



2024 UPDATES: WATER CONSERVATION AND DROUGHT CONTINGENCY PLANS

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HOUSTON WATER

AUGUST 28, 2024



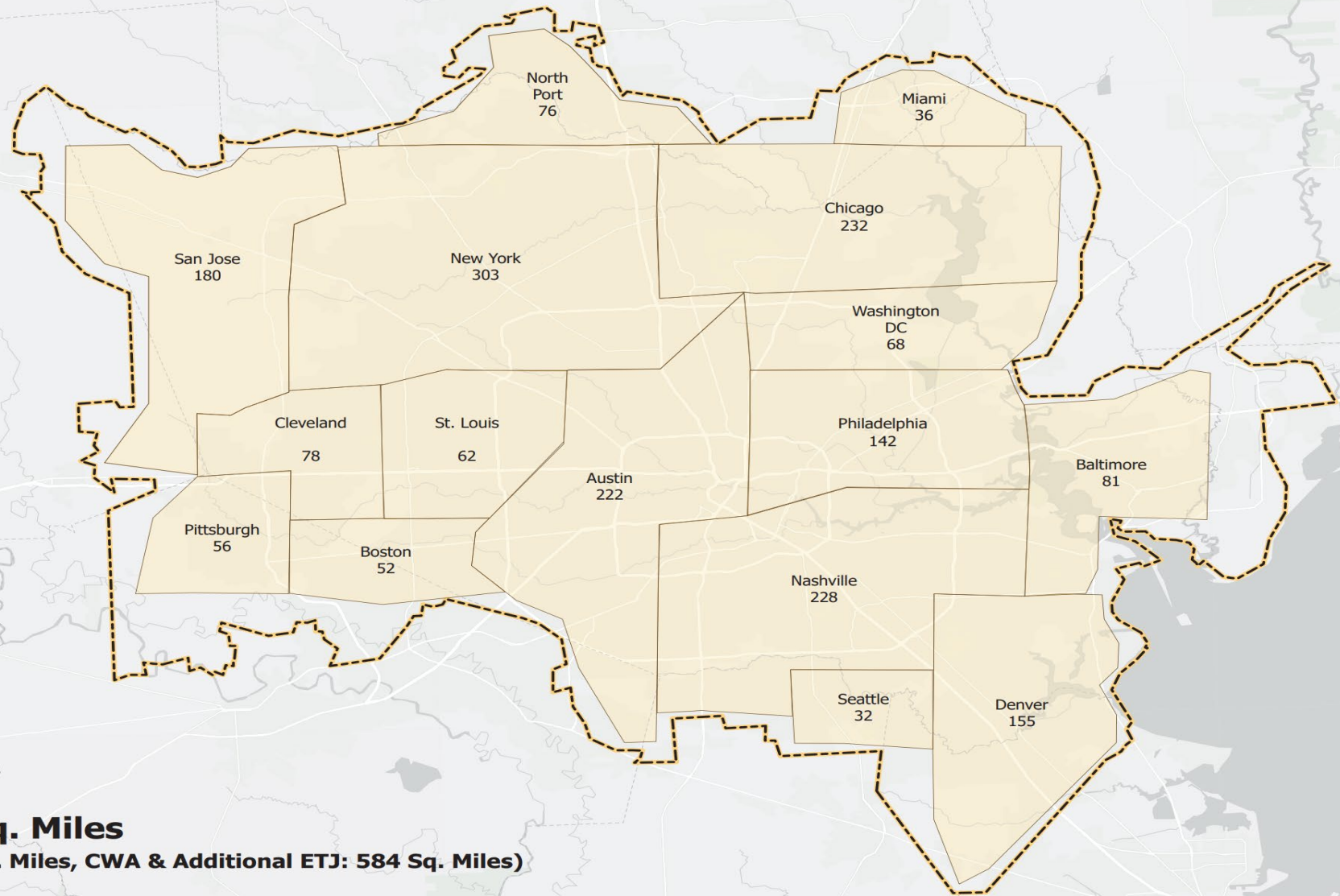
PURPOSE

together we create a strong foundation
for Houston to thrive

5 TO THRIVE VALUES

respect | ownership | communication | integrity | teamwork





Water Service Area: 2394 Sq. Miles
(Retail: 539 Sq. Miles, Wholesale: 1271 Sq. Miles, CWA & Additional ETJ: 584 Sq. Miles)

The land area of all these cities COMBINED would fit within our service area



Geospatial or map data maintained by Houston Public Works is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and only represents the approximate location of property boundaries.



