



ALLIANCE FOR WATER EFFICIENCY

WATER EFFICIENCY & CONSERVATION SYMPOSIUM 2025

AUGUST 6-8, 2025 | CHICAGO, IL

AMI in Action: Empowering Customers, Enhancing Enforcement

Room 400 9:45 – 11:30am



Part 1: Data-Driven Outreach: Expanding AMI Portal Engagement Across Communities



Yoppify Spotlight

Matthew Olsen

Co-Founder and CTO, Yoppify



FROM AMI TO ACTION

Yoppify's proactive approach to leak notification helps residents resolve leaks more quickly, conserves water, and reduces the burden on agency staff.



Proactive Leak Alerts

How it Works

1. Data Integration

Yoppify integrates with AMI system to flag accounts with potential leaks and classifies them by severity—low, medium, or high.

2. Custom Workflows

You control the follow-up. Each leak level is tied to a custom messaging sequence designed by your agency. Messages are spaced out to give residents time to resolve issues before more reminders are sent.

3. Streamlined Follow-Up

Messages can be queued in minutes. Yoppify automatically pauses alerts once a leak is fixed—so no staff time is wasted chasing problems that are already resolved.

Leak Level	Moderate	message 1 14 days message 2	11-21 gph
	Significant	message 1 14 days message 2 30 days message 3	22-49 gph
	Major	message 1 7 days message 2 14 days message 3 30 days message 4	50+ gph

Boosting engagement with water consumer portals

Justin Keller

Strategist, Water Programs, Elevate



Empowering Residents, One Leak at a Time

Boosting engagement with water consumer portals



ELEVATE

Agenda

- About Elevate
- Project Background
- Utility Overview
- Outreach Strategy

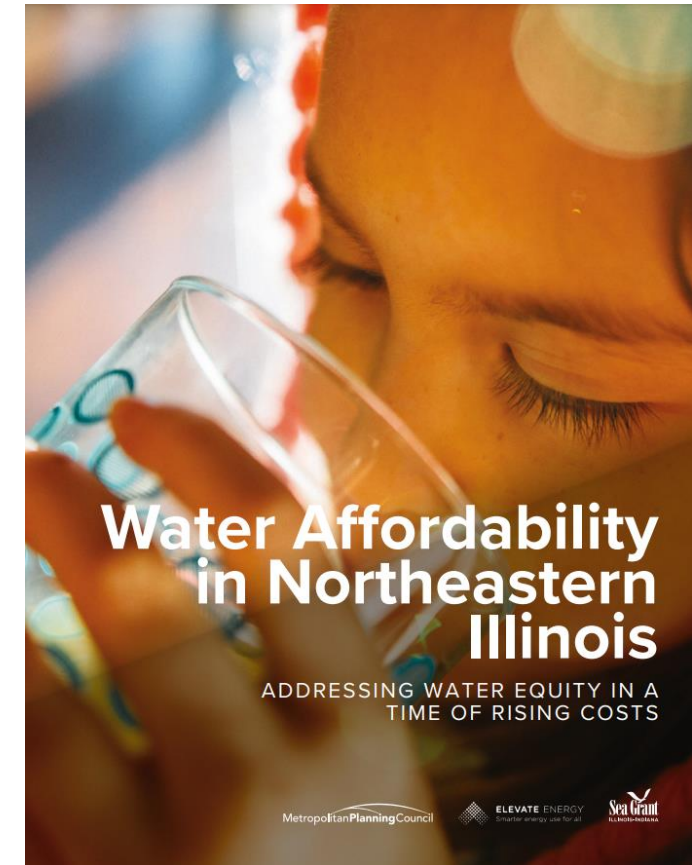
About Elevate

- Elevate is a 501(c)(3) nonprofit organization that works nationally and is headquartered in Chicago
- Elevate seeks to create a just and equitable world in which everyone has clean and affordable heat, cooling, power, and water in their homes and communities—prioritizing frontline communities



Elevate's Water Affordability Journey

- **2019** – published report in partnership w/ MPC & Illinois-Indiana Sea Grant, analyzing water affordability challenges across NE Illinois
- **2020-21** – partnered with Chicago & Evanston to understand the scale and scope of water affordability challenges for their residents
- **2022-23** – partnered with Broadview & Harvey to explore water affordability challenges with additional municipalities
- **2024-26** – Collaborating with Cook County (IL) to launch the Cook County Water Affordability Program to assist suburban residents



Visit: ElevateNP.org/Water-Affordability

2024-25 – Implementation Assistance

Support an existing or new municipal partner to implement a water affordability best practice:

- Possible projects include the development of a plan to implement an improved billing and customer management system that increases flexibility for payments, exploration of water rate options that improve affordability, and/or development of a leak alert system to help prevent water bills from spiraling out of control
- This work was supported by the **Mott Foundation** and the **Joyce Foundation**

Utility Overview

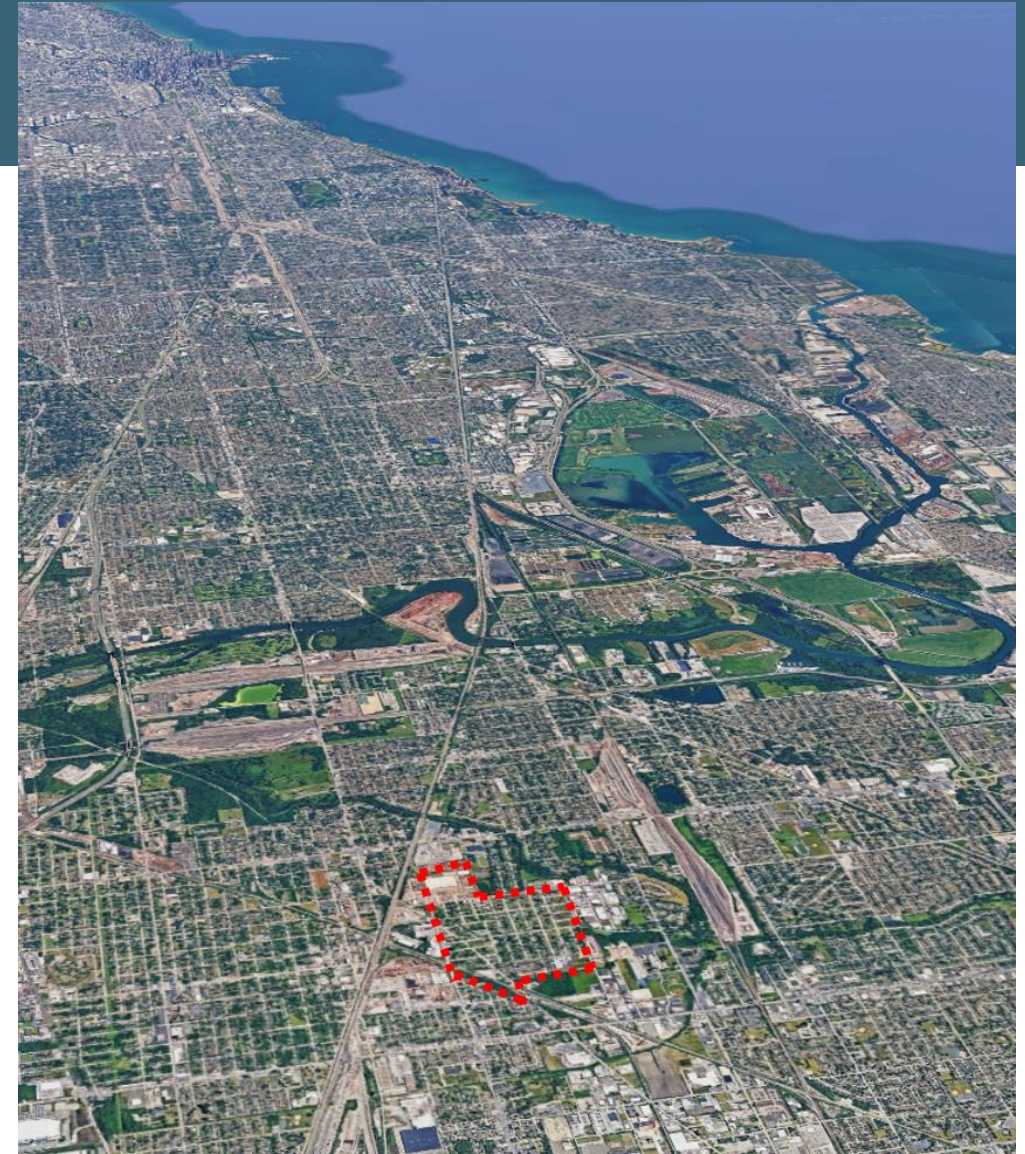
Analysis of audience and existing communications channels



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Village of Phoenix, Illinois

