GETTING THE LEAD OUT



A BLUEPRINT FOR ACCELERATING LEAD SERVICE LINE REPLACEMENT FIVE YEARS AFTER THE DRINKING WATER AND WASTEWATER INFRASTRUCTURE ACT

PREPARED BY THE OFFICE OF SENATOR TAMMY DUCKWORTH

BY THE NUMBERS

$15 billion

in dedicated Federal funding for lead service line replacement

FY 2022–FY 2026, Bipartisan Infrastructure Law

≈400–700K

lead service lines estimated replaced nationwide over the last five years

estimate, 2021–2026

≈4 million

lead service lines EPA estimates still carry drinking water

to American homes and schools

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SECTION 01

Executive summary

There is no safe level of lead exposure. The Centers for Disease Control and Prevention, the American Academy of Pediatrics and the World Health Organization agree that even low-level exposure can permanently damage a child's developing brain—lowering IQ, impairing attention and limiting the ability to learn. Yet for the better part of a century, American water systems installed lead pipes, known as lead service lines, to carry drinking water from the main beneath the street into homes, schools and childcare centers. Those pipes are concentrated in older housing and, disproportionately, in low-income communities and communities of color. No State has more of them than Illinois, and no city has more than Chicago.[2,3]

What a service line is. The small pipe that carries water from the main under the street into a building.

To help tackle this crisis head-on, Senator Tammy Duckworth authored and championed the Drinking Water and Wastewater Infrastructure Act of 2021 (DWWIA), which was signed into law on November 15, 2021, as a part of the Infrastructure Investment and Jobs Act, commonly referred to as the Bipartisan Infrastructure Law.[4,5,6] This landmark law appropriated more than $50 billion to the U.S. Environmental Protection Agency's (EPA) water programs that DWWIA authorized—the largest Federal investment in water infrastructure in the Nation's history—including $15 billion dedicated to finding and replacing lead service lines.[6,7]

DWWIA's path to law. Introduced Mar. 23, 2021 · EPW Committee 20–0, Mar. 24 · Senate 89–2, Apr. 29 · Enacted Nov. 15, 2021, as Division E of P.L. 117-58.

$15 billion

in dedicated Federal lead service line funding

Bipartisan Infrastructure Law, FY 2022–FY 2026

Nov. 1, 2027

Lead & Copper Rule Improvements compliance date

the 10-year replacement clock begins

≈$1.18 billion

allotted to Illinois over five years

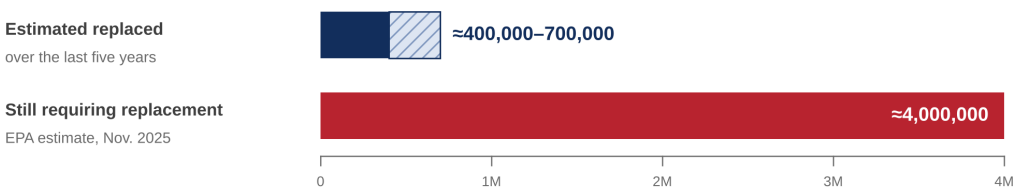
the most of any State in FY 2025

≈4 million

lead service lines EPA estimates remain

revised down from 9.2 million in 2025

PROGRESS SO FAR, AND THE WORK AHEAD



Replaced figure is an estimate (see Finding 1D); both bars are drawn to the same scale.

Five years later, it is clear that Federal law is only as strong as local officials' determination to utilize the money and make progress in their cities, counties and States, and the Federal Government's commitment to secure future funding. With the final tranche of the dedicated lead service line replacement funding in DWWIA allotted in May 2026, and the EPA's 10-year replacement mandate set to begin on November 1, 2027, this report assesses what DWWIA has accomplished, where implementation has fallen short and what must happen next.

KEY FINDINGS

01 DWWIA Produced the Largest Federal Investment in Safe Drinking Water in American History and Made Lead Pipe Removal a National Priority.

Since FY 2022, under DWWIA, EPA has allotted nearly $15 billion in dedicated lead service line replacement funding through the Drinking Water State Revolving Fund (DWSRF), and the Bipartisan Infrastructure Law's requirement that 49 percent of those dollars flow as grants or forgivable loans to disadvantaged communities has held across two administrations. Illinois, which has more lead service lines (LSLs) than any other State, has received approximately $1.18 billion of that total, the largest allotment of any State in FY 2025.

02 The Law's Equity Reforms Are Working as Designed, but the Communities That Need Help Most Often Lack the Capacity to Use It.

DWWIA doubled the DWSRF's mandatory set-aside for disadvantaged communities from 6 to 12 percent; cut the local match for small and disadvantaged community grants from 45 to 10 percent; and required that federally funded LSL replacements for low-income homeowners be provided at no cost. Yet roughly 6,300 mostly small water systems still have not filed the service line inventories Federal law required by October 2024, and in November 2025, EPA reclaimed $1.1 billion that States had not put to work.

03 Money Alone Does Not Remove Pipes. Local Legal Authority, Program Design and Execution Determine the Pace.

Without DWWIA funding, Newark replaced more than 23,000 lead service lines in under three years at roughly $8,000 per line by making replacement mandatory and free, authorizing right of entry and working block by block. Chicago, whose task is more than 16 times Newark's, using both DWWIA and State and local funds, has completed 18,305 full replacements as of November 23, 2026—about 4.5 percent of its more than 400,000 lines—at an average cost of about $31,000 each.[77] The city has begun to change course—record replacements in 2025, block-level work in 2026, a request to the council for Newark-style authority—but it appears it cannot meet its Federal schedule under a voluntary structure at its current cost, although the city states that it intends to meet its regulatory requirements.

04 The Nation Is Approaching a Funding Cliff Just as the Federal Mandate Begins.

FY 2026 was the final year of dedicated DWWIA lead service line replacement funding, and Congress cut $125 million from it. The President's FY 2027 budget proposes to slash the State Revolving Funds by roughly 89 percent; the House bill would cut them by 24 percent; and congressionally directed spending continues to consume more than half of the base SRF appropriation. Senator Duckworth's priorities in the committee-passed *Water Resources Development Act of 2026* would reauthorize DWWIA's programs and permanently codify the lead service line replacement account, but at funding levels well below DWWIA's and, as an authorization bill, appropriates no funding for future LSL replacement.

RECOMMENDATIONS

01 For Cities and Counties:

Every municipality and county with lead service lines should adopt an approach similar to Newark's—mandatory, no-cost, block-by-block replacement backed by right-of-entry authority, up-front financing, competitive procurement, local workforce development and public reporting.

02 For States:

Supply the legal authority, enforce timelines and match the capital that local programs need while banning partial replacement so that the Newark model can be fully realized everywhere.

03 For Congress:

Congress must pass stronger, consistent funding levels to ensure that every child, regardless of zip code, has access to clean, safe and reliable drinking water.

The pipes are a century old. The solution cannot and should not take another century.

SECTION 02

Introduction

A | *Lead Service Lines: A Century-Old Threat Beneath Our Streets*

A service line is the small-diameter pipe that carries water from the water main under the street to a home or other building. Lead was the preferred material for service lines from the late 1800s through the 1950s because it was durable and resistant to corrosion; some cities, including Chicago, required its use for single-family homes and small apartment buildings until Congress banned lead pipes in the 1986 amendments to the Safe Drinking Water Act (SDWA).[2,8] Because lead pipes can last for a century or more, many original lines remain in service today, decades after installation.

Lead leaches and flakes from those pipes into the water that flows through them. Corrosion control treatment reduces, but does not eliminate, the amount of lead released, and physical disturbance—a water main repair, street work, a meter installation, etc.—can dislodge lead deposits and send it directly to the tap.

Lead is poisonous and affects almost every organ system, often irreversibly. Fetuses, infants and young children are most vulnerable: exposure at levels once considered safe lowers IQ, causes behavioral problems and limits the ability to concentrate and learn; in adults it raises blood pressure and cardiovascular risk.[1,2]

The burden is not shared equally. Lead service lines are concentrated in the older housing stock of the industrial Midwest and Northeast and, within those regions, in neighborhoods that have experienced generations of disinvestment. In Illinois, the Metropolitan Planning Council has found that people of color are up to twice as likely as white residents to live in a community burdened by lead service lines, and an analysis of Chicago's own inventory found that 92 percent of service lines in majority-Latino census tracts require replacement.[9,10]

At Senator Duckworth's Chicago field hearing in 2022, the Metropolitan Policy Council's policy manager Justin Williams said that Black and Latino Illinoisans are twice as likely as white residents to live in the communities that hold nearly all of the State's known lead lines; the Senator noted at the same hearing that, despite a ban on lead paint dating to the late 1970s and lead pipes dating to the 1980s, roughly half a million American children under six still had elevated blood lead levels as of 2019.[11]

"Partial" replacements—removing only the publicly owned portion of a line from the main to the curb while leaving the privately owned segment in place—can make matters worse. The construction disturbs the remaining lead pipe, and joining lead pipes to copper pipes can trigger galvanic corrosion that accelerates leaching. For these reasons, EPA's guidance for DWWIA funds and the Treasury Department's rules for American Rescue Plan funds both prohibit financing partial replacements and Congress barred them under the SDWA lead reduction grant program.[1]

Acronyms in this section. SDWA, Safe Drinking Water Act · DWSRF and CWSRF, the Drinking Water and Clean Water State Revolving Funds · LCRR, Lead and Copper Rule Revisions (2021) · LCRI, Lead and Copper Rule Improvements (2024).

