

Utility Vehicles: Model Your Ordinance, AMI Your Usage



Metra Richert

Unit Manager, Water
Supply Planning &
Conservation
Valley Water



David Siddiqui

Chief Executive Officer,
Green Evolution, LLC



Tom Francis

Water Resources
Manager, Bay Area
Water Supply And
Conservation Agency
(BAWSCA)

Moderator: Pedro Hernandez
City of San José





Model Your Ordinance

Ensuring New Developments are Built for the Future

May 29, 2019

Introductions

Metra Richert

Conservation Manager
Valley Water

David Siddiqui

Chief Executive Officer
Green Evolution

Background

- ▶ 2015 Formation of Santa Clara County Water Efficient New Development Task Force
- ▶ 2018 Valley Water procures technical assistance from Green Evolution
- ▶ 2019 Water Efficient New Development Model Ordinance completed
- ▶ Now Jurisdictions considering adopting and implementing ordinance



Scope of Model Ordinance

- Single-Family Residential
- Multi-Family Residential and Nonresidential
- Commercial Facilities
- Sale and Installation of Fixtures and Fittings
- Landscape Irrigation
- Swimming Pool and Spa Covers
- Designed to be easily customizable for each jurisdiction

Single-Family Residential Requirements

- ▶ Heating Water
 - ▶ Aligns with some 2019 Title 24 language, but more restrictive
 - ▶ Amends Title 24 in accordance with CBSC and CEC requirements
 - ▶ Cost-effectiveness analysis completed for all CA climate zones
- ▶ Graywater Ready
- ▶ Onsite Treated Nonpotable Water Systems



Multi-Family and Nonresidential Req's

- ▶ Exterior Faucet Locks
- ▶ Water Meters
- ▶ Cooling Towers
- ▶ Alternate Water Sources
 - ▶ Recycled Water
 - ▶ Onsite Treated Nonpotable Water Systems



Commercial Facilities

- ▶ Manually operated toilets and faucets
- ▶ Water efficiency in commercial kitchens



Sale and Installation of Fixtures + Fittings

- Requires the sale and installation of only plumbing fixtures and fittings in compliance with the most stringent appliance water efficiency standards
- Applies to retail establishments regarding sale
- Applies to plumbers, contractors, and service providers regarding installation



Landscape Irrigation

- ▶ Water Meters
- ▶ Irrigation Controllers
- ▶ Irrigation Nozzle Maximum Precipitation Rate
- ▶ Irrigation Audits



Swimming Pool and Spa Covers

- Aligns with 2019 Title 24
- Also covers swimming pools and spas not covered by 2019 Title 24





What's Next

- ▶ Jurisdictions adopt and implement!
- ▶ We are here to help jurisdictions with the process
- ▶ **Contact us** if you are interested

Thank You

Metra Richert

Unit Manager, Water Supply Planning & Conservation

Valley Water

(408) 630-2978

mrichert@valleywater.org

David Siddiqui

Chief Executive Officer

Green Evolution

(510) 908-4092

David@GreenEvolutionConsulting.com



“A multicounty agency authorized to plan for and acquire supplemental water supplies, encourage water conservation and use of recycled water on a regional basis.”

[BAWSCA Act, AB2058 (Papan-2002)]

