Target 2033: Cincinnati’s Program to Eliminate Lead Pipes

Columbus, Ohio
August 27-30, 2018

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Presentation Agenda

- Harmful effects of lead
- Problems of lead in drinking water
- GCWW lead service lines (LSL) issues
- GCWW Lead Service Line Replacement Program (LSLRP)
- Challenges faced with the LSLRP
- What GCWW has done to date replacing lead service lines
- Questions
Why is lead a concern?
Answer: It is Toxic.

- Lead can be found in many places: soil, air, water, toys, food, household items, etc.
- No safe level of lead - Goal of zero lead
- Irreversible brain damage, direct impact on IQ, impair memory and executive functions, behavior problems, etc.
- Children most at risk
- Relationship between consumption and blood lead levels
- Lead affects individuals and communities as a whole
- Cincinnati Lead Study – University of Cincinnati, groundbreaking study: “Association of Prenatal and Childhood Blood Lead Concentrations with Criminal Arrests in Early Adulthood”
- Low-level lead exposure may be a significant risk factor for heart disease
Why is lead a problem in drinking water systems?

- The lead risk in water:
  - Water services lines. Estimated 6.1 Million in U.S.*
  - Fixtures and fittings containing lead
- The solution for drinking water:
  - Keep lead contained (via a pipe coating)
  - Remove lead bearing materials
- However:
  - Containment doesn’t always work, or gets disrupted
    - Flint, MI – no corrosion control treatment
    - Disturbance of a water service (such as water main replacement project or home plumbing work) can cause spikes in lead
    - Stagnant water or low usage fixtures can result in elevated lead levels
  - Removal is the only way to permanently mitigate risk

* From Cornwell, et al. JAWWA 2016
The Extent of the Problem
Lead Service Lines by State

Estimated Number of Lead Service Lines by State*

* From Cornwell, et al. JAWWA 2016
Lead Service Line Replacement
Problem - It’s Expensive

• GCWW stopped using lead service lines in 1927
  – GCWW records indicate ~44,000 lead branches
    • ~39,000 lead branches within Cincinnati limits
    • ~5,000 lead branches within surrounding municipalities we serve

• Replacement costs:
  – Current estimate around $5,500 per branch, private side replacement only
  – That’s at least a $242,000,000 bill
What does GCWW do to control lead in drinking water?

- Lead & Copper Rule (LCR)
  - Must provide optimal corrosion control treatment (to contain lead)
  - Test “worst case” homes to ensure it is working
- GCWW has had corrosion control treatment for years
  - Goal to immobilize lead through coating deposition on pipe walls
  - Corrosion control treatment is working
  - Less than 15 parts per billion in more than 90 percent of the samples (97% of 3,907 tests analyzed)
- However, only so much can be controlled by water utility
GCWW Enhanced Lead Program

Brief History

- Flint, MI and national attention towards lead service lines
- October 2016 Cincinnati City Council passes Ordinance No. 326-2016
  - Replace all known public and private LSL within fifteen years
  - Property assessment as financing option for Cincinnati property owners
  - Establish a customer assistance program, Help Eliminate Lead Pipes (HELP), to help-low income property owners with replacement costs
- Created a two tier approach
Tier 1 Lead Program Solutions: 
Communication and Education

- lead.mygcww.org
- 513-651-LEAD Hotline
- Social Media
- Letters sent to customers who have lead service branches
- Free Lead Testing
- School Lead Testing
- Partnership with local Health Departments
- Water Filter Pitchers
- LSL Lookup Map
LSL Lookup Map
Tier 2 Lead Program Solutions: Lead Service Line Replacement Program (LSLRP)

- June 2017 Cincinnati City Council passed several ordinances to establish our LSLRP. LSLs are no longer permissible
  - Ordinance No. 185-2017 modified provisions of Cincinnati Municipal Code (CMC) Chapter 401 giving GCWW the authority to operationalize the LSLRP and replace LSLs in our service area
  - Ordinance No. 186-2017 established the funding needed to perform the LSLRP
  - Ordinance No. 187-2017 established the mechanisms necessary to start the customer assistance program.
Lead Service Line Replacement Program

When are LSLs Replaced?