B | *The Drinking Water and Wastewater Infrastructure Act of 2021*

DWWIA grew out of a March 17, 2021, joint hearing of the full Senate Committee on Environment and Public Works (EPW) and Senator Duckworth's water subcommittee.

Opening that hearing, Senator Duckworth recalled a House hearing on the water crisis in Flint, Michigan years earlier at which a woman in the back of the room held up a baby bottle—the same model the Senator used for her own one-year-old daughter—filled with brown water and described that moment as the beginning of her advocacy on water.

She told the committee that Illinois might hold nearly a quarter of the Nation's lead service lines, and that she would push for a bill with more grants, lower non-Federal cost shares and more technical assistance so that critical assistance would reach communities that could otherwise not afford it.[12]

Senator Duckworth introduced DWWIA on March 23, 2021, joined by EPW Chairman Tom Carper (D-DE), Ranking Member Shelley Moore Capito (R-WV), Subcommittee Ranking Member Cynthia Lummis (R-WY), Senators Ben Cardin (D-MD) and Kevin Cramer (R-ND) and a bipartisan group of original cosponsors.

The bill authorized approximately $35 billion in water infrastructure funding over five years. President Biden signed the Bipartisan Infrastructure Law on November 15, 2021 (P.L. 117-58); DWWIA constitutes Division E of that Act.[6]

Table 1 summarizes DWWIA's provisions most relevant to lead service line replacement.

Table 1. Selected provisions of the Drinking Water and Wastewater Infrastructure Act (Division E of the Bipartisan Infrastructure Law)

SECTION	PROGRAM	WHAT DWWIA DID
Sec. 102	Drinking Water State Revolving Fund (DWSRF)	Reauthorized the DWSRF at $2.4 billion (FY 2022) rising to $3.25 billion (FY 2025–2026); doubled the mandatory additional subsidy for disadvantaged communities from 6 to 12 percent; authorized grants, negative-interest loans and debt restructuring; made the American Iron and Steel requirement permanent.
Sec. 104	Assistance for Small and Disadvantaged Communities	Raised the authorization from $60 million to $140 million per year by FY 2026; cut the non-Federal match from 45 to 10 percent, waivable to zero for hardship; made certified point-of-use filters and lead service line information an eligible expense; created $50 million per year in competitive grants for States with large numbers of underserved communities and $20 million per year for household water connections.
Sec. 105	Reducing Lead in Drinking Water Grant Program (SDWA § 1459B)	Raised the authorization from $60 million to $100 million per year; removed the limit to "publicly owned" lines so that whole service lines are eligible; required first priority for disadvantaged communities, low-income homeowners and landlords housing low-income renters; required that replacements for low-income homeowners be provided at no cost; created a $10 million Lead Inventorying Utilization pilot for communities where 30 percent or more of service lines are known or suspected to be lead.
Sec. 101	Emergency assistance	Reauthorized $35 million per year for public water system emergencies and clarified that heightened lead exposure is an eligible emergency.
Sec. 110	Schools and child care	Expanded the Voluntary School and Child Care Lead Testing Program to cover remediation, made public water systems and qualified nonprofits eligible and authorized $30 million rising to $50 million per fiscal year by FY 2026.
Secs. 108–109	Water affordability	Required the first national needs assessment for rural and urban low-income water assistance and created a rural and low-income water assistance pilot program.
Sec. 210	Clean Water State Revolving Fund (CWSRF)	Reauthorized the CWSRF for the first time since 1987, at $2.4 billion rising to $3.25 billion by FY 2026; established a 10 percent minimum additional subsidy for disadvantaged communities.
Sec. 211	Water workforce	Reauthorized innovative water infrastructure workforce development grants and created a Federal interagency working group on recruitment, training and retention.
Secs. 214–215	Water Infrastructure Finance and Innovation Act (WIFIA)	Reauthorized the WIFIA loan program and reduced its credit-rating requirement from two rating opinion letters to one.

Source: S. 914 as passed by the Senate; S. Rept. 117-20.[4,13]

DWWIA is an authorization bill. The money for these authorizations followed in Division J of the Bipartisan Infrastructure Law, which appropriated supplemental funding over five years (FY 2022–FY 2026) directly to the programs DWWIA reauthorized, as shown in Table 2.

Authorization vs. appropriation. Division E (DWWIA) sets what Congress may spend and how the programs work; Division J of the same law supplied the money, FY 2022–FY 2026.

The Bipartisan Infrastructure Law also required that 49 percent of the general supplemental and lead service line funds be provided as additional subsidies—grants and principal forgiveness—to communities meeting State affordability criteria. EPA's implementing guidance for this supplemental funding only allowed for full, not partial, lead service line replacements.[14,15]

Table 2. Bipartisan Infrastructure Law (Division J) supplemental appropriations to EPA water programs, FY 2022–FY 2026

ACCOUNT	FIVE-YEAR TOTAL
Drinking Water SRF — lead service line replacement	$15.0 billion
Drinking Water SRF — general supplemental	$11.713 billion
Drinking Water SRF — emerging contaminants (PFAS)	$4.0 billion
Clean Water SRF — general supplemental	$11.713 billion
Clean Water SRF — emerging contaminants	$1.0 billion
Small and disadvantaged communities — emerging contaminants grants	$5.0 billion

Source: Infrastructure Investment and Jobs Act (IIJA), P.L. 117-58, Division J, Title VI; EPA. The six accounts shown total $48.4 billion; IIJA appropriations for tribal, territorial and other EPA water programs bring the total to more than $50 billion.[6,7]

C | *Lead Service Lines in Illinois*

EPA's 7th Drinking Water Infrastructure Needs Survey and Assessment (DWINSA), published in April 2023 at Congress's direction, produced the first State-by-State estimate of lead service lines.

It projected roughly 9.2 million nationwide and about 1.04 million in Illinois—second only to Florida, whose figure EPA's Inspector General later found to be unreliable—making Illinois first in the Nation after EPA corrected the survey data later that year.[16,17,18]

The inventory-based estimates EPA released in November 2025 reduced the national total to approximately 4 million lead service lines, but Illinois still ranks

first, and Chicago—with roughly 400,000 lead service lines, more than any other American city—remains the largest single challenge in the country.[2,3]

Illinois acted ahead of the Federal Government. Governor J.B. Pritzker signed the *Lead Service Line Replacement and Notification Act* (P.A. 102-0613) on August 27, 2021, and it took effect January 1, 2022.

The Act requires every community water supply to inventory its service lines, notify affected residents, submit a replacement plan and replace all lead service lines on timelines that scale with the size of the problem—15 years for systems with fewer than 1,200 lead service lines, up to 50 years for systems with 100,000 or more—and it prohibits partial replacements.[19]

Under that schedule Chicago has until 2077; under the Federal LCRI's deferred-deadline provision for systems that would otherwise have to replace more than 10,000 lines per year, Chicago only has roughly two decades from 2027.[8,9,20]

The Senator's April 21, 2022, EPW Subcommittee field hearing at the Shedd Aquarium on the issue captured the State's starting position. Then-Illinois EPA Director John Kim testified that inventories on file covered 3.8 million service lines—667,000 known to be lead, 368,000 copper with lead solder and roughly 820,000 unknown; that the State had funded 23 replacement projects with $67 million in SRF money, all of it as principal forgiveness; and that communities would accept nothing less than 100 percent forgiveness, because they would not pass the cost of a few households' lead lines on to every ratepayer.

Illinois' starting line, April 2022. 3.8 million service lines inventoried · 667,000 known lead · 820,000 unknown · 23 projects funded, all at 100 percent principal forgiveness.

Metropolitan Planning Council Policy Manager Justin Williams put the cost of replacing Illinois' known lead service lines at $4.7 billion and warned that the State's projected five-year DWWIA allotment—about $565 million under the 2018 formula—would cover roughly 12 percent of it.[11]

SECTION 03

Findings

01 DWWIA Produced the Largest Federal Investment in Safe Drinking Water in American History and Made Lead Pipe Removal a National Priority

A *Nearly $15 Billion Dedicated to Lead Service Lines Has Been Allotted to the States.*

After DWWIA was enacted, EPA allotted the first $3 billion tranche of lead service line replacement funding in December 2021, barely a month after enactment, using the standard DWSRF formula.[21] For FY 2023 and FY 2024 the agency moved to a needs-based formula drawn from the 7th DWINSA so that States with the most lead service lines received the most money; in May 2024, EPA projected that the first $9 billion would replace up to 1.7 million lead service lines.[14]

How the lead money was divided. FY 2022: the standard DWSRF formula · FY 2023–24: EPA's 7th needs survey, which counted lead lines for the first time · FY 2025–26: systems' own service line inventories.