Rains to Bay Conference

Sustainable Silicon Valley

May 29, 2019

BAWSCA Member Agencies

Alameda County

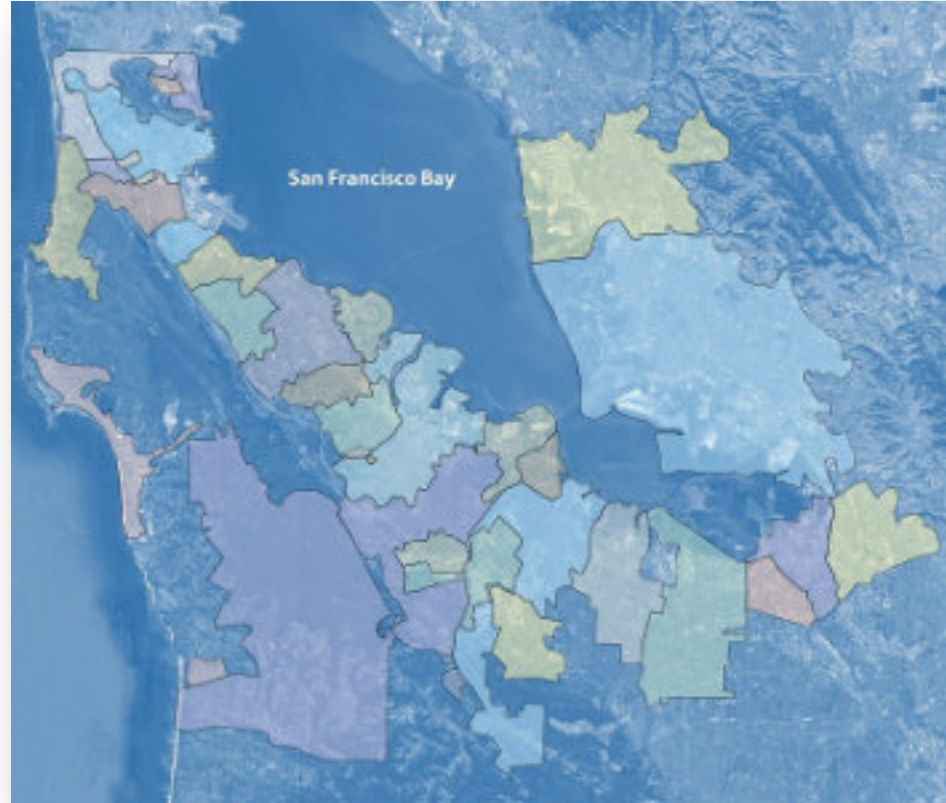
- Hayward, Alameda County Water District

Santa Clara County

- Milpitas, San Jose, Santa Clara, Sunnyvale, Mountain View, Palo Alto, Purissima Hills W D, Stanford University

San Mateo County

- East Palo Alto, Menlo Park, Redwood City, Cal Water Service Company, Mid-Peninsula WD, Coastside CW D, Foster City (Estero), Burlingame, Hillsborough, Millbrae, San Bruno, Brisbane, Guadalupe Valley MID, North Coast CW D, Westborough CW D, Daly City



Important Components of an AMI System

- ✓ Meters
- ✓ Data transmitters
- ✓ Network infrastructure
- ✓ Communications (hardware, software) integration with existing systems that rely on meter data (e.g., billing)
- ✓ User interface software for end users
 - Agency staff
 - Agency customers