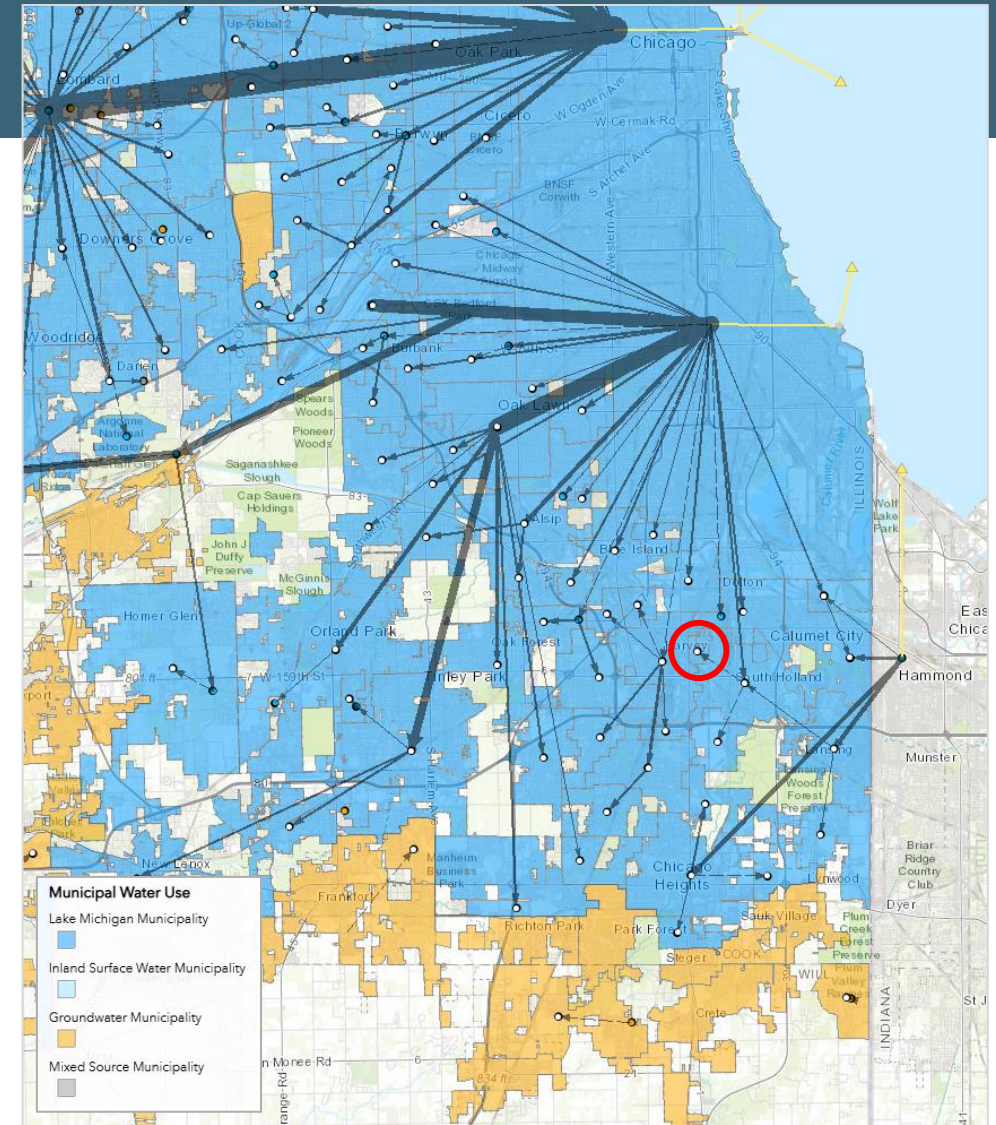
- 18 miles south of downtown Chicago, 5 miles west of IN border
- Nickname: “9 blocks”
- Population: 1,284
 - down from peak of 4,203 in 1960
- Neighbors:
 - Harvey – historically heavy manufacturing and industrial
 - South Holland – mostly residential and light industrial



Source: Google Maps

Phoenix Water

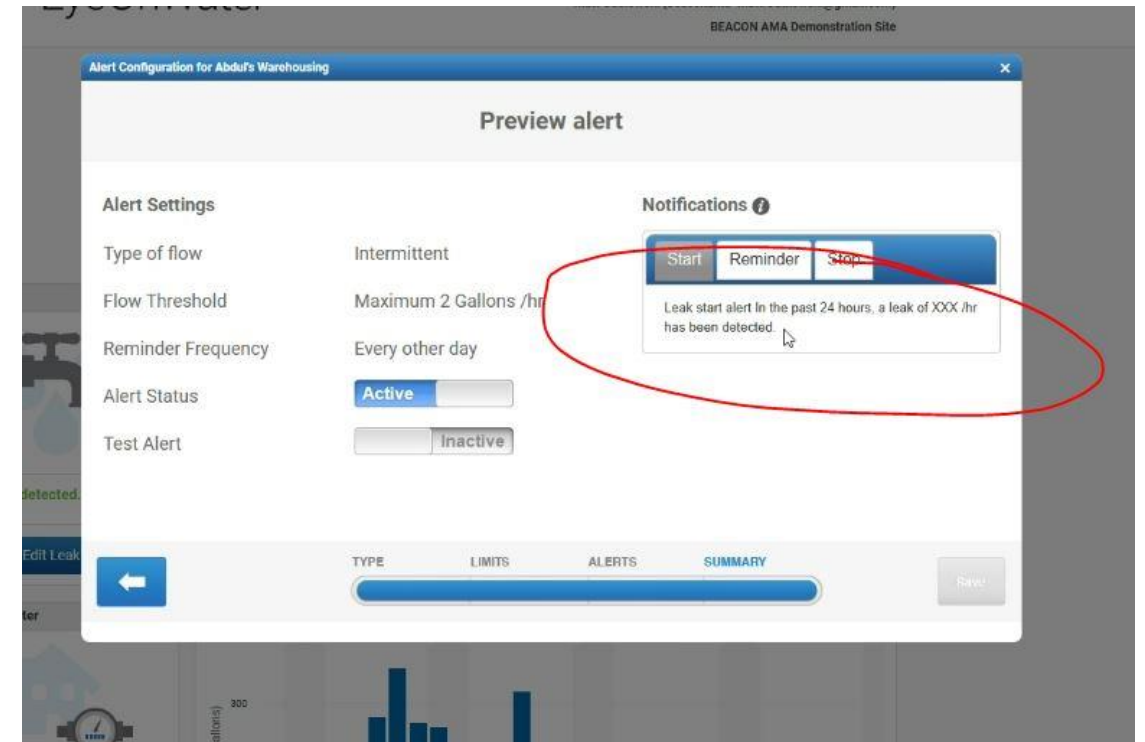
- Purchases treated Lake Michigan water from South Holland
- AMI (Badger Meter) w/ *EyeOnWater* consumer portal
- Retail connections: 583
- *EyeOnWater* subscribers: 0
 - Clerk pulled reports and called people with possible leaks



Source: Illinois State Water Survey

Phoenix's Leak Alert Goals

- **For residents**
 - Help identify and fix leaks
 - Keep water bills affordable
 - Increase on-time payment
- **For utility**
 - Stay current on bills from provider
 - Save admin time and resources
 - Focus on other municipal priorities



Source: Midwest Meter

Context: Illinois Lake Michigan Permittees

Applicants in Categories IA and IB shall limit non-revenue water so that it is less than 12% of net annual pumpage in Water Year 2015, decreasing to no more than 10% by Water Year 2019 and all years thereafter. Applicants whose non-revenue water exceeds the non-revenue thresholds (12% in Water Year 2015, decreasing to 10% in Water Year 2019) shall submit a water system improvement plan that outlines the actions the applicant plans to undertake, along with a timeframe, to reduce non-revenue water to less than the thresholds outlined in this subsection.

Notes:

- Cat. IA = Lake Michigan permittees “whose future or continued use of Lake Michigan water is the most economical source of supply”
- Cat. IB = Lake Michigan permittees “whose use of Lake Michigan water would reduce the regional use of the deep aquifer”
- Non-Lake Michigan permittees = no limits on non-revenue water

Source:

Illinois Administrative Code, Title 17: Conservation, Chapter 1: Department of Natural Resources, Subchapter h: Water Resources, Part 3730: Allocation of Water from Lake Michigan

Outreach Strategy

Supporting Phoenix, Illinois, with best practice implementation



ELEVATE

Communications Materials

Village's meter vendor estimates subscription rates <10% for most utilities but higher where consumer portal is regularly promoted

Elevate worked with Phoenix to develop:

- Flyer
- Magnet
- Website content
- Press release



Source: Midwest Meter

Single-sided, Bilingual Flyer

- **Goal**
 - Call to action
 - Simple instructions
 - Who to contact for more info
 - English and Spanish
- **Distribution**
 - Print newsletter
 - Village Hall and events
 - Doorknocks



Dive in! Sign up for an EyeOnWater account for automatic, 24/7 leak alerts that can save you money by eliminating leaks.

Problem: Previously, you found out you had a leak when you received an expensive water bill.

Solution: Phoenix's investment in modern water metering technology allows you to **sign up for leak alerts and monitor your water usage**—potentially saving you money.

¡Inscríbese hoy! Cree una cuenta EyeOnWater para recibir alertas automáticas de fugas de agua las 24 horas del día, los 7 días de la semana, que podría permitirle ahorrar dinero.

Problema: antes, se enteraba de que tenía una fuga cuando recibía una factura de agua muy cara.

Solución: la inversión de Phoenix en tecnología moderna de medición del agua le permite **inscribirse para recibir alertas de fugas y controlar su uso del agua**, lo que potencialmente le ahorrará dinero.

How?

1. Access the EyeOnWater suite of tools through the website or with the downloadable smartphone app.
2. Sign up for leak alert notifications and monitor your household's water usage data, so you can identify and address leaks quickly.
3. Sign up now at: EyeOnWater.com/signup

¿Cómo?

1. Acceda al conjunto de herramientas de EyeOnWater a través del sitio web o la aplicación para teléfonos inteligentes.
2. Inscríbese para recibir notificaciones de alerta de fugas y controle los datos de uso del agua de su hogar para poder identificar y solucionar las fugas rápidamente.
3. Inscríbese ahora en EyeOnWater.com/signup

We're Here to Help!

¡Estamos aquí para ayudar!

For help, visit the Village Hall or give us a call.
Para obtener ayuda, visite el Village Hall o llámenos.

Village of Phoenix, 633 East 151st St.
Phoenix, IL 60426
(708) 331-2636
info@villageofphoenix.org



Scan QR Code

This project supported by



ELEVATE
Equity through
climate action

4"x4" Refrigerator Magnet

- **Goal**
 - Call to action
 - QR to **municipal website**
 - Who to contact for more info
 - “Stick around” (i.e., longevity)
- **Distribution**
 - Doorknocks
 - Village Hall and events



Website Content

- **Goal**
 - Call to action
 - Simple instructions + video
 - Note: Chose not to offer bilingual content since rest of website only English
- **Distribution**
 - Landing page for QR code

About EyeOnWater:

Phoenix residents can sign up for leak alerts and monitor their water usage due to the Village's investment in modern water metering technology, EyeOnWater.