- As part of GCWW water main replacement project
  - Capital Improvement Projects
  - Street Improvement Projects
- “One-Off’s” (Pre-qualified Plumbers/Contractors List)
  - Customer contacts GCWW and wants their LSL replaced
  - Customer has leaking or damaged LSL needing replacement
  - Customer has missing meter and service line is a LSL
  - As part of development project requiring new water main with existing LSL
  - Home demo/renovations requiring LSL work
Lead Service Line Replacement Program

Replacement Process

• Initial water main replacement letter (water main replacement projects only)
• 45-day letter notification – Property owner contract
  – Option 1; self-perform replacement
  – Option 2; join LSLRP program
• Replacement of LSL
• Post construction information/water filter pitcher
• Final bill to property owner with payment options
  – Pay in full, partial pay or assessment option
  – Pay in full, if no assessment option available
• Appeal (21-days to appeal bill)
• Legislative Approval of Assessments/Certification to County Auditor
• Repayments received from County via property taxes to GCWW for costs of LSL replacements
Lead Service Line Replacement Program

Program Benefits

- GCWW coordinates all the work
- Cost Sharing Program, up to 40% ($1,500 Max.) of private side replacement cost will be provided by utility (all property owners)
- Property Assessment (0% interest) to pay balance over 5 or 10 year period (Cincinnati only)
- Customer Assistance Program (HELP) for low-income customers to obtain additional money towards the balance. Currently 30% reduction of final bill after GCWW cost participation
Lead Service Line Replacement Program

Replacement Example

- $5,500 replacement cost
- Minus $1,500 cost share by GCWW
- $4,000 remaining property owner balance
- Property owner elects to pay back over 10 years
  - divided by 10 payments (2/yr)
  - = $200 added to semiannual tax bill
  - = $33.33 per month
- If qualified for HELP Program = $23.33 per month
- Monthly payments is approximately 50% less than original amount
Lead Service Line Replacement Program

Challenges - Affordability

• Across Hamilton County, over one-third of households, more than 110,000, are burdened by the cost of their housing and spend more than 30% of their income on housing costs.¹
• Water/sewer bill already financially challenging for many
• Payback options limited for jurisdictions outside of Cincinnati
  – Traditional or home equity loans
  – Hamilton Co. Home Improvement Program
• No grant assistance available for Ohio
  – State Revolving Fund (SRF) loans are available

¹ Housing Affordability in Hamilton County; An analysis of households, housing affordability, and housing subsidy in Hamilton County and Cincinnati, Ohio, February 2017; Community Building Institute (CBI) at Xavier University and Local Initiatives Support Corporation (LISC) of Greater Cincinnati & Northern Kentucky
Lead Service Line Replacement Program
H.E.L.P. – Help Eliminate Lead Pipes

- Customer assistance program for qualified property owners to assist in cost of LSL replacements
- Any property owner may apply
- Donations fund the program. Partnering with a non-profit (501c3)
- One-time cost benefit applied as a credit on the LSL replacement final bill
- Property owner income must be equal to or less than the Low-Income (80%) Limits for Hamilton County as defined by HUD Income Limits Summary.
- Qualifying customers receive a 30% credit applied to their final LSL replacement bill after any GCWW cost participation benefits have been applied.
Lead Service Line Replacement Program
What have we done to date?

• Since January 2016:
  – 875 removed on “Public Side”
  – 395 removed on “Private Side”

• Since Dec 2017 LSLRP Launch:
  – Started 25 water main replacement projects with LSL replacements
  – Initiated 116 “one-offs” requesting LSL replacement
  – Removed 47 “Private Side” with 179 more soon to be replaced
  – Averaging about 30% participation rate for LSL replacements on water main projects
Lead Service Line Replacement
It’s the right thing to do

The cost of no action can be substantial:

- In an effort that would have saved approximately $5 million, the city of Flint will suffer losses 80-fold greater\(^1\)

The health impacts of reducing lead exposure are documented:

- A 2016 study from the National Bureau of Economic Research found that even miniscule differences in childhood lead exposure can have a significant impact on educational performance.\(^2\)
- Prenatal and postnatal blood lead concentrations are associated with higher rates of total arrests and/or arrests for offenses involving violence.\(^3\)

\(^1\)Environmental Health, Community Health, Healthcare Policy Aug. 16 2016


\(^3\)Association of Prenatal and Childhood Blood Lead Concentrations with Criminal Arrests in Early Adulthood, John Paul Wright, Kim N. Dietrich\(^*\), M. Douglas Ris, Richard W. Hornung, Stephanie D. Wessel, Bruce P. Lanphear, Mona Ho, Mary N. Rae, PLoS Medicine, May 2008

Greater Cincinnati Water Works – 1817 to 2017 - H200 – Celebrating 200 Years
Lead Service Line Replacement
It’s the right thing to do

• The economic benefits make sense:
  – Removing leaded drinking water service lines from the homes of children born in 2018 would protect more than 350,000 children and yield $2.7 billion in future benefits, or about $1.33 per dollar invested.¹

$242M investment in our region = $322M benefit

¹The Pew Charitable Trusts / Research & Analysis / 10 Policies to Prevent and Respond to Childhood Lead Exposure, August 30, 2017
Lead Service Line Replacement
Available Resources

Lead Service Line Replacement Collaborative - www.lslr-collaborative.org
Greater Cincinnati Water Works – 1817 to 2017
- H200 – Celebrating 200 Years

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