Austin WATER

Advance Metering Infrastructure

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Presentation Outline

- Background – Water Advanced Metering Infrastructure
- AMI Program Alignment
- Project Drivers and Benefits
- AMI Program Progress Roadmap
- Project Challenges and Opportunities
- RCA Components
- Summary Key Points
- Next Steps

Background – Water Advanced Metering Infrastructure

Austin Water AMI Link

http://www.austintexas.gov/AMI

Austin WATER | ADVANCED METERING INFRASTRUCTURE AMI

Advanced Metering Infrastructure (AMI)

In January 2016, Austin Water launched its Advanced Metering Infrastructure (AMI) Steering Committee, charged with the responsibility of evaluating, recommending and directing actions to implement AMI for our service area. Austin Water (AW) is utilizing various technologies and innovative methods in managing the utility's infrastructure and continues to monitor several AMI pilot programs in leak management as well as meter data management systems to find the best quality smart meter and data analytics software for the utility and its customers.

Even though all water meters are still being manually read for billing purposes, Austin Water has been conducting several AMI pilot projects to study how AMI will change the behavior of utility customers and how to use AMI to improve Austin Water's customer services. The ability to try these new technologies in a low-risk situation and identify some of the issues that need to be addressed before Austin Water can transition to smart meters is invaluable.

Through these initial pilot programs, Austin Water has gained experience and knowledge in working with smart meter installation, communication, and data management. At the same time, we are tracking and learning from the experiences of other utilities as they also explore smart meter programs.

At the start of 2018, Austin Water began contract negotiations with consultant company, West Monroe Partners to provide consulting services for advance meter infrastructure program management, to guide the utility on developing a business case for meter upgrades.

Austin Water seeks innovative solutions to better serve our customers and protect our water supply. There are several strategic initiatives that will help us continue to provide superior service and ensure a reliable, high quality water supply for the future.

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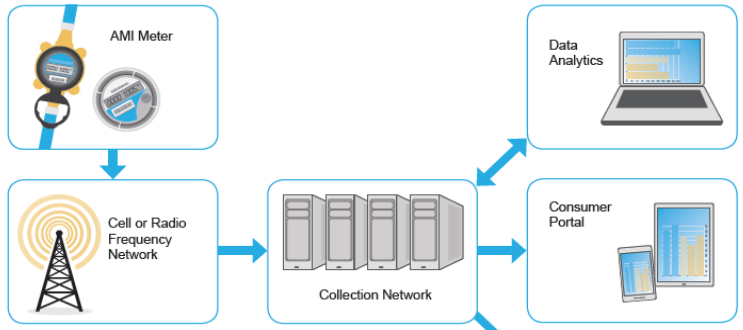
Advanced Metering Infrastructure (AMI)

Austin WATER



300 customers currently participating in residential pilot program

Monitoring several AMI pilot programs to find the best quality AMI meter and data analytics software for the utility and its customers.

Austin Water proposed **AMI Plan** is as follows:

phase 1	phase 2	phase 3	phase 4	phase 5
Preliminary Design	AMI Design	Contract Bidding	Large AMI Pilot	City Wide Implementation Target completion 2024*

