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The Bipartisan Infrastructure Law Funds a Historic Effort To Remove Lead Pipes That Threaten Public Health and the Economy

The bipartisan Infrastructure Investment and Jobs Act includes nearly $55 billion for programs that ensure every American has access to clean water, the single largest investment in water quality in U.S. history. In particular, the law sets aside $15 billion to remove lead pipes that deliver water to homes and other buildings throughout the country. Poor water quality, whether caused by lead pipes or other factors, is a significant public health risk that also imposes far-reaching economic costs on both individuals and broader society.

Exposure to lead is especially harmful to young children because lead poisoning harms their health and well-being in ways that can stunt their mental and physical development. These serious health effects can persist into adult life where they lead to decreased earnings, poorer health outcomes and lower educational attainment. Ultimately, these direct and indirect costs of lead poisoning are borne by society as a whole.

Black Americans are often more likely to live in communities with lead pipes, given well-documented patterns of residential segregation and a failure to fund lead-mitigation efforts in communities of color. The bipartisan infrastructure law commits substantial funds to remove lead pipes from American homes and help address this long-running public health crisis that exacerbates racial and economic inequality.

The bipartisan Infrastructure Investment and Jobs Act will support nearly 80,000 jobs a year upgrading water infrastructure, with a specific focus on removing remaining lead pipes

The bipartisan infrastructure law commits almost $55 billion in investments to improve water quality throughout the United States, the single largest investment in water quality in U.S. history. While these funds are spread across a range of programs, the largest directed investment is $15 billion for lead service line removal projects in all 50 states, D.C., Puerto Rico and the territories. A total of $3 billion for lead service line removal has already been allocated in 2022 to fund projects throughout the country.

In addition, the law commits $11.7 billion in flexible funding for the Environmental Protection Agency's Drinking Water State Revolving Fund, which states can also tap for lead pipe removal projects. These investments in lead pipe removal, alongside other funds from the bipartisan infrastructure law, represent a nearly six-fold increase in annual federal funding for the EPA's primary drinking water improvement program. The Economic Policy Institute estimated that the Infrastructure Investment and Jobs Act will support nearly 80,000 jobs each year to upgrade water infrastructure.

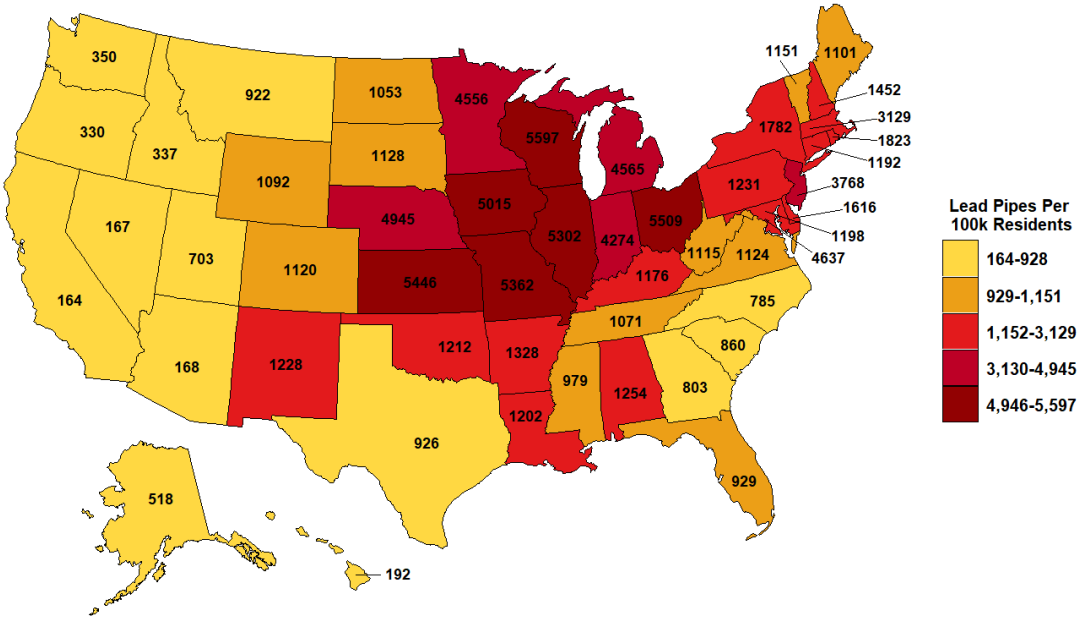
On top of this funding from the bipartisan infrastructure law, state and local recovery funds from the American Rescue Plan can go towards water quality improvement projects, giving local governments another source of funding to address these issues.

