



# TACOMA AMI TECHNOLOGY ROADMAP

Presentation to PWN AWWA  
April 29, 2022

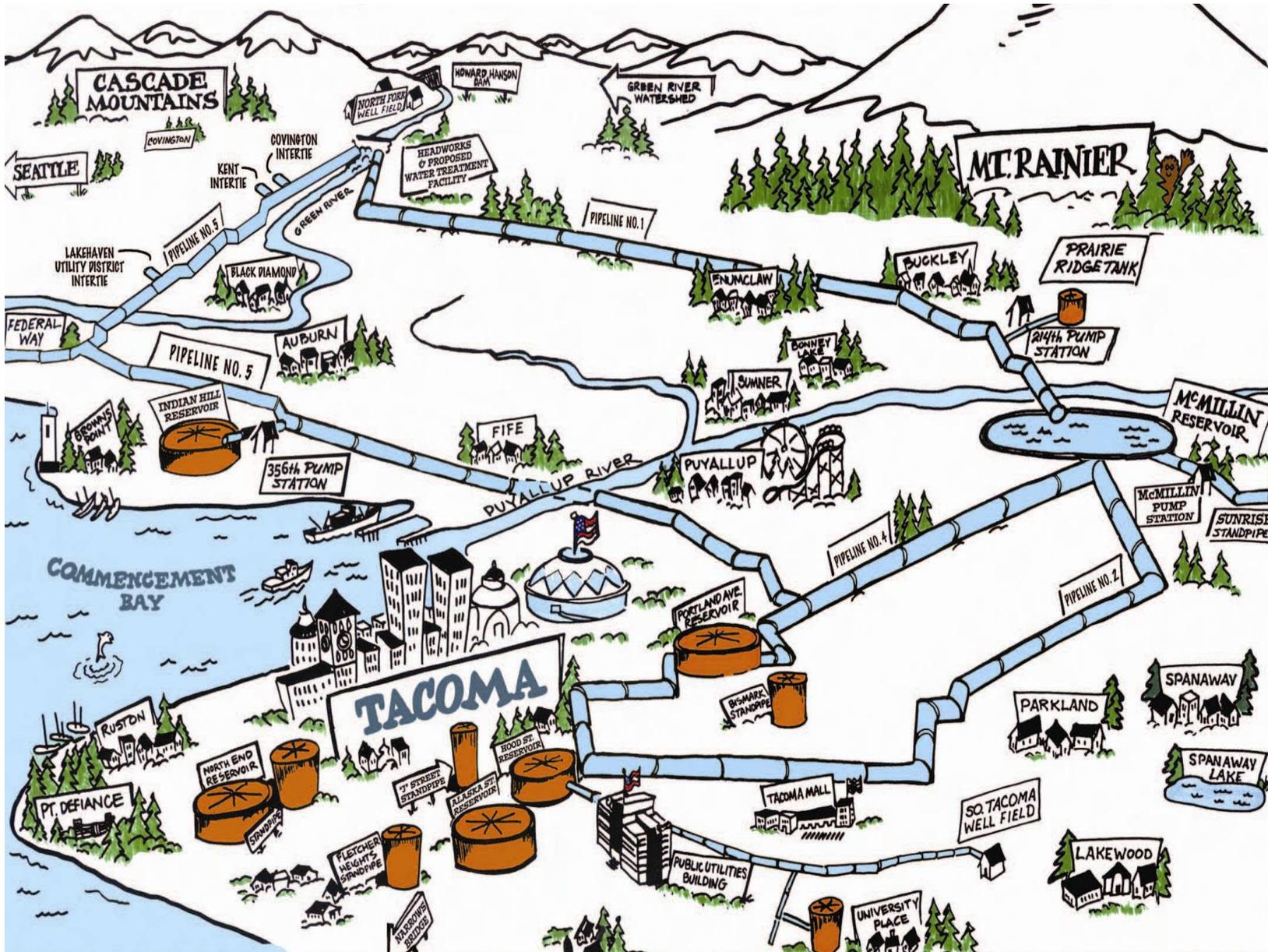
