Clean Smarter, Not Harder: FreeFlowH2O

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What are we talking about?

01 What is the challenge in sewer cleaning?

02 How can we manage operations to address this challenge?

03 How does being successful benefit utilities?

Sewer cleaning is the primary way to maintain collection system assets.

Environment

Property

Public Health

Tax Dollars

- **Over $1 trillion** of US sewer infrastructure in service

- Between **23,000 and 75,000 SSOs** are estimated to occur each year

- Between **3 billion and 10 billion gallons** of untreated wastewater reach the natural environment

- On average, communities spend **~$8,000 per mile** in collection system O&M
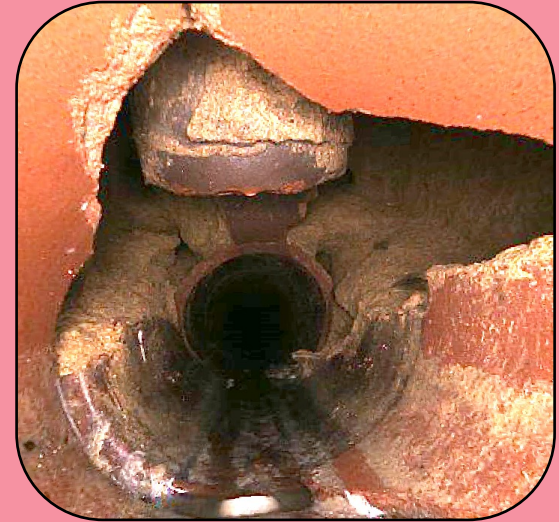
- Sewer cleaning is a significant component of this cost.

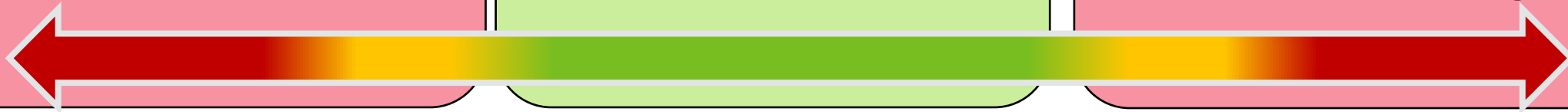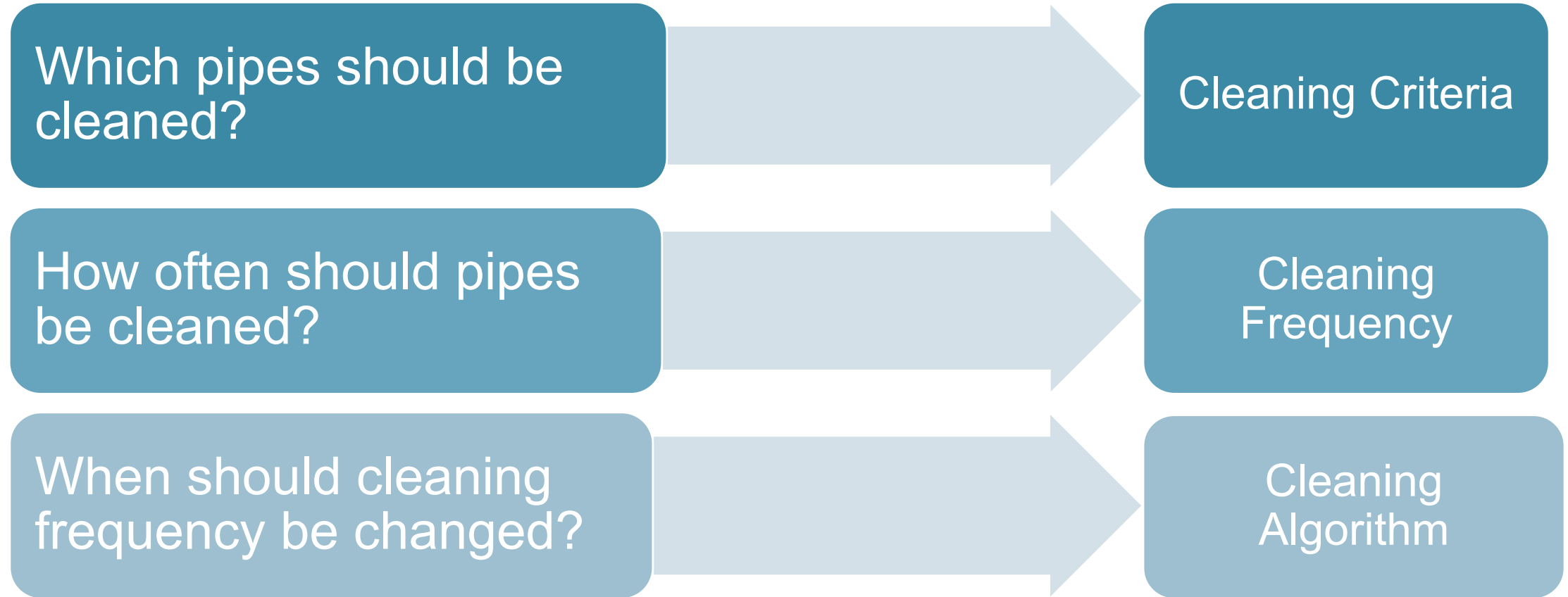# Cleaning pipes at the right time allows for optimized resource allocation.