METERS & ENCODERS



ENDPOINTS



DATA COLLECTION



SYSTEM MANAGEMENT



CONSUMER ENGAGEMENT

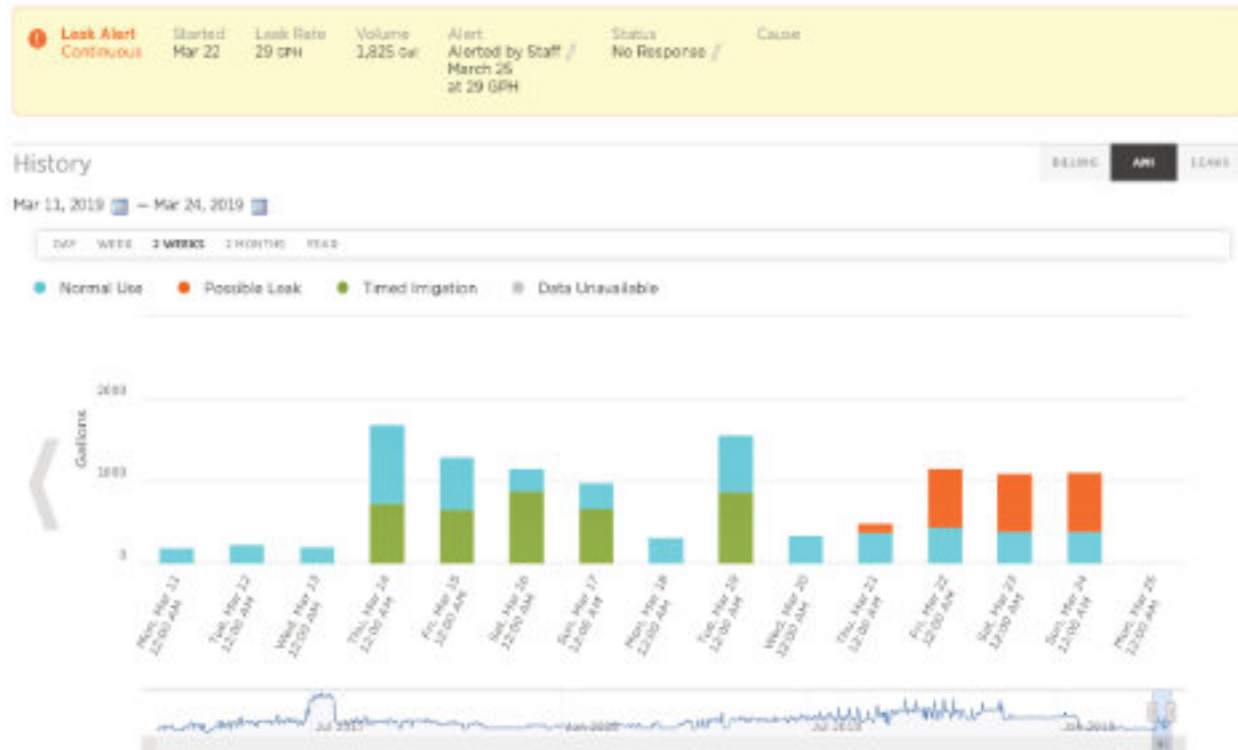
AMI Can Provide Multiple Benefits for Utilities and Customers

- Examples of routine reports from AMI systems include:
 - Low flow leaks
 - Continuous high consumption events
 - Consumption profiles and trends (by season, week day, rate class, customer type, and/or any user-specified collection of meters)
 - Usage on “inactive” accounts / automatically generate alerts and notifications
 - Potential underperforming meters
 - Analysis for water theft, use after shut-off, and reverse flow
 - Intermittent backflow situations
 - Accounts where usage violates a temporary restriction
 - Consumption trends