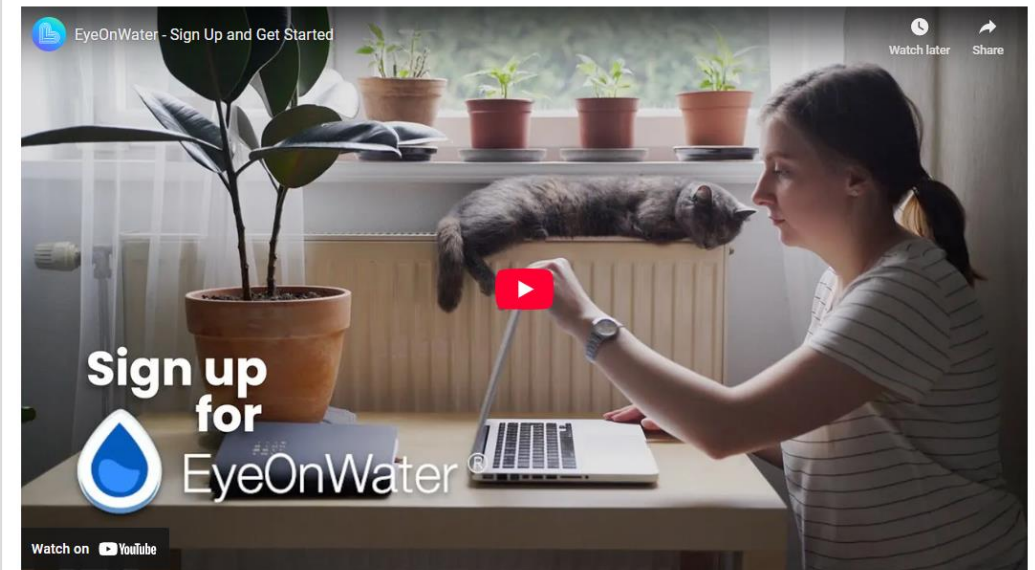
Previously, you may have found out about a leak when you received an unusually expensive water bill in the mail. With an EyeOnWater account, you can sign up to receive automatic 24/7 leak alerts which can help you identify leaks more quickly so you can make repairs before extra charges flood in. To sign up for an account, visit EyeOnWater's website: EyeOnWater.com/signup.

How to Sign Up:

You'll need to provide your address to create a profile, then enter your phone number and/or email to sign up for leak alerts.

If you have any questions or need help setting up your EyeOnWater account, please stop by Village Hall or call us at: (708) 331-2636

Here is a video tutorial that can guide you through the sign-up process:



Press Release

- **Goal**
 - Low cost & broad reach
 - Encourage younger residents to assist older neighbors and family
- **Distribution**
 - Sent press release to various outlets
 - Picked up by Harvey World Herald

HARVEY WORLD HERALD

EyeOnWater helping Phoenix residents avoid high water bills by spotting leaks

Developed by a climate and energy-focused nonprofit, the free online tool allows users to track water usage and set up leak alerts.

BY AMETHYST J. DAVIS • THE LAND • JULY 30, 2025



"We want you to pay your water bill, but my main concern is for the residents to stop the bleeding," Phoenix village trustee Eric McCullar said. Shown June 2, 2025. HWH / Amethyst J. Davis

Source: Harvey World Herald

Takeaways

1. **Get Creative:** Phoenix considered a range of resources before arriving at a strategy that was right for their community. They utilized standard forms of communication, including flyers and the municipal website. They also chose to use refrigerator magnets, assuming they would serve as a longer lasting reminder.
2. **Consider Your Audience:** Because of the Village's high percentage of older residents, they collaborated with Elevate on a press release to make people aware of the consumer portal and encourage younger residents to assist neighbors and family.
3. **Balance Your Needs:** The suite of communications materials reflected the needs of the community while balancing cost, effectiveness, and ease of implementation.

Acknowledgements



Municipal Partners

- Mayor Terry Wells
- Clerk Patricia Harris
- Trustee Erik McCullar
- Antonio Cooper, Village Administrator

Vendor Support

- Tim O'Connor, Sales Executive, Midwest Meter
- Josh Baker, Certified Distributor Trainer, Midwest Meter

Elevate Project Team

- Kayleigh Padar, Communications Associate
- Alejandra Flores, Senior Director of Strategic Communications
- Justin Keller, Water Programs Strategist

Funding Support

- Charles Stewart Mott Foundation
- Joyce Foundation

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@ElevateNP



ELEVATE

Mapping the Impact: Analyzing Participation in Customer Portals

Madeline Wood & Donna DiLaura

Water Conservation Analyst, City of Santa Barbara

External Affairs and Sustainability Manager, Walnut Valley Water District





PUBLIC WORKS DEPARTMENT

WATER RESOURCES DIVISION - WATER CONSERVATION

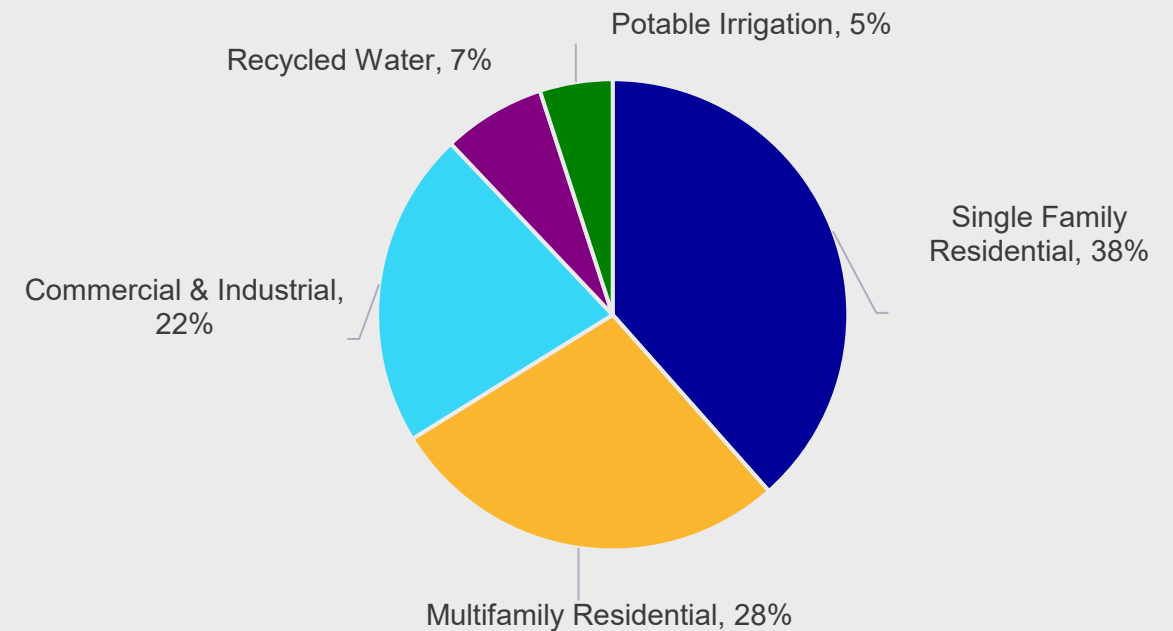
DATA-DRIVEN OUTREACH

EXPANDING AMI PORTAL ENGAGEMENT ACROSS COMMUNITIES

Madeline Wood, City of Santa Barbara

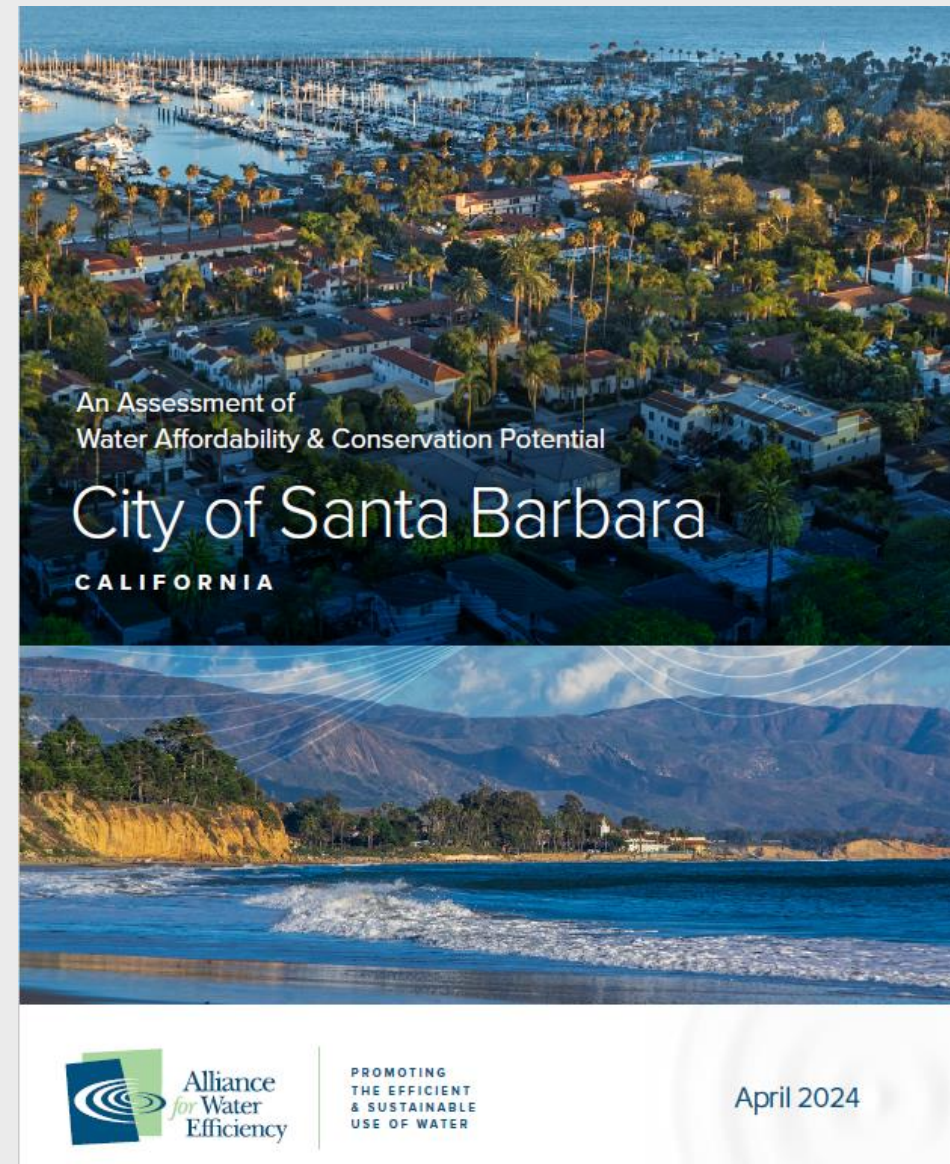
About Us

- 93,800 population
- 20 square miles
- 27,500 connections
- AMI Deployed March 2024