Under Cleaning

On-Time

Over Cleaning

Developing an effective cleaning program involves 3 key parts.

Which pipes should be cleaned?	Cleaning Criteria
How often should pipes be cleaned?	Cleaning Frequency
When should cleaning frequency be changed?	Cleaning Algorithm

FreeFlowH2O combines elements of cleaning programs into a single tool.

FFH2O automates cleaning logic for an organized way to manage O&M programs.
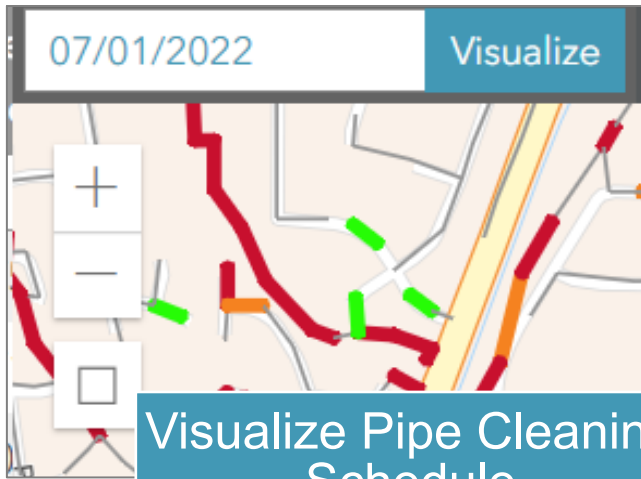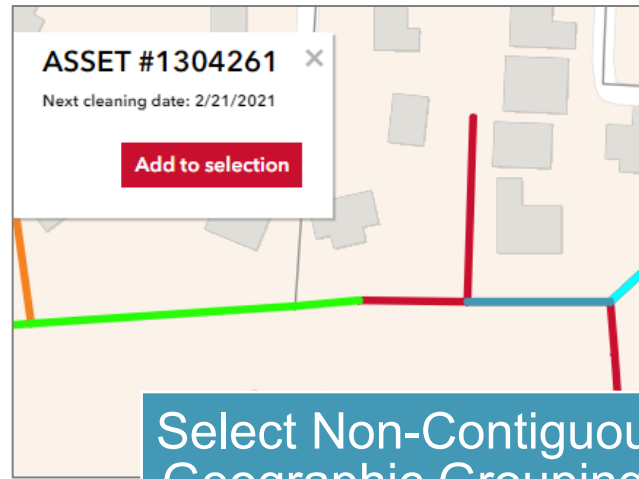

