Welcome!

We will get started in a few moments. A few logistics:

- As soon as the webinar gets underway, **we will be recording it.** We will make it available to registrants in our follow-up materials and publish on our website.
- Please feel free to use the **chat function** for any questions that come up during the discussion and direct them to a panelist if appropriate.
- If we run out of time to answer questions, we will include answers to them in our follow-up materials.

Water Data Prize Awards Ceremony

1:00 - 1:15 pm EPIC Welcome

1:15 - 1:40 pm: Presentations from Winners

1:40 - 2:00 pm: Facilitated Q&A

We build policies that deliver spectacular improvements in the speed of environmental progress.

Program Areas

- Water Infrastructure
- Water Quality Partnerships
- Procurement & Finance

- Restoration
- Mitigation on Tribal Lands
- Endangered Species

Why the Water Data Prize?

President Biden
@POTUS
United States government official

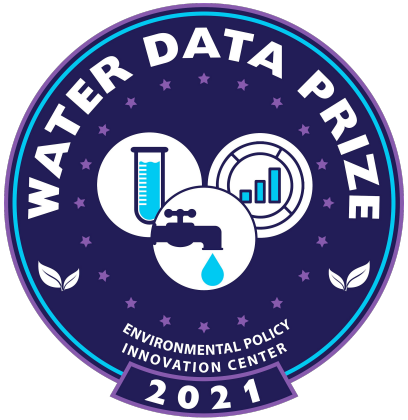
Let me be clear: Every American has a right to clean drinking water. The American Jobs Plan will finally make that a reality by replacing 100% of America's lead pipes and service lines.

2:30 PM · Apr 18, 2021 · The White House

The question we are ultimately trying to answer with the Water Data Prize is:

What do I need to have in my toolkit to quickly and efficiently remove all toxic lead pipes?

There are six awards



$50,000 for Overall Winner

Outstanding idea to dramatically increase the pace and scale of lead pipe replacement

$10,000 for Wildcard

Out of the box idea to quickly and equitably remove lead pipes

$10,000 for winners per category

INVENTORY

Quickly & efficiently predict where toxic lead water pipes are.

MAPPING

Visualize data in an easy-to-understand and accessible format.

EQUITY

Develop criteria or resources that support equitable replacement programs.

COMMUNICATIONS

Communicate simple and effective strategies that will give water consumers useful, actionable information on lead.

Thank you to our judges of the Water Data Prize!

Tiffani Ashley Bell, The Human Utility

Al Cho, Xylem

Stephanie Cosco, Rogue Water

Lynn Thorp, National Campaigns Director, Clean Water Action

Alan Roberson, Association of State Drinking Water Administrators

Jeff Allenby, Center for Geospatial Solutions

Anna-Lisa Castle, Alliance for the Great Lakes

Jonathan Cuppett, Water Research Foundation

Amen Ra Mashariki, NVIDIA & Bezos Earth Fund

Monica Lewis-Patrick, We the People of Detroit

Alicia Smith, The Junction Coalition

Chris Sosnowski, WaterClick & Waterly

Jalonne White-Newsome, EGE^2

Each submission was judged based on:

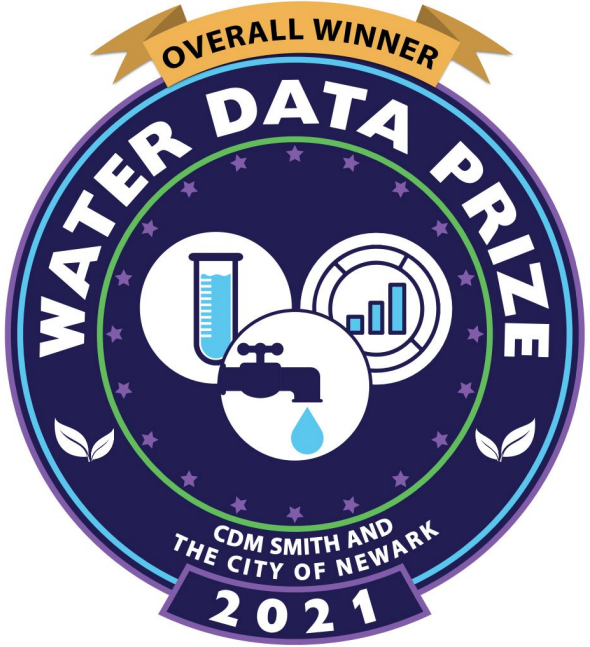
- Level of Engagement
- Innovation
- Degree of Accessibility
- Ease of Implementation
- Public Health Implications
- Priorities
- Wowza

