

# OTCO Water Dist. System Workshop CWD Website Response to HB512

December 7, 2016

# Overview

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- ▶ Lead in the News
- ▶ Brief Treatment Overview
- ▶ History of Lead Service Lines in Cleveland Metro
- ▶ Compiling Records
- ▶ The Lead Look-Up Tool and How We Released It
- ▶ Mapping Products from the Tool
- ▶ Customer Concerns and Follow-up
- ▶ Questions and Answers

# THE WALL STREET JOURNAL.

## New Trouble Knocks Flint as Mortgage Firms Require Proof of Safe Water

Lenders say they won't give mortgages unless buyers offer proof of safe water

Flint, Mich., residents have a new concern on top of lead in their drinking water: Some **mortgage lenders say home buyers must prove there is no contamination at a property or they won't make a loan for its purchase.**

**Local real-estate agents and lenders worry the new restriction could be another punch in the gut to the city's housing market,** which has long suffered from economic distress after the departure of major auto industry employers.

At issue, lenders say, is how to interpret government mortgage guidelines. **The Federal Housing Administration, which backs loans to less-creditworthy borrowers, states that a home must have "a continuing and sufficient supply of safe and potable water."**

**Chicago Tribune**

## Michigan urges toughest lead rules in U.S. after Flint water crisis

**M**ichigan would have the toughest lead-testing rules in the nation and require the replacement of all underground lead service pipes in the state under a sweeping plan that Gov. Rick Snyder and a team of water experts unveiled Friday in the wake of Flint's water crisis.



## Possible link between Flint water system and health problems evaluated

March 1, 2016

Wayne State University announced today that it has formed the Flint Area Community Health and Environment Partnership (FACHEP). The research group, led by Wayne State researchers specializing in environmental engineering and public health, **will conduct an independent study to evaluate the possible association between changes in Flint's water system and public health, specifically the recent Legionnaires' disease outbreak.**

# THE BLADE

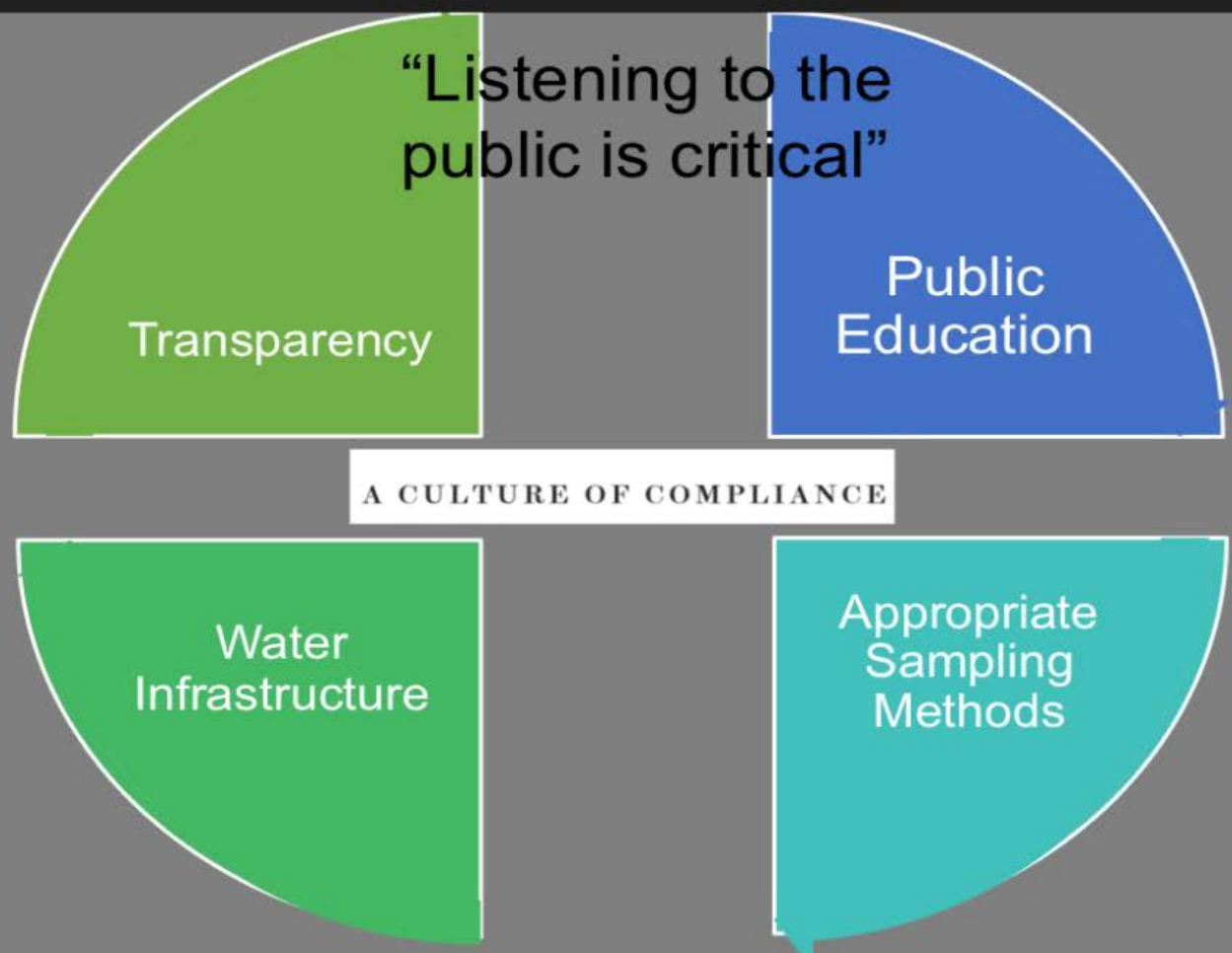
## Toxic algae struggles leave Toledo's reputation hanging in the balance

BY TOM HENRY  
BLADE STAFF WRITER

“The only thing the media and the public likes better than a crisis story is a turnaround story. Toledo could choose to become a turnaround city,” Mr. Luetke said. **“Someone once said you should never let a good crisis go to waste. This should be a catalyst for action.”** When we begin showing the region is innovative and thoughtful is when we’ll start getting positive recognition.”

