

# Austin Water | Water Loss Program



## AUSTIN WATER OVERSIGHT COMMITTEE

Matt Cullen, P.E. | November 12, 2024



# Agenda

1. AW's Practices and Current Metrics
2. AW's Implementation Plan for Water Loss Program Review, Analysis, and Optimization report recommendations
3. Summary and Questions



# Water Loss Program Overview

Austin Water's water distribution system includes 4,015 miles of pipeline ranging in size from 2-inch diameter to 84-inch diameter pipes.

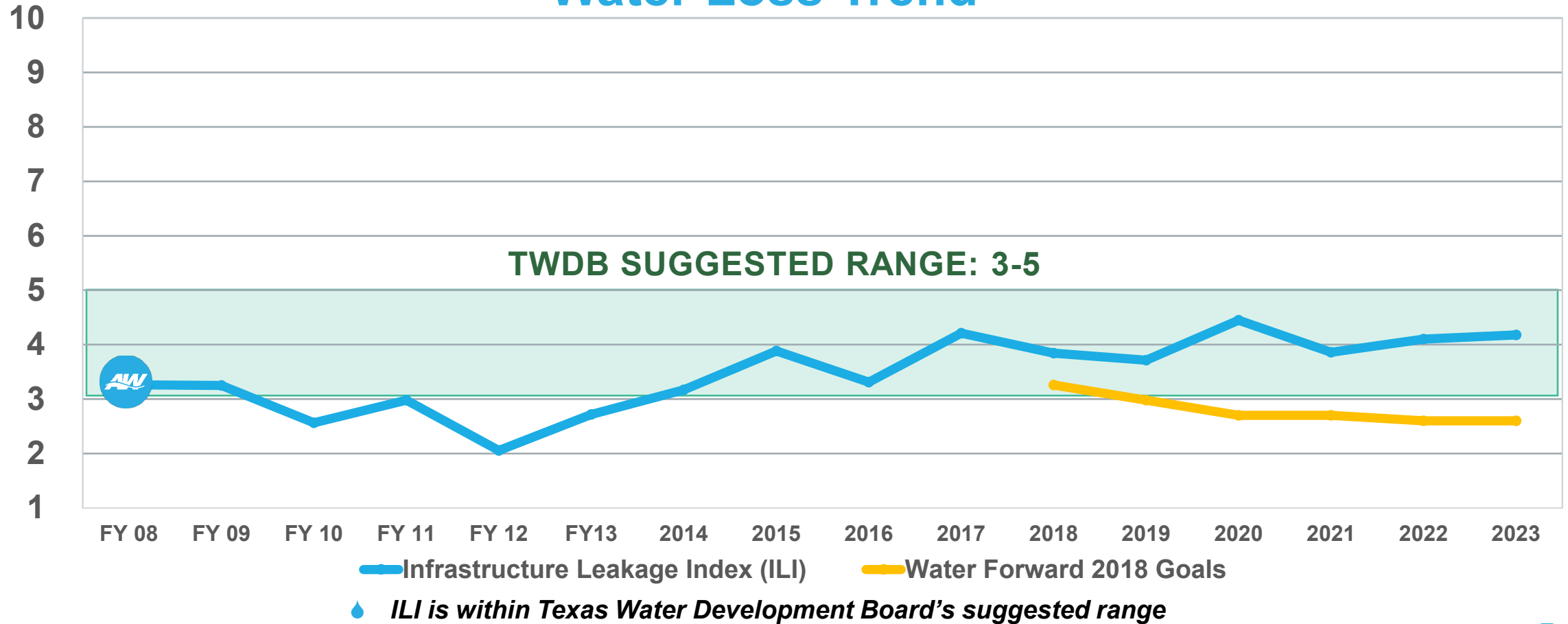
While all water systems experience water loss, Austin Water has a multi-pronged approach to reduce sources of water loss in our system and to increase the accuracy of our metrics.