The change to needs-based allotment answered a problem laid out at the Senator's 2022 Chicago field hearing, where the Metropolitan Planning Council testified that the 2018 formula gave Illinois 3.77 percent of the lead service line funding—about $565 million over five years—even though the State held roughly 12 percent of the Nation's lead service lines, a proportional share of about $1.8 billion.[11] MPC urged EPA to complete its lead-specific needs survey in time for the FY 2023 allotments. EPA did so, and Illinois' allotment more than doubled the following year. For FY 2025 and FY 2026, EPA based allotments on the actual service line inventories submitted under the Lead and Copper Rule Revisions (LCRR).[15,22]

In November 2025, the agency announced the fourth $3 billion tranche together with the redistribution of $1.1 billion in prior-year funds that States had not used, and on May 20, 2026, it announced the fifth and final tranche of $2.875 billion.[15,23] States have until September 30, 2027, to apply for and receive those FY 2026 funds, after which unawarded balances will be reallotted to States that can use them.[15]

Across all five years, the statutory 49 percent additional subsidy requirement has been preserved without change, meaning that roughly $7 billion of the dedicated lead funding is reaching disadvantaged communities as grants or principal forgiveness rather than as debt.[15]

B *Illinois Has Received More Dedicated Lead Funding Than Any Other State.*

Illinois' dedicated lead service line funding allotments grew from $106.7 million in FY 2022 to $230 million in FY 2023, $240 million in FY 2024, $309 million in FY 2025 and $295.6 million in FY 2026—approximately $1.18 billion in total, including the largest allotment of any State in FY 2025 (Figure 1).[3,17,24,25,26] These funds are administered by the Illinois EPA through the State's Drinking Water State Revolving Fund (DWSRF) and have supported inventory grants and replacement projects in communities across the State.

Senators Duckworth and Durbin have also used Congressionally Directed Spending to fund lead service line replacement projects directly, including $2 million for Chicago and $1 million for Macomb in the FY 2026 Senate bill and nearly $2 million to replace lead service lines serving Chicago child care facilities.[27,28]

Figure 1. Illinois' dedicated lead service line allotments, FY 2022–FY 2026, against the share projected under the 2018 formula

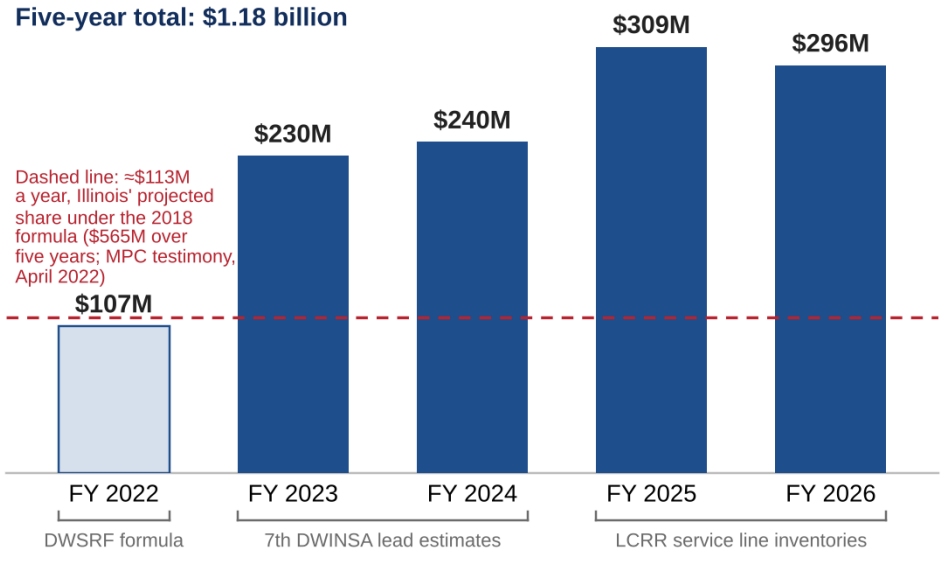


Figure 1 sources. EPA allotment memoranda; NRDC (FY 2022); WNIJ (FY 2023); Office of Senator Duckworth (FY 2024, FY 2026); EDF (FY 2025); projected share from MPC testimony, Apr. 21, 2022.[3,11,17,21,24,25,26]

C *DWWIA Permanently Reformed How Federal Water Dollars Reach the Communities That Need Them Most.*

DWWIA also changed program rules permanently.

Doubling the DWSRF disadvantaged-community set-aside to 12 percent, establishing a 10 percent floor in the Clean Water State Revolving Fund (CWSRF), lowering the Small and Disadvantaged Communities matching requirement to 10 percent (waivable to zero) and authorizing negative-interest loans and debt

restructuring, are all now permanent features of the Safe Drinking Water Act and the Clean Water Act, not reliant on five-year appropriations.[4]

So too is the requirement that federally funded lead service line replacement projects for low-income homeowners come at no cost and that priority goes to disadvantaged communities and to landlords housing low-income renters—a provision aimed at the "ownership" barrier that has stalled programs in cities where the private side of the service line is treated as the homeowner's problem.[1,13]

D | *An Estimated 400,000 to 700,000 Lead Lines Have Been Replaced Nationwide, but No One Is Counting.*

This report cites an estimate of approximately 400,000 to 700,000 lead service lines replaced nationwide over the last five years.

Unfortunately, there are no official Federal reports of how many lead service lines have been replaced since DWWIA was enacted. The service line inventories EPA has published count lines by material, not lines removed, and the revision of the national estimate of remaining lines from 9.2 million to roughly 4 million reflects a change in EPA policy regarding the data—which some experts have concerns about—not pipes taken out of the ground.[15,23]

The only national benchmark is the Biden Administration's report in October 2024 that more than 367,000 lead service lines had been replaced nationwide, benefitting 918,000 people, since January 2021.[7] That count does not say how replacements were tallied or whether it is limited to work funded by the Bipartisan Infrastructure Law, and it predates the last two years of DWWIA funding.

The total estimate cited here is extrapolated from that report. Replacing 367,000 lines over roughly 45 months is a pace of about 100,000 a year, which, if sustained through late 2026, implies a total near 570,000. The range of 400,000 to 700,000 brackets that figure to allow for the pace slowing or accelerating as programs matured and the first LCRI deadlines approached.

The missing count is itself a finding. EPA's 10-year mandate will require roughly 4 million lines to come out by 2037, an average of about 400,000 a year, or about four times the pace implied by the 2024 benchmark. Without a national tally of lines replaced, neither Congress nor the public can tell whether the Nation is on track, which is why Section III of the recommendations below calls for a national dashboard of lines replaced, funds obligated and spent and cost per line.

02 The Law's Equity Reforms Are Working as Designed, but the Communities That Need Help Most Often Lack the Capacity to Use It

A | *Technical Assistance Has Mattered as Much as Money.*

Witnesses at hearing after hearing said some version of the same thing. At the 2022 EPW field hearing, Anthena Gore of Elevate discussed her own experience of growing up in Chicago's North Lawndale neighborhood and was herself lead-poisoned as a toddler. Ms. Gore stated correctly that if the message does not reach people, the money will not either and that communities want to hear about funding from people they know and trust.[11]

Mark Pepper of the Wyoming Association of Rural Water Systems told the Senator's April 5, 2022 subcommittee hearing in Washington that 97 percent of Wyoming's systems serve fewer than 10,000 people—and 92 percent of those fewer than 500—emphasizing that circuit-rider technical assistance programs are a lifeline for getting such systems through the SRF application process.[29]

Illinois EPA's director described a $2 million State appropriation to pay for inventories and application help in communities that could not afford consultants and Metropolitan Planning Council's Senior Manager Justin Williams described Federal funding applications that can be, in his words, impossibly complex for resource-constrained utilities, some of them run by part-time staff.[11]

Recognizing that small and underserved systems frequently lack the engineering and financial staff to apply for SRF funding, EPA in January 2023 launched the Lead Service Line Replacement Accelerators, a pilot with the Department of Labor and four States—Connecticut, New Jersey, Pennsylvania and Wisconsin—that guided 40 communities through the replacement process from inventory to funding application.[30]

On November 7, 2023, it expanded that model into the Get the Lead Out initiative, which offers the same hands-on technical assistance to roughly 200 underserved communities nationwide.[31] In EPA Region 5, which includes Illinois, the initiative has helped communities such as Niles and Warren, Ohio, complete their inventories and prepare funding applications.[32]