"The perceptions are realities," said Marc Edwards, a water expert at Virginia Tech who played a vital role in documenting the lead problem in Flint. **"Generally, tap water in the United States is safe.** Problems that surfaced in Flint, including Legionella and lead, **disproportionately affect poor minority communities."**

"If people question the safety of their water, **I'd encourage them to be in contact with their utility personally and ask the hard questions,**" Greg Kail of AWWA said. "Examine your utility's water quality report. Talk to public health professionals. Get the answers you need. And then make an informed decision."



“Listening to the public is critical”

Public Education

Transparency

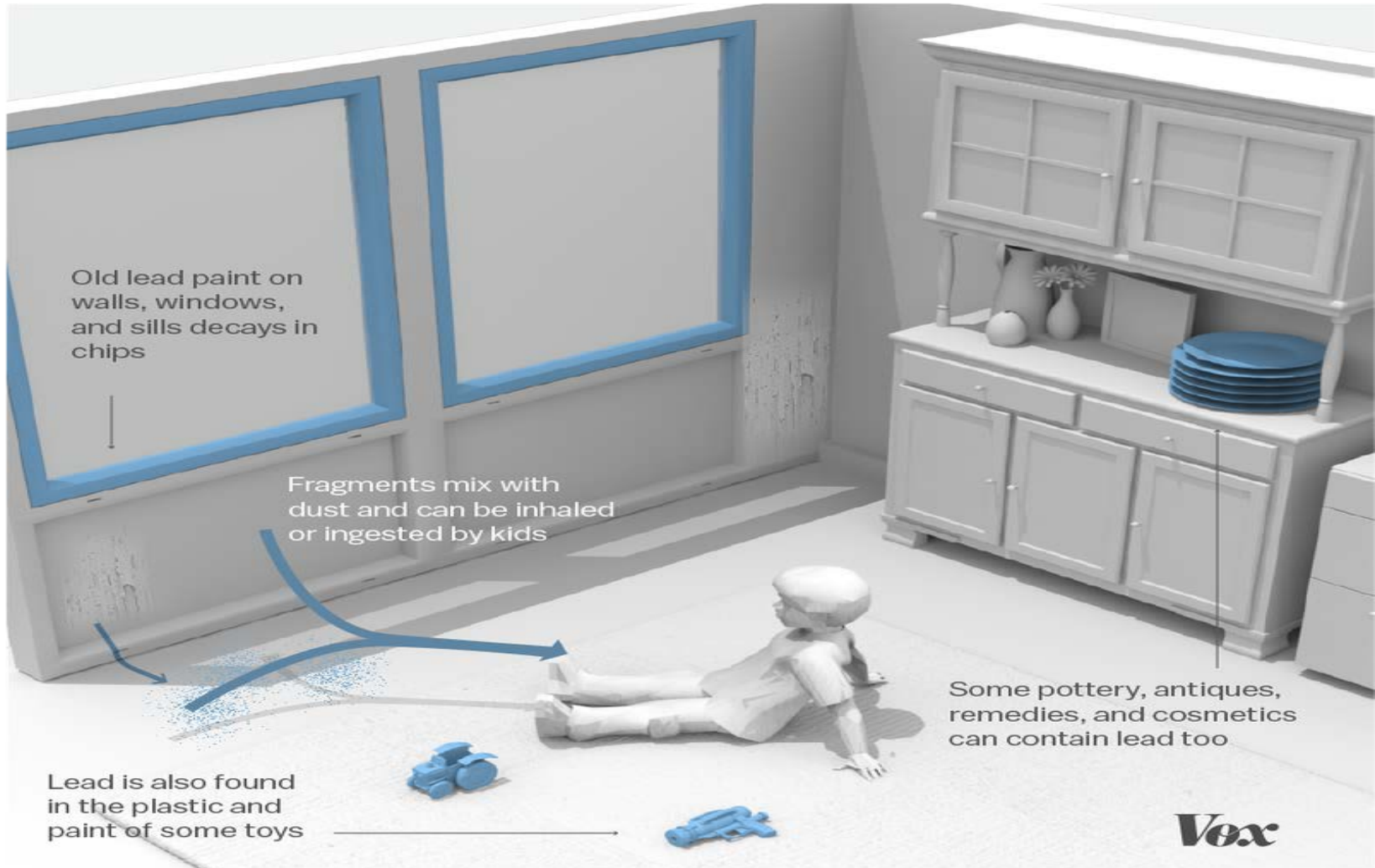
A CULTURE OF COMPLIANCE

Water Infrastructure

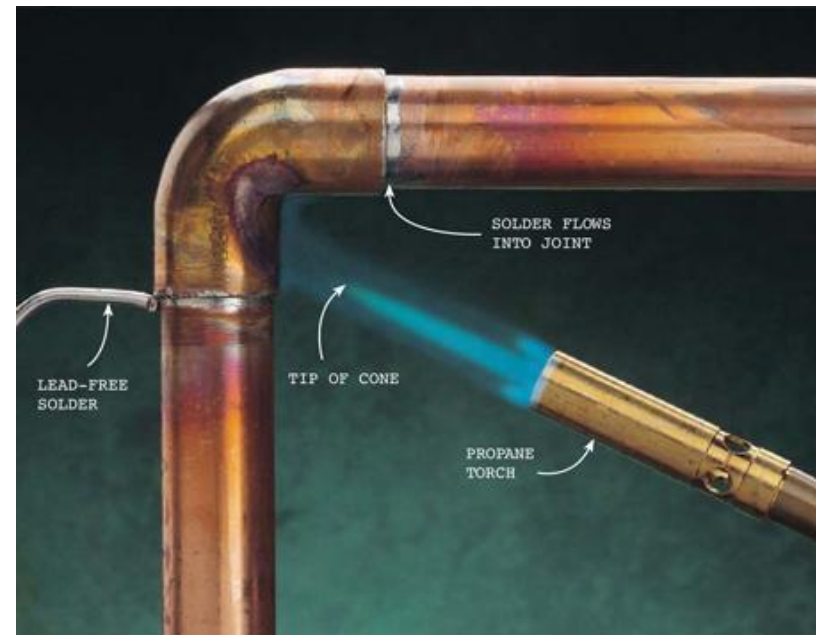
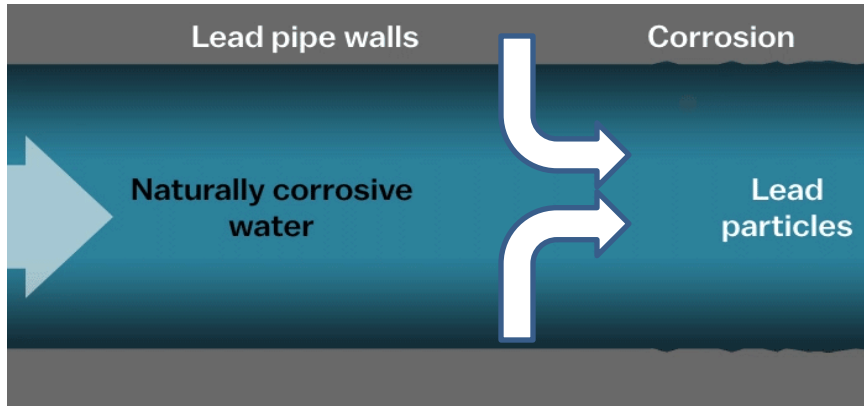
Appropriate Sampling Methods

“The idea of science as a public good is being lost”

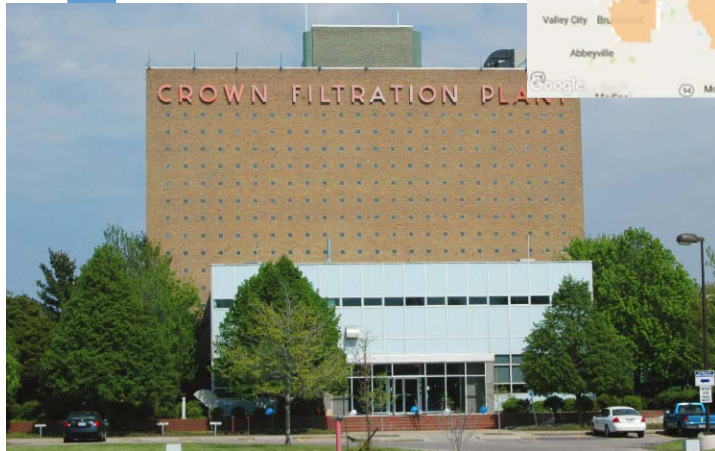
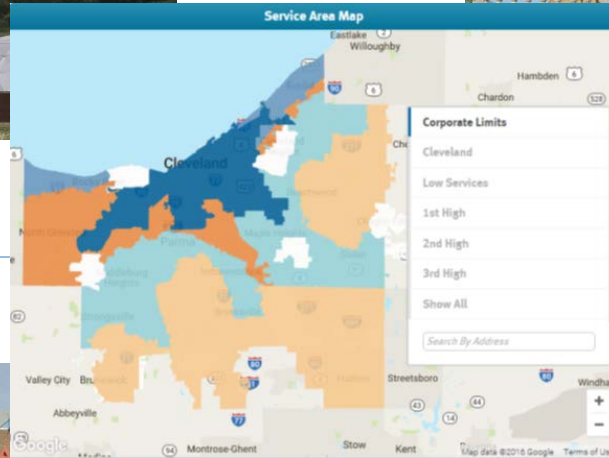
# Where Does Most Lead Come From?