- 💧 On-going participation in industry best practices and innovations
- 💧 Fast response to reported leaks
- 💧 Infrastructure renewal investments
- 💧 Proactive detection and prevention



# Austin Water's Performance

## Water Loss Trend



# AW's EUM Water Loss Team



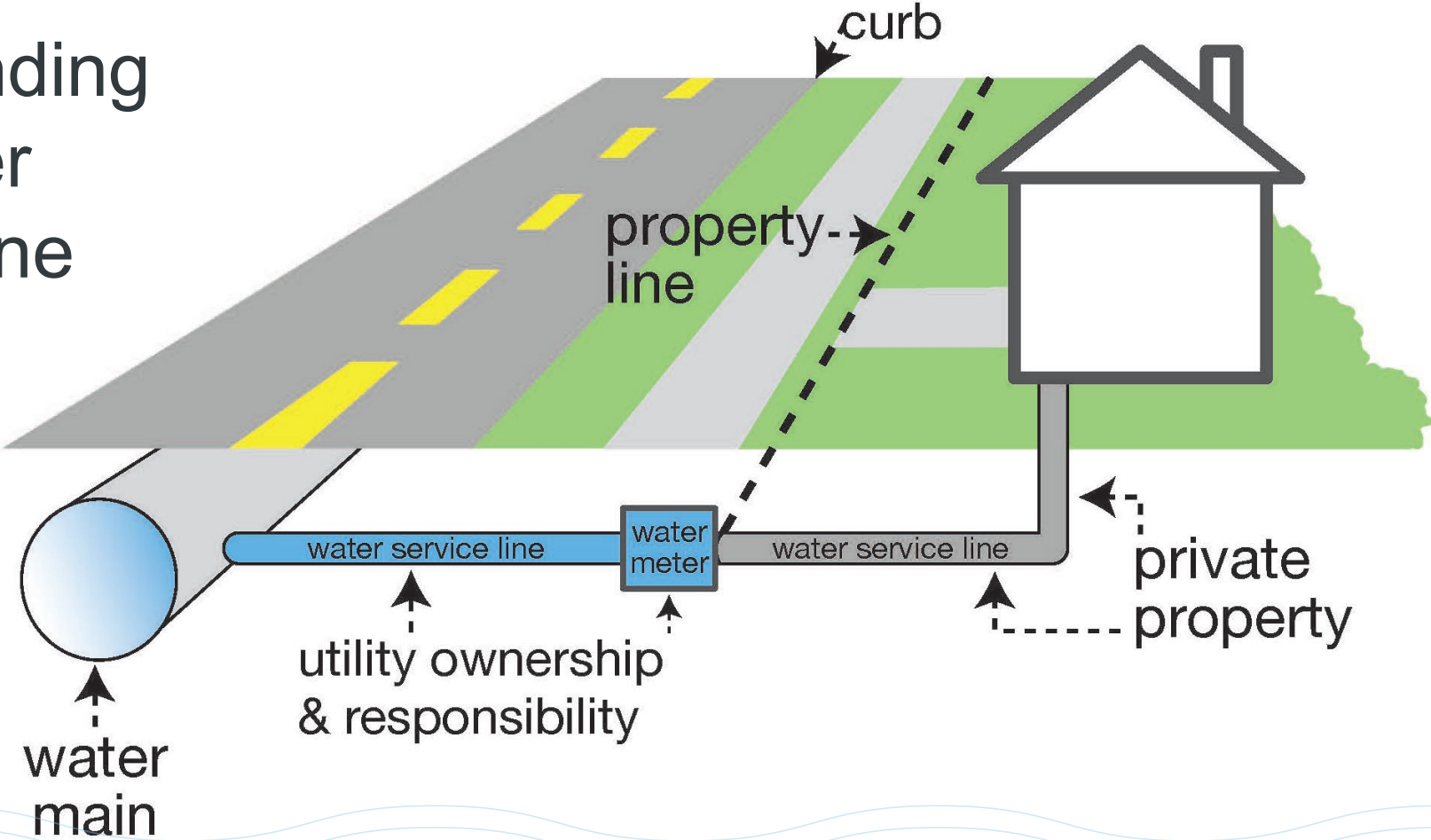
# Leak Detection Practices

- Continue to cover our entire system approximately every 6 years
- Continue large diameter leak detection and condition assessment program