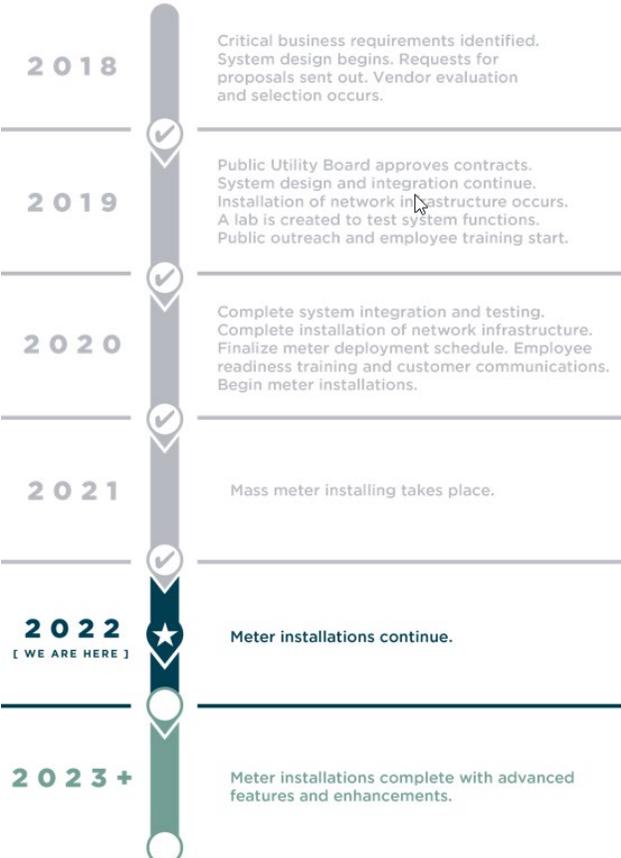
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# Background on Tacoma & AMI Implementation