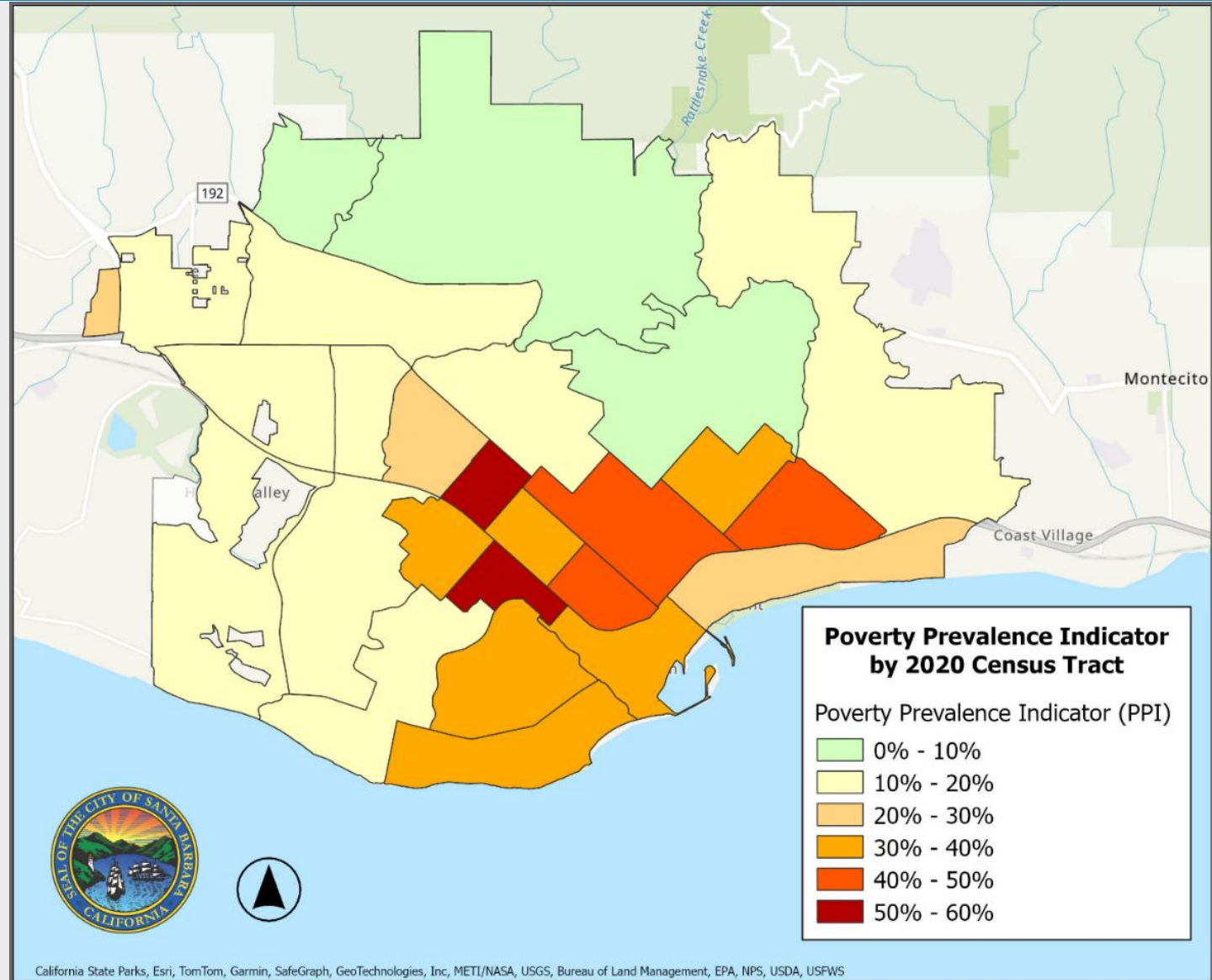
Background

- Spring 2024: Assessment of Water Affordability and Conservation Potential with AWE
- Analyzed both Single and Multi Family Residences
- Study found that several census tracts were more burdened by water affordability