- Assemble a leak detection SOP that will include:
  - Contract standards
  - Data management
  - Ongoing staff training
  - Piloting of new technologies
  - Conducting baseline leak detection validation
  - Inspecting ARV's, valves & vaults on transmission mains



# System Renewal – Overview

Understanding  
Your Water  
Service Line

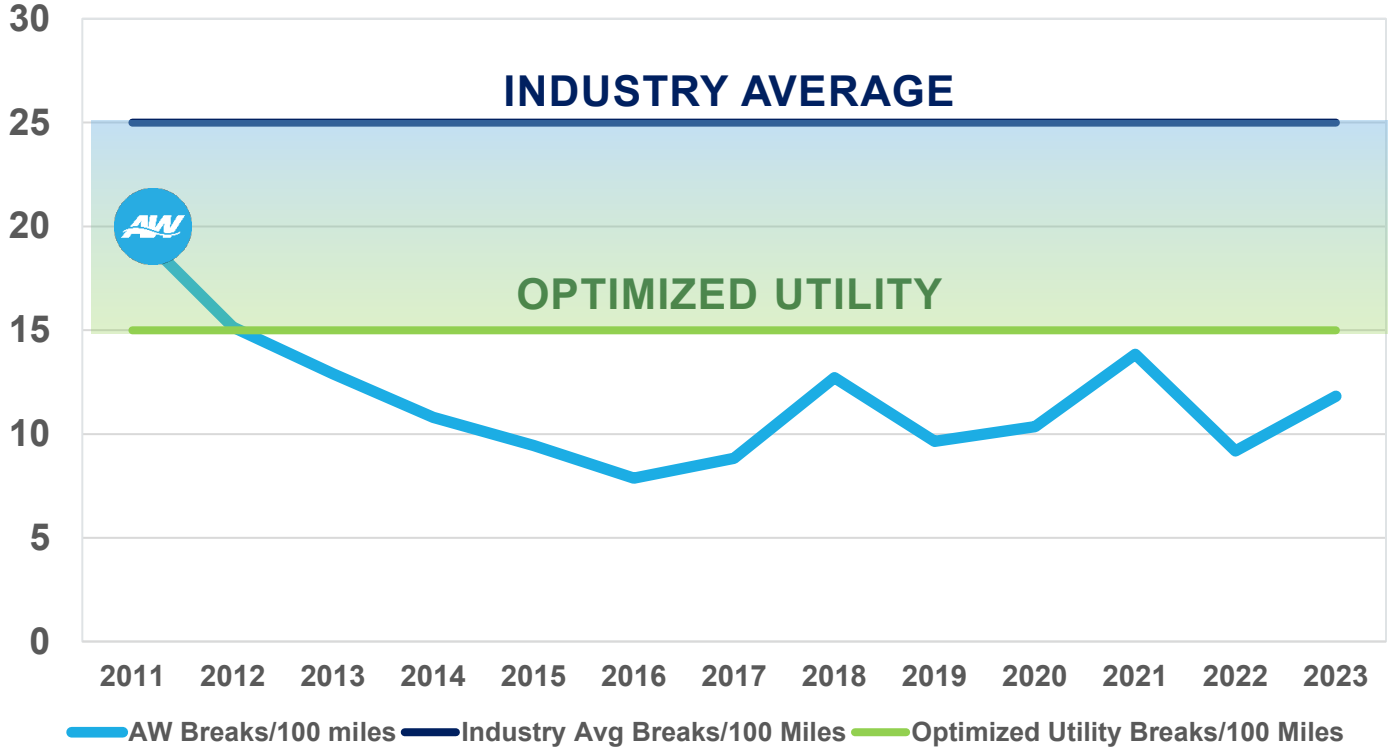


# System Renewal – Water Mains



Continue investment in renewing poor performing infrastructure to keep main leaks low

