

ISSUE BRIEF

REPLACE THE PIPES, INVEST IN PEOPLE: LEAD PIPES IS A GOLDEN OPPORTUNITY FOR EQUITABLE ECONOMIC GROWTH, JOBS, AND PROTECTION OF CHICAGOANS' HEALTH

Beneath Chicago's streets lie more lead pipes than in any other U.S. city. These lead service lines (LSLs)—i.e., pipes made of lead that carry water from the public water main into homes—can contaminate drinking water and pose serious health risks.¹ Although the city began its LSL replacement program in 2021, by the end of 2025 it had replaced only 15,000 of its estimated 412,000 LSLs.² Chicago cannot continue at that slow pace; the 2024 federal Lead and Copper Rule Improvements (LCRI) will require the city to replace approximately 20,000 pipes a year beginning in November 2027.³



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A plumber with Chicago's Department of Water Management attaching a copper service line as he works to replace existing lead lines.

Adhering to the LCRI is an opportunity for Chicago to address the city’s aging water infrastructure and protect the health of Chicagoans. Because meeting the federal timeline will require a larger workforce, it is also an opportunity for the city to build employment pathways for residents in historically underinvested neighborhoods. A recent report estimates that LSL replacements could generate up to 90,000 jobs in Illinois over a decade, the majority of which are likely to be in Chicago.⁴ In fact, LSL replacements in Chicago represent a multi-decade infrastructure investment that can be leveraged to drive equitable job recruitment, training, and placement.

In Chicago, predominantly Black neighborhoods have the highest unemployment rates, as well as disproportionately high rates of LSLs. Making targeted investments in these neighborhoods will not only help address water workforce shortages but also expand employment pathways for residents facing limited economic mobility.

To achieve these goals, this brief proposes that government officials, contractors, unions, and educational institutions align around a project labor agreement as a framework to equitably scale Chicago’s water workforce and lay the foundation for a coordinated water infrastructure workforce ecosystem.

LEAD SERVICE LINES ARE A SERIOUS HEALTH HAZARD FOR BLACK CHICAGOANS

There is no safe level of lead exposure. Lead can cause serious damage to the brain and nervous system and is especially dangerous for the brain development of children and fetuses.⁵ There is strong evidence that people of color, particularly Black children, are at substantially higher risk of having elevated blood levels than are non-Hispanic white children.⁶

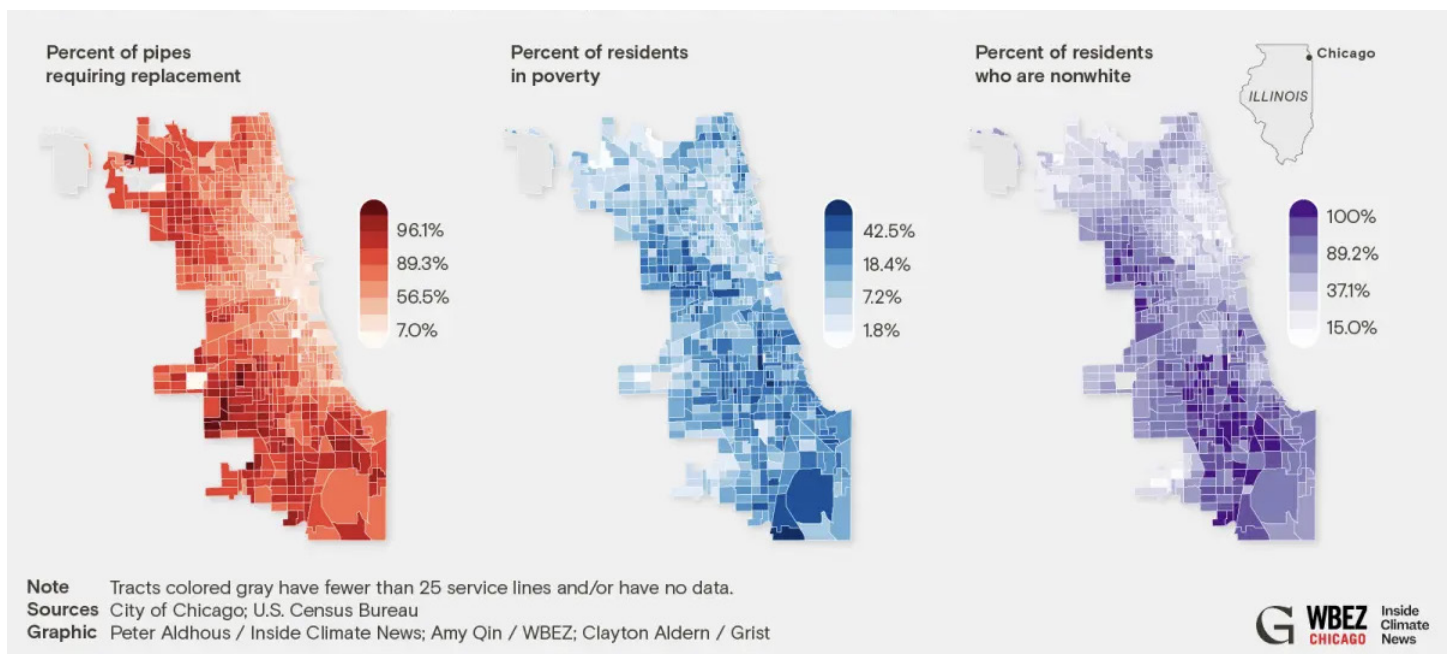
Although lead pipes are found in every neighborhood, evidence suggests that lead-contaminated water disproportionately affect communities of color.⁷ A mapping analysis shows that approximately 89 percent of households in majority-Black census tracts need their lead service lines replaced (figure 1).⁸