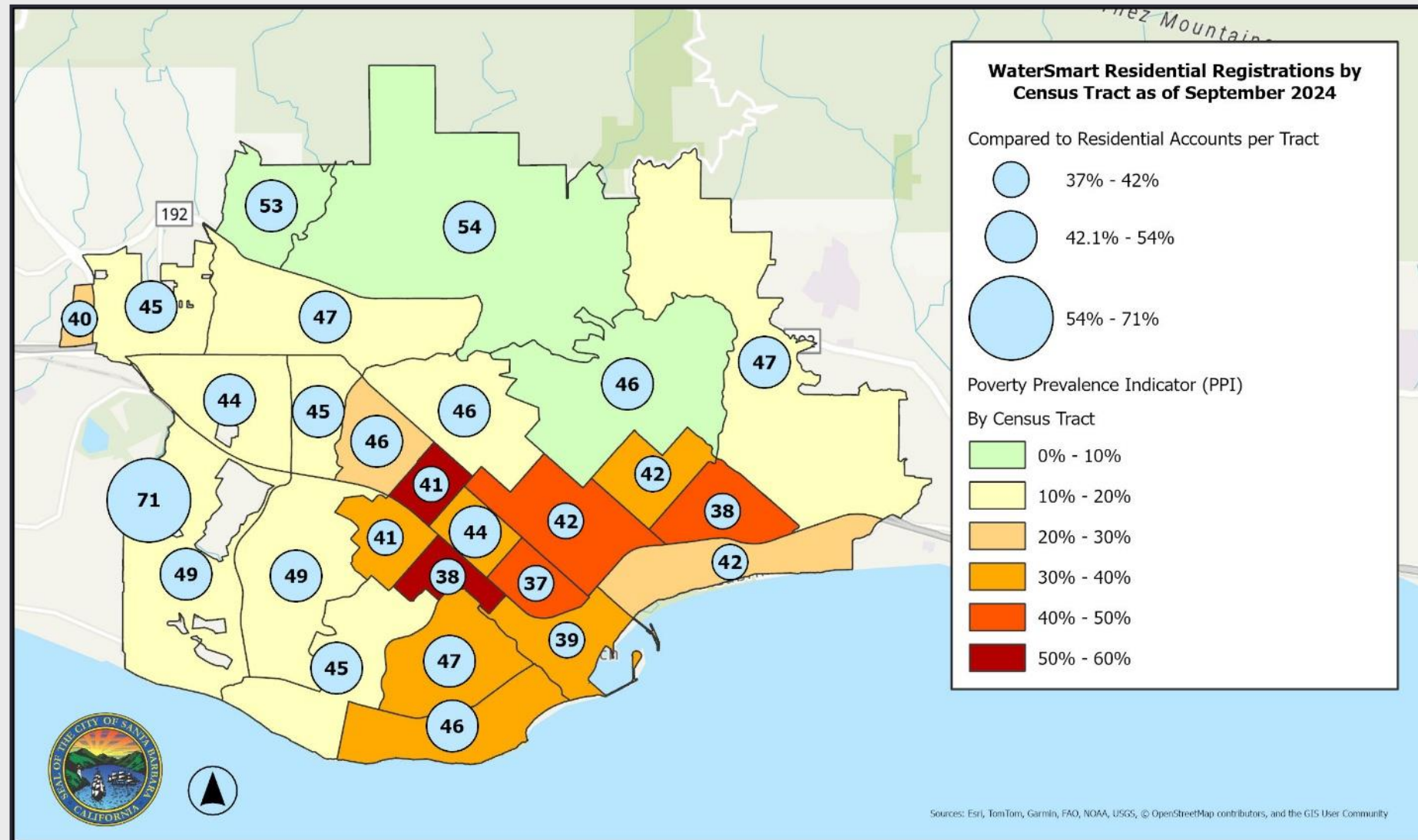
Poverty Prevalence Indicator

- Percent of households at or below 200% of federal poverty level



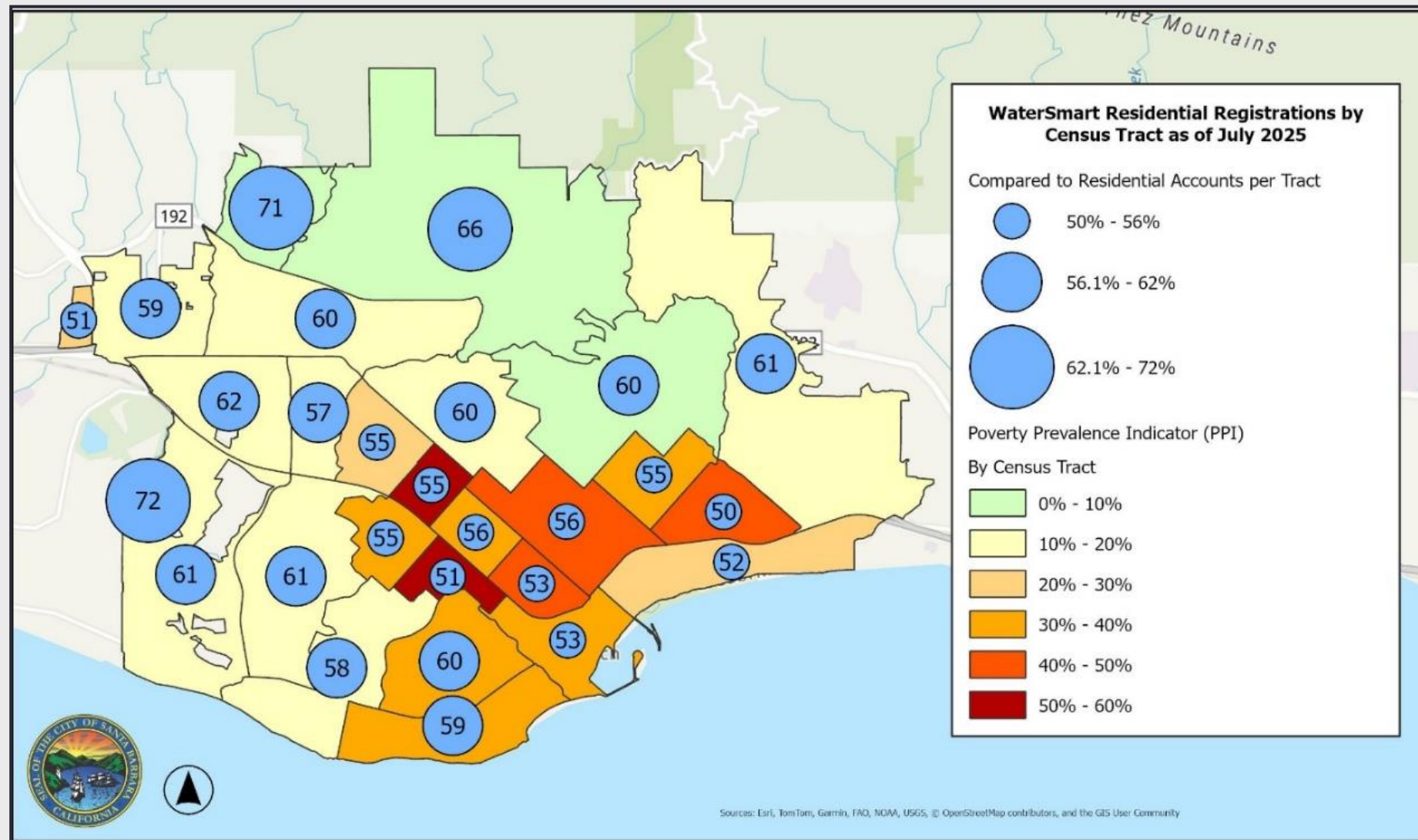
WaterSmart Residential Registrations, Percent Registered

- Percent of residential registrations compared to total residential water accounts per census tract
- Ranges from 37% to 71%



WaterSmart Residential Registrations, Percent Registered

- Residential registration rate ranges from 50% to 72%
- Registration rate increase of 15% in high PPI tracts



Improve Accessibility / Communication

- Use results of mapping analysis to:
 - Enhance marketing of WaterSmart to low-income and multifamily customers
 - Explore strategies to improve accessibility to water conservation programs





Thank you!

Madeline Wood

MWood@SantaBarbaraCA.gov

(805) 897-2672



Our New Customer Portal is Live!

myaccount.walnutvalleywater.gov



Data-Driven Outreach: Expanding AMI Portal Engagement Across Communities



Walnut Valley Water District

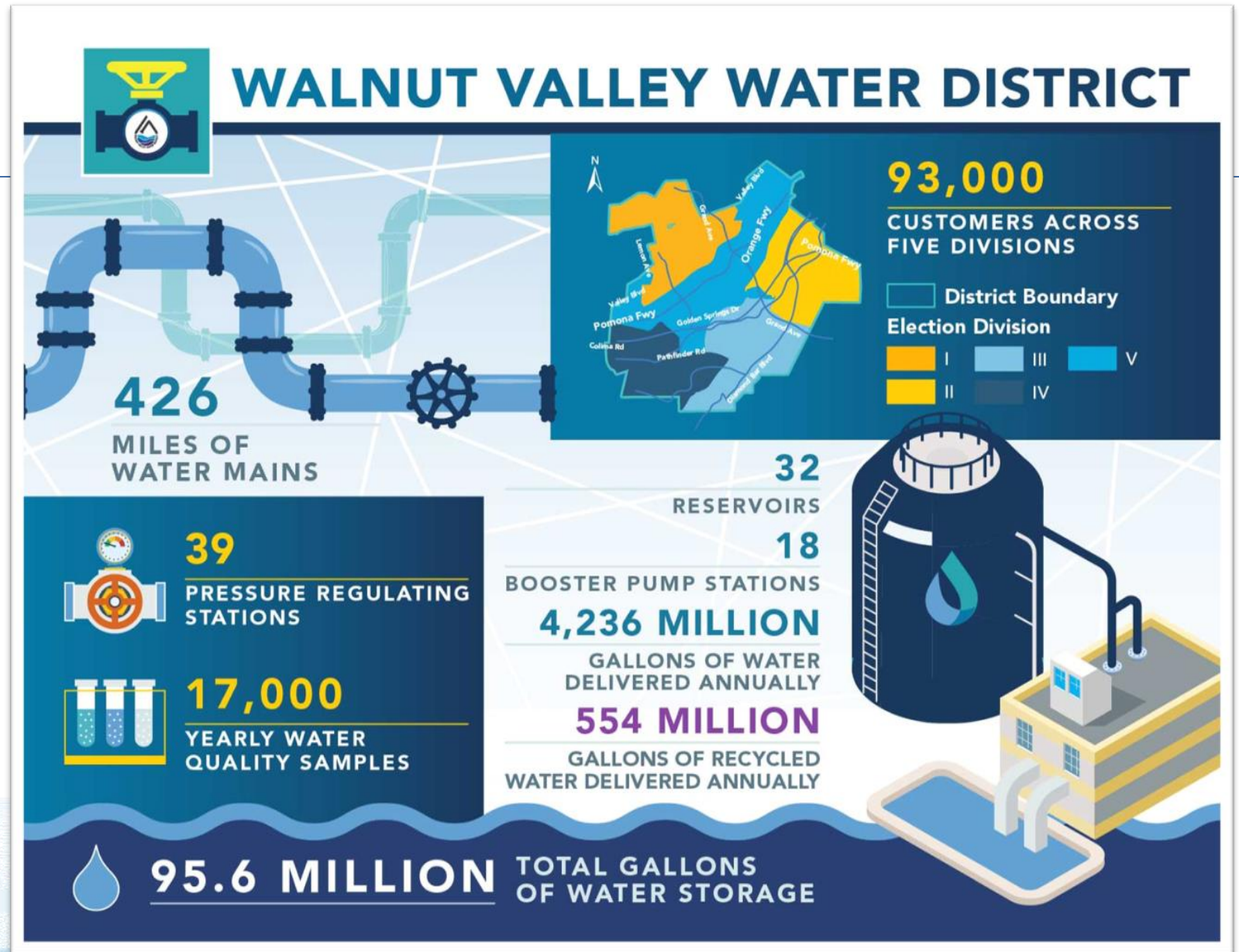
Donna DiLaura – External Affairs & Sustainability Manager



Walnut Valley Water District

About Us

- CII – 1,300
- RES – 25,000





Customer Portal Sign-Ups

- 15,301 total residential customers are active in our portal
- Average of 90 new sign-ups per month





Leak Alerts & Turn-Offs

Customer Portal Leak Alerts

- Sent Daily to CII & RES Customers
- Leak Alerts are Automated
 - RES Leak Threshold is 30 gallons per hour for 24 hours
 - CII Leak Threshold is 60 gallons per hour for 20 hours
- Leak Repair Program
 - Offered to Residential Customers

Turn-Offs for Non-Payment

- Weekly – Mondays
- Turn-offs are on Tuesdays



Next Steps

- Targeted Outreach to Commercial High-Water Users:
 - AMI Reads
 - Customer Portal -Text Messages and Eblasts
- Emergency Alerts, including:
 - Shut-Downs
 - Earthquakes
- Community Events
 - H2O for HOAs
 - Earth Day
 - Mulch Madness





THANK YOU!

Donna DiLaura

✉ ddilaura@walnutvalleywater.gov

☎ (909) 348-8240



Group Discussion Questions

- What part of the AML journey is your utility in?
- What is one thing you wish AML could do to make your job easier regarding customer communications?
- What are challenges to increasing AML engagement or enrollment in your area?
 - What strategies have you tried to increase engagement?
 - Which have been most effective?
 - What are new/other solutions to try?