## Main Break History



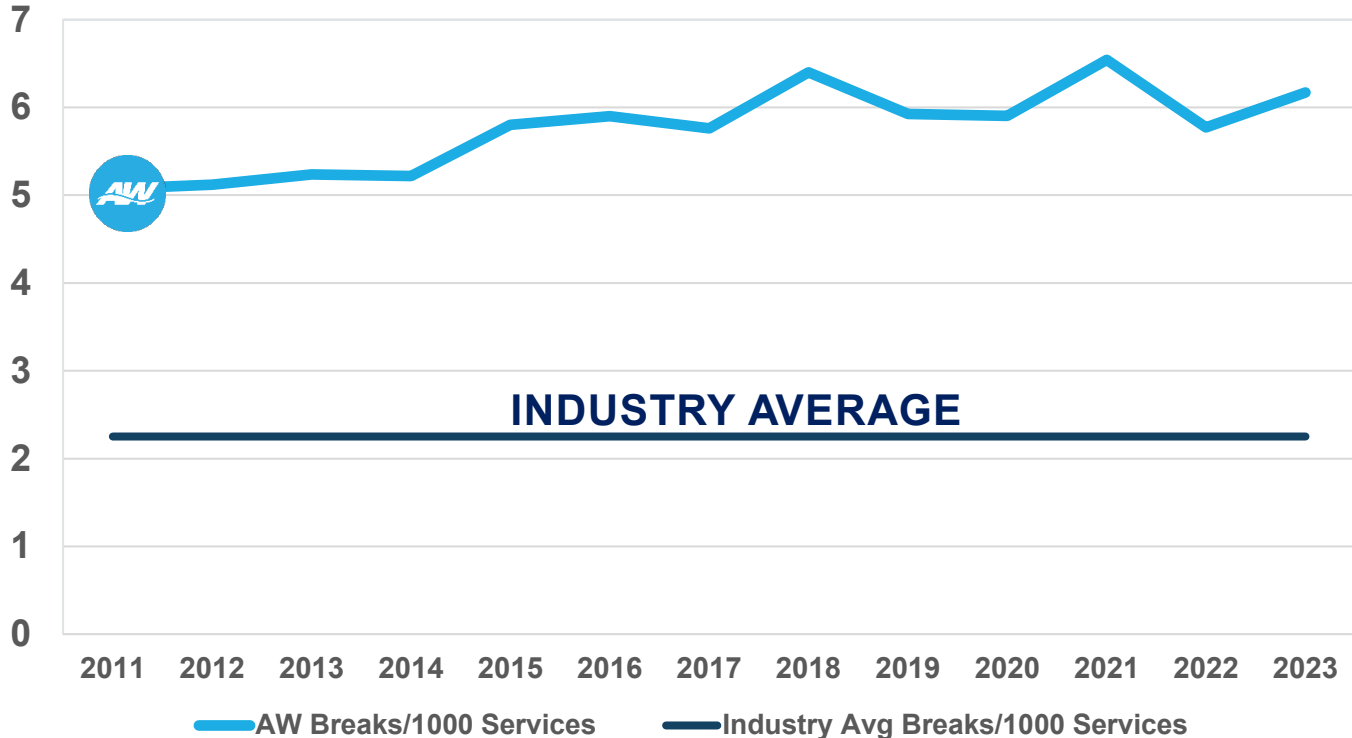


# System Renewal – Service Lines



Continue investment in renewing poor performing infrastructure to increase focus on service lines