Publicly owned since 1893  
 117 square miles of service territory  
 240 employees  
 102,801 residential customers  
 7,096 C&I customers  
 1,460 miles of water mains

## Advanced Meter timeline





# Purpose of Road Map

- Maximize investment in AMI system
- Benefits Beyond Billing
- Facilitate alignment with organization
- Alignment with water industry

City Technology Road Map

UTS Technology Road Map

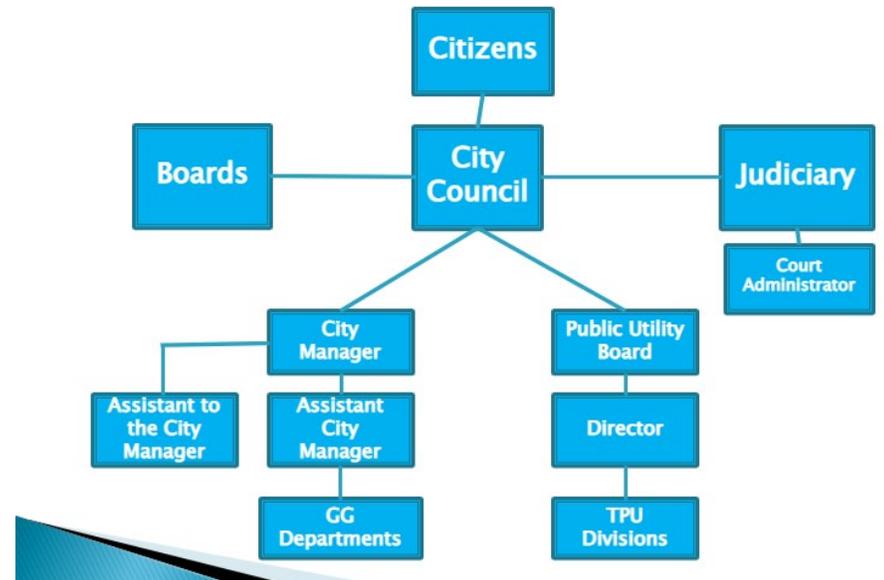
Utility Modernization: Program

Water Technology Road Map

SMARTWATER Road Map

Water AMI Road Map

## Government Structure



# Process to Create AMI Maturity Road Map

## Setup

- Charter (identified core team & steering team)
- Narrow boundaries (AMI related smart water not every possible solution)
- Partner with Xylem to leverage their experience & know of what is possible with the network
- Understanding roadmap in the broader TPU & City road map environment

