

NLC Service Line Warranty Program



Administered by



a HomeServe Company



AGING WATER INFRASTRUCTURE: **IMPACTS AND INNOVATION**

INTRODUCTION

No one disputes water is one of our most precious resources and crucial to life. A human being can survive several weeks without food, but for not more than 48 hours without water.

The U.S. uses 322 billion gallons of water each day, with [39 billion gallons](#) processed for drinking and the remainder being used in irrigation and hydroelectric power. The average American uses [80 to 100 gallons](#) of water per day.

We need water – and a lot of it – but the systems that deliver it are crumbling. [Aging water infrastructure](#) is a pervasive and growing problem that can affect health and safety, the environment and the financial well-being of citizens, municipalities and utilities.

SOME VERY BIG NUMBERS

The definitive report on U.S. infrastructure illustrates the challenges in upgrading water and wastewater systems. Wastewater and drinking water infrastructure scored a “D+” and a “D,” respectively, not having improved in years, from the [American Society of Civil Engineers](#) (ASCE).

It’s no surprise **over 240,000 water main breaks** occur each year in the U.S.

Most Americans receive their water through pipes that are coming to the end of their usable lifespan. [Drinking water](#) is delivered via one million miles of pipes across the country, and although the quality remains high, legacy and emerging contaminants require close attention. The ASCE estimates it will cost more than \$1.3 trillion to fix the problem.

To compound water woes, there are more than 800,000 miles of public sewers and they are susceptible to structural failure, blockages and overflows. The U.S. Environmental Protection Agency (EPA) estimates 23,000 to 75,000 sanitary sewer overflow events occur in the United States each year.

Public sewage systems, already serving more than 75 percent of Americans, will see a [demand increase of nearly 25 percent by 2032](#). An estimated 532 systems will need to be added to the 14,748 existing plants to meet demand, and the EPA estimates the cost to update and expand wastewater infrastructure to cost \$271 billion.



In addition, water loss is another result of aging water infrastructure. Water utilities lose 7 billion gallons of treated potable water daily, which adds up to [2.1 trillion a year](#), or nearly 20 percent of water produced. This is attributable, in part, to leaks in [aging water infrastructure](#). A utility's average non-revenue water (NRW) loss is [16 percent](#) and it only takes a loss of 20 percent to impact water pressure throughout the system.

Losses are estimated at [billions of dollars](#) each year with [production and distribution costs](#) lost when water utilities need every penny for capital improvements. These costs must be recouped somehow, often forcing utilities to [increase billing](#).

It is estimated that **[\\$97 billion](#) is needed to address NRW issues** across the country.

PUBLIC IMPACT: HEALTH AND SAFETY

Disease-causing bacteria, or **pathogens, can contaminate water** through combined sewer overflows, cracked sewage pipes or leaking septic systems.

There are many public health risks associated with our [aging water infrastructure](#). Older pipes can impact water quality, because they have begun to corrode, frequently impacted by the [chemistry, alkalinity and temperature](#) of the water. In [Flint](#), a change of water – and the corrosiveness of that water – meant lead from service lines leached into the water.

[More than 10 million](#) lead service lines remain in service, and only [half of one percent](#) are replaced each year. It would cost \$1 trillion to replace them, a responsibility that partially falls on property owners. Despite service being on the “private side” of our water systems, work on the public side can cause [spikes in lead](#) for [up to 18 months](#).

As 56 million more Americans will connect to sewer plants by 2032, and weather events increase, many areas have been hit with heavy rains that cause combined sewer overflows (CSO). As a result, many systems are grappling with larger-than-normal discharges into local bodies of water which can pose a public health hazard.



PUBLIC IMPACT: FINANCIAL SHOCK

A financial shock, such as a home repair emergency, can devastate homeowners on a fixed income, and many in the middle class are also on shaky ground, with one unexpected occurrence causing their financial security to slip away. According to a [study](#) by the Pew Charitable Trust, 60 percent of households have experienced financial shock, with an average cost of \$2,000.

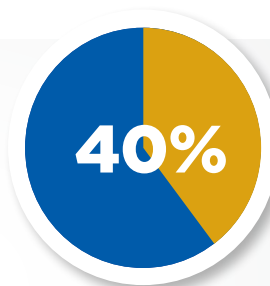
The data show that a sizeable number of homes across the U.S. are served by pipes reaching the end of their useful life. When a water or sewer line breaks, the homeowner is responsible for the portion of the line from the house to the water meter, called the private side. When private-side service lines break, many homeowners are unaware of their responsibility and call the city or utility first. When they find out the provider cannot help, they are faced with an expensive repair.

A [study](#) of pipe failure based on age and material revealed a **significant percentage of U.S. housing stock is poised for mounting service line failures** now and in the near future.

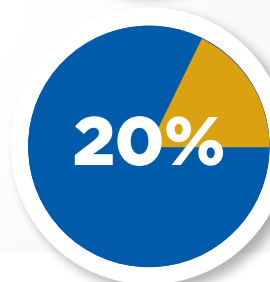
- ▶ For houses built 1950-1970, galvanized and copper is prevalent and failure rates peak 2005-2025
- ▶ For houses built 1980-2000, Poly and PVC is prevalent and failure rates peak 2015-2035



MANY AMERICAN HOUSEHOLDS POISED TO FACE FINANCIAL SHOCK



of American households **don't have the savings** to weather a financial shock.*



of American households **don't have access to mainstream credit**.*

INNOVATIVE SOLUTIONS: PUBLIC PRIVATE PARTNERSHIP

There are nearly [60,000 different water utilities](#) operating in the U.S., and few work in concert with one another. Most are caught in a reactive cycle of fixing leaks instead of proactive replacement.

Our infrastructure is aging, the national deficit is growing and tax revenue isn't up to the task – not without potentially devastating increases – so public-private partnerships, or P3s, are a way to stretch tax dollars to make necessary repairs or upgrades.

Studies have shown that **P3s increase the likelihood that projects come in on-budget and on-schedule** over those completed solely by public entities.

P3s are rising in popularity, with more than [\\$36 billion worth of partnership projects](#) coming to fruition in the last decade, saving taxpayers 20 percent for most projects.

We need water, and we need the system that delivers it to be reliable and safe. As the bill to upgrade our systems in order to maintain the high standards to which we're accustomed grows larger, we must look for new and creative ways to repair, expand and improve. Public-private partnerships can be part of an innovative solution to address these needs.

The NLC Service Line Warranty Program [partners](#) with municipalities and utilities to educate homeowners and offer affordable protection against potentially costly service line repairs. The Program uses a network of [local, vetted plumbers](#) and provides award-winning service 24/7/365.

The Program is provided at no cost to cities, and partner cities can receive [royalties](#) based on participation.

To find out how you can help your residents achieve peace of mind, visit www.utilitysp.net.

Choosing your partner

[Public-private partnerships](#) have been utilized for decades by municipalities seeking the best of both worlds for the benefit of the community while reducing financial risk.

While there are many home services available, partnering allows the municipality to direct residents to a fully vetted, reputable company that they know will deliver excellent service.

An attractive partner considers how their actions impact the municipalities in which they operate, and [gives back to the community](#), whether through volunteer work or grant programs.