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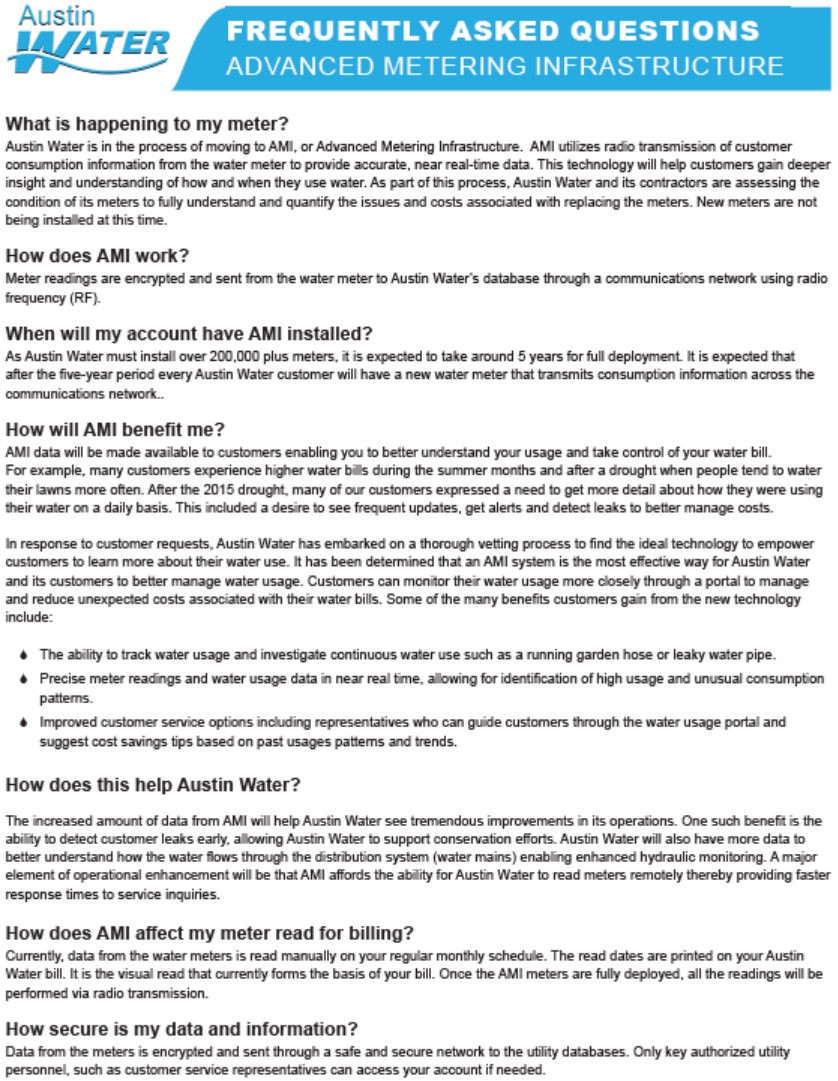
*Some phases may overlap

FAQs

- No new fees will be charged for installing a digital new meter.
- AW is not increasing rates during FY 2020 and no rate increase is proposed for FY 2021.
- Customer will get a new meter and access to a Customer Portal.



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FREQUENTLY ASKED QUESTIONS
ADVANCED METERING INFRASTRUCTURE

What is happening to my meter?
Austin Water is in the process of moving to AMI, or Advanced Metering Infrastructure. AMI utilizes radio transmission of customer consumption information from the water meter to provide accurate, near real-time data. This technology will help customers gain deeper insight and understanding of how and when they use water. As part of this process, Austin Water and its contractors are assessing the condition of its meters to fully understand and quantify the issues and costs associated with replacing the meters. New meters are not being installed at this time.

How does AMI work?
Meter readings are encrypted and sent from the water meter to Austin Water's database through a communications network using radio frequency (RF).

When will my account have AMI installed?
As Austin Water must install over 200,000 plus meters, it is expected to take around 5 years for full deployment. It is expected that after the five-year period every Austin Water customer will have a new water meter that transmits consumption information across the communications network..

How will AMI benefit me?
AMI data will be made available to customers enabling you to better understand your usage and take control of your water bill. For example, many customers experience higher water bills during the summer months and after a drought when people tend to water their lawns more often. After the 2015 drought, many of our customers expressed a need to get more detail about how they were using their water on a daily basis. This included a desire to see frequent updates, get alerts and detect leaks to better manage costs.

In response to customer requests, Austin Water has embarked on a thorough vetting process to find the ideal technology to empower customers to learn more about their water use. It has been determined that an AMI system is the most effective way for Austin Water and its customers to better manage water usage. Customers can monitor their water usage more closely through a portal to manage and reduce unexpected costs associated with their water bills. Some of the many benefits customers gain from the new technology include:

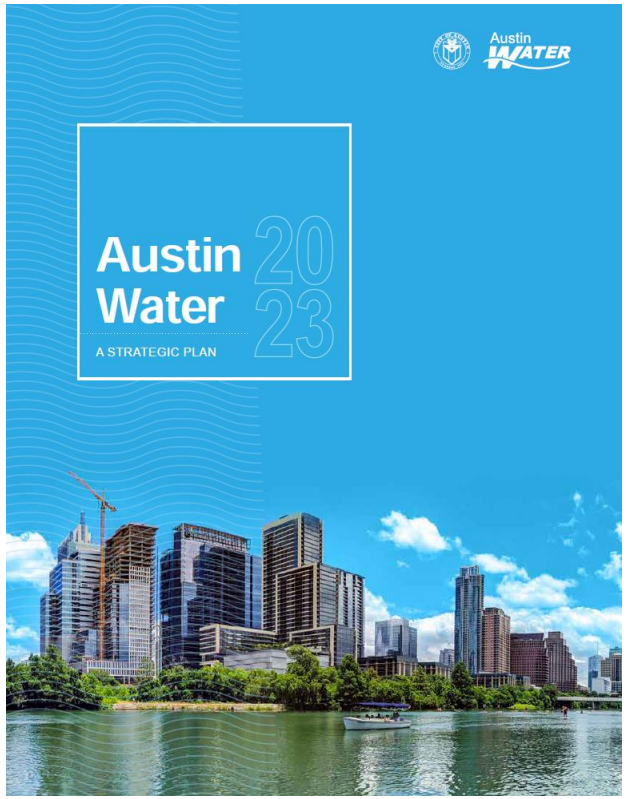
- The ability to track water usage and investigate continuous water use such as a running garden hose or leaky water pipe.
- Precise meter readings and water usage data in near real time, allowing for identification of high usage and unusual consumption patterns.
- Improved customer service options including representatives who can guide customers through the water usage portal and suggest cost savings tips based on past usages patterns and trends.

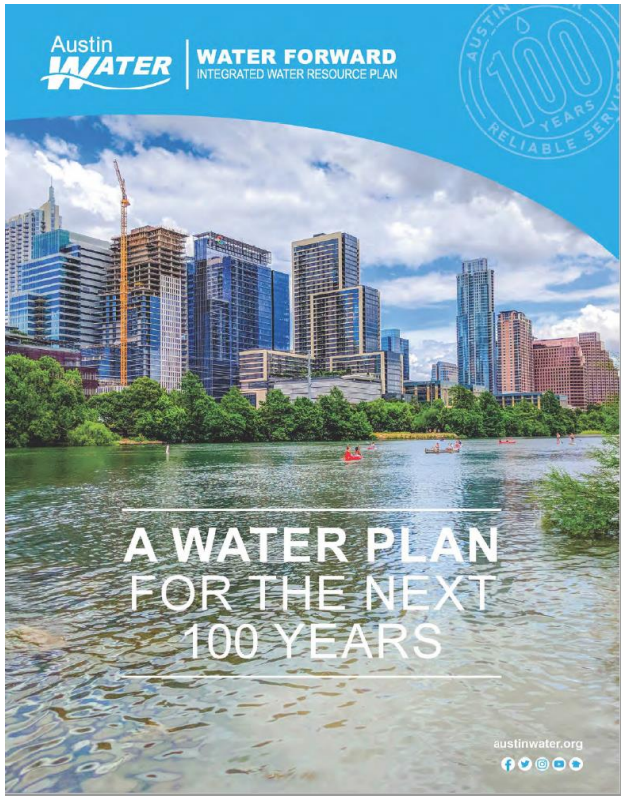
How does this help Austin Water?
The increased amount of data from AMI will help Austin Water see tremendous improvements in its operations. One such benefit is the ability to detect customer leaks early, allowing Austin Water to support conservation efforts. Austin Water will also have more data to better understand how the water flows through the distribution system (water mains) enabling enhanced hydraulic monitoring. A major element of operational enhancement will be that AMI affords the ability for Austin Water to read meters remotely thereby providing faster response times to service inquiries.