Part 2: Smart Enforcement: Using AMI and Technology to Adapt to Achieve Results



The evolution of the Las Vegas Valley Water District Water Use Compliance Program

Neil Bailey & Dennis Gegen

Conservation Services Administrator, Las Vegas Valley Water District

Conservation Services Administrator, Las Vegas Valley Water District





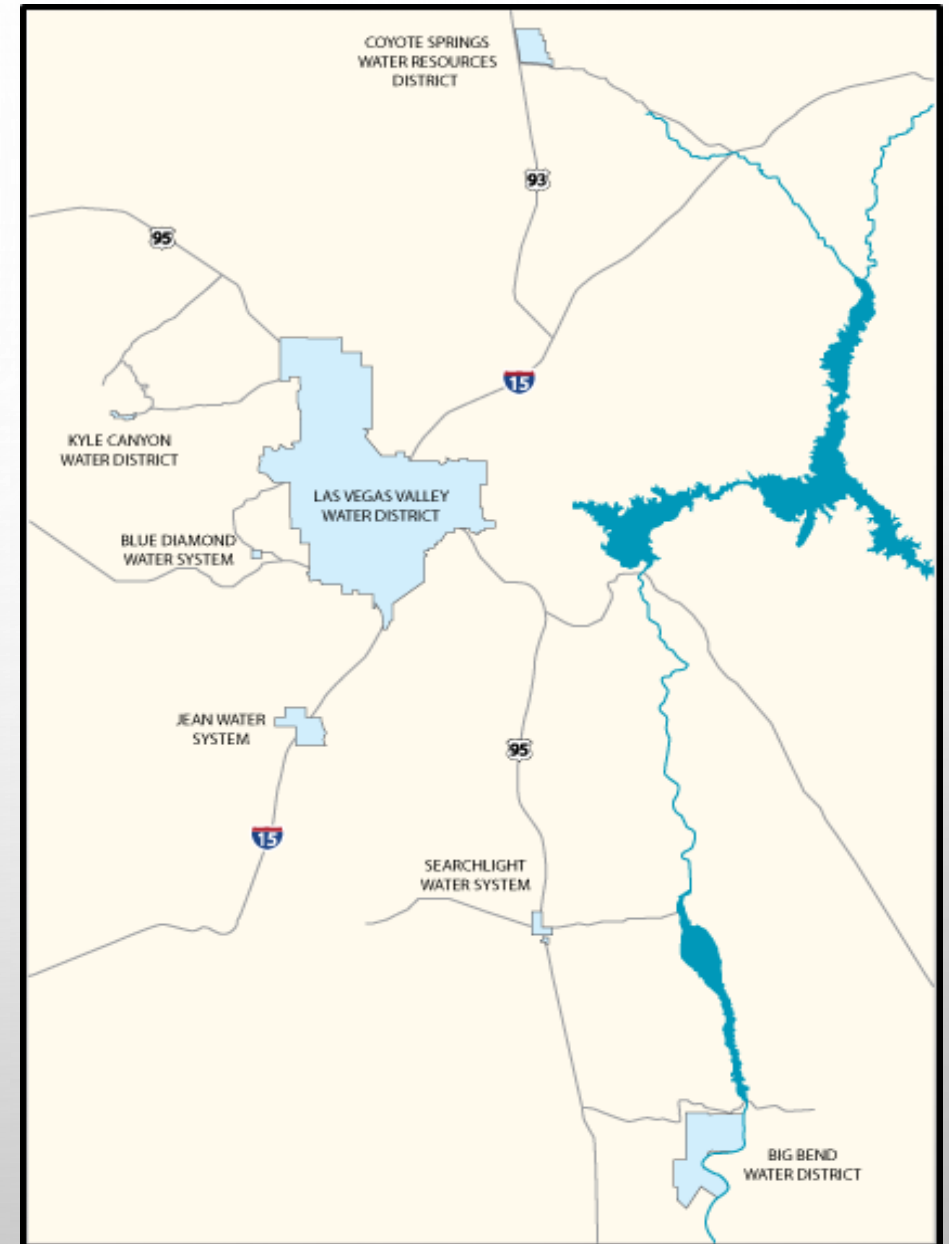
MAXIMIZING AMI DATA FOR CONSERVATION PROGRAMS



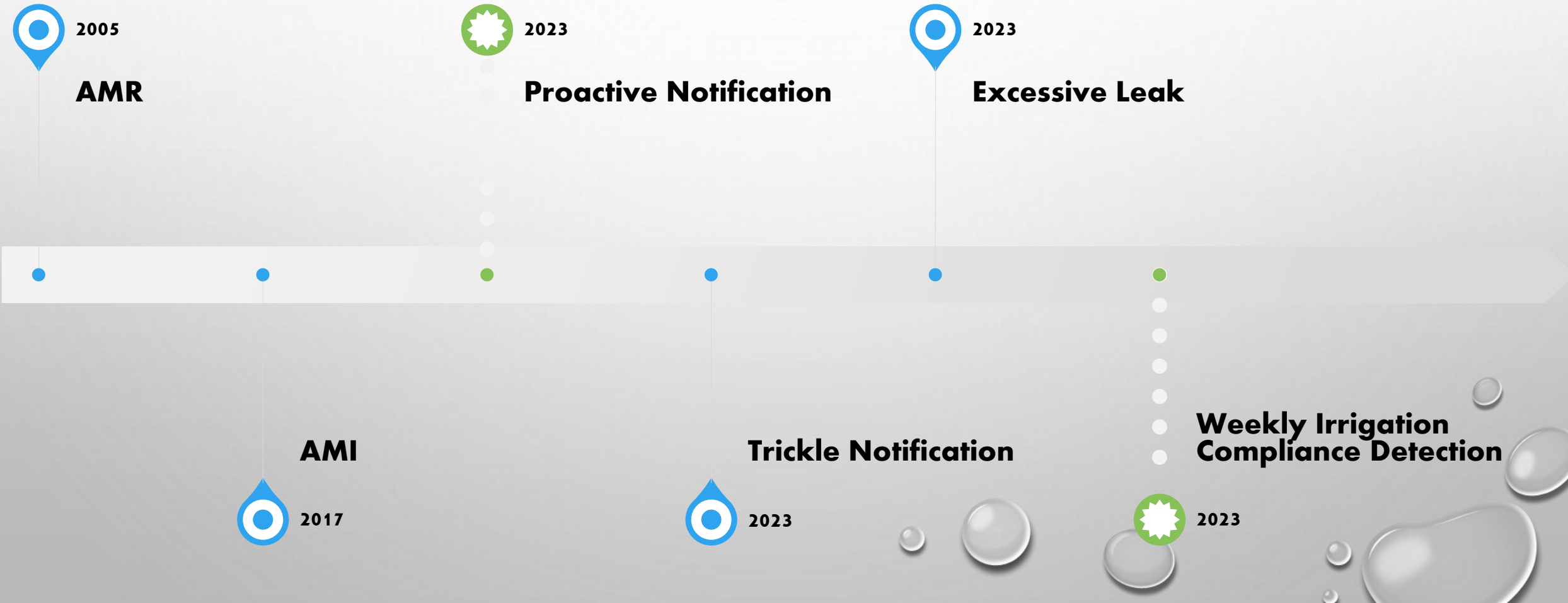
NEIL BAILEY AND DENNIS GEGEN
CUSTOMER CARE AND FIELD SERVICES

LAS VEGAS VALLEY WATER DISTRICT SERVICE AREA

- **ITRON CHOICE CONNECT SYSTEM**
- **MORE THAN 444,000+ ENDPOINTS**
- **17 READ CYCLES**
- **6 SERVICE AREAS**
- **FULLY DEPLOYED CHOICECONNECT AMI**
- **48 MILLION ANNUAL VISITORS**
 - **REPRESENTS THE EQUIVALENT OF 526,000 PERMANENT RESIDENTS**



IMPLEMENTATION & TIMELINE



EXCESSIVE LEAK NOTIFICATIONS

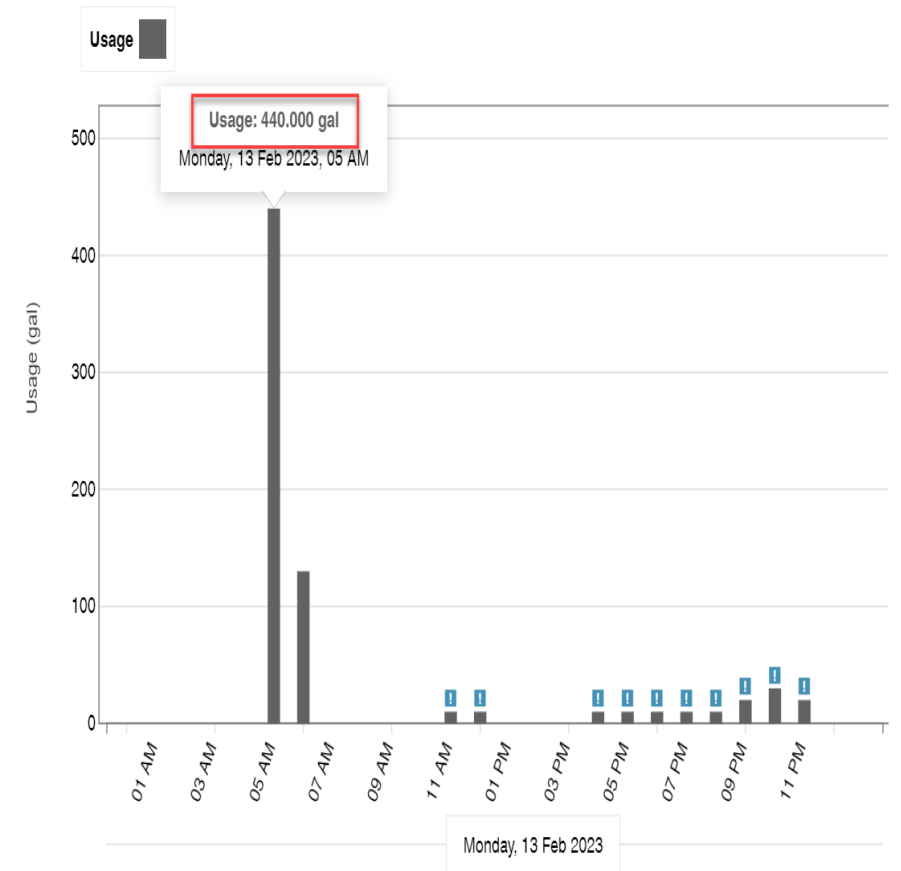
- **CASE CREATION**
- **PROCESS FLOW**
- **CONDITIONS**
 - **BASED ON 7 DAYS OF CONTINUOUS FLOW AND USAGE OF 1500 GPD**
- **COMMUNICATION**
 - **DIRECT MAIL**
 - **EMAIL**
 - **SMS**
 - **ROBOCALL**
- **APPEAL PROCESS**



AMI COMPLIANCE/OUTREACH

- **WEEKLY IRRIGATION COMPLIANCE DETECTION**
- **AMI DATA REVIEWED ON A WEEKLY COMPARATIVE BASIS**
- **TRIGGERS OF 150 GALLONS FOR ONE-INCH AND BELOW SFR**
 - **383,000 ACCOUNTS**
- **AUTOMATED OUTREACH**
 - **DIRECT MAIL**