Access to Asset Information

Source for Cleaning Schedule Data

Graphic Interface to Select and Schedule O&M

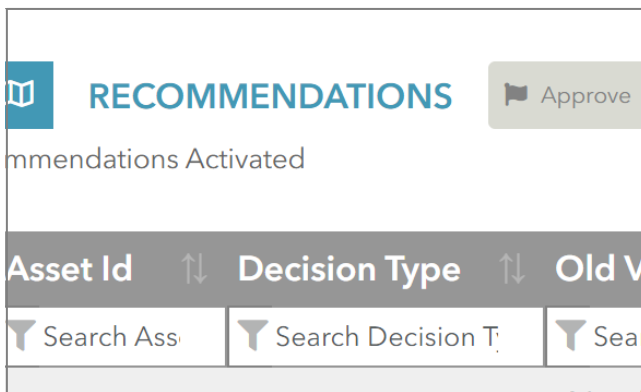# This simplifies cleaning decisions for collection system O&M programs.
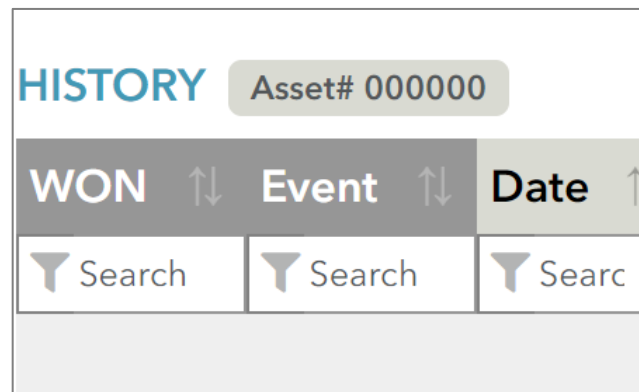

Visualize Pipe Cleaning Schedule

Select Non-Contiguous Geographic Groupings
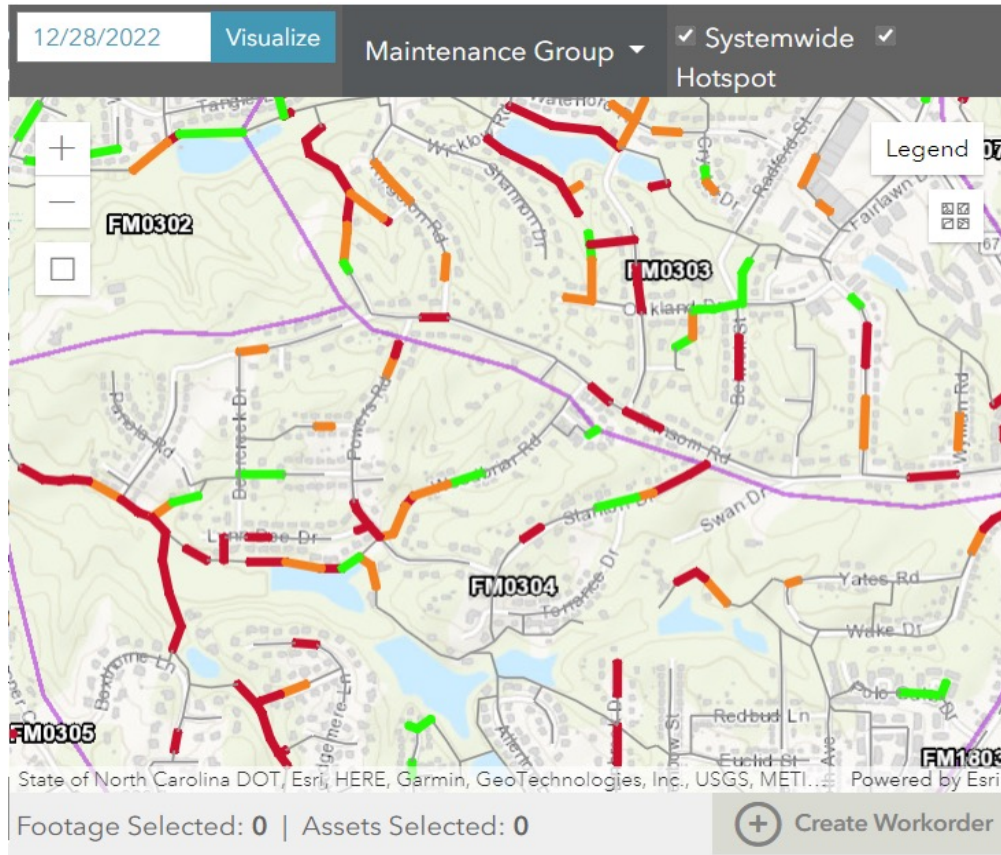