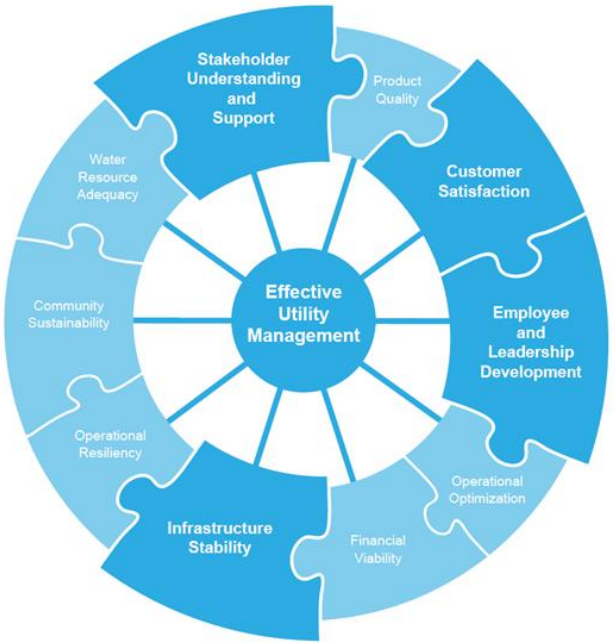
How does AMI affect my meter read for billing?
Currently, data from the water meters is read manually on your regular monthly schedule. The read dates are printed on your Austin Water bill. It is the visual read that currently forms the basis of your bill. Once the AMI meters are fully deployed, all the readings will be performed via radio transmission.

How secure is my data and information?
Data from the meters is encrypted and sent through a safe and secure network to the utility databases. Only key authorized utility personnel, such as customer service representatives can access your account if needed.

AMI Program Alignments







Program Drivers

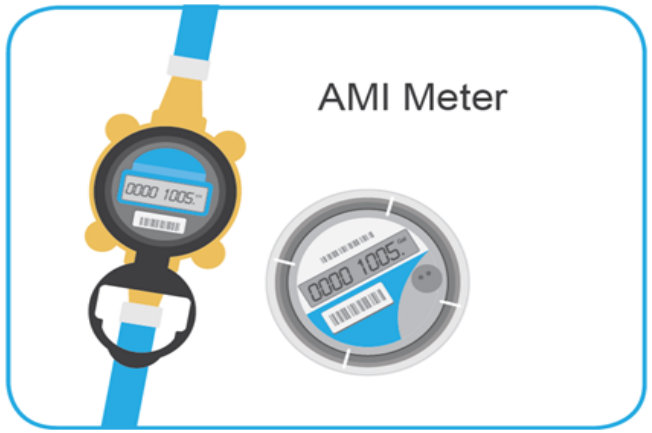
VISION

AMI will empower Austin to enable **Stronger, Service Centric, and Smarter** utility operations

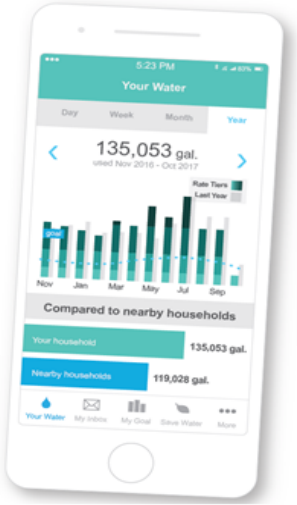
MISSION

AMI enables an **organizational transformation** that drives sustainable operations while **promoting conservation and efficiencies** throughout all areas

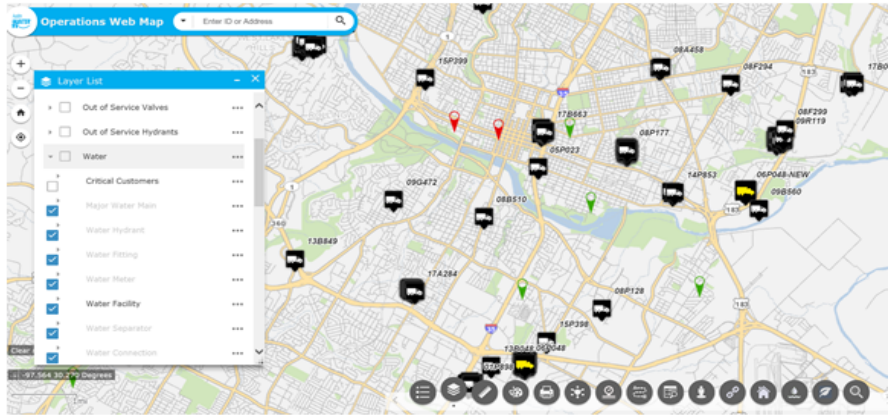
1 STRONGER



2 SERVICE CENTRIC



3 SMARTER



Infrastructure Stability and Security

Customer Satisfaction Stakeholder Understanding & Support

Employee & Leadership Development

Infrastructure Improvements

VISION

AMI will empower Austin to enable **Stronger, Service Centric, and Smarter** utility operations