B | *Uptake Has Nonetheless Been Uneven and Some Funds Have Sat Idle.*

The EPW Committee was warned early that the money might outrun the capacity to use it. At the April 2022 hearing, Susan Bodine, a former EPA enforcement chief,

cautioned that States would struggle to attach the 49 percent set-aside to assistance agreements within the one-year window and that it would be a tragedy if the deadline kept the funds from reaching the communities Congress intended.[29]

In March 2023, EPA's Assistant Administrator for Water at the time, Radhika Fox, told the full committee that States' reactions to their lead allotments were mixed—some thought the money insufficient, others thought it was more than they could use—and that EPA would reallot unused lead funds after two years.[33]

That September, North Dakota Rural Water's Eric Volk explained the timing trap: States had to apply for the next year's lead funding by September 2024, a month before their systems' inventories were due, so the funding was running ahead of any real knowledge of the problem.[34]

When EPA announced the FY 2025 allotments in November 2025, it simultaneously redistributed $1.1 billion that States had received in earlier years but had not committed to projects and it required any State that had not obligated or spent DWSRF funding since FY 2023 to submit a plan for deploying funds faster before receiving new dollars.[23,35]

In May 2026, the agency reallotted a further $18 million in unused funds.[36] A January 2026 audit by the New York State Comptroller found that the State Department of Health's policies and guidance were insufficient to ensure that its lead service line grants were spent in a timely and effective manner.[37]

C *State Definitions of "Disadvantaged" Have Shut Out Some of the Places With the Most Lead Pipes.*

"Small" and "disadvantaged" are different tests. Federal law defines a small system by population served (10,000 or fewer) and leaves "disadvantaged" to each State's affordability criteria. Neither requires the other.

DWWIA and the Bipartisan Infrastructure Law left each State to set the affordability criteria that decide who receives grants and principal forgiveness.

At the Chicago field hearing, Chicago's former Department of Water Management (DWM) Commissioner Andrea Cheng testified that Chicago—with more lead lines than any city in America—did not qualify for Illinois' forgivable lead loans because the State's SRF definition of a "disadvantaged community" began with a population ceiling the city exceeded. Then-Illinois EPA Director Kim responded that Illinois had in practice turned down no lead replacement application, had funded every project to date at 100 percent principal forgiveness and would write a new, lead-specific definition into its FY 2024 plan.[11]

Illinois has since done so: under rules in place since 2024, Illinois EPA scores lead service line projects by the census tracts where the work will occur (35 Ill. Adm. Code 663.345), and DWM reports that Chicago has received more than

$74 million in SRF funding for lead service line replacement through FY 2027 as a result.[77]

A year later, Philadelphia Water Commissioner Randy Hayman told the full committee that one of the largest and poorest cities in the country could not obtain grants from Pennsylvania's SRF because the State's criteria judged the city's rates too low.[33] Senator Duckworth observed at the field hearing that Federal law defines small and disadvantaged communities separately and does not require a disadvantaged community to be a small one and highlighted the concerns she had with states having population in their definitions. States that import a population test into their affordability criteria deny the Federal law's equity provisions to exactly the dense, older cities where lead lines are concentrated.

D | *The Smallest Systems Are Furthest Behind on Their Inventories.*

An Associated Press analysis of EPA enforcement data published in September 2026 found that roughly 6,300 water systems serving 3.8 million people had still not submitted the service line inventory that was due in October 2024, and that EPA had cited more than 1,300 systems for missing the deadline.

84 percent of the delinquent systems serve fewer than 500 people—mobile home parks, small subdivisions and schools—and roughly three-quarters of the drinking water enforcement orders EPA has issued since January 2025 relate to missing inventories.[2]

A system without an inventory cannot plan replacements, cannot tell residents whether they are affected and will enter the LCRI's replacement period in 2027 already behind.

03 Money Alone Does Not Remove Pipes: Local Legal Authority, Program Design and Execution Determine the Pace

A | *Where the Program Model Is Coordinated and Streamlined, Federal Funds Have Dramatically Accelerated Replacement.*

DWWIA funding has allowed efficient programs to compress their timelines.

Milwaukee cut its projected schedule from 60 years to 10; Pittsburgh combined $98 million in DWWIA and American Rescue Plan funds to pursue removal of every lead line by 2027; Detroit received $90 million and planned more than 8,000 replacements in a single year; Erie, Pennsylvania, received $49 million to replace all of its lead pipes within five years; Denver accelerated to a 10-year

program with $76 million; and small systems such as Edgerton, Wisconsin, have finished the job entirely.[7,38]

Wisconsin has layered nearly $500 million in State-directed funding on top of its Federal allotments since 2019 and announced in October 2026 a further $102 million to remove about 15,000 privately owned lead lines in 12 municipalities.[39]

B *Where a Program Model Lacks Coordination and Is Not Streamlined, Delays Occur and Funds Have Gone Unspent.*

Chicago's testimony to the Senator in 2022 demonstrates how delivery can fall behind plans. Andrea Cheng, former Commissioner of the Chicago Department of Water, testified at the field hearing that the city had about 380,000 lead lines; that a full replacement cost $15,000 to $30,000; that a "break and leak" program would replace 4,000 to 5,000 lines a year beginning in January 2023; that block-by-block replacement alongside water main work would expand that same year; and that the total bill would run $8 billion to $10 billion over 50 years.

She also explained a cost driver rooted in Illinois plumbing regulation: State rules required a private sewer drain to be moved or replaced whenever it lay too close to the water service, which added 35 to 50 percent to the cost of each job and led some homeowners to refuse a free replacement; a statewide variance announced in March 2022 was expected to allow cheaper trenchless methods. Cheng acknowledged that the city had found it difficult to persuade homeowners to participate even in its free programs, citing Newark's right-of-entry ordinance as the kind of innovation utilities would need.[11]

Three years later, the scale and cost of the challenge were much clearer and more sobering. Lead service line replacement in Chicago remains voluntary on the private side: the city's equity program serves only income-qualified homeowners, and its fee-waiver program asks other homeowners to pay for the construction themselves, with the city waiving permit and other fees of up to $5,000.[77] In October 2025, Randy Conner, the current Commissioner of the Department of Water Management, told the City Council that crews had replaced less than 4 percent of the city's more than 400,000 lead lines in five years—approximately 7,000 of them in 2025—at an average cost of about $35,000 per line, implying a total cost of roughly $14 billion.[8] DWM reports that, as of November 23, 2026, it had completed 18,305 full replacements at an average cost of $31,043.[77]

Chicago, plan vs. outcome. 2022 testimony: 4,000–5,000 replacements a year from 2023; $15,000–$30,000 per line; $8–10 billion in total. 2025 report to the City Council: ≈7,000 in the year; ≈$35,000 per line; ≈$14 billion in total.

In November 2023, EPA closed a $336 million Water Infrastructure Finance and Innovation Act (WIFIA) Federal loan with Chicago to replace up to 30,000 lead lines, which was re-executed in December 2024 at a lower interest rate; as of September 2025, city officials reported that no more than $90 million of that

Federal loan had been spent.[8,40,41] DWM reports that $308 million had been paid from the loan as of November 20, 2026.[77]

As of July 2025, the city had sent only about 7 percent of the roughly 900,000 notifications to residents served by lead or unknown lines that State and Federal law required by November 2024.[8] DWM reports that in both 2025 and 2026 it sent physical or electronic notifications to all homes served by lead, galvanized or unknown lines, after Illinois EPA allowed electronic notification to satisfy Federal requirements in September 2025 and granted a variance for State requirements on November 5, 2026, and that the city is in compliance with both laws.[77]

The city's replacement targets are 10,000 lines in 2026 and 15,000 in 2027; DWM states that only the 2028 figure of 19,000 is an obligation under the LCRI.[77] The Commissioner acknowledged that the city has neither the funds nor the workforce to do so under its current voluntary structure, and he urged the council to make private-side replacement mandatory whenever crews are already working on the public side.[8]

None of this means Chicago's task resembles Newark's.

The city is attempting more than 16 Newark lead service line replacement programs at once, in a water system where the private side of the line has been the homeowner's responsibility for a century, under State plumbing rules Newark never faced and with a municipal budget already under strain. DWM also notes that Chicago, unlike Newark, has never exceeded the Federal lead action level; that its corrosion control program is 30 years old and its 2025 switch to orthophosphate has lowered lead levels by 25 to 30 percent; and that its costs reflect local labor rates and wider residential parkways.[77]

The point of the comparison is not the pace itself. Rather, it is to highlight how the structure determines the pace, as demonstrated by Chicago, which has begun to change that structure and make significant progress compared to past efforts.

