

Lead Service Line Replacement FREQUENTLY ASKED QUESTIONS

What are lead service lines and why is it important to replace them?

Drinking water comes from the water main under the street to a residence or to commercial buildings through pipes called “service lines.” When any portion of these pipes is made of lead, they are called lead service lines (LSLs).

Lead can enter drinking water when pipes and plumbing fixtures that contain lead corrode, especially where the water has high acidity or low mineral content. Young children, infants, and fetuses are particularly vulnerable to lead. A dose of lead that would have little effect on an adult can have a significant effect on a child.

"Access to public water sources that are safe and reliable is crucial for the health and prosperity of a society."

— Centers for Disease Control and Prevention

LSLs are rarely found in sizes greater than 2” in diameter. Buildings with larger service lines, such as schools, large apartments, or commercial buildings, are less likely to have them. Smaller buildings, which tend to have smaller service lines, may have LSLs. Explicit attention should be given to child care and schools in developing LSL replacement initiatives, since home-based child care facilities or small school annexes may be housed in these smaller buildings with LSLs.

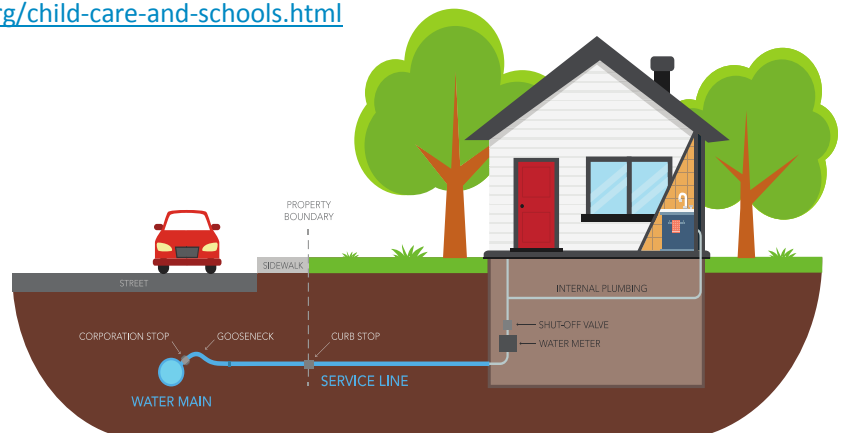
Public health principles begin with prevention. Removal of LSLs provides an opportunity to significantly reduce the risk of exposure to lead in drinking water. While measures to control corrosion reduce lead in drinking water in many communities, LSLs can unpredictably release potentially significant amounts of lead into water. For homes with LSLs, the service line typically contributes the greatest percentage of lead to the tap. With the reduction of lead in new plumbing material, the next large opportunity for reducing the risk of exposure to lead in drinking water is the removal of LSLs.

→ Learn more about LSL replacement at:

<https://www.lslr-collaborative.org/intro-to-lsl-replacement.html>

→ Learn more about childcare facilities and schools at:

<https://www.lslr-collaborative.org/child-care-and-schools.html>



What are some basic ideas to keep in mind?

- A collaborative, community-based approach, built on contributions from local elected officials, health officers, water utilities, community leaders, and residents can help provide the strong foundation needed for successful action.
- LSL replacement initiatives must benefit households with LSLs regardless of income, race or ethnicity.
- LSL replacement initiatives must be designed to ensure residents are protected during and after the removal and that the work is done in a cost effective manner.
- Successful LSL replacement initiatives will take careful planning and time.

“Lead poisoning is a problem we can solve. We can eliminate unnecessary lead exposures, but only if we commit to looking at lead exposure holistically and to implementing comprehensive solutions that address the entire range of exposures within a given community.”

— Amanda Reddy, Executive Director, National Center for Healthy Housing†

What should we do first in considering replacement of LSLs in our community?

Local elected officials and community leaders should start by contacting the local water utility to ask whether a proactive initiative to fully replace all LSLs is underway in the community. If it is, get the details and see how to help. If not, ask what the barriers are.

Water utilities in the process of planning a proactive LSL replacement initiative or reviewing ways to accelerate an existing initiative will find it useful to engage elected officials, the public health department, community leaders, state regulators and others early on in the process to get their perspectives and expertise. Additionally, local elected officials or water utilities could form an advisory group to discuss options and an internal team to help coordinate the planning process.

In getting started, people may not initially agree on whether and/or how to implement a full LSL replacement initiative. Some community members or public officials may place a priority on moving ahead aggressively, whereas others will have questions or concerns. A collaborative process that engages all voices in the community with respect for different perspectives will help to ensure everyone is on the same page and working together towards a common goal.