## Path to building the roadmap

- Step 1: Internal Workshops – what is possible. Partner with Xylem to hold a series of workshops with internal water department to goals, current uses cases, and future use cases for Tacoma Water.
- Step 2: External Focus - learn from other utilities. Core team to meet and document best practices, strategies, and goals of Water Utilities to fully leverage the capabilities of their AMI network and collected data.
- Step 3: Develop Draft Road Map with dependencies

# Guiding Principles

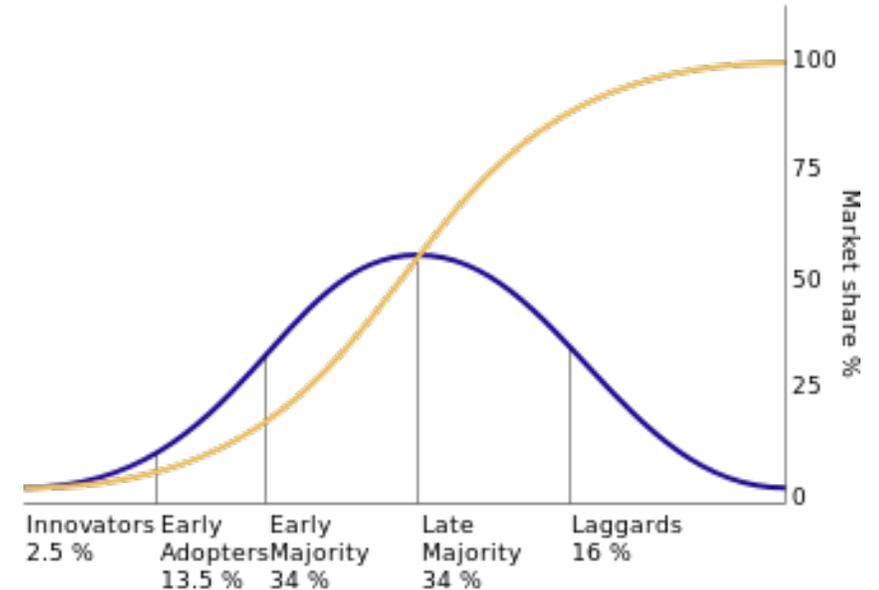
## 1) Early Adopter/ Early Majority

Adopt technology that is state of the art but also robust, reliable, interoperable, and off the shelf

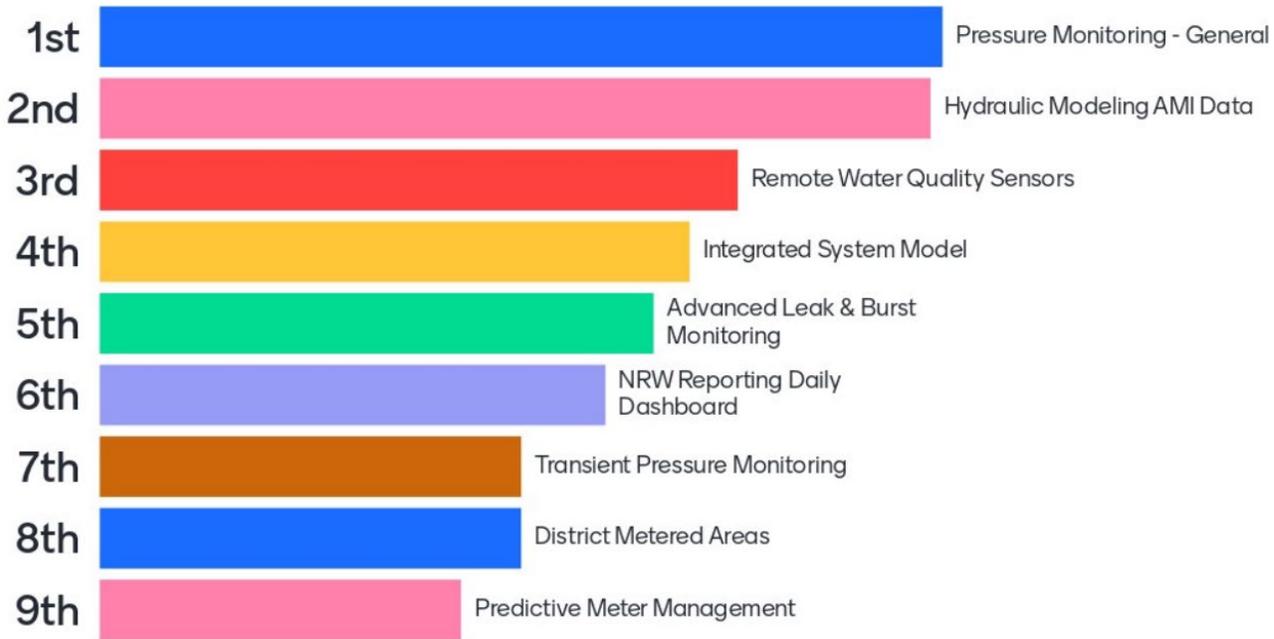
## 2) Blanket coverage, increased resolution