MISSION

AMI enables an **organizational transformation** that drives sustainable operations while **promoting conservation and efficiencies** throughout all areas

STRONGER

- FINANCIAL SECURITY
- RESILIENCY
- METER ACCURACY
- ASSET MANAGEMENT

Infrastructure Stability and Security

Customer Satisfaction Stakeholder Understanding & Support

Employee & Leadership Development

Customer Experience

VISION

AMI will empower Austin to enable **Stronger, Service Centric, and Smarter** utility operations

AMI enables an **organizational transformation** that drives sustainable operations while **promoting conservation and efficiencies** throughout all areas

MISSION

SERVICE CENTRIC

- CONSERVATION
- AFFORDABLE
- INSIGHTS
- TRANSPARENCY
- ENGAGE & NOTIFY

Infrastructure Stability and Security

Customer Satisfaction Stakeholder Understanding & Support

Employee & Leadership Development

Smarter Operations

VISION

AMI will empower Austin to enable **Stronger, Service Centric, and Smarter** utility operations

AMI enables an **organizational transformation** that drives sustainable operations while **promoting conservation and efficiencies** throughout all areas

MISSION

SMARTER

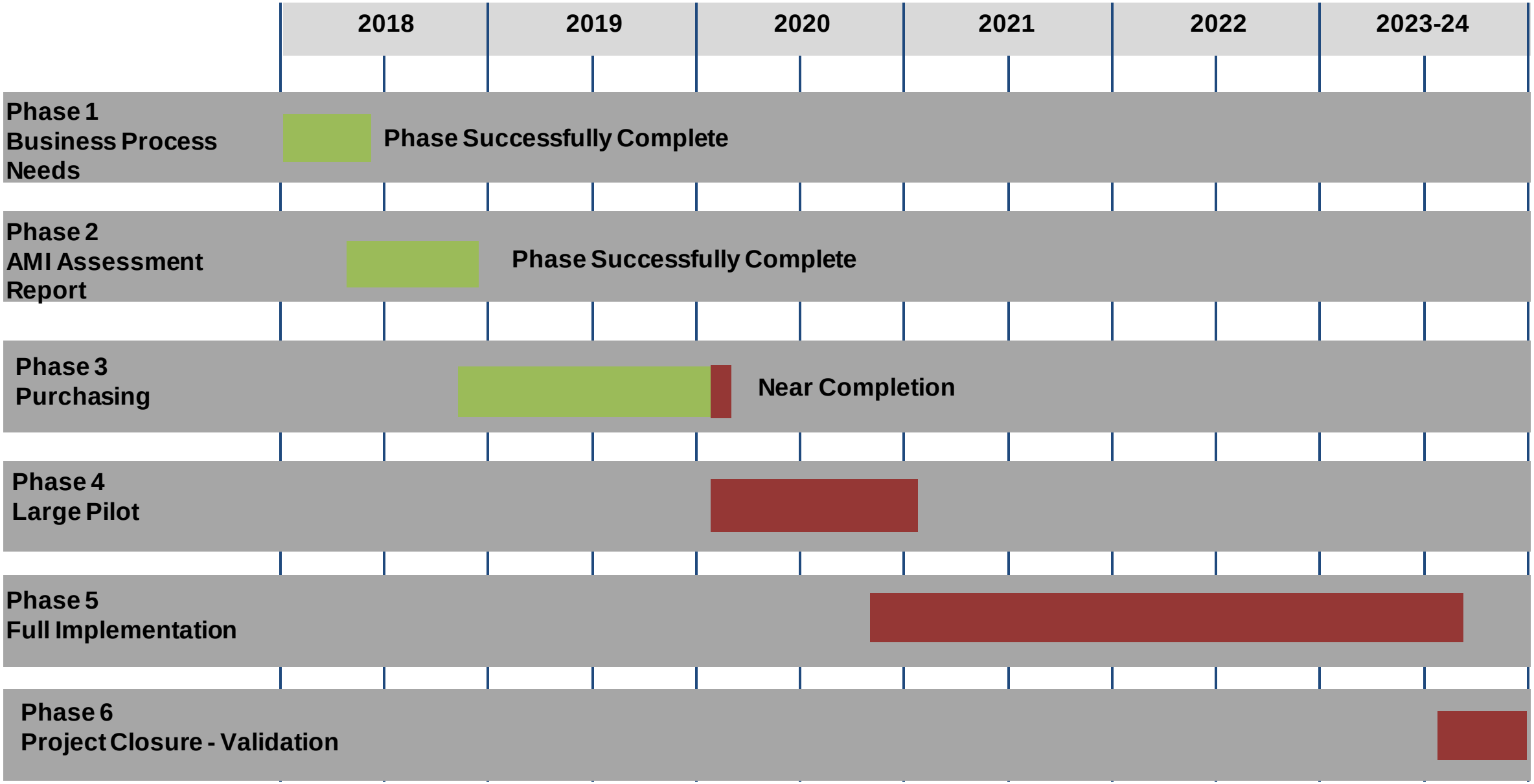
- CENTRALIZED DATA
- INNOVATION
- CONTINUOUS IMPROVEMENT
- WATER SMART GRID

Infrastructure Stability and Security

Customer Satisfaction Stakeholder Understanding & Support

Employee & Leadership Development

AMI Program Progress / Roadmap



Phase 1 and 2 Deliverables

30+ AW and AE Interviews	27 Workshops	28 Progress Meetings	16 Research Sessions
Individual	As-Is Process Workshops	Weekly Steering Committee Check-ins	Vendor Interviews
Group	To-Be Process Workshops	Extended Steering Committee Meetings	Vendor Follow-ups
Data Collection	Champions Innovation Forums	Quarterly Executive Team Meetings	"Buddy City" Meetings
BCA Validation	Communications Workshops	WWW Commission Meetings	

Phase 1 Deliverables

- Project Charter