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Part of a lead service line removed from outside a home in the West Roseland neighborhood of Chicago.

Figure 1: How Chicago’s lead pipe problem maps against poverty and race



Source: WBEZ Chicago, “How We Mapped Chicago’s Lead Service Lines and What We Learned,” August 2025, <https://www.wbez.org/environment/2025/08/28/how-map-chicagos-lead-service-line-distribution-what-we-learned>.

UNEMPLOYMENT RATES ARE DISPROPORTIONATELY HIGH IN BLACK CHICAGO

High unemployment rates paint a stark economic picture for Black residents on the South and West Sides. While the citywide unemployment rate sits at 8 percent, Black neighborhoods see unemployment rates reaching as high as 23 percent (table 1). High unemployment rates lead to lower household income, creating economic insecurity and perpetuation of poverty. According to a report from the Chicago Community Trust, the median net worth of Black households is virtually zero.⁹

TABLE 1: UNEMPLOYMENT IN PREDOMINANTLY BLACK CHICAGO NEIGHBORHOODS RELATIVE TO THE CITYWIDE RATE

Neighborhood	Percentage of Black Residents	Unemployment Rate (%)
Riverdale	94.8	30.2
Englewood	85.8	23.0
West Pullman	88.6	19.8
West Garfield Park	89.1	18.9
Burnside	91.8	18.8
East Garfield Park	79.0	18.4
Auburn Gresham	92.7	17.6
Roseland	91.8	17.4
Grand Boulevard	84.0	17.2
Washington Park	91.9	17.1
Greater Grand Crossing	88.1	17.1
Chatham	92.1	16.7
West Englewood	68.0	16.3
Douglas	64.1	15.6
North Lawndale	78.5	15.6
South Deering	62.2	15.3
Austin	69.0	15.2
South Shore	90.0	14.9
South Chicago	68.9	14.6
Oakland	83.6	14.0
Pullman	77.1	13.4
Woodlawn	75.9	12.9
Washington Heights	93.0	12.3
Kenwood	63.0	12.0
Calumet Heights	92.3	11.3
Morgan Park	61.1	9.4

Note: Citywide unemployment rate is 8.0 percent. *Source:* Chicago Metropolitan Agency for Planning, *Chicago Community Data Snapshot*, June 2026, https://www.emap.illinois.gov/wp-content/uploads/dlm_uploads/Chicago.pdf.

At the same time, residential water rates continue to climb in Chicago and nationally, and low-income households are spending a disproportionate share of their income on water bills.¹⁰ For many families, the financial burden is deepened due to a distrust of household tap water, leading them to spend part of their income on bottled water as an alternative. Research shows that Black households are less likely to drink their tap water due to concerns with water quality—and as shown in figure 1, these concerns are not misplaced in Chicago.¹¹

As Chicago expands its water workforce, prioritizing job training in neighborhoods most impacted by high unemployment rates will expand economic opportunities for Black Chicagoans.

BUILDING CHICAGO'S WATER WORKFORCE

A report by the nonpartisan group E2 estimates that replacing LSLs nationwide could generate more than 560,000 jobs and drive billions of dollars in economic activity over a 10-year period.¹² While 28 percent of Chicago residents are Black, currently only 10 percent of registered apprentices in the Chicago region are.¹³ Helping Black residents gain access to high-demand careers in the water workforce can start addressing chronic unemployment and other economic disparities while also ensuring that Chicago has the personnel it needs for this transformative public works project.

Chicago's task of replacing 412,000 pipes over two decades is achievable with strong alignment, communication, and planning across stakeholder groups. The ideas below can serve as a framework to discuss practical ways to build Chicago's water workforce capacity and create pathways into a high-demand field for Black residents who disproportionately face economic hardship or difficulty securing well-paying, sustainable employment.



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A City of Chicago municipal worker unscrewing a pipe before replacement of a lead service line.



A construction worker using an excavator to fill in a ditch after replacing a lead service line.