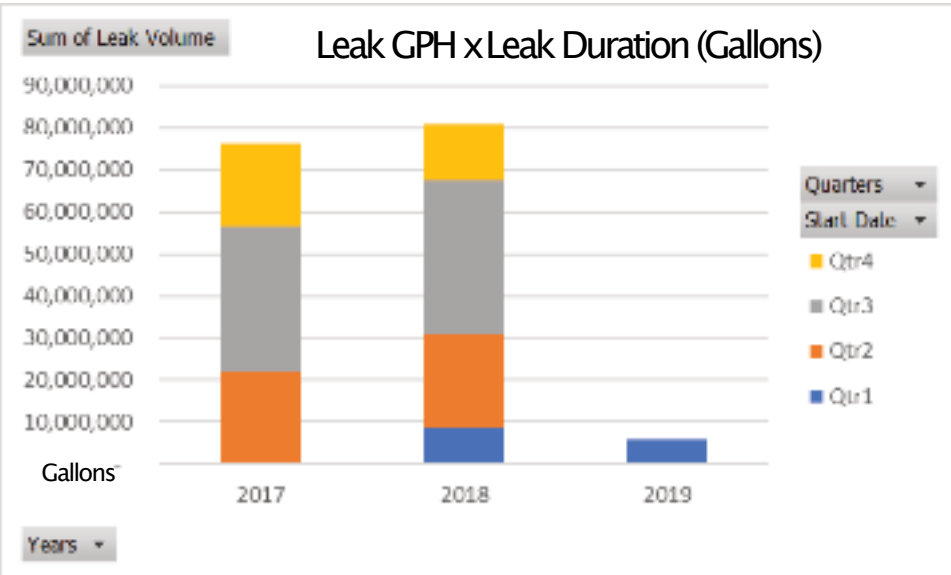
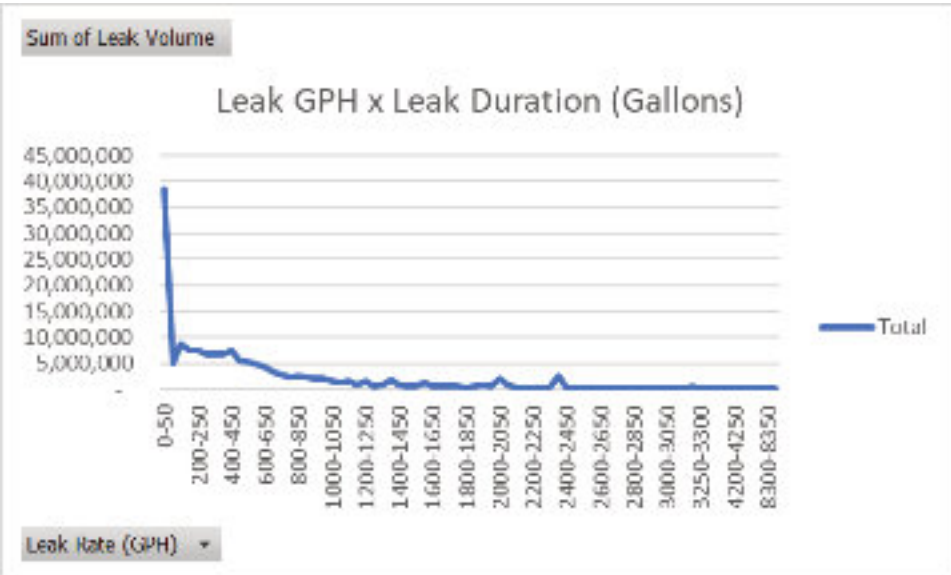
Case Study: Town of Hillsborough

Implemented AML for:

- Private Side Leak Alerts
- High Bill /Water Use Inquiries
- Customer Contact Information for Service Issues
- Drought Preparation



Town of Hillsborough Leak Data Analysis



Years	Alerted by Staff	Email	Email & Text	Not Alerted	Text	Voice	Grand Total
2017	970	1,094	266	10,542	21	2	12,895
2018	425	2,211	490	8,508	72	1	11,707
2019	79	366	69	580	19		1,113
Grand Total	1,474	3,671	825	19,630	112	3	25,715

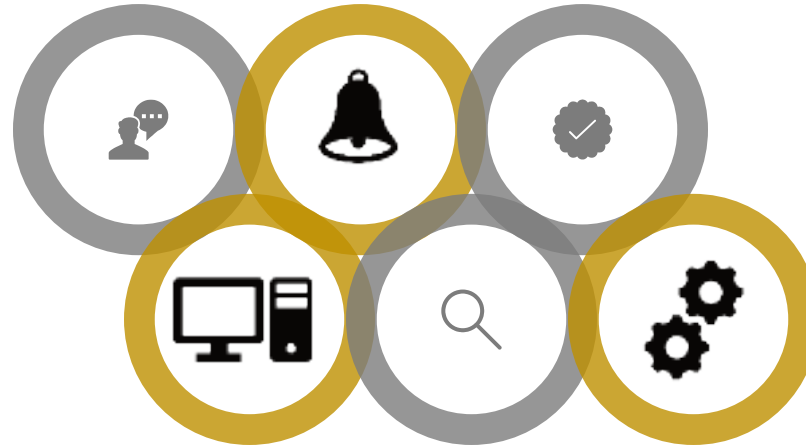
Case Study: Coastside County Water District

Monthly billing

Consistent number of days in each billing cycle

Provide more flexibility for distribution operators to work on special projects and routine maintenance