- Communication Plan
- Strategic Plan
- AS-IS Workshop Output
- TO-BE Workshop Output
- Business Process Needs Assessment Report

Phase 2 Deliverables

- Customer Portal Summary
- AMI Business Case
- AMI Roadmaps, Validation Criteria Matrix
- Public Outreach Plan
- AMI Implementation Schedule and Long-term Support Plan
- Field Condition Assessment Report
- AMI Assessment Report (AMI-AR)

KEY PROJECT OPPORTUNITIES

Communication

Internal and external communications to maximize customer buy-in

Purchasing

Adhering to the tight purchasing guidelines to meet project schedule and cost

Systems Integration

Integrating IT systems across both AW and AE (such as CC&B)

Change Management

Preparing employees for the new AMI world through effective training and change agents

RCA Overview

Execution of three (3) contracts – $95 M

- Aclara Technologies 5-year including ($79.5 M)
  - Meter
  - Meter Installation
  - Data Platform
  - System Integration
- Aclara Technologies 10-year contract ($13.5 M)
  - Data Network Maintenance (NAAS)
- WaterSmart 5-Year contract ($ 2.0 M)
  - Customer Portal

MBE/WBE Participation Summary

RCA Backup

- AMI System Goals
  - MBE – 3.58%
  - WBE – 1.31%
- AMI System Compliance Plan
  - MBE – 18.84%
  - WBE – 32.41%
- Meter Installation Goals
  - Combined MBE/WBE – 1.76%
- Meter Installation Compliance Plan
  - WBE – 21.10%

AMI FINANCING

- TX Water Development Board SWIFT Loan: $80M
  - Loan Installments through 2023
  - Estimated Saving $5-7 M long-term debt
  - Council Approved $9.2 M AMI SWIFT loan
  - Request for $17M by Summer 2020
  - $18 M per year 2021-2023
- AMI funding included in the AW approved 5-year Capital Improvement Plan (CIP)

State Water Implementation Fund for Texas (SWIFT)

Texas Water Development Board

Water AMI Systems

Large AMI System Deployments - Aclara

- DC Water (130,000+)
- New York City DEP (835,000+)
- San Francisco PUC (170,000+)
- Missouri American Water (~340,000)
- Austin (~ 250,000)