Highlights from the judging process

Chris Sosnowski, WaterClick & Waterly

Awardees

CDM Smith and the City of Newark



Brian Kearney, CDM Smith

Sandra Kutzing, Tiffany Stewart, Mark Zito, Brian Farrelly, Shoshanna Page

Kareem Adeem, The City of Newark

Community Based Lead Service Line Replacement Program

Components of Newark's Successful Lead Service Line Replacement Program:

Education

Transparency

Technology

No House Left Behind

Education: Newark developed a multi-pronged communication campaign using many different forms of media. A designated website was developed as a repository for information and included additional features including interactive mapping and information on how to sign up for the program, find out information about their service and sampling results.

Transparency: Transparency and accountability are imperative in the pursuit of diversity, equity and inclusion. The City identified affirmative action goals to establish fair access to employment opportunities and create a program to reflect the demographics of the City.

Technology: The Newark program used innovative tools to plan, communicate, track and report replacements which ultimately improved efficiency, accuracy and lowered costs.

No House Left Behind: To ensure the program was available and equitable to all impacted residents, the City modified the program to be free and mandatory and through a local ordinance allowed tenants to provide access to the City to perform LSL replacements.

CITY OF NEWARK GET THE Lead Out

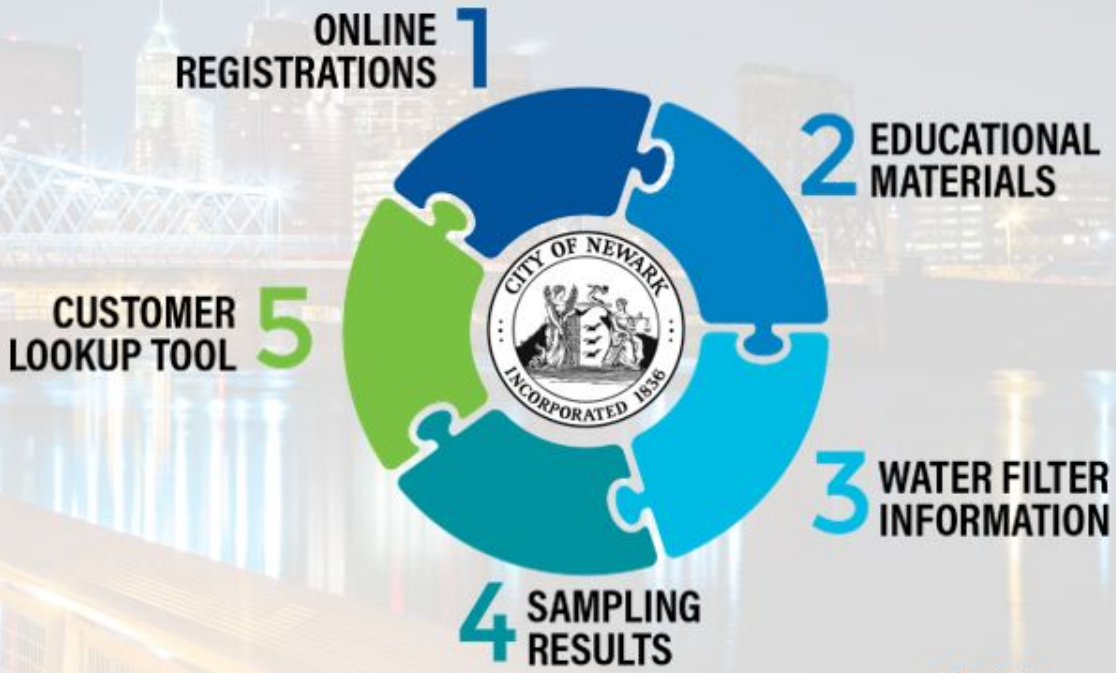
CDM Smith

Community Based Lead Service Line Replacement Program

The City of Newark is committed to provide clean, safe and reliable drinking water to all:

Through this program we were able to replace over 23,000 LSLs in under 30 months and eliminate lead in drinking water at the customers' tap.