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CRITICAL PATH FORWARD FOR HOUSTON WATER



LEAK REPAIR DASHBOARD UPDATE



Report Time Range

Last 7 Months
1/24/2024 - 8/23/2024

Council Districts

All

Houston Water – Active Work Orders

This dashboard shows the number of work orders for repairs. Work orders can consist of more than just water leaks – they also include repairs on a water line, a damaged asset, fire hydrants and valves that are not working. The charts show the number of work orders created and closed. Houston Water prioritizes repairs in the following order:

- Healthcare systems and schools without water or experiencing low pressure.
- Water leaks causing major ponding on major thoroughfares.
- High-volume water leaks, leaking 250 gallons per minute or more.
- All other leaks.

Daily Average Work Orders Opened

34.9

Daily Average Work Orders Closed

36.3

Weekly Average Work Orders Opened

239.6

Weekly Average Work Orders Closed

249.2

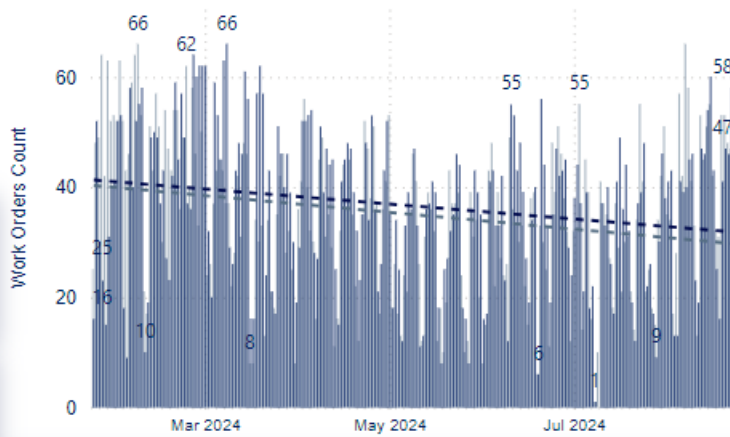
Total Active Work Orders

742

Last Data Updated 8/22/2024 10:12:53 PM

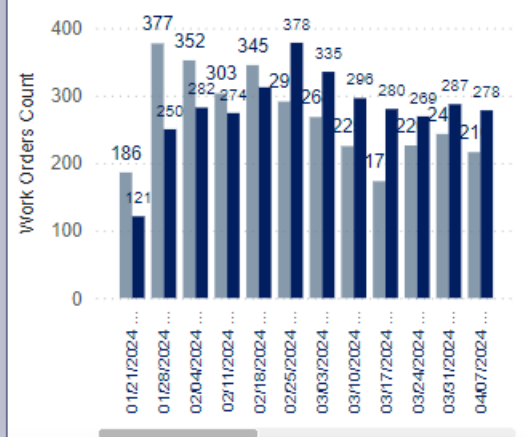
Daily Work Orders Opened/Closed

Work Orders Opened Work Orders Closed

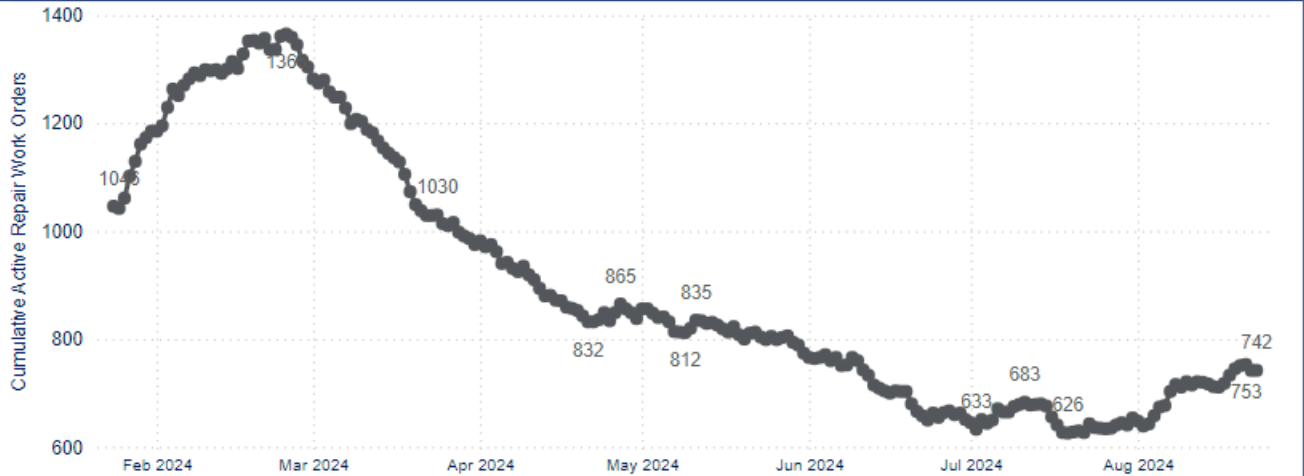


Weekly Work Orders Opened/Closed

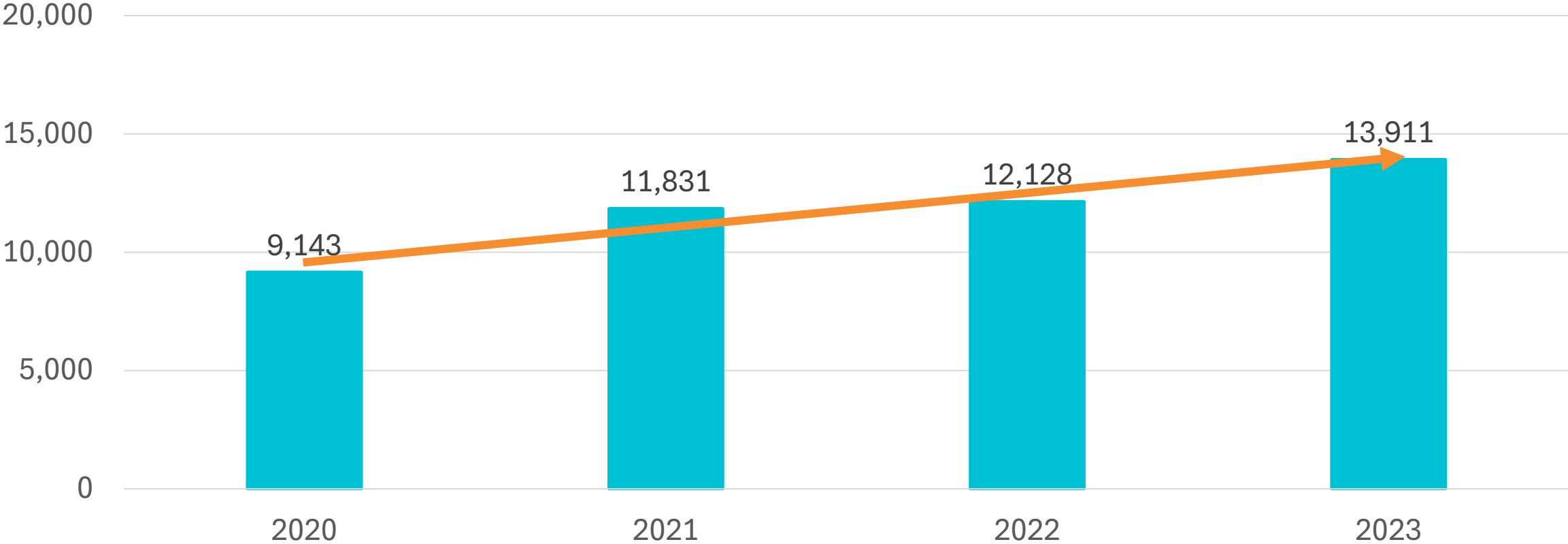
Work Orders Opened Work Orders Closed



Active Work Orders



HISTORICAL LEAKS



REQUIRED WATER CONSERVATION PLAN

Texas Commission on Environmental Quality

Texas Water Development Board

All Cities With 3,300+ Connections

Texas Administrative Code Title 30, Chapter 288

Updated Every 5 Years

LONG TERM COST REDUCTIONS

- Optimizes new source water development costs
- Postpones the need for capital improvement projects
- Reduces demand on water treatment facilities and distribution systems, extending their lifespan