Consumption Drilldown



Close

WATER USE COMPLIANCE

- **USE 20 FIELD STAFF TO CONDUCT INVESTIGATIONS IN LVVWD, COH, AND NLV JURISDICTIONS**
- **SHIFTS PROVIDE 24/7 COVERAGE OF LAS VEGAS VALLEY**
- **VIOLATIONS**
 - **TYPES OF VIOLATIONS**
 - **LEVEL OF VIOLATIONS**
 - **COURTESY, FORMAL, FEE**
- **WAIVERS**
 - **ONLINE EDUCATIONAL TEST**
 - **CORRECTION OF VIOLATION**
- **APPEAL PROCESS**



HOW WUCS USES AMI

- **FIELD USES**
 - **DAY OF WEEK OR TIME OF DAY VIOLATIONS**
 - **USE AMI DATA TO VERIFY WATER CONSUMPTION AND VALIDATE OBSERVATIONS**
 - **RESCHEDULING WORK**
- **OFFICE USES**
 - **CUSTOMER INTERACTIONS**
 - **DISMISSAL OF FOLLOWUP INVESTIGATIONS**
- **APPEAL PROCESS**
 - **SHARE DATA WITH CUSTOMERS**



FUTURE AMI USES

- **NON-FUNCTIONAL TURF**



AMI + GIS = The Future of Water Use Enforcement

Allison Quintana & Adam Waters

Water Conservation Specialist II, Aurora Water Conservation

Senior Water Conservation Specialist, Aurora Water Conservation

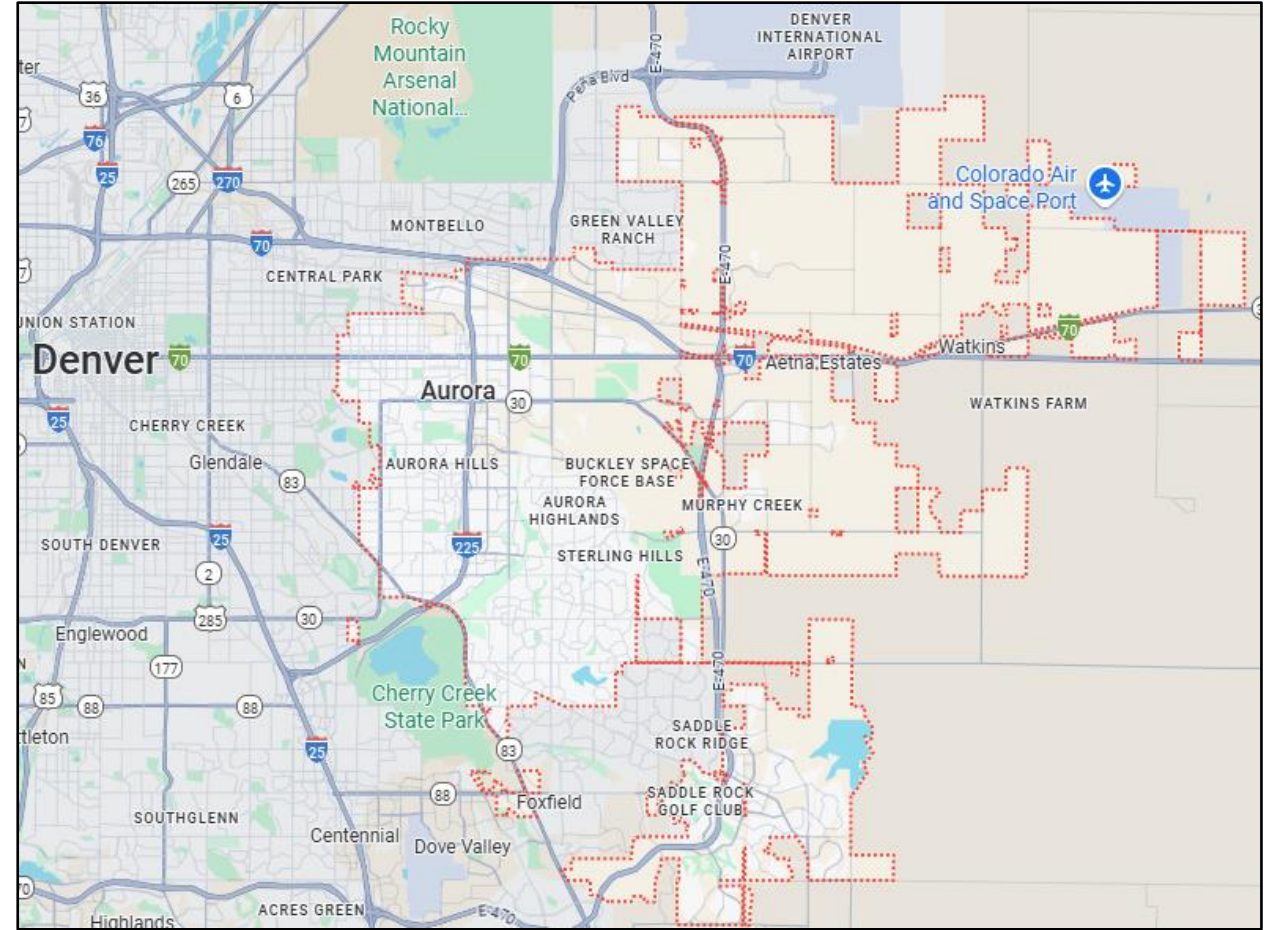


AMI + GIS = The Future of Water Use Enforcement

Utilizing AMI Data & GIS to Drive Outdoor Water Waste Enforcement
Presented By: Allison Quintana & Adam Waters
Alliance for Water Efficiency Symposium 2025
Aug. 8th, 2025

About Aurora, CO

- **Colorado's 3rd largest city and growing**
 - 98,564 accounts
 - 163 square miles
- **Full AMI Buildout**
 - 2020 to 2024
- **Outdoor watering restrictions**
 - No watering 10 a.m. – 6 p.m.
 - No more than 3 days/week



Advanced Enforcement 2024 Pilot

**Water Management Plan Season
May 1st – October 4th, 2024**

Pilot Goals

- **Use in-house resources before committing to 3rd party product**
- **Maintain education & outreach element**
- **Confirm AMI data processing assumptions**
- **Improve field patrol efficiency**
- **AMI data experience**
- **Proof of concept**
 - Demonstrate efficiency improvements for current enforcement
 - Test accuracy of our processes for AMI based enforcement

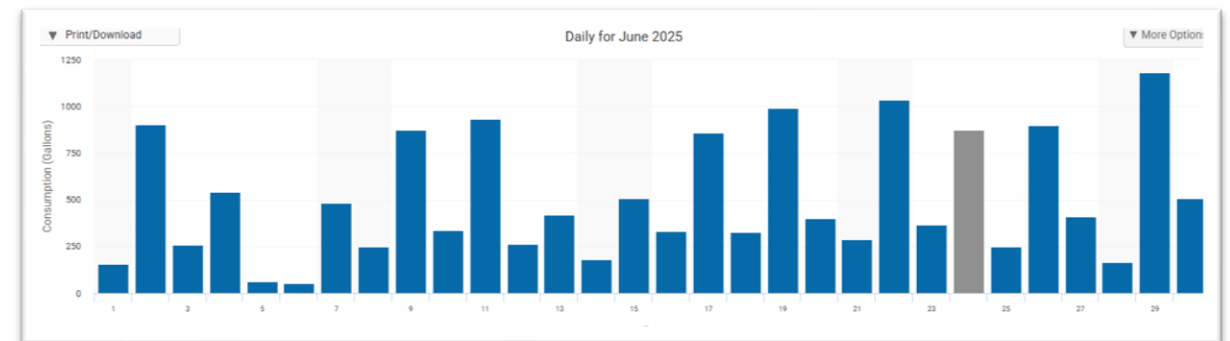


Development - Data

- R studio programming language
- Indoor maximum
 - Average winter month (Jan-Mar) peak flows
- Irrigation events
 - Above indoor maximum
 - Minimum 100 gph
- Confirm violations
 - Timestamp
 - Count "watering days"
 - Pattern lasts at least two weeks

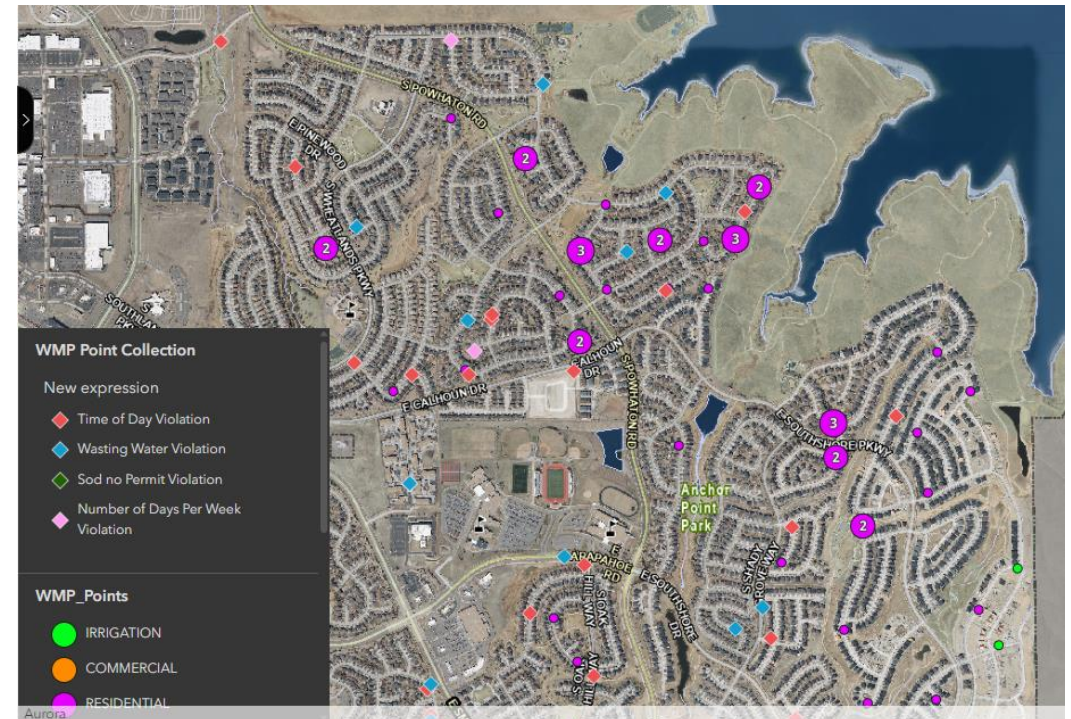


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1.3E+08	2.11E+08	2.11E+08	6/2/2025 1:59	Gallons	210.2	A113916	P012664	2365 N MACO Aurora	CO	80010 SP012664
1.3E+08	2.11E+08	2.11E+08	6/2/2025 2:59	Gallons	32.7	A113916	P012664	2365 N MACO Aurora	CO	80010 SP012664
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Development - Webmap

- **ArcPro + ArcPy**
- **Two-way field functionality**
 - Display data sourced violations
 - Individual points
 - Neighborhood summary
 - Input field observed violations
- **Account & violation details**
- **System-wide dashboards**
- **Neighborhood level heatmap**



Field Staff Expectations

- **Export and filter weekly AMI data tables** to generate a targeted list of properties to monitor.
- **Create data points** for both **AMI-driven and non-AMI-driven violations** to enable end-of-season analysis and comparison of the program's effectiveness.