Technology was the key to executing this project expeditiously and efficiently utilizing the designated website www.newarkleadserviceline.com as the central repository for information. In total this website saw over 360,000 page views.

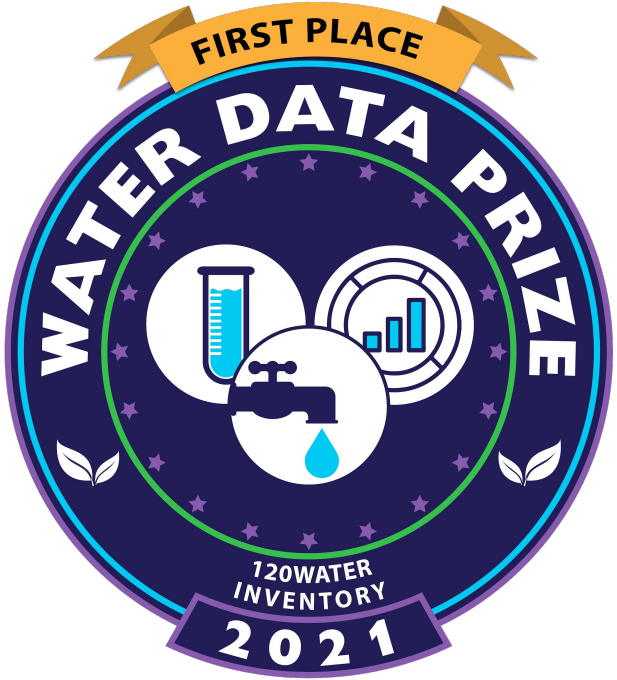


CITY OF NEWARK GET THE Lead Out

CDM Smith

120Water

Megan Glover, 120Water
Logan Hendrickson, Tom Bruns and Antony Rhine



What do I need to have in my toolkit to quickly and efficiently remove all toxic lead pipes?

A lead service line inventory!

And, over 70,000 PWSs in the US will be required to have an LSL for public and private side by 2024!

OUR PLATFORM TRANSFORMS

how water programs are managed

Our **Digital Water Platform's** cloud software, kits and services transform how Utilities, Facilities and State & Local Agencies manage water programs such as lead reduction programs that protect public health.

Over 226 customers across 30 states powered by our **Digital Water Platform.**

Copyright © 2020 120Water, Inc. | All Rights Reserved

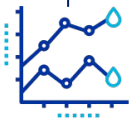
120Water™

Foundation for achieving compliance & removing lead pipes.

LSL Inventory
Location-based

School & Childcare
Facility Sampling

24-Hour Notice
Triggered Communication



Action & Trigger Level
15 ppb vs 10 ppb

"Find & Fix" Provision
Retest & Remediate

Replacement
Sampling & Filters

DATA MANAGEMENT
Unify & Report

Copyright © 2021 120Water, Inc. | All Rights Reserved

120Water™

KETOS

Kedar Dabhadkar, KETOS
Meena Sankaran, Ganesh Hegde and
Steve Shaffer

Digitizing The Water Industry | Real-Time Autonomous Water Intelligence

KETOS Shield

Dozens of Parameters

Tested and Monitored in Real-Time including Environmental, Heavy Metals, Nutrients, Organics & Inorganics

Autonomous Operation

Robotic Automation with Proprietary Patented Hardware & Software Intelligence Self Cleaning & Self Calibration Zero Data Drift

Communications Infrastructure

Bidirectional, Smart Networked Communication (IoT) Cellular or Ethernet LAN

Fully integrated water testing & monitoring solution

KETOS Platform

Enterprise Grade Software

Alerts & Notifications Actionable Insights Operational Analytics Process Optimization