Adjust Pipe Status

Process Recommendations

Review Asset History

Manage Workflows

Visualizing the pipe schedule allows for intuitive decision making.

Cleaning Frequency	Lead Days	Lag Days
None	0	0
1 month	-7	7
3 months	-21	21
6 months	-42	42
12 months	-84	84
24 months	-168	168
60 months	-180	180
120 months	-180	180

Lead Date   Scheduled Cleaning   Lag Date

Early | Lead Window | Lag Window | Overdue

Streamlining work order creations improves implementation.

Select Non-Contiguous Geographic Groupings

Manage Workflows

Managing schedule adjustment optimizes effectiveness.

Process Recommendations

Review Asset History

Adjust Pipe Status

FreeFlowH2O is one tool to help optimize collection system O&M.

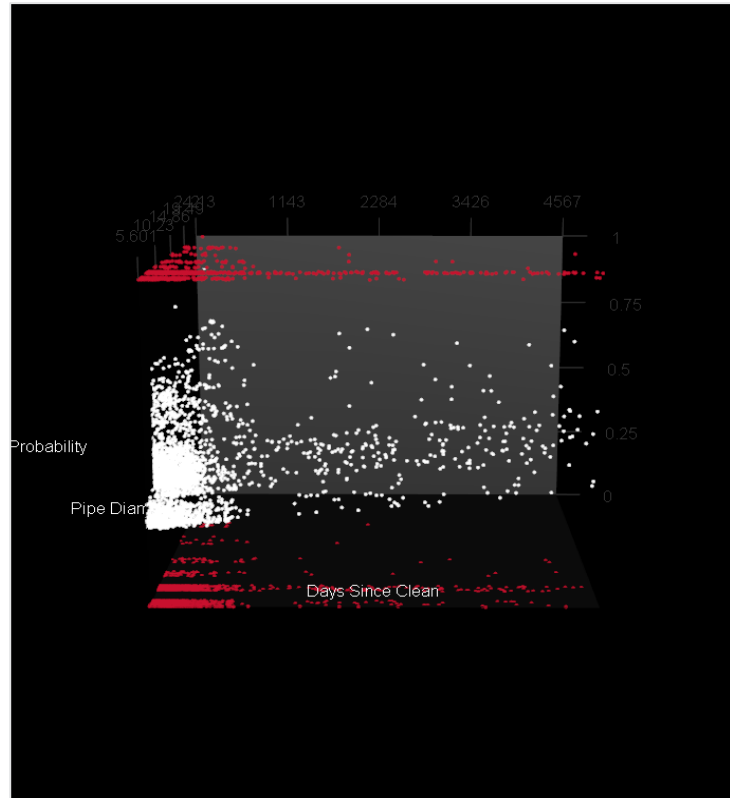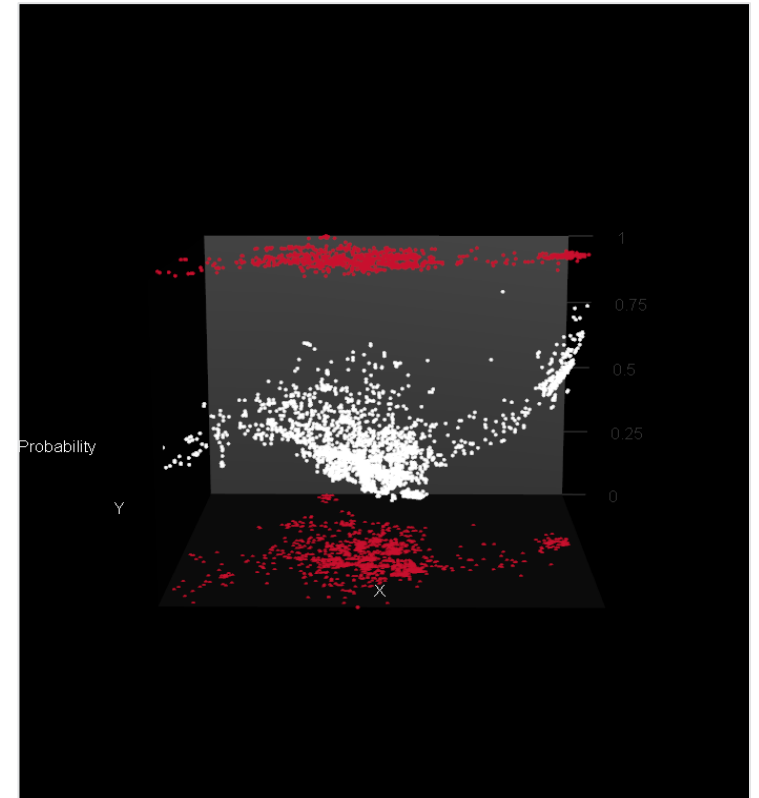| Asset Information	Cleaning Strategy	Human Resources
• Location • Diameter • Work History	• Criteria • Frequency • Algorithm	• Planner • Field Staff • IT Support