States need this funding to address the widespread and continued threat of lead pipes, which exacerbate economic inequality

The bipartisan infrastructure law's investments in lead pipe removal can help reduce economic inequality, given the disproportionate toll that lead poisoning takes on children from lower-income families. Recent public health crises in cities like Flint, Michigan highlight how lead service lines continue to threaten Americans' access to clean water, especially in lower-income neighborhoods. Though the U.S. Congress amended the Safe Drinking Water Act to ban new lead water pipes in 1986, it did not commit funds at the time to remove the millions of lead service lines that were already in the ground.

The map below shows an estimate of the number of lead service lines in each state per 100,000 residents based on a recent report from the Natural Resources Defense Council. The report's authors suspect their analysis is an underestimate of the true scope of the problem because public water utilities were not required by the EPA to publicly identify the number of lead service lines in use until 2021. Though the concentration of lead service lines is worst in the industrial Midwest and parts of the east coast, this map highlights the continued and widespread threat to public health and local economies posed by lead pipes.

Remaining Lead Service Lines Per 100,000 Residents



Source: Natural Resources Defense Council
Note: AK, CA, CO, CT, IL, IN, MI, NJ, OR and WI provided their own data on lead pipes.
Estimates for other states are based on data from a 2016 self-survey.

Lead exposure is a public health risk to young children that incurs significant societal costs

Lead has long been known to have significant detrimental physical and cognitive effects, harming individuals and communities and negatively impacting the economy. Even low levels of childhood lead exposure can cause irreversible brain damage, impede child development and lead to learning and behavioral problems. These effects in childhood can lead to worse outcomes

later in life, including poorer health, increased likelihood of involvement in criminal activity, reduced educational attainment and lower lifetime earnings.

Even with growing knowledge of the harms posed by lead and attempts to mitigate exposure, at present over 170 million Americans are estimated to have been exposed to high lead levels in early childhood. Recent estimates find that approximately 500,000 children aged 1-5 currently have blood lead levels above the CDC's threshold for recommending medical intervention (5 µg/dL.)

A recent study estimated that lead poisoning from all sources among children born in 2018 alone will cost these kids and the wider economy an additional $84 billion in forgone benefits and higher health costs. Each additional year that children are exposed to lead compounds these negative effects and creates larger individual and societal losses. These broader consequences underscore why investing in lead pipe removal is a vital down-payment on a more just and inclusive economy.

Exposure to lead has a disproportionate impact on Black children

Lead exposure is not only a serious health hazard, but a significant source of environmental injustice given the disproportionate toll it takes on communities of color. Among demographic groups, Black families—and particularly Black children—are at the highest risk of having lead exposure and suffering its effects.

A recent study of lead levels among children found that Black children were nearly 3 times more likely to have elevated blood lead levels than their non-Hispanic white and Hispanic counterparts. These disparities in lead levels remained even after researchers controlled for various lead risk factors like poverty status or the age of the home. The odds that Black children living in older housing had elevated blood lead levels were 5.6 times higher than those for white or Hispanic children in those same conditions, and were 4.1 times higher for Black children living in poverty.

Research indicates that race, or more specifically racism, is playing a role in determining a child's likelihood of lead exposure. Decades of discriminatory housing practices have pushed a disproportionate number of Black Americans, and particularly Black children, into substandard housing which is more likely to present increased risk of lead exposure.