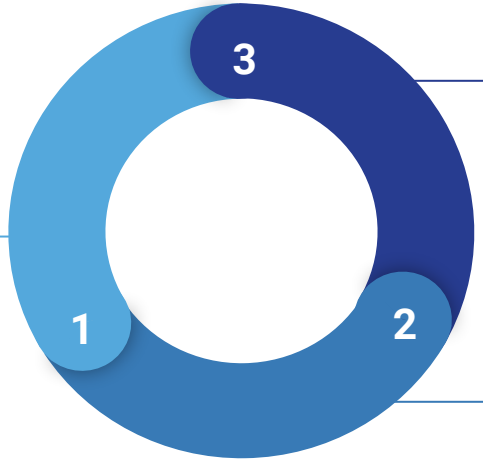
Data Integration

3rd Party Data Integration with Bi-Directional Data Sharing

A New Map Can Be Built In 3 Steps

Bring your data

Service line material dataset indexed by location, and GeoJSON of the city's localities. Can be a spreadsheet, database, or stored in a remote path.



Refresh and deploy!

Once data is ready, we only need to configure the mapping tool, refresh data and publish!

Transform data

Rename columns and map the service line material to predefined types. Steps detailed in the documentation.

Universal data model

Dimensional data model (star schema) to define relationships between various datasets.

Decoupled storage and visualization

Conceptually separate the data model layer from the visualization layer.

Convey information in stages

Share insights gradually instead of overwhelming the users with data "all-at-once".

User-friendly design

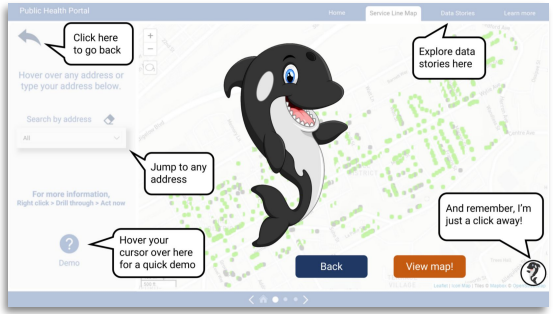
Animated guides, tutorials, and user-friendly illustrations of public and private service line materials.

More engagement with data

Allow users to download all the data involved in making a visual.

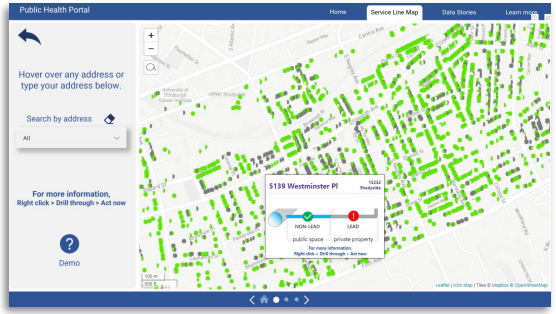
Quick Tour Of Our Mapping Solution

Section 1. Tutorial



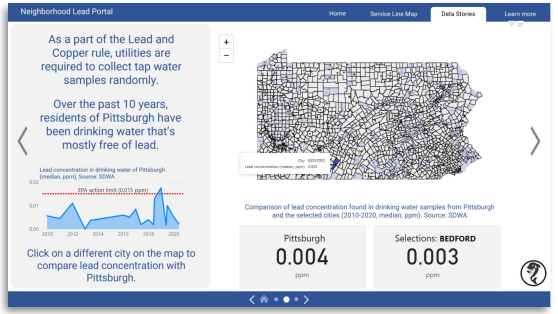
Tutorial describing how to navigate and read the map.

Section 2. Map



Map showing type of material used in the public and private sides of a service line.