Future versions of the tool will leverage predictive analytics.
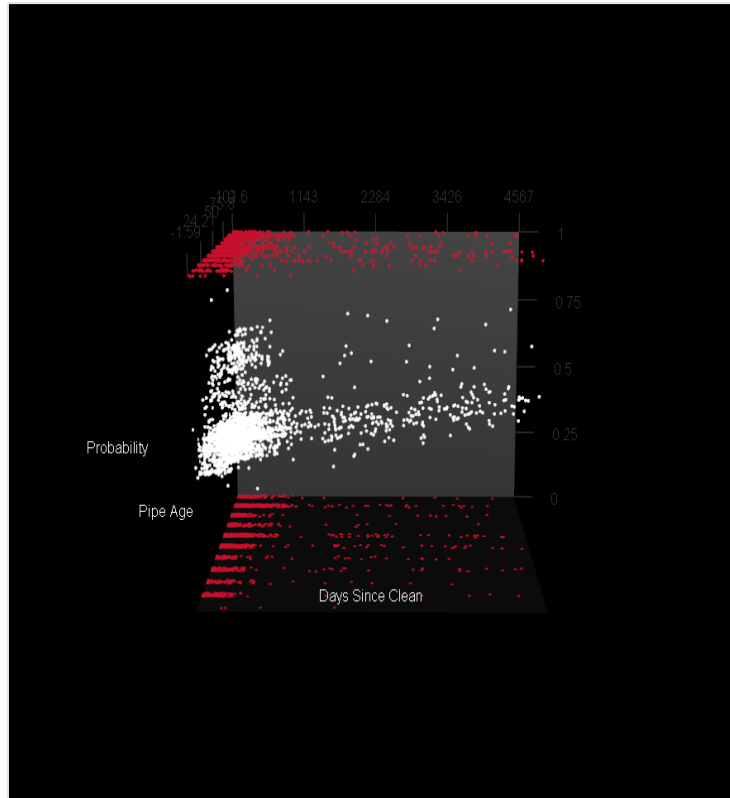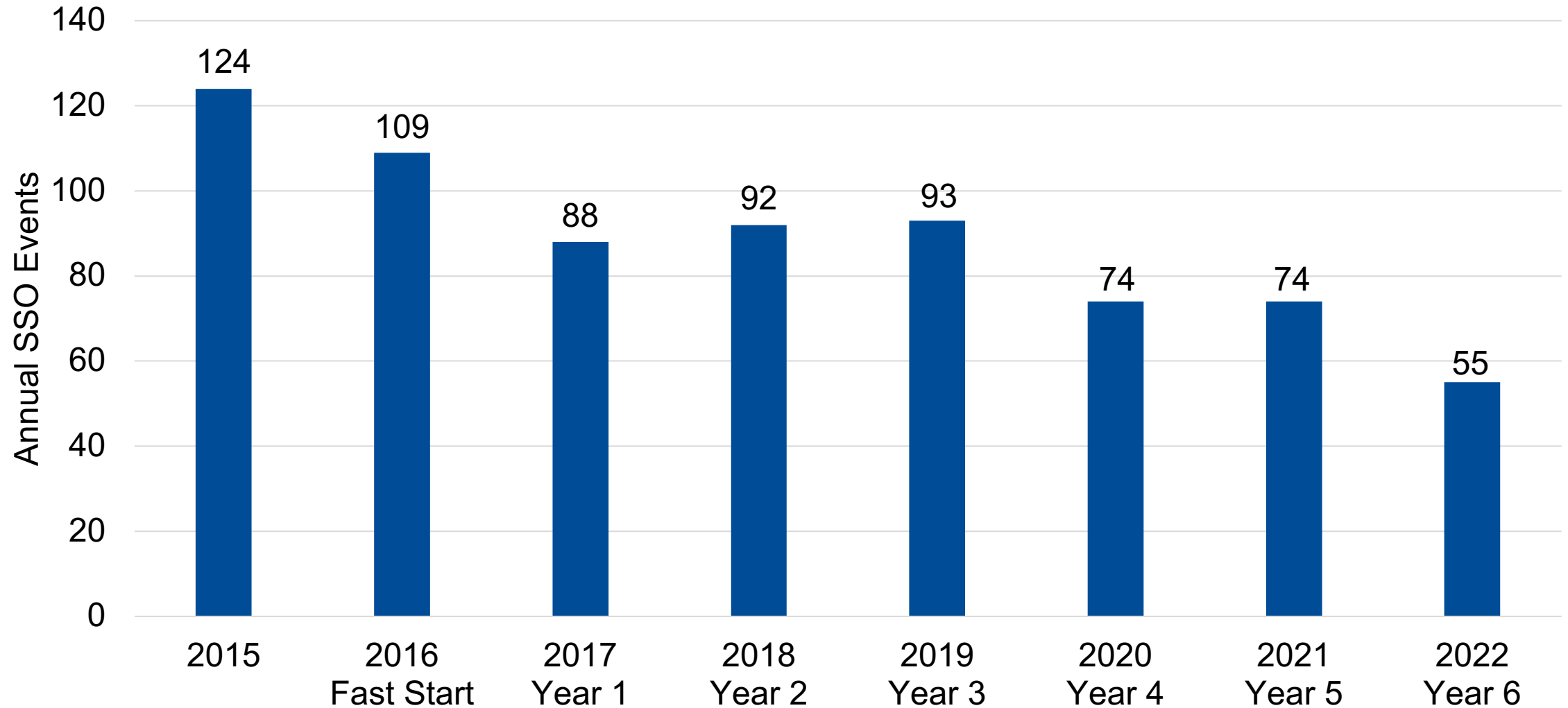

Last Cleaned & Asset Age

Last Cleaned & Pipe Dia.

Physical Location

FFH2O has resulted in a drastic decrease in SSOs for utilities.

Utilities can generate meaningful value by optimizing O&M programs.

Mitigate CSO/SSOs

Improved Regulatory Performance

Transition to Proactive Work

Lower Cost of Maintenance

Less Customer Calls

Better Level of Service

Questions?

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