# Pipe and Plumbing and Fixtures.....



# Cleveland Water Plants and Distribution





# Historical Treatment in Cleveland

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- ▶ 1856 to 1911 – water was distributed untreated
- ▶ 1867 to 1874 & 1890 to 1916 – intakes extended further from shore to where the water was cleaner – lots of people getting sick
- ▶ 1911 – Chlorination
- ▶ 1913 – Daily testing
- ▶ 1917 – Filtration
- ▶ 1956 – Fluoride
- ▶ 1997 - Orthophosphate

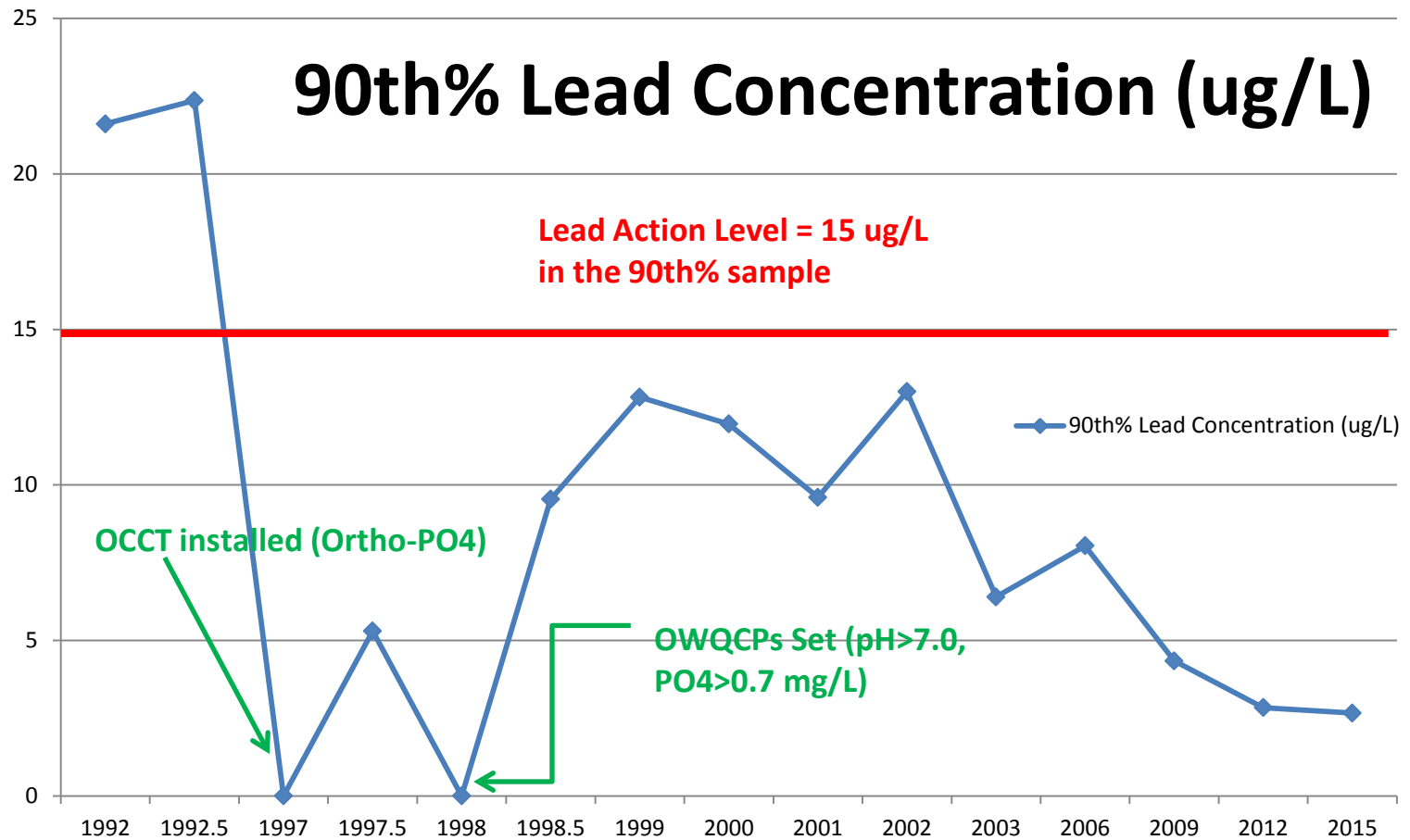


# Cleveland Water's Results:

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- ▶ Ohio EPA Compliance Levels:
  - ▶ Lead: 90<sup>th</sup> Percentile < 15 ug/L (“parts per billion”)
  - ▶ Copper: 90<sup>th</sup> Percentile < 1300 ug/L
  
- ▶ Cleveland Water Results (2015 summer):
  - ▶ Lead: < 5 ug/L (i.e., below reportable detection limit)
  - ▶ Copper: 70 ug/L (i.e., barely above reportable detection limit)
  
- ▶ Summary – **Our treatment works and it works well**

# How's Our Lead?



# Lead – Water Quality Parameter Monitoring

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- ▶ **Lake Erie is an incredibly stable, consistent source water supply**
  - ▶ Makes maintaining consistent chemistry during treatment process easier
  - ▶ Results in more consistent final product sent to customers
- ▶ **Key corrosion control parameters for us are pH and orthophosphate**
  - ▶ pH balance ensures water is not too acidic which causes it to become corrosive
  - ▶ Orthophosphate forms barrier to prevent lead from leaching into the water
- ▶ **Both pH and orthophosphate are monitored regularly throughout our treatment process**
  - ▶ pH checked every 2 hours, 24 hours a day, 7 days a week
  - ▶ Orthophosphate feed rate checked every 2 hours, 24 hours a day, 7 days a week
    - ▶ Also verified by analytical testing several times each week
- ▶ **Consistency, Consistency, Consistency, and Consistency are key**  
(source)                      (treatment)                      (dist. oper.)                      (customer use)