Section 3. Other insights



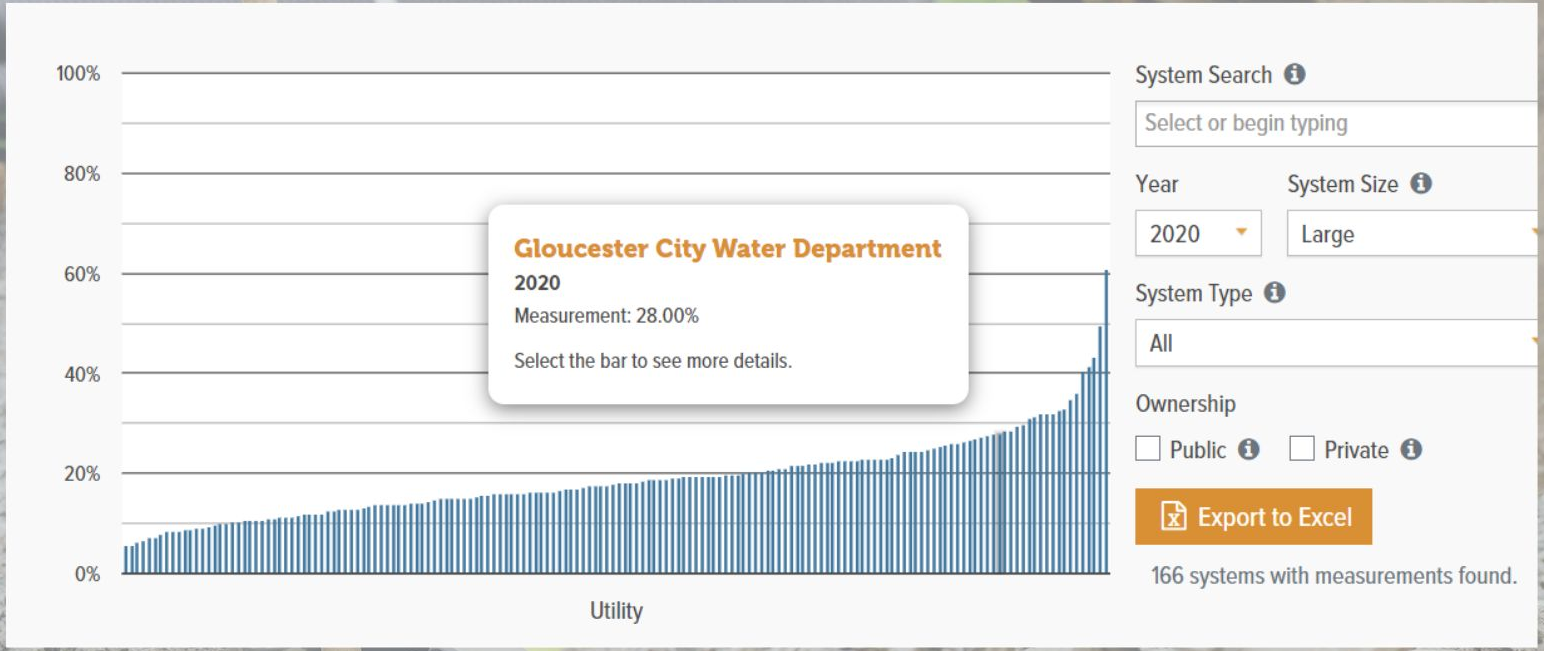
Optional data stories to communicate additional metrics of interest like LCR violations.

Demo application is deployed here.

Jersey Water Works and New Jersey Future

Jyoti Venketraman, New Jersey Future
Andrew Tabas, Kimberley Irby
Jersey WaterCheck Data Advisory Committee and Water Risk and Equity Subcommittee

