox"/> Major – CoF of 8 <input type="checkbox"/> Catastrophic – CoF of 10	
Redundancy	
<input type="checkbox"/> 0% Backup <input type="checkbox"/> 50% Backup <input type="checkbox"/> 100% Backup <input type="checkbox"/> 200% Secondary Backup	
Installation Date	Original Cost
	\$
Expected Useful Life	Replacement Cost
	\$
Routine Maintenance Costs	Timeframe - Frequency of Routine Maintenance
\$	<input type="checkbox"/> per/day <input type="checkbox"/> per/week <input type="checkbox"/> per/month <input type="checkbox"/> per/year <input type="checkbox"/> lifetime
Optional Information	
Model Number	Manufacturer
Supplier Name	Address
City, State, Zip	Phone Number
Fax Number	Notes

ASSET MANAGEMENT PLANNING INTEGRATED WORKFORCE DEVELOPMENT

Building on the CUPPS template, utility managers can:

- Define workforce resources as a category of assets
- Create a detailed inventory/job descriptions
- Assess the condition and useful life
- Conduct a gap analysis to identify shortfalls

Prioritize highest impact employee losses that put L.O.S. goals at risk



ASSET MANAGEMENT PLANNING INTEGRATED WORKFORCE DEVELOPMENT

Traditional Asset Inventory	Enhanced Asset Inventory
Asset Name	Asset Name
Asset Number	Employee ID
Category (source, pumping facility, treatment, etc.)	Category (Human Resources)
Asset Type	Title
Asset Status	Job Description
Condition	Performance Review Grade
Capacity	Education, Licensing & Certification
Consequence of Failure	Consequence of Absence
Redundancy	Redundancy
Expected Useful Life	Remaining Years of Service



EXAMPLE APPROACH ASSET INVENTORY

Asset Name	Robert Welch	Paul Sampson	Fred Williams	Tony Gellino	James Singletary
Asset Title	Sewer Department Director	Superintendent	Operator	Senior Technician	Laborer
ID	30-1705	30-2250	30-2670	30-3005	30-3217
Category	HR	HR	HR	HR	HR
Education	BA	HS	AD	HS	HS
Years of Experience in this System	17	24	15	7	1
Total Years of Experience	25	24	18	7	1
Operator Licenses	S-4/C-3	S-2/C-1	S-2/C-1	S-1/C-1	C-1
CDL	Y	Y	Y	Y	Y
Training / Certifications	OSHA	CPR/CSE	CDL		
Job Description	Attached	Attached			
Last Performance Review Grade	89	75	95	80	85
Last Performance Review Date	12/1/2016	12/1/2016	12/1/2016	12/1/2016	n/a
Salary	NOT ENOUGH				
Consequence of Absence	Major	Moderate	Moderate	Minor	Minor
Redundancy	50%	75%	75%	100%	100%
Risk of Absence	25%	50%	60%	80%	80%
Remaining Years of Service	5	6	12	23	29
Planned Successor	TBD	Fred Williams	Tony Gellino	TBD	TBD



STAKEHOLDERS



Who should participate in this Asset Management Planning enhancement?

Typical municipal system:

- Administration
- Human Resources
- Director
- Elected Officials
- Union Rep



MERITS OF THIS APPROACH

- **Why does this make sense?**
- **Past Proposals have been extremely complicated and cumbersome**
- **No widespread consistency or training**
- **Wide variations in departmental needs**
- **Asset Management Planning can be easily customized to fit**
- **Terminology already widely used**

Can be implemented immediately!



STAKEHOLDERS

THE BEST WAY
TO GET
SOMETHING DONE
IS
TO BEGIN

Why make this change?

Option #1:

- Do Nothing – Status Quo

Option #2:

- Try something different – time consuming and costly

Option #3:

- Make the updates - Benefits

QUESTIONS?



www.suburbanconsulting.com