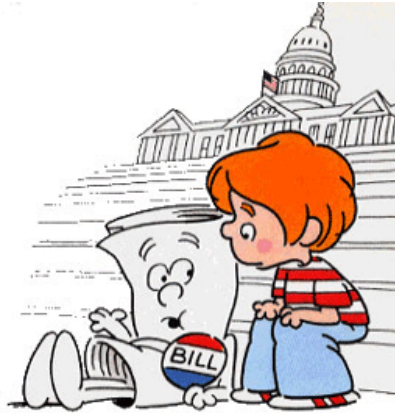


# House Bill 512

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▶ June, 2016

▶ Big changes:



- ▶ Sampling technique and locations to be revisited
- ▶ Data Handling and deadlines for laboratories
- ▶ Public Notification methods, deadlines for PWSs
- ▶ OEPA considers Action Levels as a MCL (not a T.T.)...sort of
- ▶ Rethinking Reduced Triennial monitoring..... 🤔
- ▶ Inventorizing of pipe materials and mapping

# Building the database and our Objectives

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- ▶ We knew we had to develop a map
- ▶ We knew we had the data to do it
- ▶ We had other customer service objectives separate from HB512:
  - ▶ We wanted to inform our customers to ease their concerns
  - ▶ We wanted to continue being as transparent as possible
  - ▶ We believe in giving good information so our customers can make the best decision for their situation
  - ▶ Orthophosphate works....people need to know that
- ▶ **Tell your story...if you don't someone else will and it may not be the story you want and/or it will be inaccurate**

# Lead Service Lines in Cleveland Water

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- ▶ Ownership is to the curb stop (city-side)
- ▶ Pre-1954, virtually all lead on new installs (Cleveland side)
  - ▶ Based upon record reviews, as-built reviews, interviews with retired employees, and any available information
- ▶ Virtually all of our 70 suburban communities mirrored our design standards.
- ▶ GIS is our asset management tool, so geolocation is already in place
- ▶ We had 3 separate databases dating to 1986 that were “merge-able” ....sort of....

# Problems with data

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- ▶ We weren't positive when suburbs stopped using lead
- ▶ Repair Records (average 2000 service lines/year):
  - ▶ Addresses didn't always match
  - ▶ Old days not always precise ("10 feet from to 3<sup>rd</sup> hydrant from intersection"....in 1956)
  - ▶ Paper copies missing (namely 1954-1986)
- ▶ Problems with street names (E 79, E. 79, East 79, E 79<sup>th</sup>)
- ▶ 30 years of databases (1986 to present) didn't play well together
- ▶ Had absolutely no knowledge of what was on customer side of curb stop (AMI meter replacement shortcoming)



# Our Lead Service Line Inspector Retired

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# Get The Tool Done

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- ▶ **Massive effort**
  - ▶ In-house data people and a database contractor
  - ▶ Pipe repair crews
  - ▶ Billing
  - ▶ Engineering
  - ▶ Distribution and Maintenance
  - ▶ Meter records
  - ▶ AMI data where available (especially vault installs)
  - ▶ GIS
- ▶ **Data reconciliation was done by a consultant**

# Results?

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- ▶ 180,000 lead service lines on city-side
- ▶ 47% of all service lines were lead
- ▶ First tier, older cities were the highest, as expected.
- ▶ Some cities up to 90% lead service lines, others 0%
- ▶ Some streets all lead, then all copper (age dependent)
- ▶ We believe customer-side lead is only about 3%

# Released the Tool on October 12, 2016

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We are committed to being as transparent as possible with our customers, and this tool is another opportunity to empower our customers through knowledge...

...The health and safety of our customers is very important to us. That's why we carefully and consistently treat our water to ensure it continues to meet and exceed all Federal and State regulations – including those related to lead.

-Cleveland Water Commissioner Alex Margevicius



# Website.....

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- ▶ <http://www.clevelandwater.com/your-water/water-quality-and-treatment/lead-treatment>

