



MEMORANDUM

To: Mayor and City Council

Through: Michael Rogers, Assistant City Manager **MR**

From: Shay Ralls Roalson, P.E., Austin Water Director **SMR**

Date: May 1, 2026

Subject: **Update on Austin Water Infrastructure Leakage Index (ILI) Calculation**

The purpose of this memorandum is to provide information about Austin Water's 2025 Infrastructure Leak Index (ILI) as submitted to the Texas Water Development Board (TWDB). This annual submittal is a requirement of public water systems with more than 3,300 connections.

Austin Water's ILI improved to 5.16 in 2025, down from 5.44 the previous year. This represents a 5% improvement in system efficiency.

This memorandum also provides an update on Austin Water's efforts to mitigate system water loss through service line improvements, advanced proactive leak detection and fast response to identified leaks as described in [last year's update to the City Council](#).

BACKGROUND

The ILI is a key performance indicator that quantifies physical water losses for water distribution systems. It is calculated as the ratio of Current Annual Real Losses (CARL) to Unavoidable Annual Real Losses (UARL):

- **Current Annual Real Losses (CARL)** represent the water lost due to system leaks and pressure-related issues.
- **Unavoidable Annual Real Losses (UARL)** represent the theoretical minimum level of water loss through all feasible leakage control efforts, regardless of cost. UARL is based on system-specific factors, including the length of water mains, the number of service connections, and average annual system pressure.

ILI evaluates how effectively a utility delivers potable water while minimizing losses. Lower values indicate greater efficiency with less water lost to leaks. For a system the size of Austin's, an ILI between 3 and 5 is considered appropriate.

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IMPROVING SYSTEM EFFICIENCY

Austin Water continually strives to meet a target ILI of 3.31 by 2034 as established in Austin's [2024 Water Conservation Plan](#) and has numerous initiatives to improve system efficiency. While each initiative will take years of continued effort to fully realize greater system efficiency, significant progress in the following areas has already been achieved:

- **Full Deployment of Advanced Metering Infrastructure.** Austin Water completed replacement of more than 265,000 analog meters with electronically read meters connected to a wireless network in August of 2025. With full deployment, all customers now receive notifications from the My ATX Water portal about potential private-side leaks. In 2025, more than 113,000 leak alerts were sent to customers resulting in an estimated 814.6 million gallons of water saved.

Sound, pressure, and water velocity are new ways to find leaks in public infrastructure. With advanced metering infrastructure in place, Austin Water is now piloting technologies to identify leaks in Austin Water pipelines early – before they are visible above ground and reported for repairs. Meters and data loggers with acoustic technology are being piloted in areas that experience a higher number of breaks. Austin Water will apply what is learned from this initial, limited area deployment to expand to approximately 150 data loggers in the coming months.

- **Implementing Black & Veatch Report Recommendations.** In 2023, Austin Water contracted with Black & Veatch to evaluate our water loss program and provide recommendations for improvement. Austin Water launched a cross-departmental team to implement these recommendations and are on track to have all recommendations operationalized by the end of the year.

A critical element of these recommendations involved establishing standard practices and annual training for Austin Water crews to proactively detect potential leaks in the field. Austin Water continues to respond to, evaluate, and begin repairs on reported leaks within three hours of receiving a customer call. Over the last two years, crews have replaced more than 700 water lines that were reported leaking instead of making repairs – quickly addressing failing lines as soon as the Department learns about them.

In addition, the following recommendations from the Black & Veatch report have been implemented:

- At three AW water treatment plants, raw water and service flow meters have been calibrated and verified. Work orders are in place for annual calibration or replacement.
 - Data validation practices for large customer meters have been enhanced.
 - Data management and analysis tools across the water loss program have been expanded.
 - Estimates of unbilled authorized consumption (e.g., water for flushing and firefighting) have been improved.
- **Capital Investments and Infrastructure Renewal.** Austin Water proactively replaces aging water pipelines, prioritizing improvements based on break history and condition. To date,

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more than 185 miles of water and wastewater mains have been replaced through the Renewing Austin program.

Additionally, leak detection and condition assessment is performed on large diameter waterlines with free-swimming acoustic sensors to identify deficiencies needing repair. Proactive leak detection of the water system is also routinely performed via internal crews and third-party contractors. Over 750 miles of the water distribution system were canvassed in 2025.

Austin Water uses leak detection and pipeline break data to develop capital investment plans as part of our 5-year Capital Improvement Program budget. Austin Water's CIP budget for fiscal years 2026-2030 includes \$49 million for water main replacements of approximately 34.7 miles of water mains; 92 of these planned projects are currently underway. Approximately \$18 million is budgeted in the 5-year CIP plan to replace 7,500 water service lines by 2030.

SUMMARY

Austin Water remains committed to continuing industry best practices to reduce water loss. Improving water system efficiency requires coordinated action across plants, transmission mains, and service lines, as well as deployment of leak detection technologies and fine-tuning repair and replacement processes.

Should you have questions or concerns about our water loss mitigation initiatives, please contact Austin Water Director Shay Ralls Roalson at shay.roalson@austintexas.gov or (512) 972-0108.

cc: T.C. Broadnax, City Manager
Erika Brady, City Clerk
Jason Hadavi, City Auditor
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