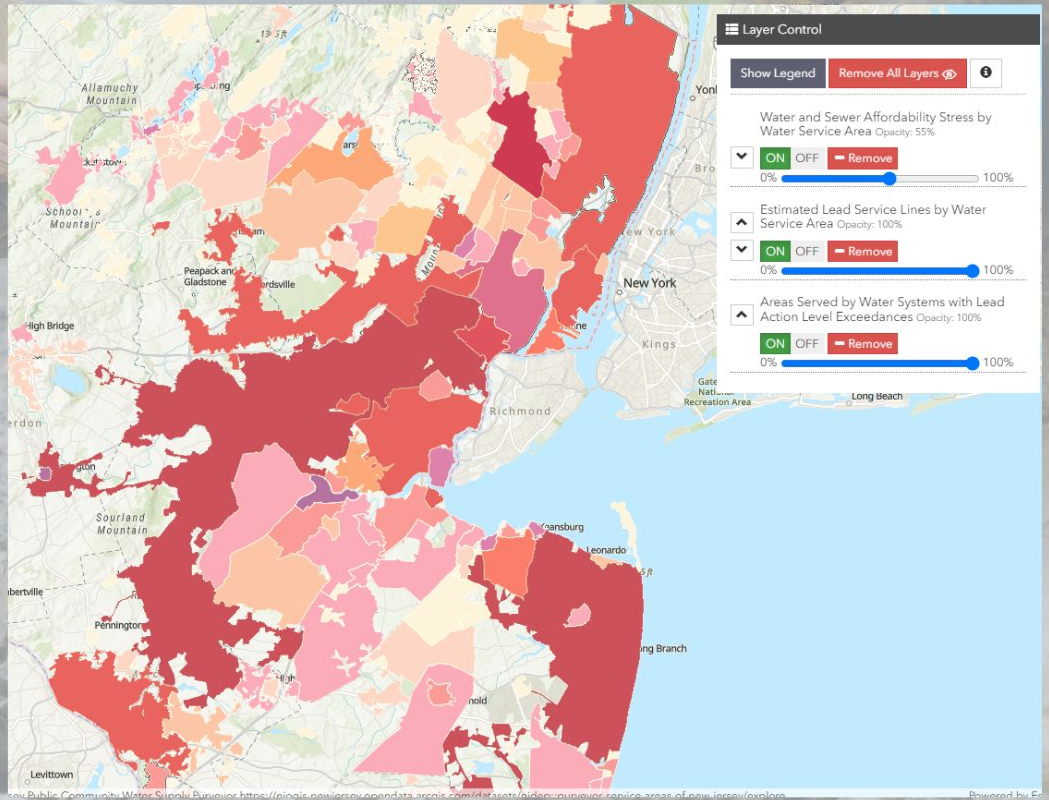
Demonstrating Affordability Stress in New Jersey at a Granular Utility Level



JERSEY WATER WORKS
Smart infrastructure. Strong communities.

NEW JERSEY FUTURE

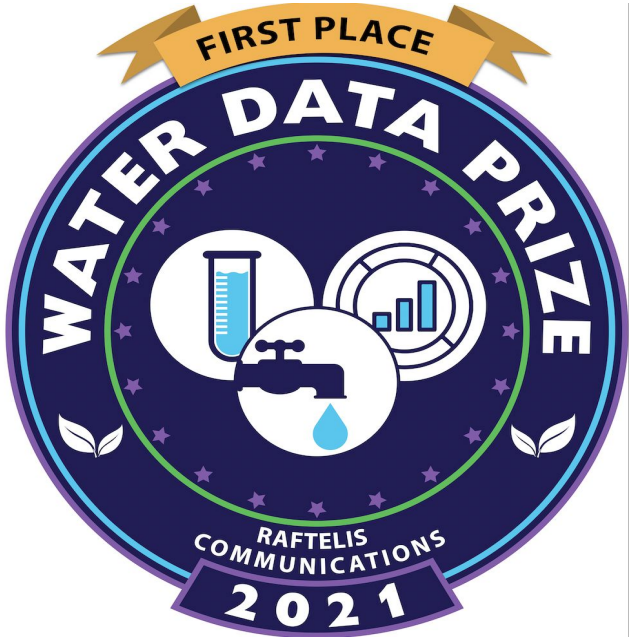
Converging Equity Challenges: Affordability Stress and Lead Service Lines are Prevalent Across the State



Smart infrastructure. Strong communities.