### Service Line Break History



# Water Loss Cause Categories

2023 WATER LOSSES

## 1% Leaks due to damage

Mains and services hit by contractors/drillers

## 5% Known infrastructure leaks

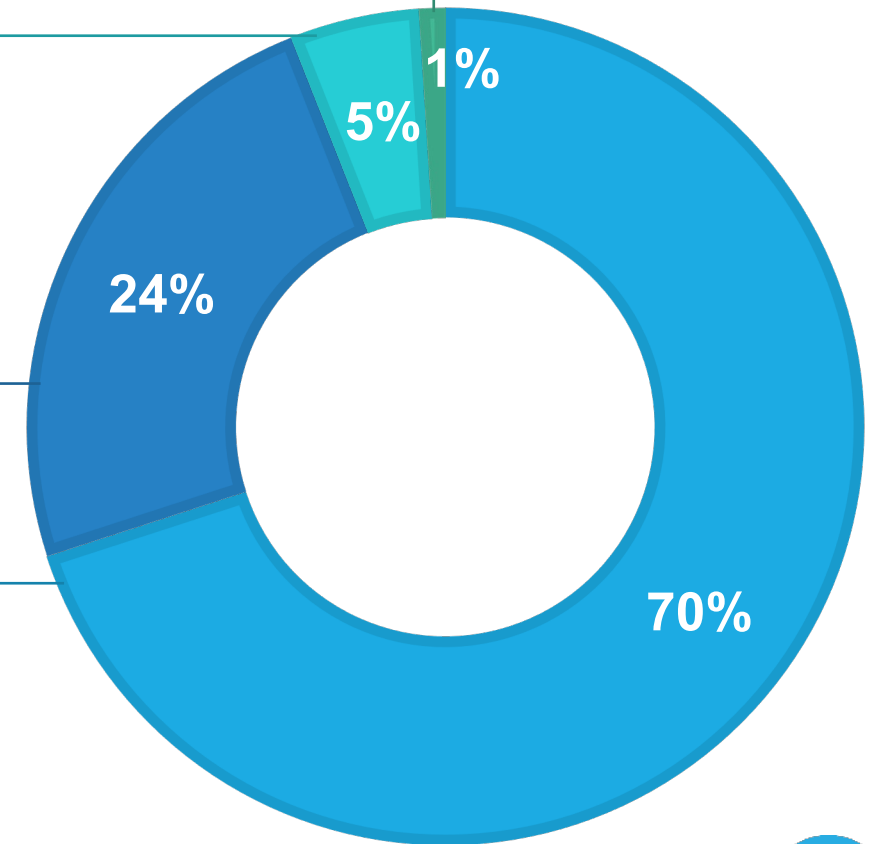
Repaired mains, services, valves, etc.

## 24% Unrecoverable background leakage

Seeps at joints and fittings

## 70% Unidentified leaks

Leaks that have not surfaced or been identified by leak detection



# Water Loss Review, Analysis & Optimization Report Recommendations

- ◆ Implement programmatic improvements to **proactive leak detection** activities
- ◆ Expand program currently underway to **replace poor performing water service lines**
- ◆ **Improve production meter accuracy** at the water treatment plants
- ◆ **Strengthen data validation** practices for large meters
- ◆ **Expand data management and analysis** tools across the water loss program
- ◆ **Improve estimates** of unbilled authorized consumption (e.g., water for flushing and fire fighting)
- ◆ **Implement training** for utility staff on reducing water loss during normal operations
- ◆ **Evaluate creating district metering areas (DMAs)** to pilot reducing water loss through pressure management



# Next Steps

- November 21<sup>st</sup> Request for Council Action
  - Contract for Large Diameter Water Main Leak Detection
- AW's Water Loss team will utilize the Effective Utility Management framework to implement recommendations from the report
  - Identify improvements that can be quickly implemented
  - Begin the process of implementing long-term recommendations
  - Provide regular reports to stakeholders



# Questions?



Austin  
**WATER**