Start broad with low resolution coverage of the entire network and increase density over time

## 3) Capability Focused



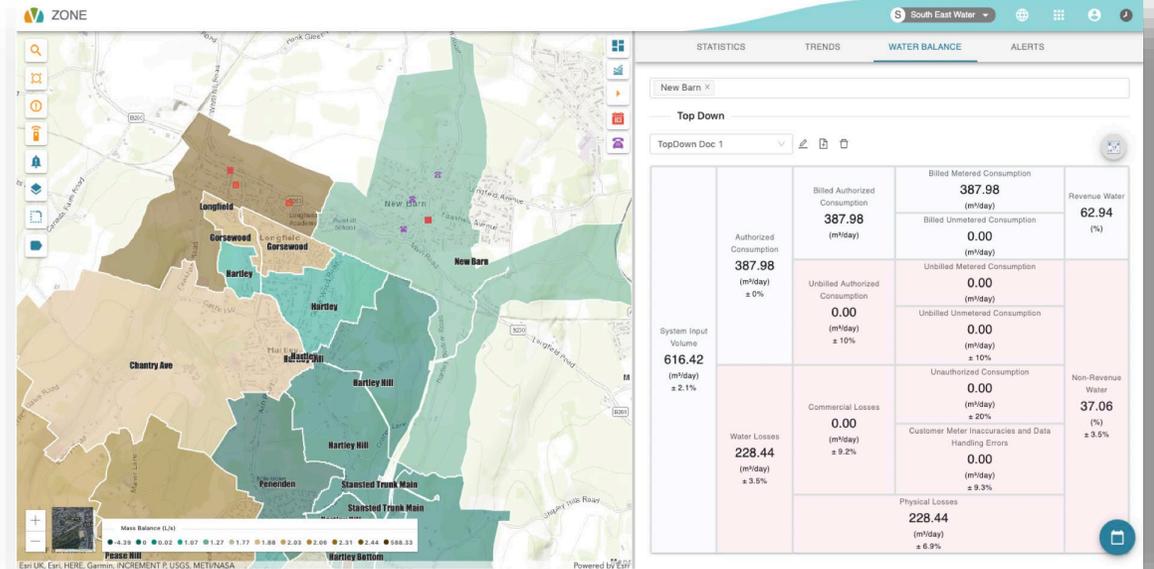
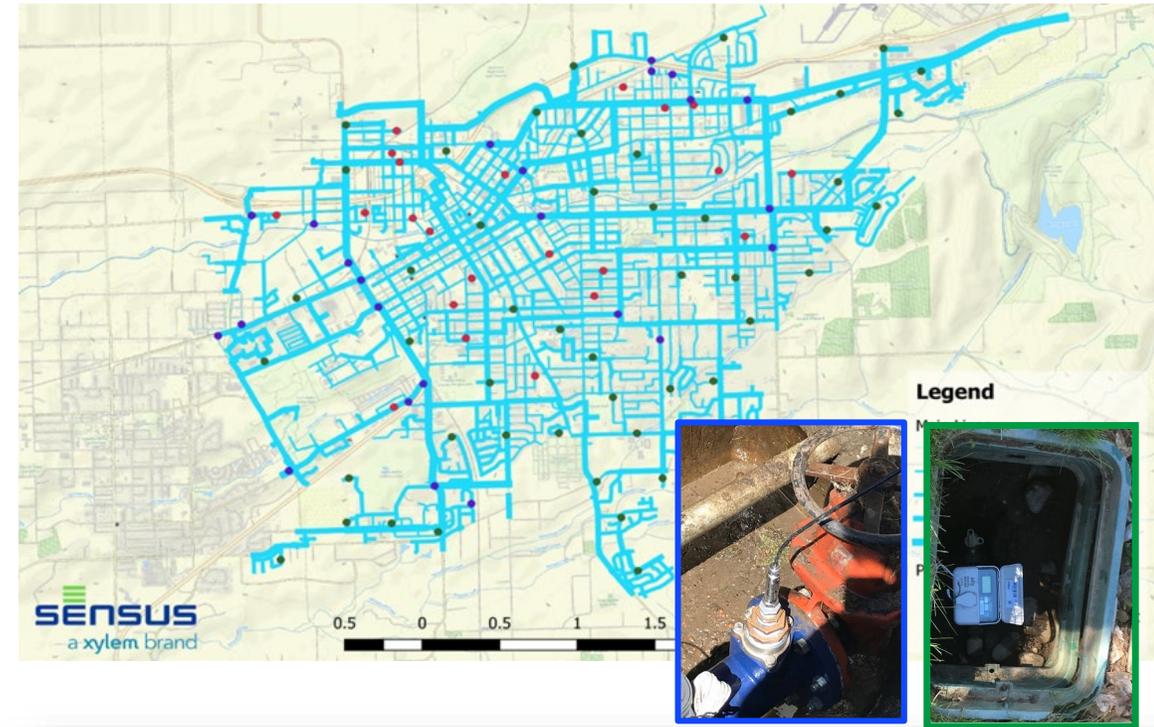
# Understanding What is Important to Tacoma Water