The roughly 7,000 replacements completed in 2025 were the most in any year for the city—nearly as many as the previous four years combined; the 2026 budget funds 10,000 more, with block-level projects meant to bring unit costs down; the Commissioner has asked the council for the same mandatory private-side authority Newark used; and a new State law has simplified the permissions needed to work on private property.[8,9,42]

What places like Chicago need from Federal and State governments to finish the turn is the subject of the recommendations that follow in this report.

Senator Duckworth at a lead service line replacement site in Chicago, November 3, 2023, as EPA and the city announced the $336 million WIFIA loan to replace up to 30,000 lead lines.



Photo: Chicago Tribune.[43]

C | *The Cost Difference Reflects Program Design.*

Chicago's average of about $31,000 per replacement is far outside what other programs report.[77] Newark replaced lines for about $8,000 each; New Jersey's statewide planning estimates assume about $6,700 per line; and the Environmental Policy Innovation Center places the typical national range at $8,000 to $15,000 (Figure 2).[2,44,45]

The difference lies in program design: whether crews move block by block with pre-cleared right of entry or house by house after individual applications; whether contracts are short, competitive and priced per unit; whether replacements are coordinated with water main and street work; and whether the utility can field enough trained local crews. Those design choices are the subject of the Newark case study that follows.

Figure 2. Reported cost per full lead service line replacement: programs, estimates and ranges, with what each figure includes

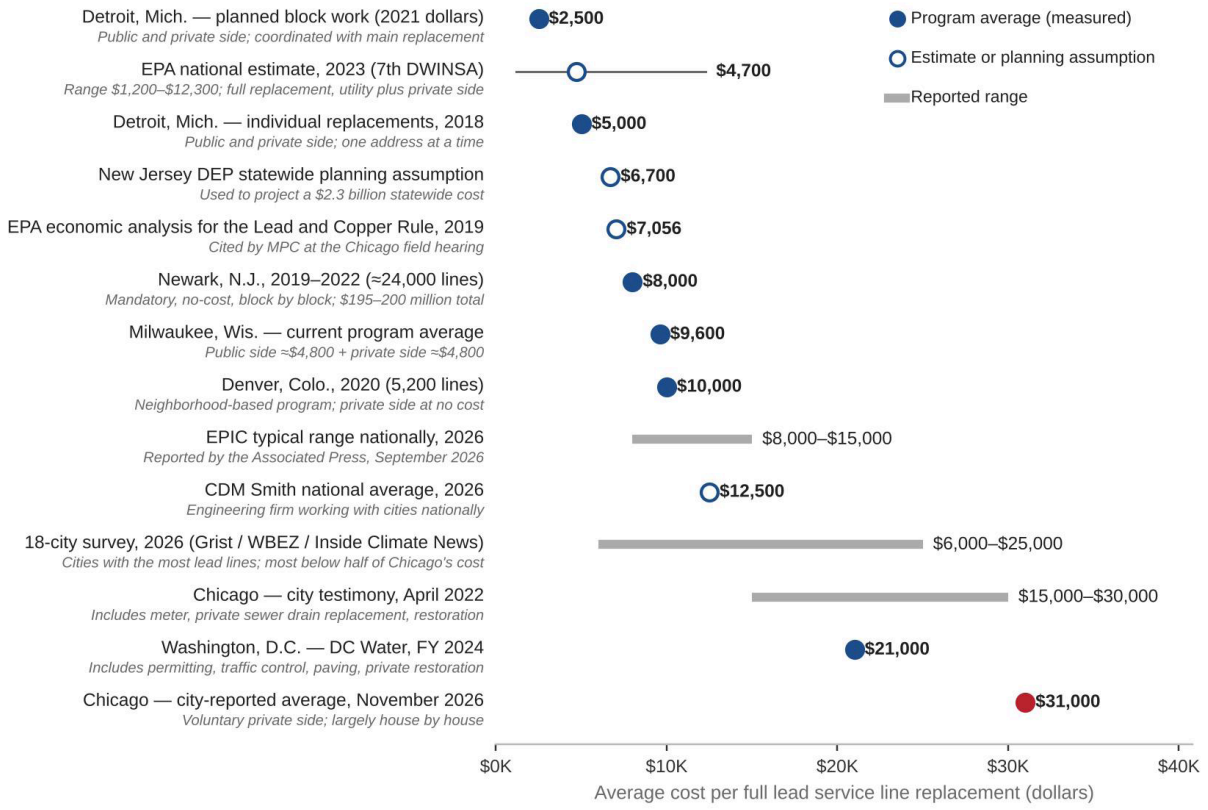


Figure 2 sources. *Detroit and Denver: NRDC cost analyses (2022, 2024) citing utility and press reports; EPA 2023 estimate: 7th DWINSA, as cited at the Apr. 2022 field hearing; EPA 2019: LCRR economic analysis via MPC testimony; New Jersey: Jersey Water Works; Newark: Federal Reserve Bank of Chicago; Milwaukee: Milwaukee Water Works program guide; EPIC range: Associated Press; CDM Smith average and 18-city survey: Grist/WBEZ/Inside Climate News (June 2026); Chicago 2022: Commissioner Cheng's testimony; DC Water: Lead Free DC cost page (FY 2024); Chicago 2025: WTTW News. Figures are as reported and are not adjusted for inflation or scope.*[2,8,11,44,45,46,47,48,49,50]

04 The Federal Government Must Act as the Nation Is Approaching a Funding Cliff Just as the Federal Mandate Begins

A | *The Dedicated Money Ends as the Clock Starts.*

In addition to programmatic changes, there is the issue of future funding. Fiscal year 2026 was the fifth and final year of DWWIA's dedicated lead service line funding and authorizations and the LCRI's 10-year replacement clock does not begin until November 1, 2027.

Previously allotted funds will continue to flow to projects for several years, but no new dedicated Federal lead dollars are currently authorized or appropriated for the decade in which the overwhelming majority of the work must occur.[36,51]

Estimates of the remaining cost range widely—from roughly $28 billion to $47 billion using EPA's older per-line cost assumptions, to $45 billion to $90 billion in more recent analyses—against the $15 billion provided.[52,53]

In Illinois alone, published estimates range from $2.2 billion to $12 billion, and the Illinois Municipal League has told State regulators the figure exceeds $20 billion.[54,55] Figure 3 places the funding window against the regulatory timeline.

And although a new EPA water infrastructure authorization bill is being finalized in Congress with S. 4949, the Water Resources Development Act of 2026, it does little to address the much-needed continued Federal funding of lead service line replacement despite member requests.

The Federal Government notoriously fails to provide robust investments in water infrastructure.

WSSC Water's Kishia Powell testified in September 2023 that DWWIA represented roughly 5 percent of the sector's needs against an EPA estimate of $750 billion over 20 years to maintain existing systems.

Of course, DWWIA was never meant to be a complete, one-time solution. Instead, it represented the first down payment on what must become a multiyear, long-term nationwide effort to remove and replace lead service lines across the country.

Figure 3. Drawn to scale: the five-year funding window and the 10-year replacement period it was meant to pay for, 2019–2037

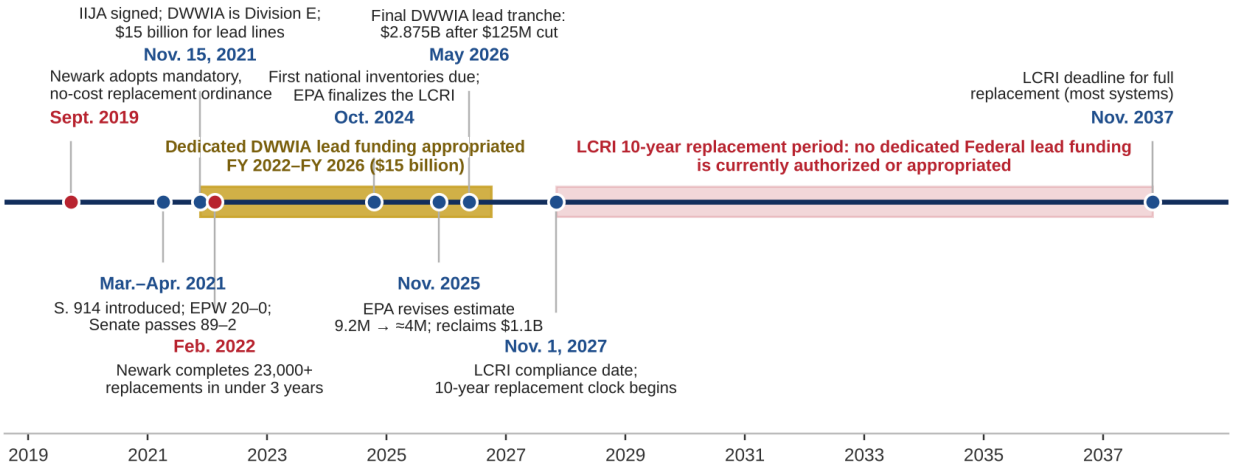


Figure 3 sources. City of Newark; S. Rept. 117-20; P.L. 117-58; 89 Fed. Reg. 86418; EPA allotment memoranda, Nov. 2025 and May 2026. Time is to scale; the shaded bands mark the IIJA appropriation window (FY 2022–FY 2026) and the LCRI replacement period (Nov. 2027–Nov. 2037).[4,6,15,56,57]

B | *Congress Has Already Begun to Pull Back.*

The FY 2026 appropriations act (P.L. 119-74, enacted January 23, 2026) rescinded $125 million from the final year of DWWIA lead funding and repurposed it for wildland fire management.