Southeast Water Purification Plant



Northeast Water Purification Plant Intake Pump

COMMUNITY BENEFITS

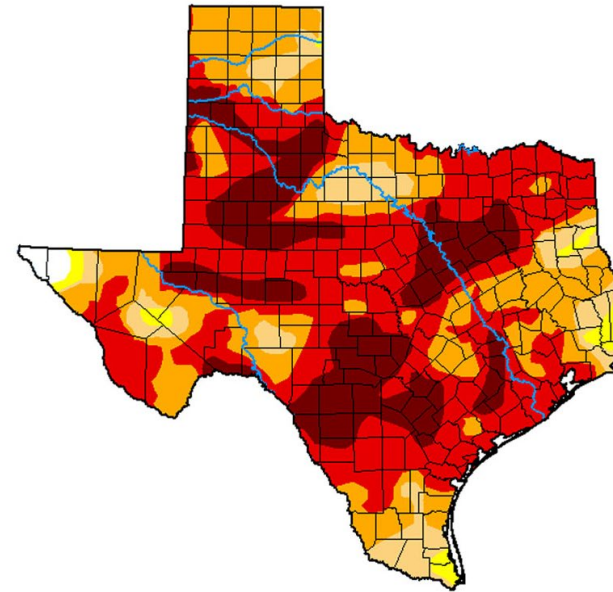
- **Supports local ecosystems, preserves natural habitats and protects biodiversity**
- **Ensures a reliable water supply during droughts and preserves water resources for future generations**
- **Maintains water levels for recreational activities like fishing, boating and swimming**



Lake Livingston

MINIMIZING IMPACTS

- Drought
- Groundwater depletion
- Subsidence
- Flooding



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.82	99.18	97.11	87.92	61.86	21.31
Last Week 07-26-2022	0.82	99.18	97.40	85.15	60.06	18.80
3 Months Ago 05-03-2022	8.83	91.17	80.02	67.29	50.91	23.19
Start of Calendar Year 01-04-2022	7.58	92.42	79.83	54.25	16.69	0.00
Start of Water Year 09-28-2021	45.57	54.43	7.26	0.27	0.00	0.00
One Year Ago 08-03-2021	94.72	5.28	1.10	0.00	0.00	0.00

Intensity:

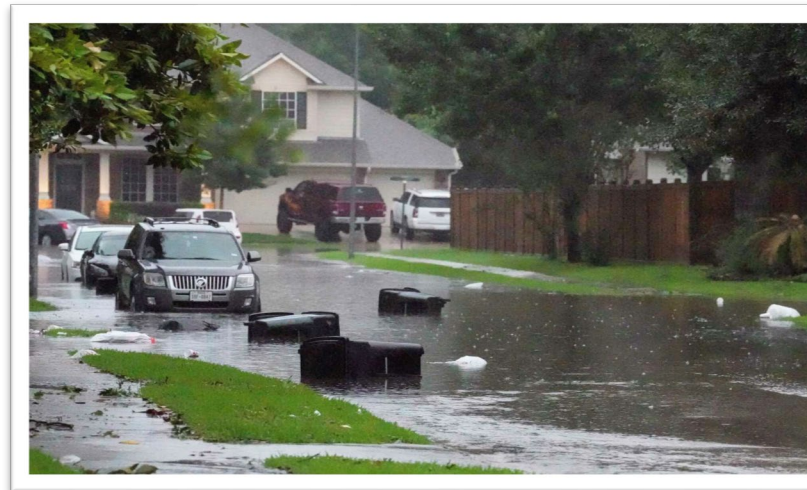
None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