A Project Labor Agreement Would Strengthen Workforce Accountability

For Chicago to scale its water workforce and accelerate the LSL replacement pace, a project labor agreement (PLA) must be central to the solution. A PLA is an agreement between a public entity and labor unions that establishes

shared standards on how workers are hired, trained, paid, and protected when engaging with contractors on infrastructure projects.¹⁴

The Economic Policy Institute has found that Black apprentices and apprentices of color complete union apprenticeship programs at higher rates than when they participate in non-union training programs.¹⁵ Additionally, Black union members earn 28 percent more than non-union Black workers and enjoy better access to benefits (like insurance, retirement, and pension) and better job stability.¹⁶

Cities across the country have launched workforce programs in conjunction with unions (but without PLAs) to help accelerate their LSL replacement progress and address broader water infrastructure needs.¹⁷ For example, the city of Newark, New Jersey, launched a local hiring program that worked in coordination with unions and contractors to help the city replace 23,000 lead pipes in less than three years.¹⁸ However, Chicago's lead pipe challenge is not a short-term capital project; it is a 20-plus-year investment across 77 neighborhoods that requires continuous planning, coordination, and execution. A PLA would ensure that Black people seeking jobs in the water workforce not only have the chance to apply for these new jobs but are hired and positioned to advance through the ranks to secure long-term careers with benefits.

A Chicago PLA must be designed intentionally to ensure that local hiring and apprenticeship pathways connect workers in underrepresented communities to union careers. To be effective, the contract language must explicitly outline expectations and accountability mechanisms for contractors to ensure that the PLA achieves its full potential.



A contractor fixing and closing off a leaking lead service pipe ahead of replacement work on Chicago's West Side.

To meet this challenge, a Chicago PLA should:

- **Set local hiring and recruitment goals.** The PLA should be open to all Chicagoans seeking employment, but it should set meaningful goals to recruit and hire a specific percentage directly from zip codes with the highest unemployment rates.
- **Build local skills pipelines.** Unions, workforce development organizations, and educational institutions should collaborate to develop pre-apprenticeship and pre-certification programs for residents, laying the foundation for the workforce pipeline.
- **Obtain hiring commitments.** Contractors should work closely with unions and workforce training providers to share their hiring needs and recruit directly from those curated pools.
- **Set workforce standards.** Unions should be the central voice to set wages, benefits, and safety protocols for all workers.
- **Create career mobility pathways.** Individuals participating in the local hiring program should have opportunities to develop additional skills, join unions, and advance in rank as they gain experience.

Adding a PLA would allow Chicago to replicate the success of Newark's local hiring program while also benefiting from the consistency, coordination, and accountability that a PLA offers.

Chicago Needs a Coordinated Water Workforce Ecosystem to Ensure Success

To ensure the success of a PLA, the city would also benefit from a coordinated water workforce ecosystem for cooperation, recruitment, and job forecasting. Below are a few approaches the city can take to begin actualizing long-term workforce planning.

Assign a czar for LSL replacements: Given the city's large number of lead service lines, the first step in building a water workforce ecosystem is to appoint a lead czar at the head of an internal team whose primary job is to ensure the successful planning, coordination, and execution of LSL replacement projects (in cooperation with the Department of Water Management and the Illinois Environmental Protection Agency). For this position to be effective, the czar and their team must have clearly defined authority, along with budget and staffing resources, to build out each facet of the water workforce ecosystem. The team's aims should include, but not be limited to, deepening coordination with relevant stakeholders; building strategic partnerships with unions, workforce development organizations, and social service providers; addressing bottlenecks and policy/legal impediments that hinder replacement progress; and using data to identify and communicate skill gaps and project needs.

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A construction crew using an excavator during replacement of a lead service line in the West Roseland neighborhood of Chicago.

Leverage anchor institutions: The City Colleges of Chicago, particularly Kennedy King (Englewood), Olive-Harvey (Pullman and West Pullman), and Malcolm X (Near West Side) are in neighborhoods that have some of the highest unemployment rates in the city. Each campus has its own training facilities, programs, and certifications that meet the needs of its students, and each also has a vast network of community relationships that can connect current students and residents to employment opportunities in the water workforce.¹⁹

These community college campuses could:

- Develop, expand, or tailor curriculum and certification offerings to help residents earn water workforce credentials before enrolling in pre-apprentice programs. The lead czar could communicate workforce needs, skill gaps, and certification requirements to ensure that training reflects hiring needs.
- Host job fairs with flexible hours to target residents in the anchor community and surrounding areas.
- Identify community organizations that could share job opportunities via social media, online newsletters, job boards, etc., and provide resources and insights on wraparound services to support retention.
- Create opportunities for contractors and unions to meet directly with candidates on site to discuss upcoming work opportunities and share information about pre-apprenticeship enrollment.
- Support residents with mock interviews, résumé building, and placements for apprenticeships, entry-level jobs, or supervisory roles, depending on individual needs.