An earlier Senate framework had proposed a $250 million cut; the final bill halved it, leaving the last tranche of funding at $2.875 billion.[15,58] Senator Duckworth called for the full amount to be restored.[59]

Congressionally Directed Spending has also eroded the base State Revolving Fund (SRF) programs. In FY 2026, Congress dedicated 64 percent ($715.4 million) of the $1.126 billion DWSRF appropriation and 54 percent ($892.8 million) of the $1.639 billion CWSRF appropriation to individual earmarked projects, leaving $410.7 million and $746.1 million, respectively, for State capitalization grants. Earmarked project grants, by contrast, never revolve back into the SRFs.

The Congressional Research Service (CRS) notes that the Bipartisan Infrastructure Law's supplemental appropriations somewhat offset the erosion of the funding pools from CDS for five years but that, if the practice continues, the drop in State capitalization grants or money flowing into the SRFs in FY 2027 "could be significant."[60]

State drinking water administrators had already put a number on it: testifying for the Kansas Department of Health and Environment in November 2024, Cathy Tucker-Vogel told the committee that base SRF capitalization grants had fallen 45 percent since CDS began in 2022, squeezing the set-asides that fund State oversight programs.[61]

C | *FY 2027 and Beyond.*

The President's FY 2027 budget requests a meager $305 million for the two SRFs combined—a cut of roughly 89 percent from the $2.765 billion enacted for FY 2026—as part of an approximately 50 percent reduction in EPA's overall budget.[62,63,64]

The House Appropriations Committee's FY 2027 Interior-Environment bill (H.R. 9171, reported June 5, 2026) would fund the SRFs at $2.103 billion, a 24 percent cut.[62,65] The Federal Government is currently operating under a continuing resolution (P.L. 119-103) that expires December 11, 2026.[66]

On July 16, 2026, the EPW Committee unanimously reported the Water Resources Development Act of 2026, which incorporates Senator Duckworth's priorities to reauthorize the SRFs, codify the lead service line replacement and emerging

FY 2026 SRF arithmetic (CRS). DWSRF: $1.126 billion appropriated, $410.7 million to States. CWSRF: $1.639 billion appropriated, $746.1 million to States. The difference went to individually earmarked projects.

contaminants accounts within the DWSRF and reauthorize the Reducing Lead in Drinking Water, school and child care lead testing, Small and Disadvantaged Communities, technical assistance, sewer overflow and WIFIA programs—but, as the Senator noted, at funding levels that fall far short of DWWIA's and without appropriations to actually fund LSL replacement.[51]

Without appropriations to match, the LCRI's mandate will land on water systems and their ratepayers alone.

SECTION 04

The Newark Example: How One City Replaced 23,000 Lead Pipes in Under Three Years

23,000+
lead lines replaced
March 2019 – February 2022

80–100+
replacements per day
after the September 2019 ordinance

≈$8,000
average cost per line
about $195–200 million in total

$0
charged to residents
once the cost share was eliminated

Newark, New Jersey—a city of roughly 311,000 people in which fewer than one in four households own their home—banned new lead service lines in 1953, but by 2017 roughly 18,000 to 24,000 remained in the ground. In June 2017, the city recorded its first exceedance of the Federal lead action level, which officials attributed to failed corrosion control at one of its two treatment plants. After initially minimizing the problem and litigating against the Natural Resources Defense Council (NRDC) and a group of local teachers, the city changed course.

Newark at a glance. Population ≈311,000 · nearly 80 percent renters · first lead exceedance June 2017 · ordinance adopted Sept. 18, 2019 · program complete Feb. 2022 · ≈24,000 replacements · ≈$8,000 per line.

The city adopted a three-tiered crisis management plan: distribute certified point-of-use filters immediately; restore corrosion control with orthophosphate in the medium term; and replace every lead service line over the long term—an effort initially projected to take eight years.[67] Newark's officials describe the animating principle of that plan as taking ownership, being accountable, being transparent and being compassionate.[67]

A | *A Voluntary, Cost-Share Program Failed.*

Newark launched its replacement program in March 2019 as a voluntary effort in which homeowners paid $1,000 toward the private-side portion of the line. Between March and September 2019, the city replaced only about 650 lines—a handful per day. In a city where nearly 80 percent of residents rent and absentee

landlords are common, a program that depended on owners stepping forward and paying was structurally incapable of reaching most of the homes with lead. Mayor Baraka told the Senator's subcommittee that fewer than 3 percent of residents signed up before the county bond and that door-to-door canvassing by city staff and community organizations produced traction, but not enough.[1,29,67]

B | *The September 2019 Ordinance.*

On September 18, 2019, the Newark Municipal Council adopted Ordinance 6PSF-M, codified as Chapter 16:23 of the city code, "Mandatory Replacement of Lead Service Line." Its core elements are simple:[56]

- **Lead service lines are prohibited** within the city (§ 16:23-2).
- **Every owner of a building served by a lead line must replace it within 90 days,** either by enrolling in the city's no-cost replacement program and signing a right-of-entry form or by hiring a licensed plumber at the owner's own expense and documenting the work with a permit, invoice and inspection report (§ 16:23-4). Extensions are available for owners who demonstrate good-faith effort.
- **If an owner fails to act, is unreachable or denies access, the city may secure entry from the current occupant.** A tenant can grant consent and is not held liable; the city restores the property to its prior condition; and if access is still refused, the city may seek a court order (§ 16:23-5).
- **No certificate of occupancy, certificate of code compliance or smoke and carbon monoxide certificate may be issued upon sale or transfer** without proof the lead line has been replaced and buyers of city-owned property must replace the line within 90 days of closing (§ 16:23-6).
- **Violations carry fines of $250 to $1,000,** up to 90 days' imprisonment or 90 days' community service (§ 16:23-7).

Simultaneously, the city eliminated the $1,000 homeowner charge. New Jersey had enacted enabling legislation in 2018 allowing municipalities to replace lead lines on private property with public funds, and in early 2020 the legislature backed Newark's right-of-entry approach at the State level.[67] From a handful of replacements per day, the program ramped up to 80 to 100 per day, and at times more than 100.[67] In the mayor's telling, the ordinance took the city from 10 replacements a day to 100.[29]

C | *Financing.*

The city had already authorized a $75 million bond for the program. In the late summer of 2019, Essex County Executive Joseph DiVincenzo extended the county's AAA bond rating to issue $120 million through the Essex County Improvement Authority, saving an estimated $15 million to $20 million in interest over 30 years and allowing the city to collapse its timeline from eight years to three.[68,69] A lease agreement with the Port Authority of New York and New Jersey brought in $155 million to service the debt and State Revolving Fund financing covered the remainder.[67] The completed program cost approximately $195 million to $200 million for roughly 24,000 replacements—about $8,000 per line—and verified that more than 4,000 additional homes did not require replacement (the mayor cited a rounder figure of about $170 million to the Senate in April 2022, before final accounting).[29,44,70,71] Residents paid nothing: as the mayor put it to the subcommittee, no capital outlay, no tax increase and no water rate increase, in a city where a homeowner replacing a line alone would typically have paid $5,000 to $6,500.[72]

D | *Execution: Records, Blocks, Bids, Workers and Trust.*

The ordinance and the financing set the conditions; the following practices, identified by Newark's officials and by the organizations that have studied the program, determined the pace:[1,67,73]

- **Records first, then data systems.** Decades of meticulous recordkeeping by veteran water department staff—records reaching back to 1900, the mayor told the Senate—gave Newark a credible starting inventory. The city test-pitted every pre-1990 home with a two-inch or smaller service, paired its GIS records with a construction management platform and built two dashboards, one public and one internal, so that residents could look up their own address and managers could track every crew.[29,72]
- **Protect people first.** Before the first pipe came out, the city distributed more than 40,000 certified filters and 110,000 replacement cartridges, restored corrosion control with orthophosphate, offered free lead testing through its health department and logged more than 25,000 staff hours going door to door with materials in English, Spanish and Portuguese.[72]
- **Block by block, not house by house.** Mandatory participation and pre-cleared right of entry allowed as many as 25 crews to work entire streets at once—up to 120 replacements on a single day—which is faster, cheaper and less disruptive than returning repeatedly to the same block as individual applications trickle in. Neighborhoods with the densest housing and the highest lead results went first.[72]

In the mayor's words. "We went from changing 10 lead service lines a day to 100." — Ras J. Baraka to the Subcommittee, Apr. 5, 2022.