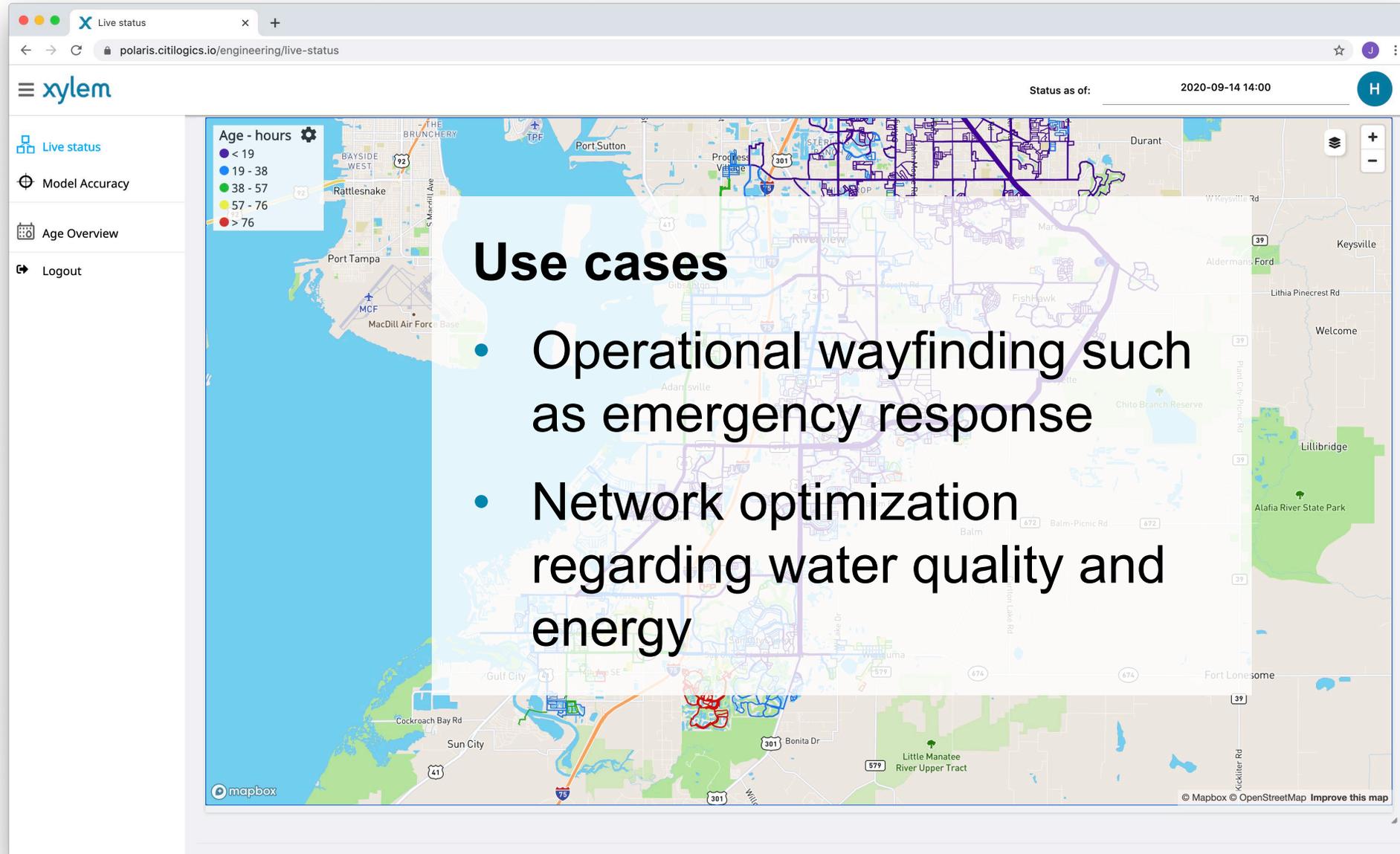
# Learning From Other Utilities

## Use cases

- Operational awareness
- Find closed/open valves by comparing hydraulic model to AMI data
- Seasonal pressure management
- Advanced leak detection
- Minimizing Non-Revenue Water
- Minimizing customer impact