# Public Affairs (KEY PLAYERS!!!)

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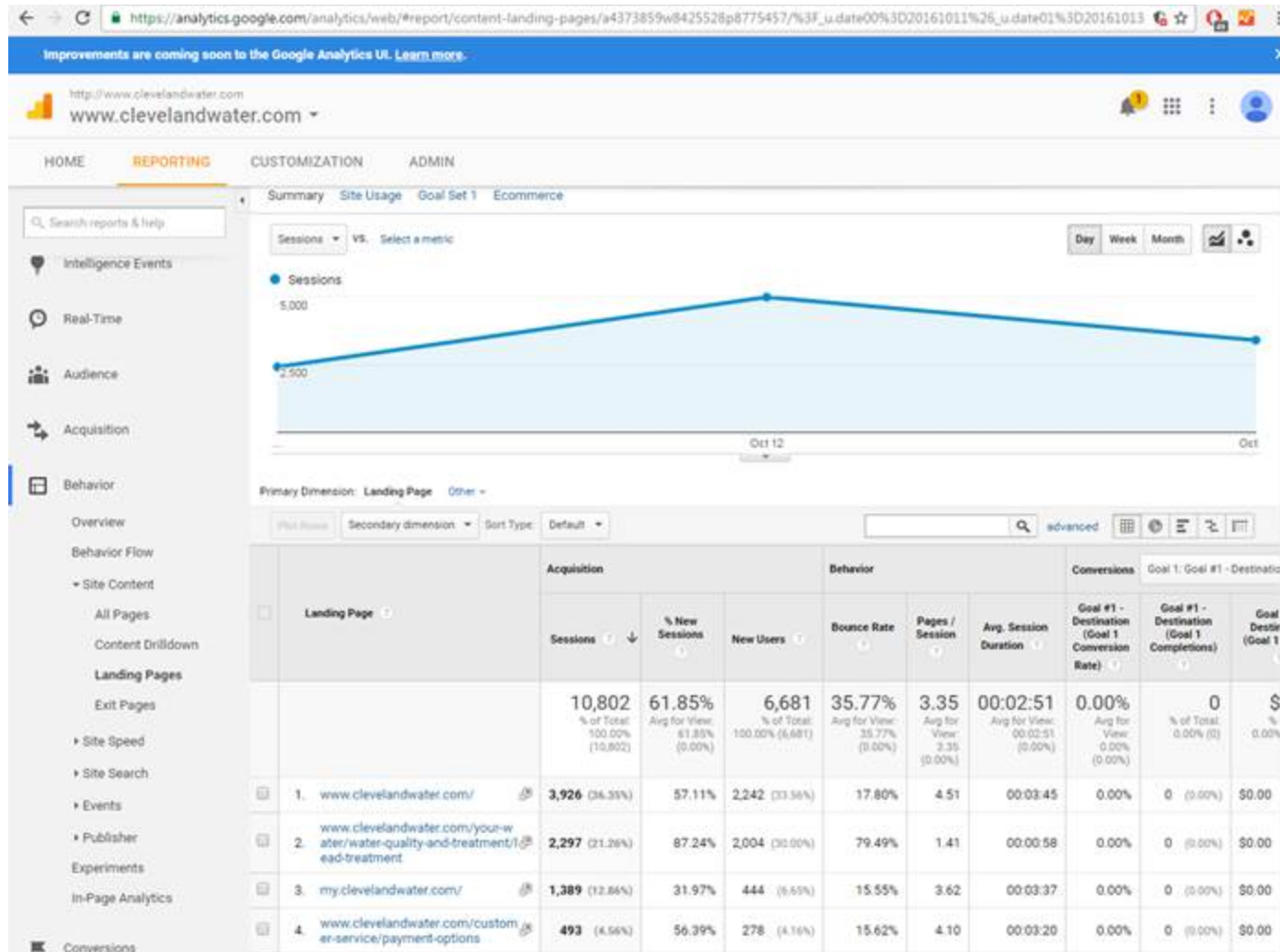
- ▶ In order to get information out, Cleveland Water knew it was important to utilize a variety of mediums to reach customers...
  - ▶ Video; social media; traditional media (i.e., newspaper and television) engaged strategically; website and news blog; City of Cleveland, Cleveland Water and Public Health answering points; etc.
- ▶ And to break this complicated issue into bite (and byte) sized messages that were easy for the public to understand...
  - ▶ Focus on orthophosphate treatment; Lead Connection Lookup; what customers can do/should know; and where to go for information and questions.

# Customer Responses

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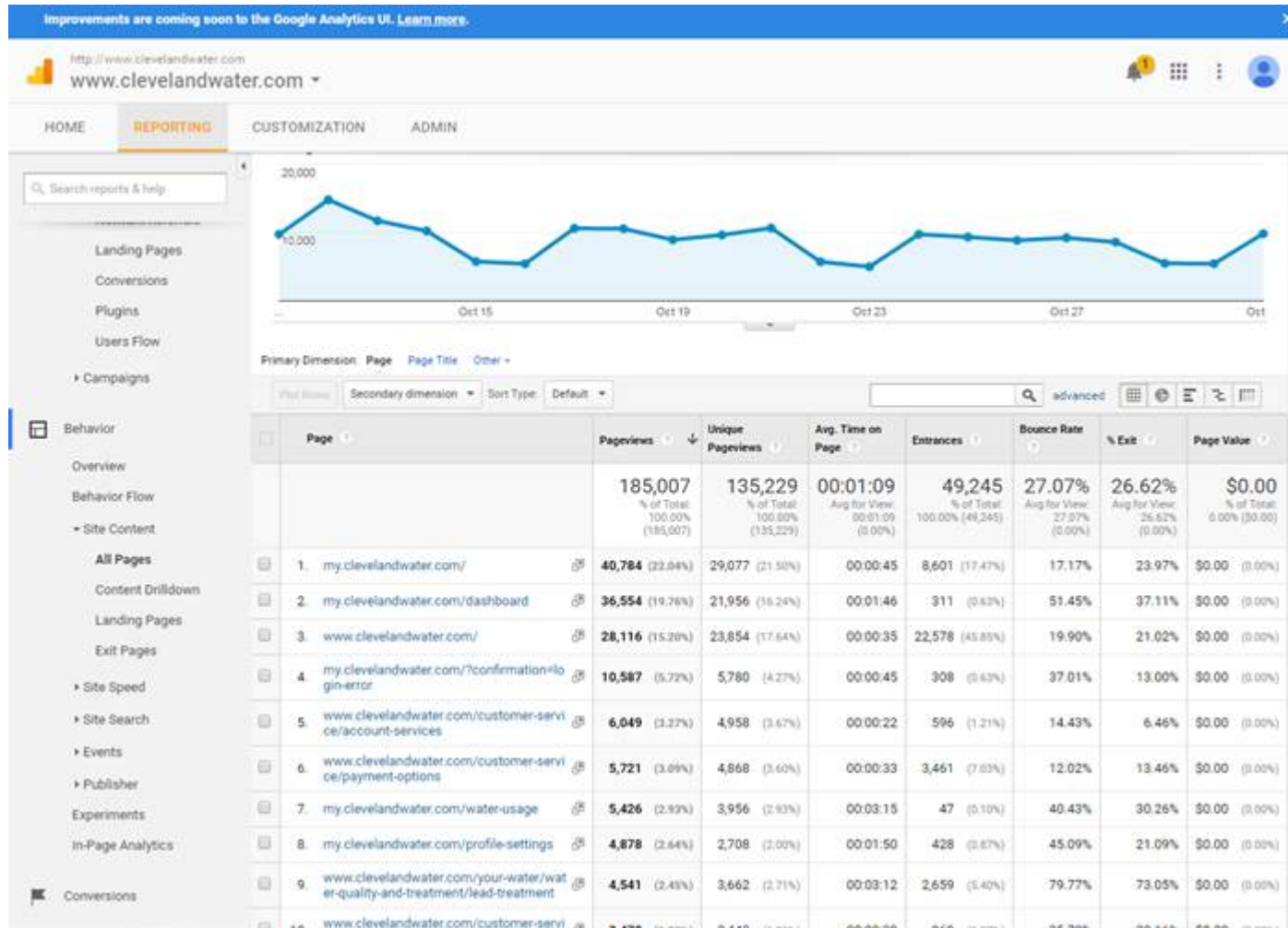
- ▶ Lead Inquiry Line set up (216-664-2882)
  - ▶ Keep off of my Water Quality Line (216-664-2639) and off of Customer Service and 24-hour Hotline numbers
- ▶ Scripts prepared for a handful of people to answer
- ▶ Difficult or technical questions went to 3 people
- ▶ What about sampling my house?
- ▶ My child has a high blood lead level....sample?