Summary

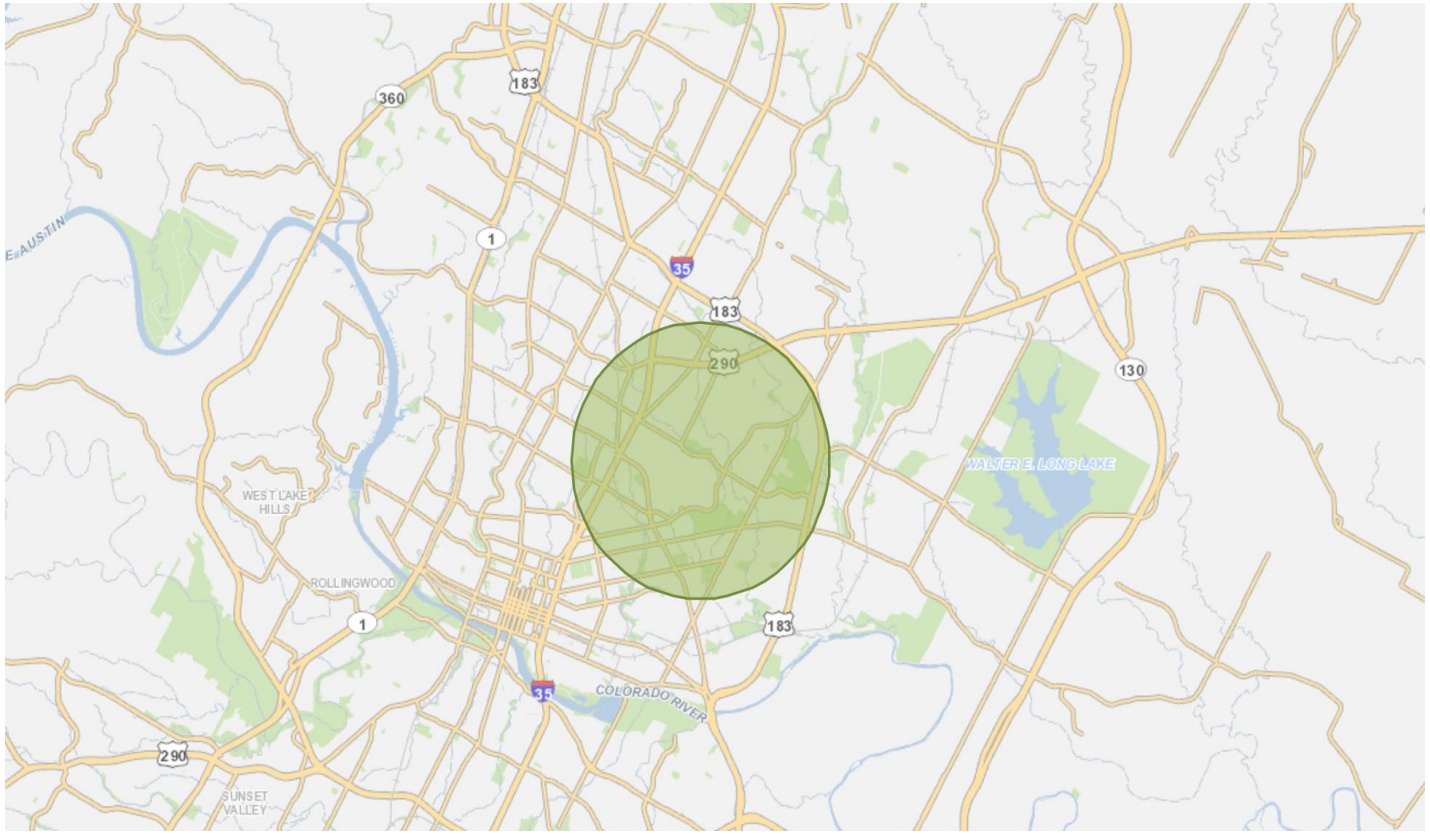
Key Points

- Austin Water Engaged Experts to Provide Best Practices in Water AMI.
- Recommend solution has been deployed successfully in several large water utilities
- Austin Water will continue to provide risk management strategies through continued governance and program management. Own AMI Network FCC license.
- Will continue to finance AMI with Water Development Board low interest loans
- RCA exceeded MBE/WBE goals for AMI network and meter installation.
- Additionally, just like we invest in our facility infrastructure, meter replacement investment will transcend any AMI vendor.
- Regular updates on program progress will be provided.

Next Steps

Oversight Briefing

- Large Pilot Area Update
- Features of System (Details)
- Update Communication Plan
- Staffing Plan
- AW AMI Website Update(s)



Sample Area

Questions?