Better data for real water loss understanding and water audits



Better understanding of consumption patterns and better data for rate studies

Provide customer portal with water usage data

Help customers prevent high bills from leaks and over irrigation

Better comparison between monthly production data and monthly consumption data

Opportunities for Utilities to Expand Use of the Capabilities of their AMI System(s)

- For many utilities, AMI primarily used for simple meter reading or billing
- Underutilization due to:
 - AMI technology integration takes focused work with supplier
 - Limited staff time
 - Testing & data crunching requirements present hurdles
- Untapped opportunity since:
 - AMI can provide data that in turn helps better manage water systems
- Suggestion = start small:
 - Identify reporting that is needed; work to automatically “mine” AMI data for such reporting (and become more familiar with the process)

BAWSCA and Valley Water Collaborating to Support Member Agency AMI Work

- Interest

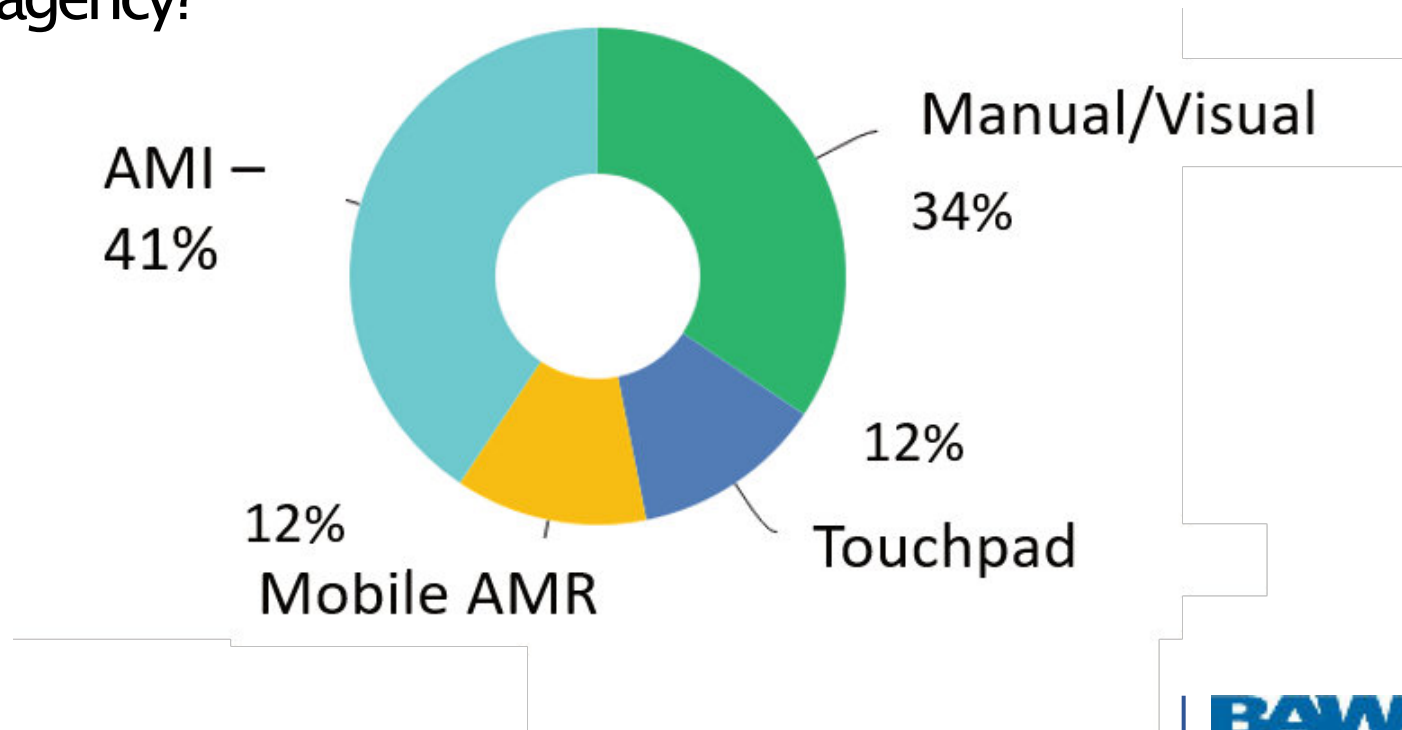
- Many BAW SCA member agencies as well as SCW D wholesale agencies are either implementing AMI or will soon embark upon AMI programs