Build a job dashboard: The city should collaborate with the Chicago Cook Workforce Partnership, the regional workforce development agency serving Chicago and the suburbs, to launch a job dashboard with real-time updates to integrate communication between the utility, contractors, anchor institutions, and training providers.

- **The local water utility** should inform key stakeholders about upcoming LSL replacement projects, including their locations, the number of workers needed, and the required skill levels.
- **Anchor institutions** should work with community organizations, unions, and workforce development organizations to prepare residents from targeted neighborhoods to apply for opportunities. Chicago high school seniors should be notified of water workforce opportunities through school administrators, counselors, college and career coaches, local school councils, and relevant after-school programs before graduation.
- **Training providers** should adjust their curricula to align with the skills outlined in the project description. This ensures that providers are proactively training residents for jobs and responding directly to needs.

- **Contractors** should communicate hiring timelines and workforce needs to the training providers and recruit talent from a variety of sources. Contractors need ample time to respond to a bid. The earlier projects are communicated, the more sources they can tap into to recruit talent.
- **The lead czar** and their team should serve as facilitators, ensuring that project timelines and workforce needs are met and the project is properly executed.

Chicago's 412,000 known lead pipes present a premier opportunity to tackle public health, water infrastructure, and the economy all at once. By pairing a project labor agreement with a coordinated water workforce ecosystem, the city will create direct pathways into union and trade programs. It will also help build a sustainable water workforce pipeline, which will be critical for future projects given the growing need to modernize the nation's aging water infrastructure. With this sort of ecosystem, all stakeholders have clear lines of communication and sufficient predictability to prepare well in advance for project needs, rather than scrambling at the last minute to meet demand.



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Lead service line replacement work in the Calumet Heights neighborhood on Chicago's South Side.

CITY AND STATE ACTIONS ARE NEEDED TO SEIZE THIS OPPORTUNITY

Legislative action by city and state officials is needed to implement some of the proposals outlined in this brief. The following recommendations are not an exhaustive list but reflect short-term actions to begin addressing the city's workforce shortage and program needs.

City of Chicago Actions

Chicago's Department of Water Management (DWM) could begin exploring how a lead czar could promote efficiency and coordination within the Department, and it could draft a job description to reflect those needs. The sooner DWM can coordinate with Chicago's Office of Budget Management and Department of Human Resources on next steps to create the position, the more likely it is that the position could be considered for approval in the FY2028 budget season.

Additionally, city council members could act by ordinance to authorize the city to use additional financing mechanisms to sustain LSL replacement projects, given limited state and federal funding. The city could also allow renters to give contractors permission to replace LSLs, relieving the city of the need to track down property owners. Both approaches would allow more block-by-block replacements, which are more cost effective and less disruptive than a house-by-house approach.

State of Illinois Actions

The state of Illinois should dedicate more funding to lead service line replacements and make intentional investments in developing the water workforce pipeline. Chicago and Illinois have the most lead pipes in the country, requiring a collaborative effort from city and state officials to address workforce needs.

State officials should promote apprenticeship opportunities and create easier pathways to enroll. Additionally, the Illinois Department of Employment Security, Illinois Department of Commerce and Economic Opportunity, and Cook County Workforce Partnerships could enhance their existing workforce tools by specifically tracking and highlighting LSL replacement and other water infrastructure occupations. These state entities already provide resources for job seekers and employers; collaborating with a water utility like Chicago DWM to expand these offerings would better anticipate water workforce needs, allow residents to pursue job opportunities through a dedicated portal, and eventually allow other state water utilities to leverage the portal to promote their water workforce needs as well.

External Actions

Beyond city and state investments, there is an opportunity for philanthropic organizations and private sector investors to help fund the development and expansion of certification and

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A construction worker gathers tools during lead service line replacement work in the West Roseland neighborhood of Chicago.

training programs offered by the City Colleges of Chicago, as well as to increase funding to nonprofit organizations that provide social services to individuals facing high barriers to employment. Those enrolled in a local hiring or pre-apprenticeship program may need transportation assistance, career coaching, and child-care support to participate meaningfully and complete the program. Chicago has a strong nonprofit nexus that can be leveraged to provide case management support, particularly for organizations on the South and West Sides that understand the specific needs of residents facing economic insecurity.

CONCLUSION

Lead service line replacement work can signify something larger and more meaningful than just another construction project. For Black residents on the South and West Sides, it is a chance to pursue well-paying jobs in the water workforce, witness economic growth in neighborhoods that have seen historical disinvestment, and access safer drinking water that families today and future generations rightfully deserve. With a robust PLA, Chicago can rapidly and equitably scale up its water workforce to replace the city's lead pipes within 20 years.

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