



City Council Meeting Department of Public Works

Water Meter System Replacement Program

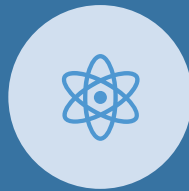
April 4, 2022



Agenda



INTRODUCTION TO WATER
METER TERMINOLOGY



METER HISTORY IN
NEWTON



PROPOSED METER
REPLACEMENT PROGRAM



QUESTION & ANSWER



Water Meter Terminology

Water Meter Terminology

- Water Meter
- Meter Transmission Unit (MTU)
 - Transmit readings at intervals to be read by drive-by or fixed network system
- Advanced Metering Infrastructure (AMI)
 - Real-time data and alerts for customer service
 - Billing Frequency
 - Two types: cellular and fixed network
- Data Processed & Billed



Meters

- Moving parts subject to wearing by friction
 - Residential and commercial
 - Irrigation or fire
 - Batteries for MIUs, lifespan of 15-20 years
- Results in loss of accuracy over time
- MassDEP recommends replacement every 10 years (5/8"-1" sizes)
- AWWA Accuracy Standards
 - New 95-101%, 5 yr. warranty (5/8"-1" sizes)
 - Repaired >90%, 10 yr. warranty from purchase date
 - Shorter warranties typically on older meters and also for commercial meters (sizes 1.5" and larger)



Meter History in Newton

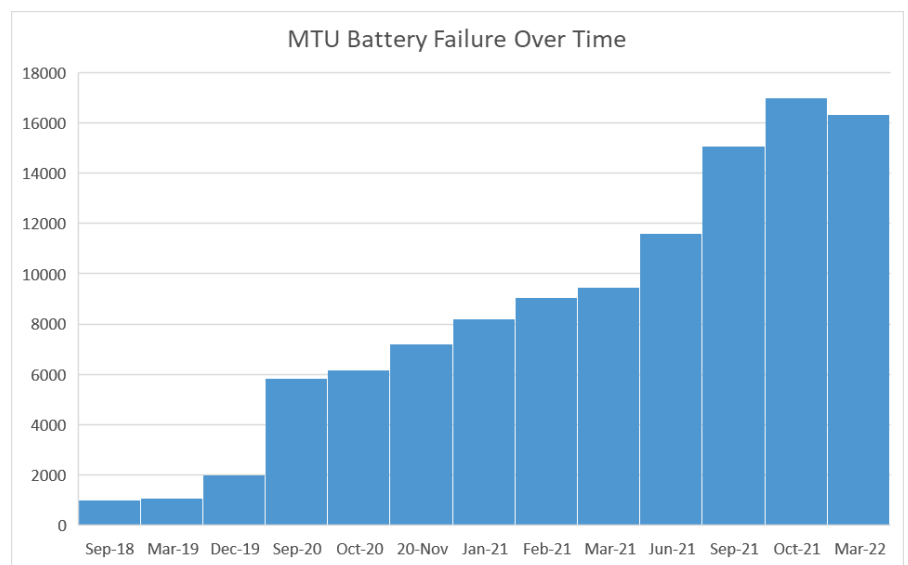
Water Meters by Size

- Current Meters by Size – Total 28,911 meters
 - 5/8": 17,716
 - 3/4": 5,933
 - 1": 4,216
 - 1.5": 479
 - 2": 449
 - Large Meters (3"+): 118
- Irrigation Meters: 3,900 approx.
- Current Annual MWRA Assessments
 - Water: \$13.78M
 - Sewer: \$22.49M



Water Meter History in Newton

- 2009 – Last replaced all water meters via contract installer
- 2012-2013 – Replaced all outside MIUs to increase range
- 2018 – MTU Failures Began



Proposed Meter Replacement Program

Benefits of a Meter Replacement Program

- Increased accuracy of new meters
 - Reduction of Unaccounted-for Water
 - Right-Size larger meters
- New Technology to Increase Reading & Billing Efficiency
- Standardization of all meters in Newton
- Installation program will locate and fix illegal/unregistered water connections.
- Customer Portal
 - Residents can track their own usage
- Backwards Compatibility



Meter Program Timeline

- Procurement of meters, MTUs and data collectors through cooperative bid immediately
- Meter Installation Procurement
 - Bids received and processed by June-July
- Installation Program
 - Public outreach, notices and scheduling begins in July
 - Installations begin in July-August 2022
 - Program substantial completion by December 2023



Installation Program At-a-Glance

- MGL Chapter 30, Section 39M bid package
- Includes the labor to install the meters and MTUs
 - DPW staff will assist with implementation to expedite
- Sealed bids where lowest price is chosen
- Minimum quality requirements to ensure a “responsible” bidder
- Technical specifications will identify steps and minimum criteria for a public outreach and scheduling program



Public Outreach

- Project Kickoff
 - Newspaper advertisement
 - Webpage dedicated for the project
- How to Schedule Appointments
 - Phone line
 - Webpage
 - Mailers = 2 minimum, at least 7 days apart
 - Property postings = 2 minimum
 - Handing unresponsive customers, denial, vacant properties
- Performing the work
 - Health and safety protocols
 - Sign and review work performed
 - Collect contact information



Records

- Database in excel format
 - Customer name, phone, email
 - Property address
 - Account number
 - Old/new meter
 - Size
 - Manufacturer
 - Serial numbers
 - Readings
 - Meter transmission units
 - Manufacturer
 - Serial numbers
 - Work performed
 - Photographs
 - Notes



Meter Program Cost

- Meters, MTUs & Fixed Network System: \$8.85M
- Installation Program: \$6M
- Engineering: \$0.19M
- Contingency: \$1.5M
- **Total Suggested Meter Program Budget: \$16.55M**



Q&A



THANK YOU

Ryan J. Trahan, P.E.
President | COO