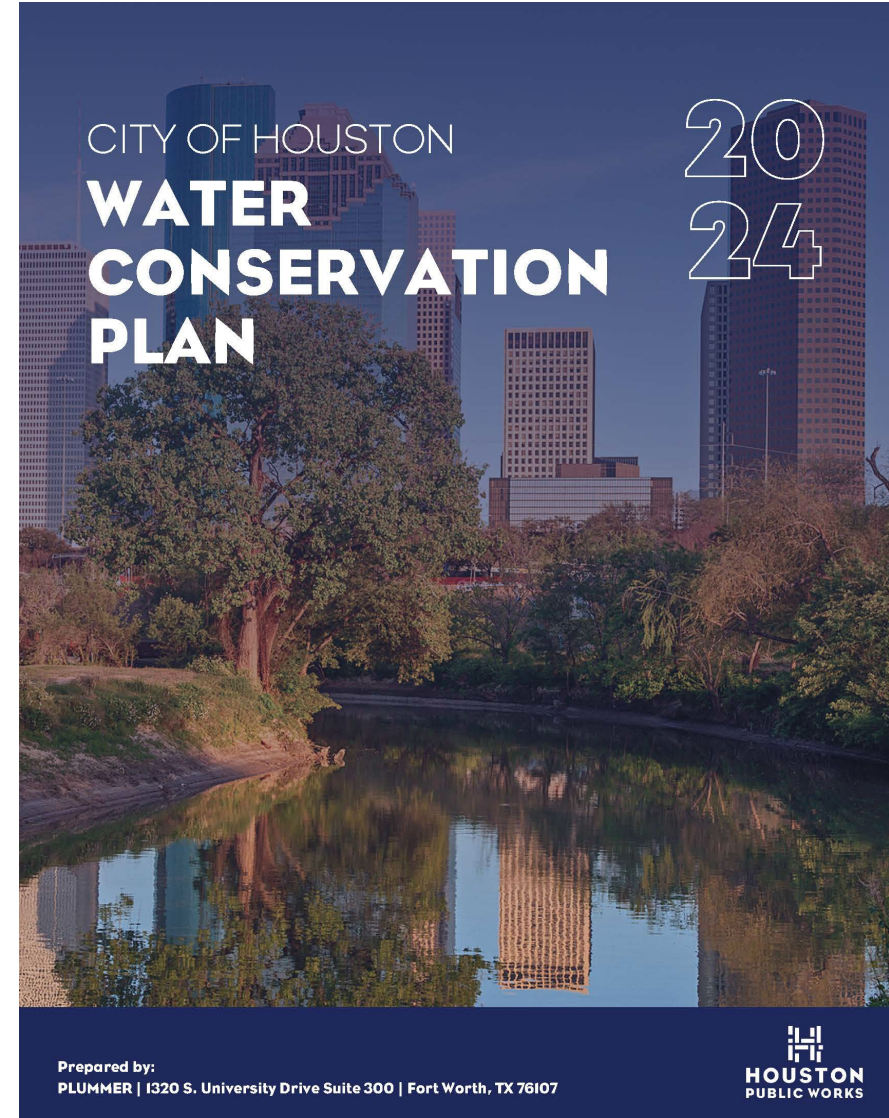
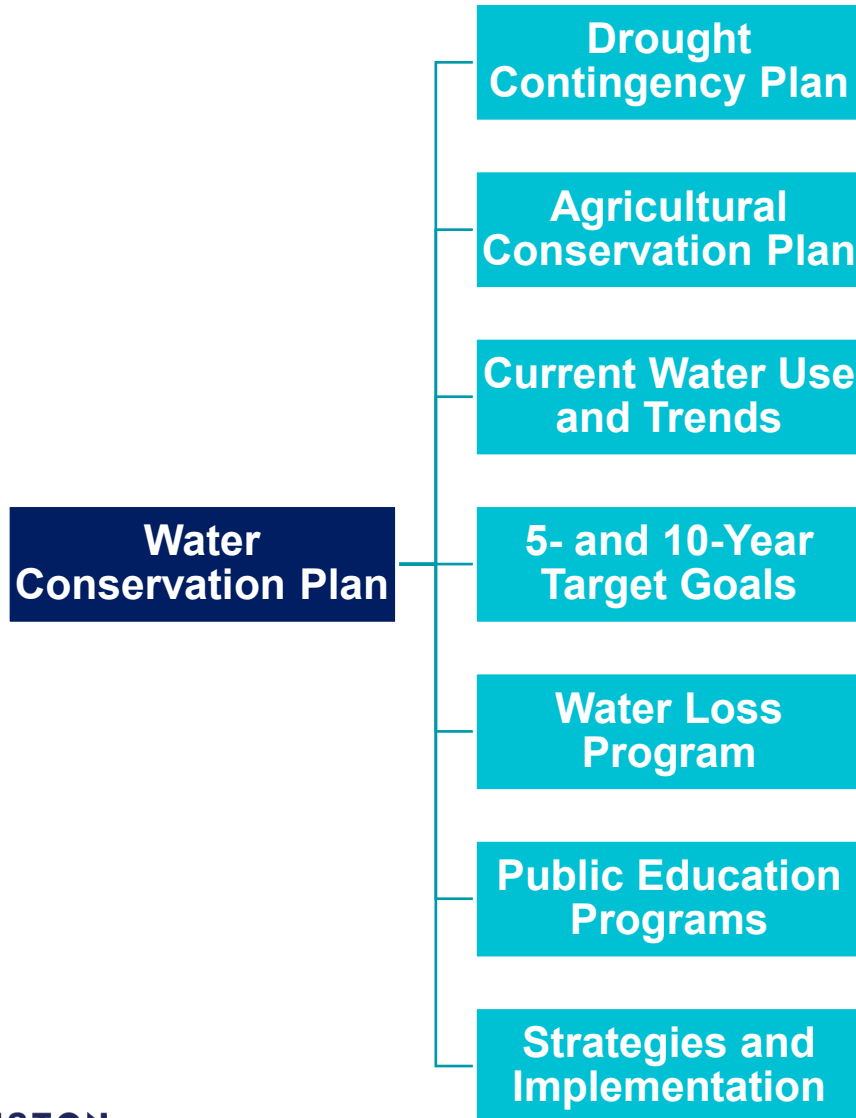
Author:
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu



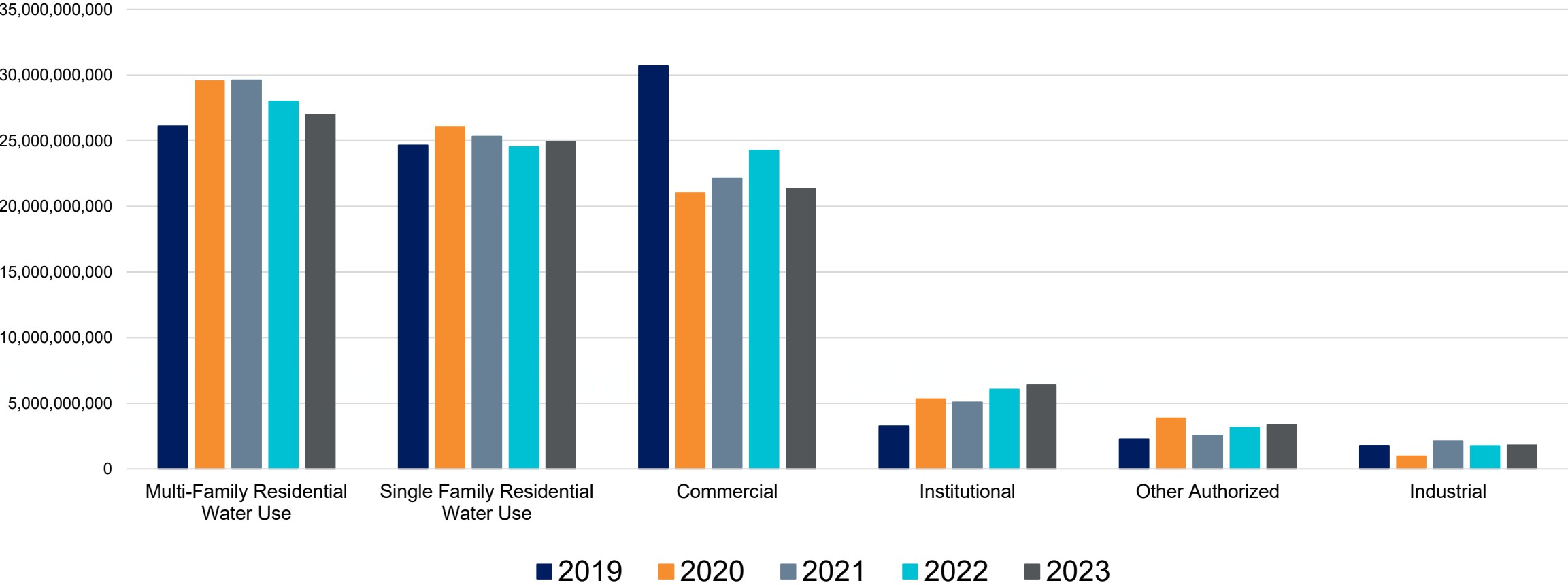
2024 WATER CONSERVATION PLAN - UPDATES



DROUGHT CONTINGENCY PLAN - **UPDATES**

STAGE	1	2	3	4
GOAL REDUCTION	5%	10%	20%	35%
PARTICIPATION	Voluntary	Mandatory	Mandatory	Mandatory
OUTDOOR WATERING RESTRICTION (7:00pm – 5:00am 8:00am)	2x week	2x week	2x week None allowed	None allowed
MAXIMUM WATER USAGE PER MONTH, GALLONS	-	-	5,000 -	4,000