- **Short, competitive contracts.** Newark shortened contract durations over time on the theory that a contractor given a year will take a year and it released bid packages on consecutive days so that bidders could see where their competitors landed and sharpen their prices for the next package.
- **A local workforce, written into the contracts.** The program created roughly 500 to 600 jobs; at least 250 went to Newark residents, 85 percent of whom had been unemployed. Local-hiring percentages and local subcontracting were written into the construction contracts, an apprenticeship with Laborers' Local 472 trained residents as laborers and equipment operators and a forgivable small-business loan fund gave local firms the working capital to compete. Several of those firms, the mayor testified, are now prime contractors on lead projects elsewhere in New Jersey.[29,67]
- **Trust through verification.** Beyond its routine compliance sampling, the city distributed water testing kits to residents six months after each replacement so that families could see the results for themselves, maintained filter distribution throughout.[29,67]
- **Finish the job above ground and coordinate.** Replacement disturbed roughly 180 miles of streets; the city coordinated repaving with Essex County and other utilities through its GIS system rather than leaving neighborhoods patched.[72]
- **Leadership that owns the problem.** Water Director Kareem Adeem, who began his city career in 1991 filling potholes and rose through the ranks as a truck driver and heavy equipment operator, and Assistant Director Tiffany Stewart ran the program day to day; Mayor Baraka served as its public champion and is credited with the apprenticeship initiative. Asked by then-Chairman Tom Carper of Delaware about implementation challenges, Mayor Baraka answered that technical assistance is critical, but that without cooperation among every level of government, from Federal to municipal, nothing moves.[67]

> ***"Full lead line replacement does not have to be an eternal infrastructure nightmare. With Federal funding and imposed deadlines, and other governmental cooperation, we have the power to fix it."***
>
> *MAYOR RAS J. BARAKA, TESTIMONY BEFORE THE SUBCOMMITTEE ON FISHERIES, WATER, AND WILDLIFE, APRIL 5, 2022*

Table 3. Two Cities, Two Different Sizes, Two Models

	NEWARK, NEW JERSEY	CHICAGO, ILLINOIS
Lead service lines at program start	≈23,000–24,000	≈ 400,000 or more (most of any U.S. city); under 390,000 remaining as of November 2026
Private-side replacement	Mandatory by ordinance; no cost to owner	Voluntary; free for income-qualified owners under the Equity program; other owners who initiate a replacement pay for construction, with up to $5,000 in fees waived
Access to property	Owner or occupant may consent; court order as backstop	Owner consent; an application is required only for the U.S. Housing and Urban Development-funded Equity program
Work pattern	Block by block under city contracts	Largely house by house; shifting toward block-level projects in 2026
Pace	≈24,000 replacements, March 2019 – February 2022	18,305 full replacements as of November 23, 2026; ≈ 7,000 in 2025
Average cost per line	≈$8,000	≈ $31,000
Status	Complete	2077 deadline under State law; roughly two decades from 2027 under the LCRI

Sources: City of Newark; Federal Reserve Bank of Chicago; EPIC; WTTW News; WBEZ; Grist.[8,9,10,44,67,68]

E | *Results and Refinements.*

Newark completed its program in February 2022. Introducing the mayor to the Senator's subcommittee that April, Senator Cory Booker called Newark's program a master class and said that cities projecting ten or more years to remove their lead lines should learn from it.[29] On February 11, 2022, Vice President Harris and EPA Administrator Regan visited the city to mark the achievement and called it a national model; the program has since been recognized by the Construction Management Association of America and featured by the Centers for Disease Control and Prevention.[68,71] With its inventory, notifications and replacements complete, Newark entered the LCRI era years ahead of the rule's requirements.

SECTION 05

Conclusion

DWWIA jumpstarted nationwide LSL replacement and provided historic levels of financial assistance and technical support for water infrastructure to more Americans than ever before.

DWWIA reauthorized the Clean Water SRF for the first time since 1987 and the Drinking Water SRF at record levels, directed a larger share of Federal dollars to the communities least able to borrow and—through the $15 billion appropriated alongside it—turned lead pipe removal from an aspiration into a funded national program.

Nearly $15 billion has been allotted, roughly half of it as grants to disadvantaged communities. The first national inventories exist. A Federal rule now requires that the job be finished within a decade. Milwaukee, Pittsburgh, Detroit, Erie and Denver have shortened replacement schedules from decades to 10 years or less, and Illinois has received more dedicated lead funding than any other State.

However, DWWIA was always intended to be a first step, not the last.

The five years since enactment have also shown that Federal money is necessary but not sufficient. Newark finished the job without DWWIA funds because it had the legal tools, the financing structure and the leadership to work block by block. Chicago, with the most lead lines in America, a $336 million Federal loan and a State that leads the Nation in dedicated lead funding, has only begun, because until recently it had none of those things in place. The difference between $8,000 and $31,000 per line is a difference in program design and it can be closed.

The timing is now the problem.

The LCRI's 10-year replacement clock starts on November 1, 2027. The dedicated Federal funding that made the rule feasible ended with FY 2026 and the President has proposed cutting the base State Revolving Funds by roughly 89 percent. If Congress allows the funding to lapse while the mandate takes hold, the cost will fall on ratepayers in the communities DWWIA was written to protect and an unfunded requirement to remove lead pipes will remove very few of them—as the 1991 rule demonstrated for three decades. The recommendations that follow are intended to prevent that outcome.

SECTION 06

Recommendations

Replacing the Nation's remaining lead service lines within the decade the LCRI requires will take all three levels of government acting at once:

- Municipalities and counties adopting program structures like Newark's that can move quickly
- States supplying the legal authority and matching capital that local programs need while banning partial replacement so that the Newark model can be fully realized everywhere
- Congress sustaining the Federal investment that DWWIA began

The recommendations below are organized accordingly.

The recommendations for local governments are drawn directly from Newark's experience and are intended to be adoptable by any municipality or county with lead pipes, regardless of size. For a city of Chicago's scale they are necessary but not sufficient, and the State and Federal recommendations that follow are written with Chicago in mind.

A word about feasibility. The organizations that would carry out these recommendations do not divide neatly into supporters and opponents. Water utilities and their national associations support lead service line replacement and have asked Congress for more money to do it, while contesting the LCRI's 10-year timeline, its treatment of privately owned pipes and its consequences for ratepayers.[74] City and county associations welcome funding but guard local flexibility and worry about implementation costs. State administrators want the SRFs they run to remain the channel for Federal dollars.

The recommendations below are written with those concerns in view. Every requirement is paired with money or procedural relief. The Newark example is offered as a model ordinance for local adoption, not a Federal mandate, and leaves the design of enforcement to local choice. The LCRI's own deferred schedule already accommodates the largest systems. And the program proposed for those systems is designed to work through State SRF agencies rather than around them. The Natural Resources Defense Council has converted Newark's ordinance into a model ordinance for other communities, and these are also reflected in the recommendations below.

I For Municipalities and Counties: 10 Practices From Newark

Every municipality and county that owns or regulates a community water system serving homes with lead service lines should adopt, by ordinance, the following elements.

01 *Make Replacement Mandatory and Free to the Property Owner.*

Prohibit lead service lines outright; require every owner to replace within a fixed period, either through the utility's no-cost program or at their own expense; and end cost-share and fee-waiver models. Voluntary programs produce hopscotch construction, leave renters and low-income owners behind and cost more per line. Newark's own experience—fewer than 3 percent of residents enrolled and 650 replacements in six months as a voluntary program, versus 80 to 100 per day once mandatory and free—is the clearest illustration.

02 *Secure Legal Access and Let Occupants Consent.*

Authorize the utility to obtain right of entry from either the owner or the current occupant, hold consenting tenants harmless, restore property to its prior condition and seek a court order where access is refused. In cities with large renter populations and absentee landlords, occupant consent is the single provision that most determines whether a program can reach every home.

03 *Tie Replacement to Property Transfer and Permitting.*

Condition certificates of occupancy, code compliance certificates and major plumbing or water-service permits on proof that the lead line has been replaced and require buyers of publicly owned property to replace within 90 days of closing. Record any unreplaced line in the real property records so that it follows the parcel.

04 *Use Proportionate Enforcement.*

Replace criminal penalties with tools that work: civil fines and recorded notice on the property. The purpose of free replacement and occupant consent is to make enforcement the exception.

05 | *Finance the Whole Job up Front.*

Set the full cost of replacing every line, assemble the capital before construction begins and compress the schedule accordingly. Counties should extend their superior credit ratings, when possible, through improvement authorities, as Essex County did, to lower borrowing costs for cities within them. Layer DWSRF principal forgiveness and loans, WIFIA, State capital programs, dedicated revenue such as asset-lease proceeds and general obligation debt. Programs that fund one year at a time pay more and finish later.