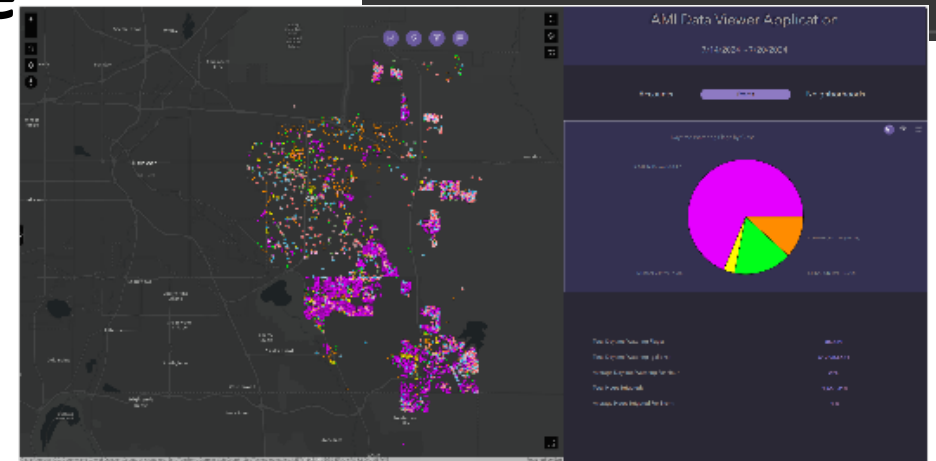
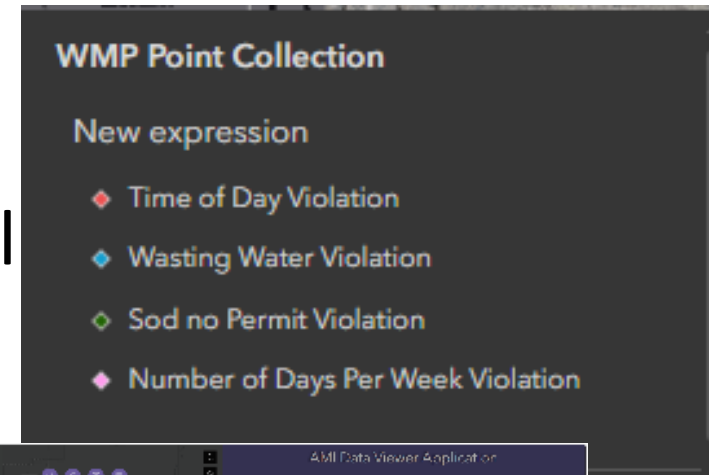
Data Summary – Events Tab

Events Tab

- Total Number of Daytime Watering Flags: **85,559**
- Total Daytime Watering (gallons): 612,983,651 gal
- Average Hours Irrigated Per Event: 1.8 hrs

Number of Flags based on Property Type

- Residential: **69%** (58,881 flags)
- Irrigation: **16%** (13,942 flags)
- Commercial: **12%** (10,116 flags)
- Multi-Family: **3%** (2,620 flags)

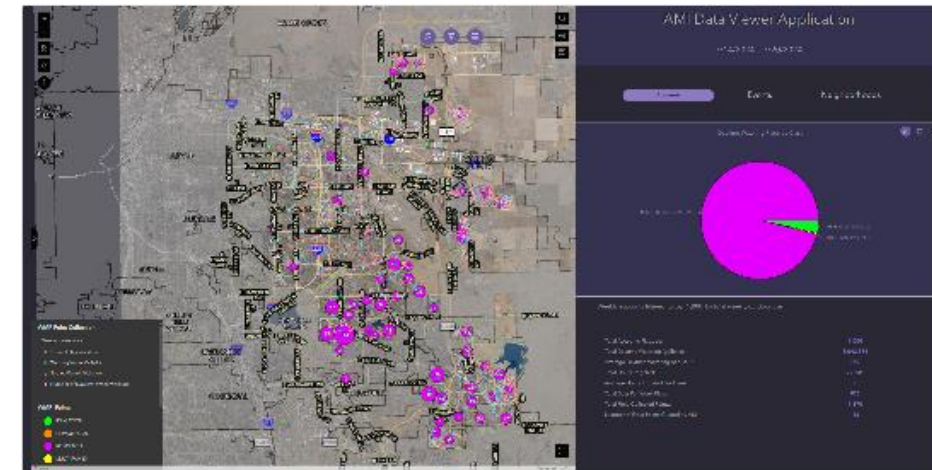


Data Summary – Accounts Tab

Accounts Tab (Information is based on manually entered points)

- Total Points Collected: **1,370**
- Number of Points Guided by AMI: **43**
- Total Points Collected Non-Compliance: **833**
- Non-Compliance Time Of Day: **632**
- Non-Compliance Number of Days: **54**
- Non-Compliance Sod or Irrigation W/O Permit: **147**
- Water Wasting: **459**
- Most Common Violation: **Non-Compliance – Time of Day**

Note: Multiple violations within a single report are likely, which can result in discrepancies when comparing the WMP Map to the raw data spreadsheet.



Field Staff Feedback

- **Weekly data exports were difficult to navigate.**
 - Excessive columns
 - Irrelevant data
 - Time inaccuracies caused by Esri's use of the universal time zone.
- **The reporting process had too many fields.**
 - Often resulting in incomplete submissions.
- **Poor cellular service**
 - Violation report upload failures
 - Loss of photographic evidence
- **The WMP Map lacked sufficient detail (e.g., meter and account info).**
 - Forcing staff to switch between Field Maps and the WMP Map or use two devices.
- **Findings still required manual entry into city wide service order database.**
 - Reducing efficiency



Manager Feedback

- **Is a valuable tool for quick and accurate customer contacts.**
 - Enabled faster, more informed communication with residents regarding outdoor water use violations.
- **Reoccurring data transfer issues.**
 - Requiring manual intervention or causing reliance on outdated data sets.
- **In late June, Sundays began consistently showing the highest water use and violation flags.**
 - Investigation revealed the script couldn't differentiate between continuous flow events and actual irrigation, causing false violation flags.
 - The system flagged continuous flow properties only once per week, lacking accurate timestamps and masking the full pattern of excessive use.

Results

Compared to **721** violations in **2023**, the **2024** season saw a sharp increase to **1,370**, highlighting improved enforcement and detection. It is assumed that the WMP Map played a key role by helping monitors efficiently **target problem areas**, though its full potential has yet to be realized. Enhancing data accuracy, transfer reliability, and simplifying field reporting will further improve its effectiveness.



AURORA
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What's Next?

- **Technical improvements**
 - Process improvements and efficiencies
 - Connect to CIS
- **User experience improvements**
 - Expanded account information
 - More concise irrigation pattern data
 - Integrate tool into field team procedures
- **Test data derived violation warnings**

Let's Keep The Conversation Going

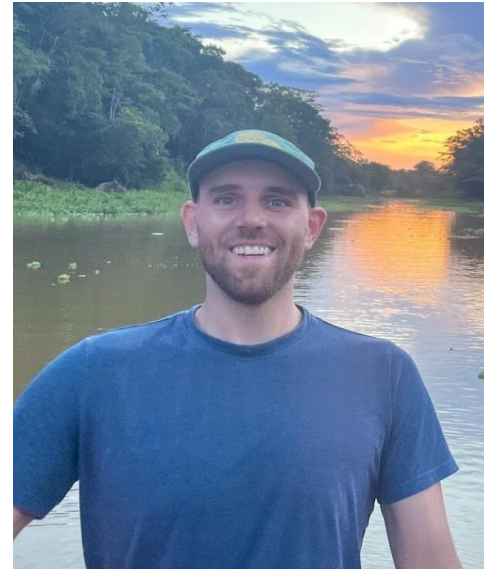
Get in Contact With Us



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Thank You For Attending

Group Discussion Questions

- Who are you most concerned about when using AMI for enforcement (e.g., customer group, elected official, staffer)?
 - What strategies exist to alleviate concerns?
 - Are there lessons from parallel situations?
- What is preventing your community from using AMI as an enforcement mechanism?
 - What are some solution ideas?
 - How do you address situations with inconsistent AMI data?
- Share a success story of overcoming enforcement barriers and using AMI data!
- What products are on the market to help utilities achieve the goal of using AMI for water conservation enforcement? Any experience with them?



Reminders & What's Next

Thank you all for participating in this session!

- **CEUs:** AWWA CA-NV Water Use Efficiency Practitioner and Irrigation Association



- **Next:** Lunch (11:30 am – 12:30 pm) Room 621



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