Addressing this heightened risk for Black children can help narrow documented gaps in key social and economic outcomes. A study looking at the effects of lead abatement among schoolchildren found that reducing childhood lead exposure resulted in significant closure of the Black-white test score gap by raising test scores for Black students. Improving these childhood outcomes can aid in reduce the racial income gap in adulthood given the important role that education plays in lifetime earnings.

Removing lead service lines reduces lead exposure, making the bipartisan infrastructure law's investment a sound commitment to public health and economic well-being

Though public health officials have developed a range of strategies to reduce lead exposure from drinking water, scientific experts view full service line removal (instead of partial removal or

corrosion prevention methods) as the best way to curb lead exposure. Recent regulatory changes by the EPA stress that water systems should conduct full replacements with the new funding. The emphasis on full replacements is important because partial removal can elevate the risk of lead poisoning while placing an undue burden on lower-income and marginalized families.

The Drinking Water State Revolving Fund has a consistent track record of service line removal projects, including the successful removal of all 23,000 service lines in Newark, NJ. Other cities like Lansing, MI, have demonstrated that local authorities can successfully remove all lead service lines when given the requisite funding.

One benefit of the funding in the bipartisan infrastructure law is that nearly half can go towards direct grants or local principal forgiveness that do not require a state match, further lowering the financial barriers for these often-expensive removal projects. These successes can serve as a helpful guide for how other localities can implement lead service line removal.

Lead pipe removal is a vital investment in public health and America's future

The $55 billion in the Infrastructure Investment and Jobs Act is a historic federal investment in water quality and the significant commitment to lead service line removal will pay dividends both now and in the future by improving health and well-being. Given the known dangers that lead pipes pose to young children, funding large scale lead service line renewal can improve public health, help address environmental racism and improve socioeconomic outcomes for generations of children. Protecting children from this dangerous chemical will also support a stronger and more inclusive U.S. economy by lowering health costs and raising overall incomes for those marginalized families who currently bear the brunt of continued lead exposure.

Distribution of IIJA Funds for Lead Service Line Replacement	
State	**Allocation Per State/Geography, 2022**
Alabama	$61,114,000
Alaska	$28,350,000
Arizona	$50,986,000
Arkansas	$42,653,000
California	$250,107,000
Colorado	$56,015,000
Connecticut	$28,350,000
Delaware	$28,350,000
District of Columbia	$28,350,000
Florida	$111,601,000
Georgia	$66,808,000
Hawaii	$28,350,000
Idaho	$28,350,000
Illinois	$106,964,000
Indiana	$43,334,000
Iowa	$44,913,000
Kansas	$32,891,000
Kentucky	$46,717,000
Louisiana	$42,433,000
Maine	$28,350,000
Maryland	$51,934,000
Massachusetts	$65,783,000
Michigan	$69,593,000
Minnesota	$43,276,000
Mississippi	$30,518,000
Missouri	$49,980,000
Montana	$28,350,000
Nebraska	$28,350,000
Nevada	$32,864,000
New Hampshire	$28,350,000
New Jersey	$48,385,000
New Mexico	$28,350,000
New York	$115,781,000
North Carolina	$87,062,000
North Dakota	$28,350,000
Ohio	$71,300,000
Oklahoma	$40,192,000
Oregon	$37,300,000
Pennsylvania	$87,296,000
Puerto Rico	$28,350,000
Rhode Island	$28,350,000
South Carolina	$36,716,000
South Dakota	$28,350,000
Tennessee	$49,243,000
Texas	$222,155,000
Utah	$28,350,000
Vermont	$28,350,000
Virginia	$46,256,000
Washington	$63,336,000
West Virginia	$28,350,000
Wisconsin	$48,319,000
Wyoming	$28,350,000
U.S. Territories	$42,525,000
Tribal Funding	$60,000,000
Administration/Oversight	$105,000,000
TOTAL	**$3,000,000,000**

Source: Environmental Protection Agency
Note: Amounts are funds provided by the IIJA for lead service line replacement through 2022 state revolving fund grants.