- Joint AMI Assessment and Workshop

- Purpose = to identify potential AMI work efforts of interest and opportunities for regional coordination
- Agency survey results presented at AMI Workshop
- Opportunities identified for regional collaboration on AMI implementation

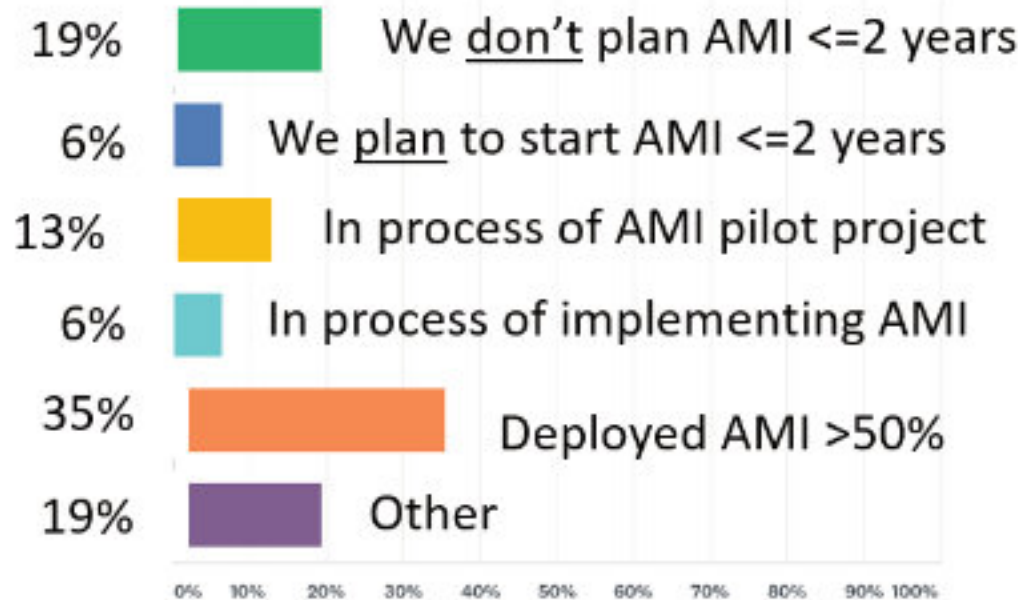
41% of BAWSCA and Santa Clara Agencies Currently Use AMI for Meter Reading Method

What is the predominant (>50%) meter reading method for your agency?



Most BAWSCA and Santa Clara Agencies Planning to Implement AMI

What is the status of AMI implementation for your agency?



Interest in Collaboration on Research, Analysis, Reporting, and Purchasing

Question Posed = Which of the following AMI and related areas are you interested in working on with other agencies in the next 2 years?



Opportunities for Regional Collaboration

1. Information sharing among agencies
 - Regional database of RFPs and studies
2. Potential for group procurement among small groups of agencies in similar stages of AMI implementation for
 - Joint RFQ for those agencies in planning stages
3. Leverage collective voice to seek changes from AMI vendors
4. Explore opportunities to expand uses of AMI data beyond conservation for additional value to agencies
 - Managing peaks
 - Engineering and planning – CIP
 - Evaluation of agency water-savings programs

Utility Vehicles: Model Your Ordinance, AMI Your Usage



Metra Richert

Unit Manager, Water
Supply Planning &
Conservation
Valley Water



David Siddiqui

Chief Executive Officer,
Green Evolution, LLC



Tom Francis

Water Resources
Manager, Bay Area
Water Supply And
Conservation Agency
(BAWSCA)

Moderator: Pedro Hernandez
City of San José