Another concrete early step is to learn how many and where LSLs are located in your community. The water utility is an important starting point to learn what information currently exists and what is needed to complete an inventory.

→ Learn more about how to conduct an inventory of LSLs at:

www.lslr-collaborative.org/preparing-an-inventory.html

How much does it cost to replace LSLs and who pays?

Estimates for replacing LSLs vary, but a reasonable average is about \$6,000 per line for full replacement from the water main to the residential structure. Total costs to the community depend on many factors, including the number of LSLs to be replaced, policies for who pays, and strategies for responding to individual requests and/or incorporating replacement in a long-term capital improvement budget.

Communities have taken different approaches to the question of who pays. In some communities, utilities are able to incorporate the costs of full replacement in their rate base, so that the community as a whole shares the costs. In other communities, the utility may not be allowed to do this and splits the costs with the private land owner, although the utility may provide assistance to low-income property owners. The Environmental Protection Agency and states have already begun to make funds available to communities.

→ Learn more about funding LSL replacement initiatives at:
www.lslr-collaborative.org/funding.html

Why is full LSL replacement important?

The goal is replacing LSLs in their entirety. Partial replacements are likely to increase lead levels for a potentially lengthy period of time after replacement. Partial replacements have been used when the utility rehabilitates the main line and only replaces the portion of the service line under the street or when a line on private property leaks. These cases often occur when the utility does not own the full LSL and is unable to obtain permission from the property owner to replace their portion.

Partial LSL replacements will need to be viewed only as a temporary, stopgap measure. When it is only feasible to remove a portion of the LSL, the balance of the replacement should be accomplished as soon as practical and other procedures, such as filters, should be implemented in the interim

How are lead service lines replaced?

Options for replacement include:

- **Open trench** – Historical approach that typically requires cutting and breaking of surface material and excavation of soil from the point of connection to the main along the entire length of pipe to be replaced.
- **Replacement on new routes** – A pipe replacement technology whereby the discarded pipe is left in the ground and a new pipe is installed along a different route using a trenchless method such as impact moling or guided boring. Two access pits are excavated, one at the point of connection at the water main and the other at the curb stop. An additional access pit can be required at the building and at the water meter.
- **Replacement using existing routes (pipe pulling, pipe splitting)** – Currently the preferred technique. This approach removes or displaces existing pipe while simultaneously replacing it with a new pipe. Techniques include pipe pulling, which removes the existing pipe and pipe splitting, leaving the existing pipe in the ground but enabling the new pipe to be installed along the original route.

LSLs are typically replaced with copper or polyethylene pipe. Actual material choice will depend on site characteristics, installation approach, and local codes.

→ For factors to consider in selecting an approach and for health and safety precautions, see:
www.lslr-collaborative.org/understanding-replacement-techniques.html

What policy options might help accelerate LSL replacement?

States and communities have different needs and concerns, so different policies will be appropriate in different locations.

→ For information about policies related to access to funding, helping communities make informed decisions, requiring LSL replacement, engaging lead poisoning prevention programs, and improving communication about risk, please see:

www.lslr-collaborative.org/policies.html

“We need to make the replacement of service lines and water mains affordable for homeowners and the overall community. As the water utility, we felt we needed to lead the way and started the conversation in our city. We had a big stake in it but also realized we needed community partners because we couldn’t do it alone.”

— Cathy B. Bailey, Executive Director of the Greater Cincinnati Water Works†

How can we get additional information?

The LSL Replacement Collaborative provides extensive information at: www.lslr-collaborative.org. This site includes information about planning for LSL replacement, replacement practices, policies adopted by state and local governments to accelerate LSL replacement, and more.

The current members of the LSL Replacement Collaborative are (*Steering Committee members):

- American Public Health Association
- American Water Works Association*
- Association of Metropolitan Water Agencies*
- Association of State Drinking Water Administrators
- Blue Green Alliance
- Children’s Environmental Health Network*
- Clean Water Action*
- Environmental Defense Fund*
- Green and Healthy Homes Initiative
- Justice and Sustainability Associates
- Learning Disabilities Association of America
- National Center for Healthy Housing
- National Association of County and City Health Officials
- National Association of State Utility Consumer Advocates
- National Association of Water Companies
- National Conference of State Legislatures
- National Environmental Health Association
- National League of Cities
- National Rural Water Association
- Natural Resources Defense Council
- Northeast Midwest Institute
- RESOLVE*
- Rural Community Assistance Partnership
- Trust for America’s Health
- United Parents Against Lead
- Water Research Foundation

† Select quotes attributed to: MPH@GW, the [online MPH program](#) from the Milken Institute School of Public Health at the George Washington University