06 | *Replace Full Lines Only, Block by Block, Coordinated With Other Work.*

Prohibit partial replacements except in genuine emergencies, which Federal and State funding rules already require. Sequence work by block and neighborhood—prioritizing childcare centers, schools and census tracts with the highest lead-line density and the highest child blood-lead levels—and coordinate with water main replacement, street resurfacing and utility projects so that each street is opened once.

07 | *Start With the Records You Have and Build a Live Inventory and Public Dashboard.*

Mine historical tap cards, permits and work orders; use statistically valid predictive modeling to prioritize field verification of unknowns; and publish an address-searchable map and a public progress dashboard alongside an internal management dashboard. Meet the LCRR and LCRI inventory and notification deadlines in full—notification is both a legal duty and the foundation of resident cooperation.

08 | *Procure for Speed and Competition.*

Use short-duration, unit-priced contracts with per-line pricing and clear performance targets; release multiple bid packages on consecutive days to intensify competition; pre-qualify a bench of contractors so that work can be awarded quickly; and benchmark unit costs against peer programs. Any program averaging more than $15,000 per line should be required to explain why.

09 | *Build a Local Workforce.*

Write local-hiring percentages and local subcontracting requirements into the construction contracts, as Newark did; establish registered apprenticeship and pre-apprenticeship programs with building trades

unions and community colleges to train residents as laborers, equipment operators and plumbers; set participation goals for minority- and women-owned contractors and offer them working-capital loans so they can bid; and treat the program as a multi-year local jobs initiative. Local crews ease access, build trust and keep Federal dollars in the community.

10 | *Put a Champion in Charge and Put a Three-Tier Plan in Writing.*

Designate a program director who reports directly to the chief executive and has authority over contracting, permitting and outreach, with a dedicated program office and a published schedule. Pair replacement with immediate protection—certified filters for every affected household, optimized corrosion control, post-replacement flushing guidance and follow-up water testing six months after each replacement—and report results publicly, including failures.

A NOTE ON COUNTIES

Counties rarely operate the largest water systems, but they hold tools that cities lack. County improvement authorities and AAA-rated county credit can cut borrowing costs for municipal programs that qualify, as Essex County's $120 million issuance did for Newark. Often county health departments administer the blood-lead surveillance and home-visit programs that can be used to prioritize blocks and to reach families. Counties can pool procurement, inventory services and technical assistance for the dozens of small systems within their borders that lack staff to apply for SRF funds, and county recorders often control the property records in which unreplaced lead lines should be noted.

II | For States

- **Enact enabling authority.** Expressly authorize municipalities and utilities to spend public funds on the private portion of service lines and to obtain access through occupant consent, as New Jersey and Illinois have done. Without such authority, local ordinances remain vulnerable to challenge.
- **Mandate full replacement with enforceable timelines and ban partial replacement.** Illinois, New Jersey and Michigan have done so; every State

with lead lines should follow, with timelines no longer than the LCRI's 10 years except where the rule itself permits deferral.

- **Define "disadvantaged" by need, not by population.** Illinois' original SRF definition excluded Chicago and Pennsylvania's excluded Philadelphia—the two cities in their States with the most lead service lines. Illinois has since moved to scoring projects by census tract. Affordability criteria should rest on household income, lead-line density and public health indicators and should allow neighborhood-scale eligibility within large systems, as witnesses urged the committee in 2022 and 2023.[11,33]
- **Maximize principal forgiveness and target it by inventory.** Direct the statutory 49 percent additional subsidy to the systems with the highest lead-line counts and the lowest incomes, raise per-recipient caps where a limit would otherwise prevent a large program from scaling and use the SRF intended-use plan to reward mandatory, no-cost program structures with priority points.
- **Finish the inventories.** Fund inventory completion and field verification for small systems; use State enforcement authority where Federal deadlines have been missed; and publish statewide, address-level dashboards.
- **Match Federal dollars with State capital.** Wisconsin has committed nearly $500 million of State-directed funds since 2019 and Illinois has provided hundreds of millions in State lead service line loans and planning grants. Every State with a significant lead-line inventory should establish a recurring State capital line for replacement.
- **Benchmark unit costs.** Collect and publish per-line costs from every funded project, establish reasonable-cost benchmarks and require corrective plans from programs whose costs exceed them.

III For Congress and the Federal Government

Senator Duckworth will continue to press for full funding of the programs DWWIA created and for increased funding in future water infrastructure and appropriations bills at levels that more closely match the need. More broadly, Congress and the executive branch should:

- **Reauthorize and appropriate dedicated lead service line replacement funding at no less than $3 billion per year through FY 2037**, aligned with the LCRI's replacement deadline, and permanently codify the lead service

line replacement account within the DWSRF, as the committee-passed WRDA 2026 would do.[51]

- **Fully fund the SRFs, restore the $125 million rescinded from FY 2026 lead funding, fully fund all EPA lead grant programs and reject the proposed 89 percent cut to the State Revolving Funds.** Fund the SRFs at no less than the $3.25 billion per account that DWWIA authorized for FY 2026, and finance Congressionally Directed Spending water project grants from a separate account rather than carving them out of existing SRF funding pools.[60,62]
- **Create a competitive program for the Nation's largest lead-line systems.** The handful of systems with more than 50,000 lead lines—Chicago foremost among them—face a task that formula allotments cannot meet. Congress should authorize direct, multi-year Federal grants to such systems, awarded with the concurrence of the State agency overseeing the SRF program and counted toward the State's replacement plan and conditioned on the adoption of a mandatory, no-cost replacement ordinance with occupant consent, a published block-by-block schedule and per-line cost benchmarks.
- **Implement the LCRI and make its core requirement durable.** The D.C. Circuit will rule in *AWWA v. EPA* on its own schedule; preparation for the November 1, 2027, compliance date cannot wait on it. EPA should complete its implementation guidance, help States adopt the rule into their own regulations, validate State inventories—resolving the nearly 5,000 blank submissions and the 6,000 systems with estimated data—and ensure that allotment formulas do not penalize States whose counts rise as unknowns are identified. Congress should fund EPA's Get the Lead Out technical assistance program and the Lead Service Line Replacement Accelerators through the full replacement decade. Congress should also write the rule's central requirement—full replacement of every lead service line within 10 years, with no credit for partial replacements—into the Safe Drinking Water Act itself, so that the obligation no longer depends on the outcome of litigation or on any future administration's rulemaking.[3,31,75,76]
- **Fix the procedural barriers that witnesses have identified.** Congress should give States and EPA authority to extend the one-year obligation deadline for lead funds where a documented schedule of projects exists. Congress should also align lead-funding application deadlines with inventory and plan deadlines so that money does not run ahead of complete knowledge of the need. Congress should direct EPA to identify unnecessary bureaucratic processes and streamline them when possible. Finally, Congress should add a cost threshold to the Brooks Act design-procurement requirement for small

projects and make certified filters and cartridges an eligible interim-protection expense so that citizens are protected while they wait.[11,29,34]

- **Let the largest cities apply directly for lead funds, with their States.** Mayor Baraka of Newark asked the subcommittee to send lead funding directly to cities, which he argued can deploy it fastest. The competitive lead program proposed above would do that for the handful of systems whose scale defeats formula allotments, with State concurrence and in coordination with State replacement plans, without displacing the State-run SRFs that serve everyone else.[29]
- **Require transparency on outcomes.** Congress should direct EPA to publish a national dashboard reporting, by State and system, lines replaced, funds obligated and spent and average cost per line and to report annually to Congress on progress toward the 2037 deadline.
- **Invest in the workforce.** Congress should fully fund the Innovative Water Infrastructure Workforce Development Program; expand the EPA–Department of Labor partnership on registered apprenticeships for lead service line replacement; and allow SRF funds to support training programs tied to funded construction.
- **Protect children now.** Congress should fully fund the Voluntary School and Child Care Lead Testing and Reduction Grant Program at its authorized level and allow for recipients of these funds for testing to remain eligible for replacement funding; make certified point-of-use filters and filter replacement cartridges an eligible prioritized expense in every community with lead lines until replacement is complete; support the Needs Assessment for Nationwide Rural and Urban Low-Income Community Water Assistance; and permanently codify and fully fund the Low-Income Water Assistance Program so that no family's water is shut off for inability to pay.

DWWIA showed that the Federal Government can fund this work at scale. Newark showed that a city can finish it. The task now is to make Newark's success the norm and to make sure the correct plans are in place and the money is there when the clock starts.

> ***"Safe, reliable drinking water is not a luxury—it's a necessity that everyone deserves, no matter their zip code."***
>
> ❱ *SENATOR TAMMY DUCKWORTH*

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