# Discussion with Industry Expert – Digital Twin

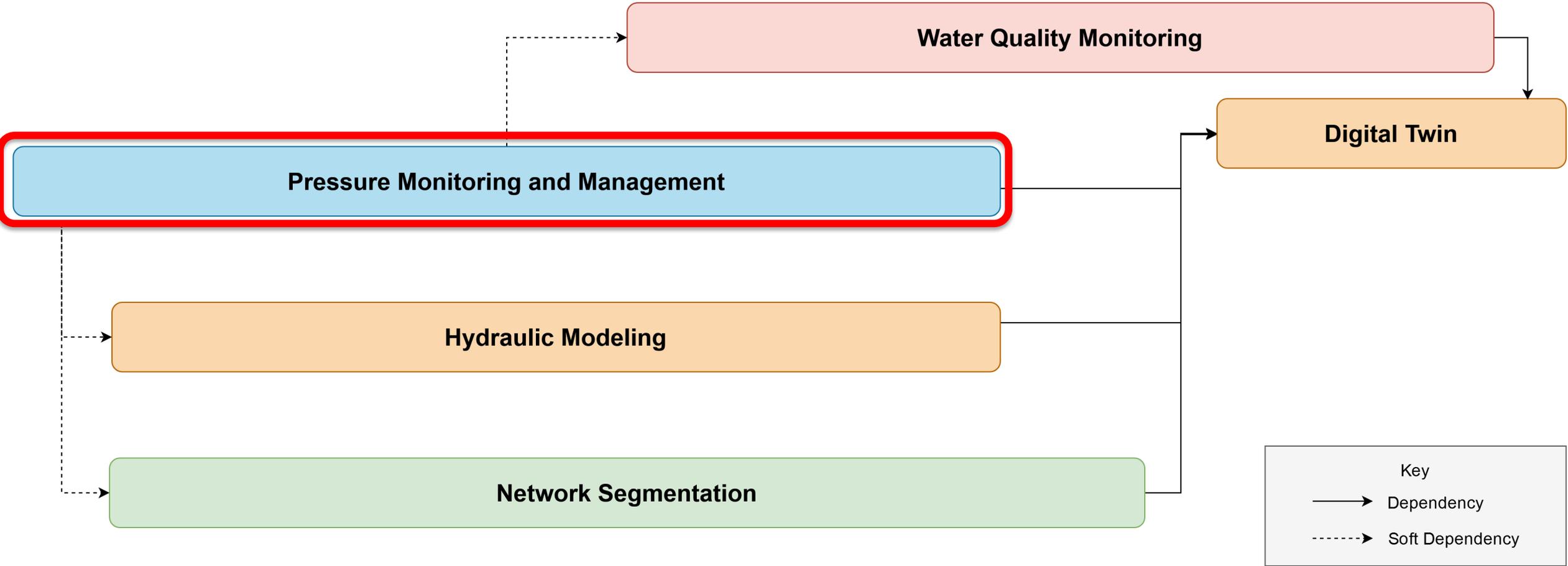


# Roadmap: Simplified

1-4 years

3-7 years

6-10+ years



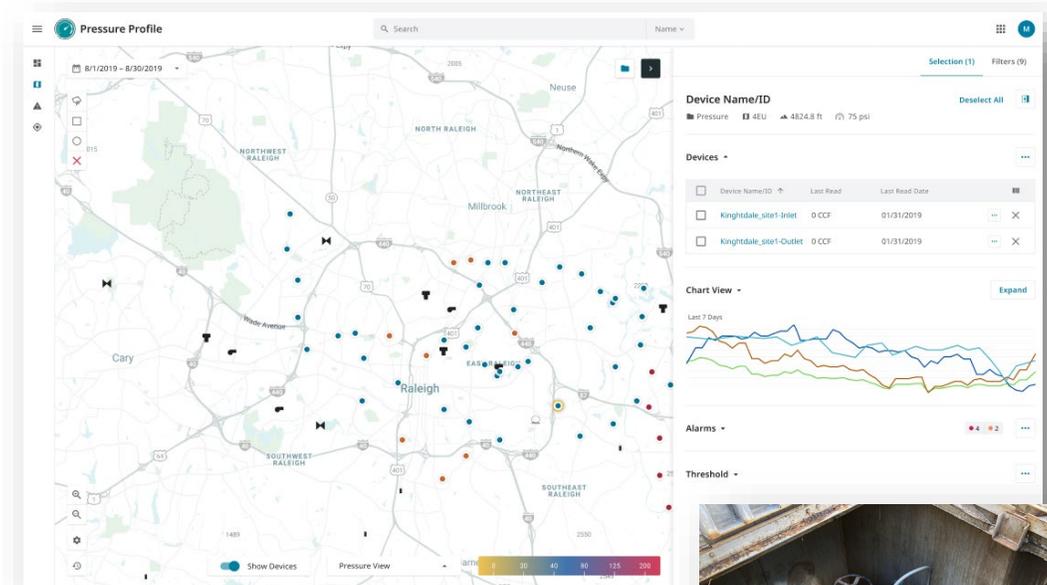
# Simplified: Pressure Monitoring and Management

## Steps:

1. Install strategic monitoring in each pressure zone
2. Implement pressure monitoring dashboard
3. Install pressure monitoring at PRVs
4. Increase density of pressure monitoring
5. Install transient and acoustic monitoring

## Benefits:

- Operational awareness
- Customer service
- Proactive asset management
- Pressure stabilization
- Data for model calibration
- Data for DMA design