# Website Analytics



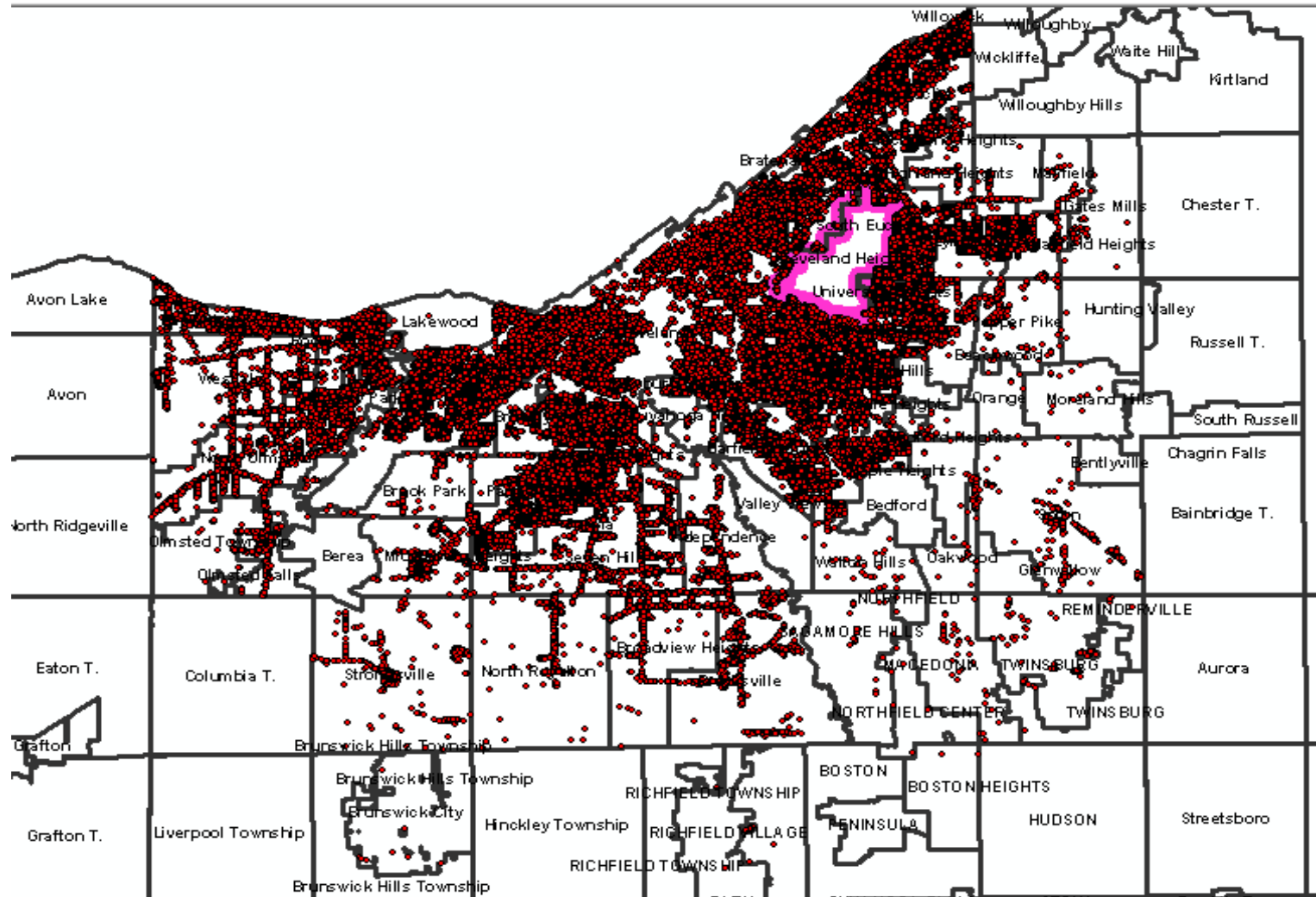


# Website Analytics

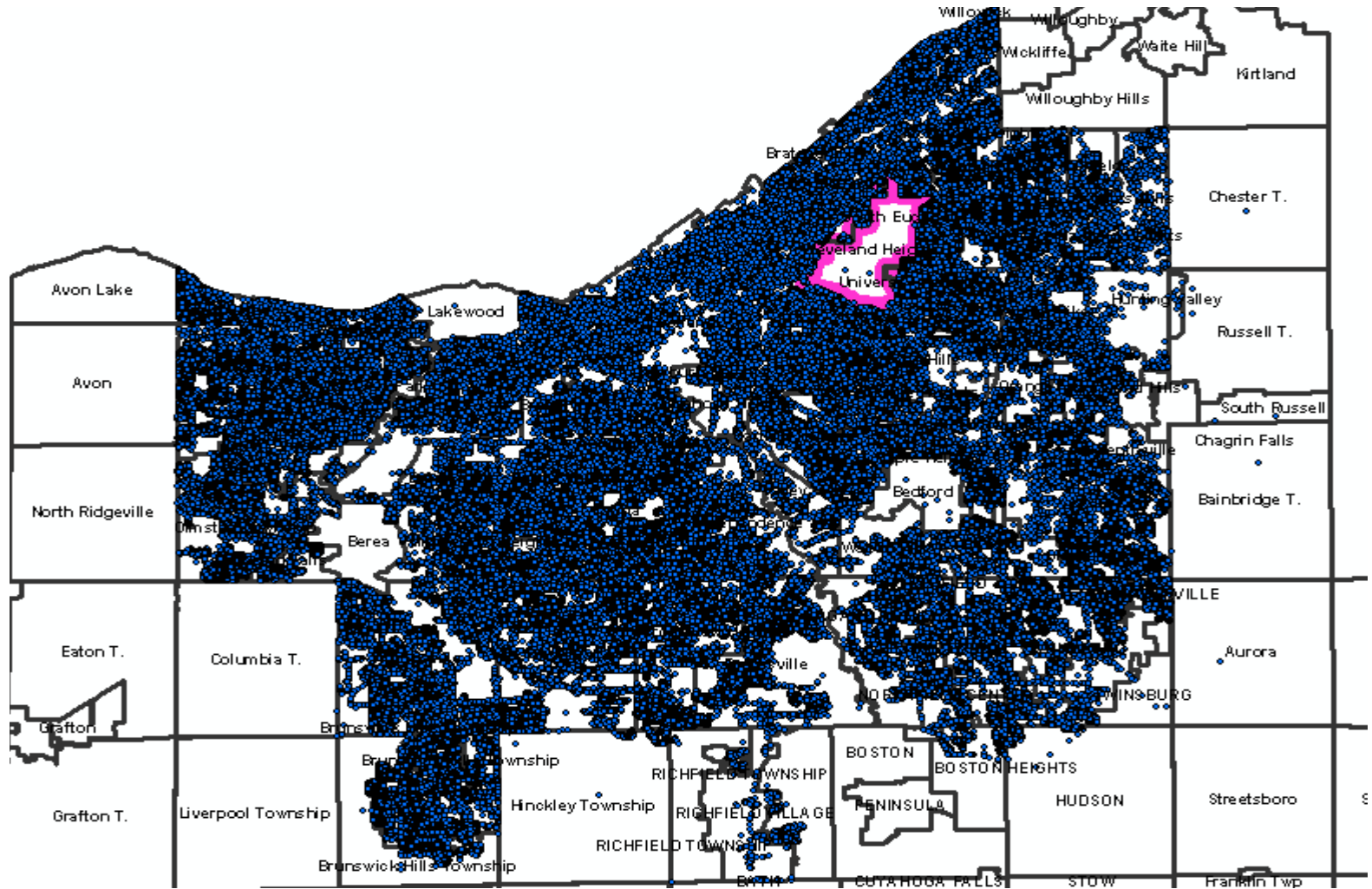




# Lead City-side Connections plotted:



# Copper/Galvanized City-side Connections



# Going Forward

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- ▶ **Need customer side info and clean up city side info:**
  - ▶ Repair crews (record piping on both sides of curb stop)
  - ▶ Meter crews (in house, record the pipe)
  - ▶ Hydraulics crews (if in house, record the pipe)
  - ▶ Water quality complaints (if in house, ask to see the meter, record the pipe)
  - ▶ Plumbers fixing customer side need to call the Lead Inquiry Line when they see the curb stop
  - ▶ Customers can help themselves (scratch test, magnet test) and call the Lead Inquiry Line
- ▶ **IF YOU SEE A SERVICE LINE, YOU NEED TO RECORD IT!**

# Going Forward, cont.

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- ▶ Strategically remove lead service lines using the database and map information
- ▶ Will be easier to update the map every 5 years
- ▶ We will fully utilize our GIS as the asset manager
- ▶ Website analytics prove it was a good investment in time
- ▶ May have other uses (Boil Advisories, HAB issues, etc.)

Thank You

Scott Moegling, Water Quality Manager