Raftelis

Samantha Villegas, Raftelis
Jeff Bronowski and Matt Wittern



What it takes to communicate *well*

01

Know Your Audience

02

Translate English to English

03

Think Like Them

04

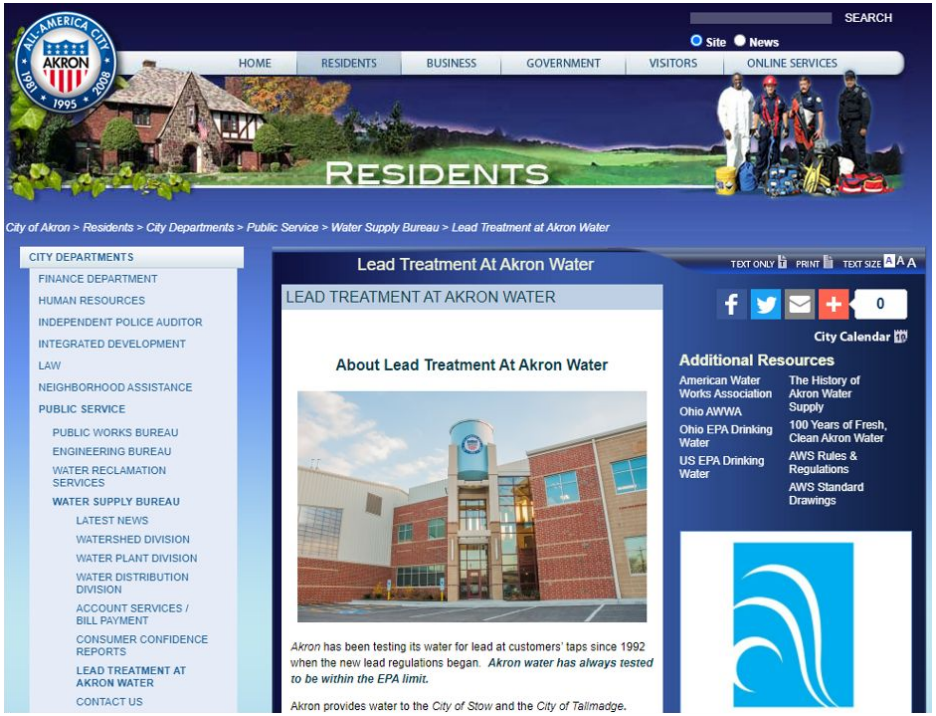
Use Pictures With People

05

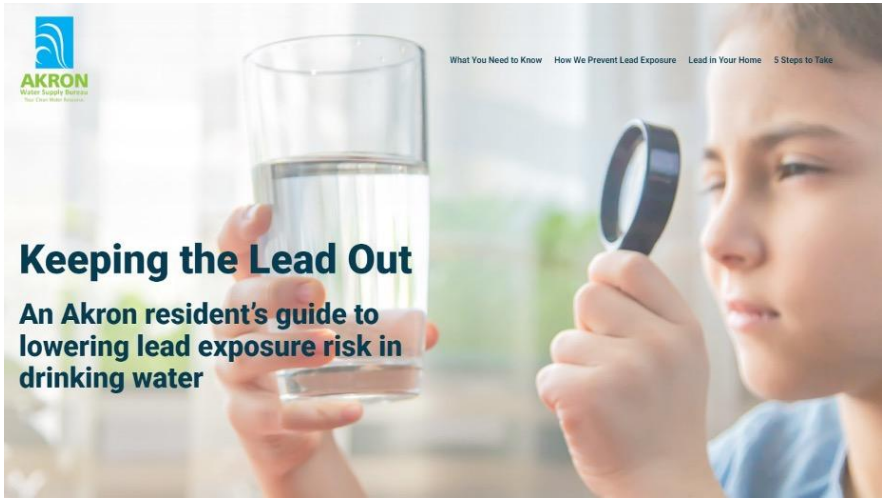
Show Don't Tell

RAFTELIS

[Lead Treatment at Akron Water : City of Akron (akronohio.gov)]



[Lead Treatment at Akron Water (squarespace.com)]