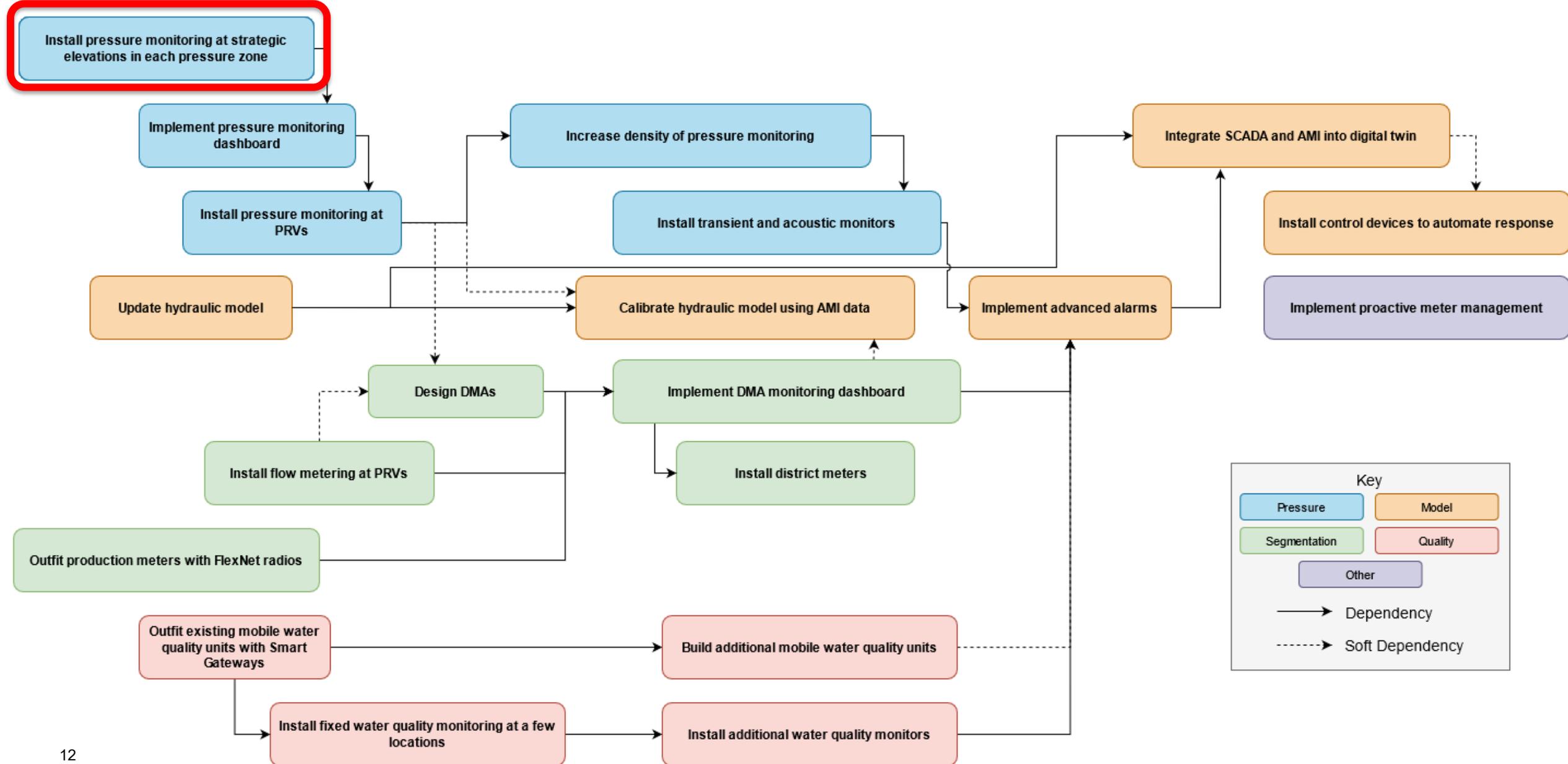


# Roadmap: Detailed

1-4 years

3-7 years

6-10+ years



# Detail: Install pressure monitoring at strategic locations

## Benefits

Monitoring at strategic locations (typically highest and lowest elevations of each pressure zone) provides system visibility consistent with the guiding principal of starting with blanket coverage then increasing density. Starting with the highest and lowest elevations should also provide the highest and lowest pressures within each zone, helping to ensure pressures are maintained at proper levels.

## Requirements

Leverage ally meters and pressure transducers with the Smart Gateway to monitor pressure at the lowest and highest elevations of each pressure zone.

## Considerations

Sensus can provide a pressure placement plan that includes these locations. Planning for the ally placement prior to the meter replacement will reduce level of effort.

## Level of effort

Low

## Dependencies

FlexNet

## Dependents

Pressure monitoring dashboard

## Cost

Tacoma Water looked at approximate Cost for each roadmap item (*not shown for this presentation*)



ally residential water meter with integrated pressure sensor

Smart Gateway sensor interface with pressure transducer



## Key Take Away

- Why 10 years
- It will be changed and altered over time, but gives TW a sense of direction
- Governance
- Utilized new tools because of COVID i.e. voting applications

## Where We Are Now

- Supply Chain Disruptions
- Digital Adoption

# THANK YOU

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