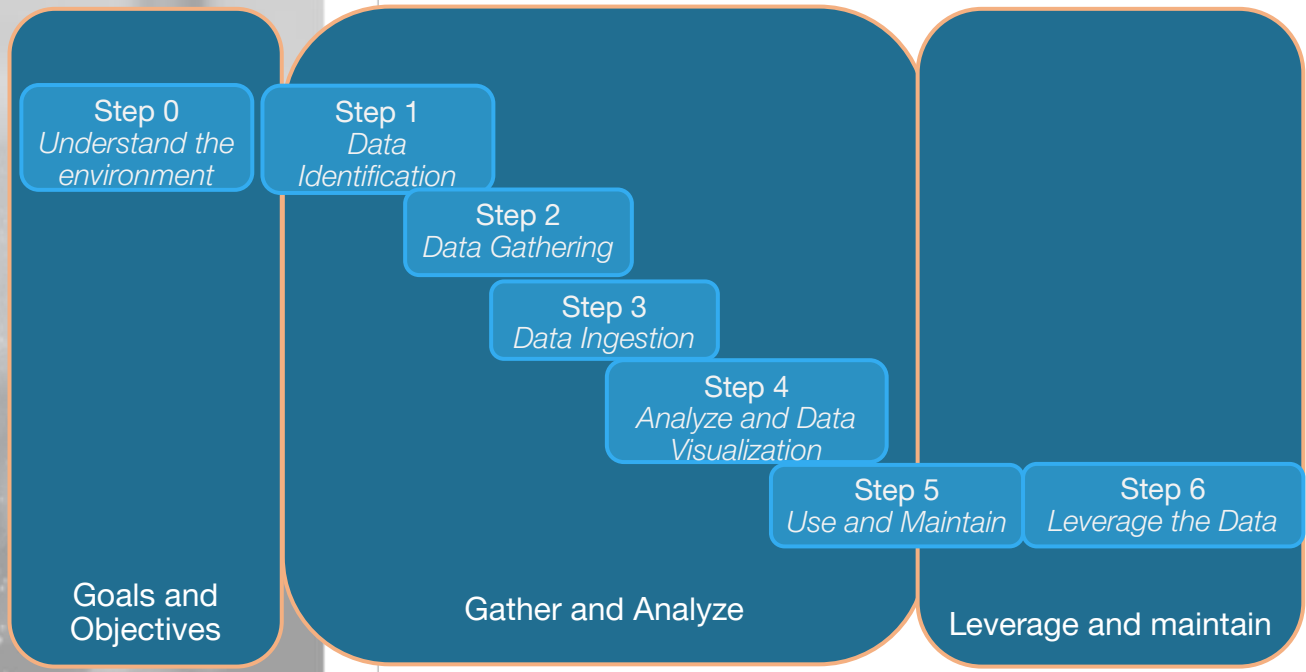


RAFTELIS

Center for Neighborhood Technology

Anna Wolf, CNT
Peter Haas and Paul Esling, CNT
Ian Robinson and Eric Schwartz, BlueConduit
Laura Gilligan, Liz Mitchell, and Sue Hallen, IBM

DEVELOPING LEAD SERVICE LINE INVENTORIES USING PREDICTIVE ANALYTICS
A COMMUNITY PLAYBOOK
Prepared by
IBM Service Corps
Center for Neighborhood Technology
BlueConduit
September 15, 2021


Step 0
Understand the environment
Step 1
Data Identification
Step 2
Data Gathering
Step 3
Data Ingestion
Step 4
Analyze and Data Visualization
Step 5
Use and Maintain
Step 6
Leverage the Data
Goals and Objectives
Gather and Analyze
Leverage and maintain

CNT

Key Takeaways

Define Goals and Set Limits

- Define the goals and data usage early, this drives the data requirements, the output required and the audience for the analysis

Data Accessibility and Quality are key!

- Understanding the quality and relevance of the sources takes patience
- Some communities may only have paper records, and may be of varying formats and quality
- Understand your budget for scanning and analysis

Make Fast Decisions

- Does the community support the effort?
- Understand the data quality and depth of scan - is OCR worth the effort?
- When to go manual versus automated: size of effort, cost of solutions – i.e., can you obtain enough useful data to make the modeling process worthwhile and effective?

Esri Community Maps Contributors, County of Will, Esri, HERE, Garmin, SafeGraph, GeoTechn…

Discussion / Q & A

waterdataprize.com

info@waterdataprize.com