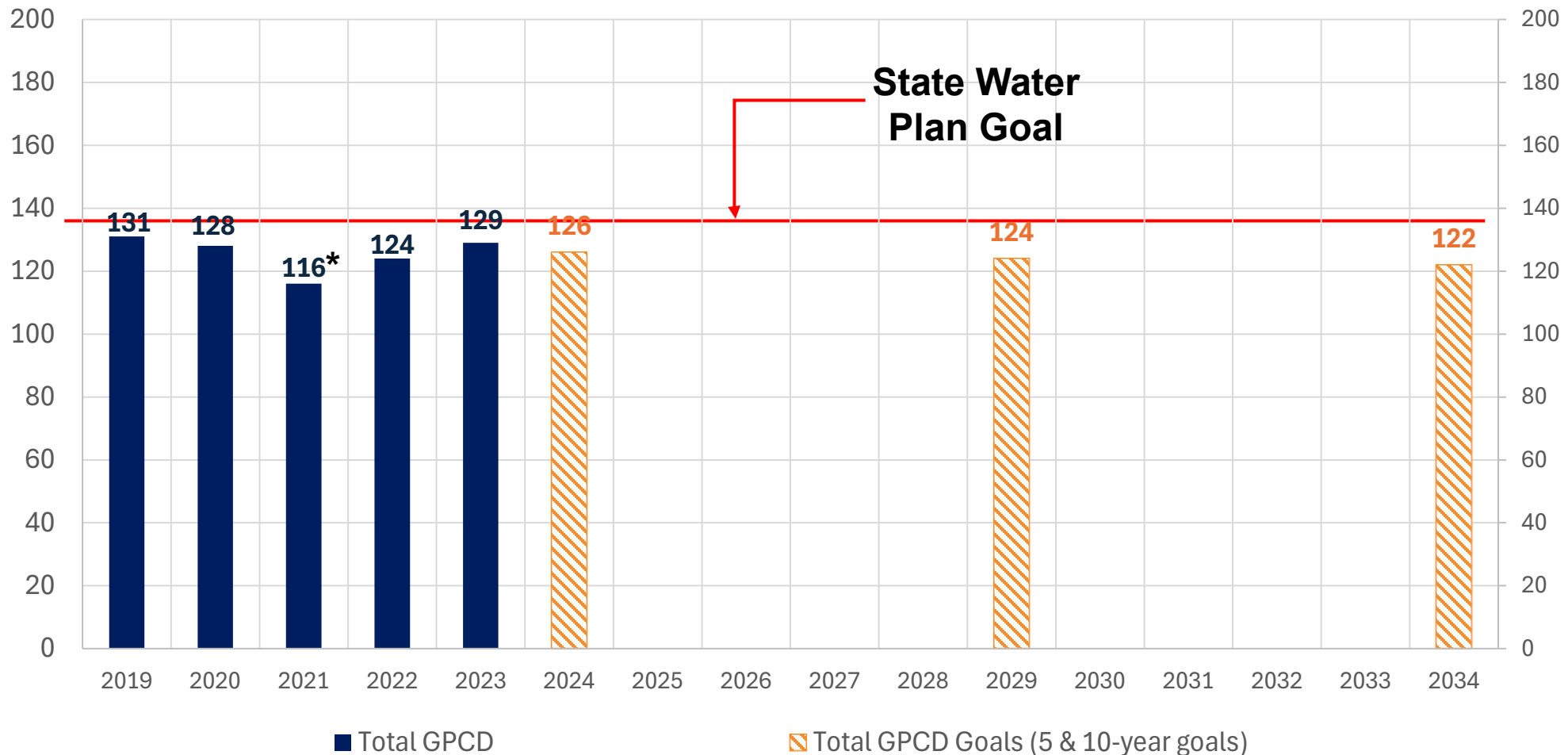
CURRENT WATER TRENDS IN GALLONS



2023 Total Gallons of Retail Water: 84.8 Billion

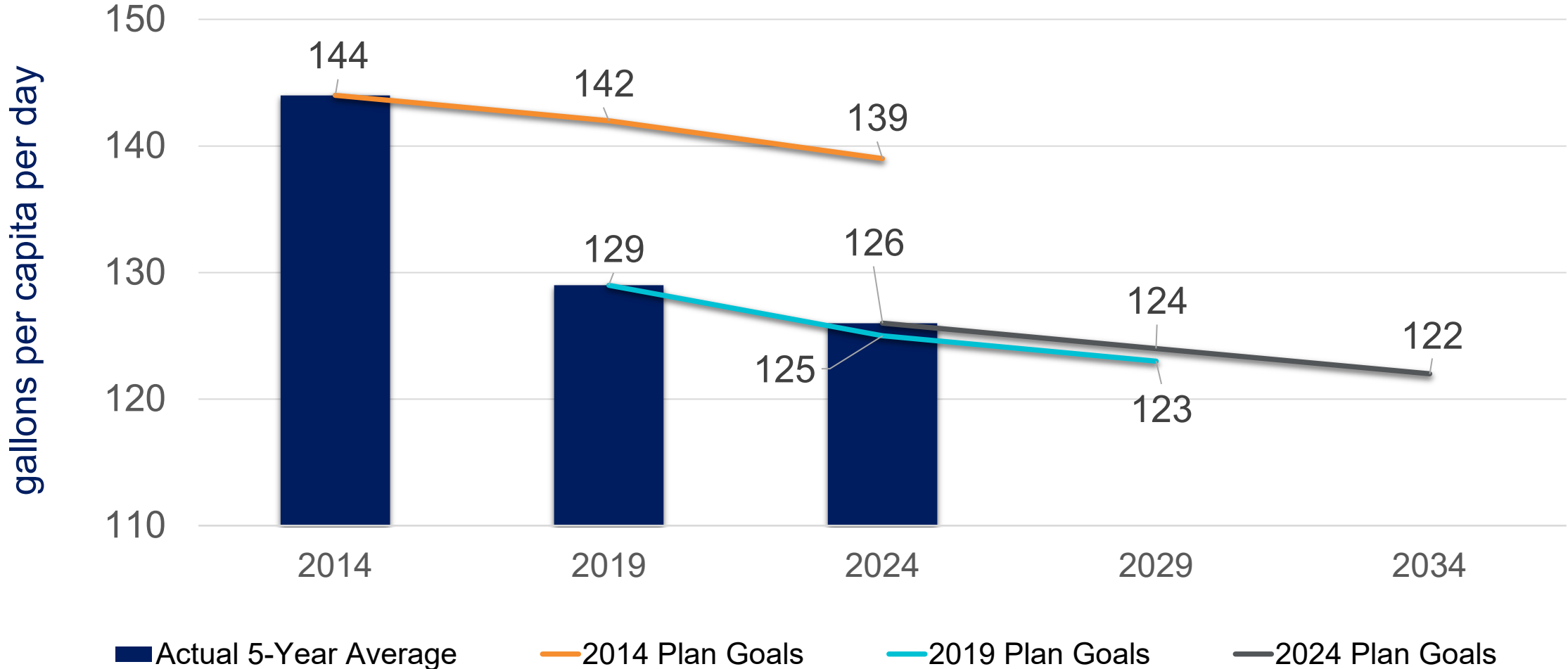
TOTAL GPCD HISTORICAL AND GOALS

Goals based on an average 0.4% reduction annually in gallons per capita per day (GPCD).



* Updated based on 2020 Census Data

TOTAL GPCD REDUCTION GOALS

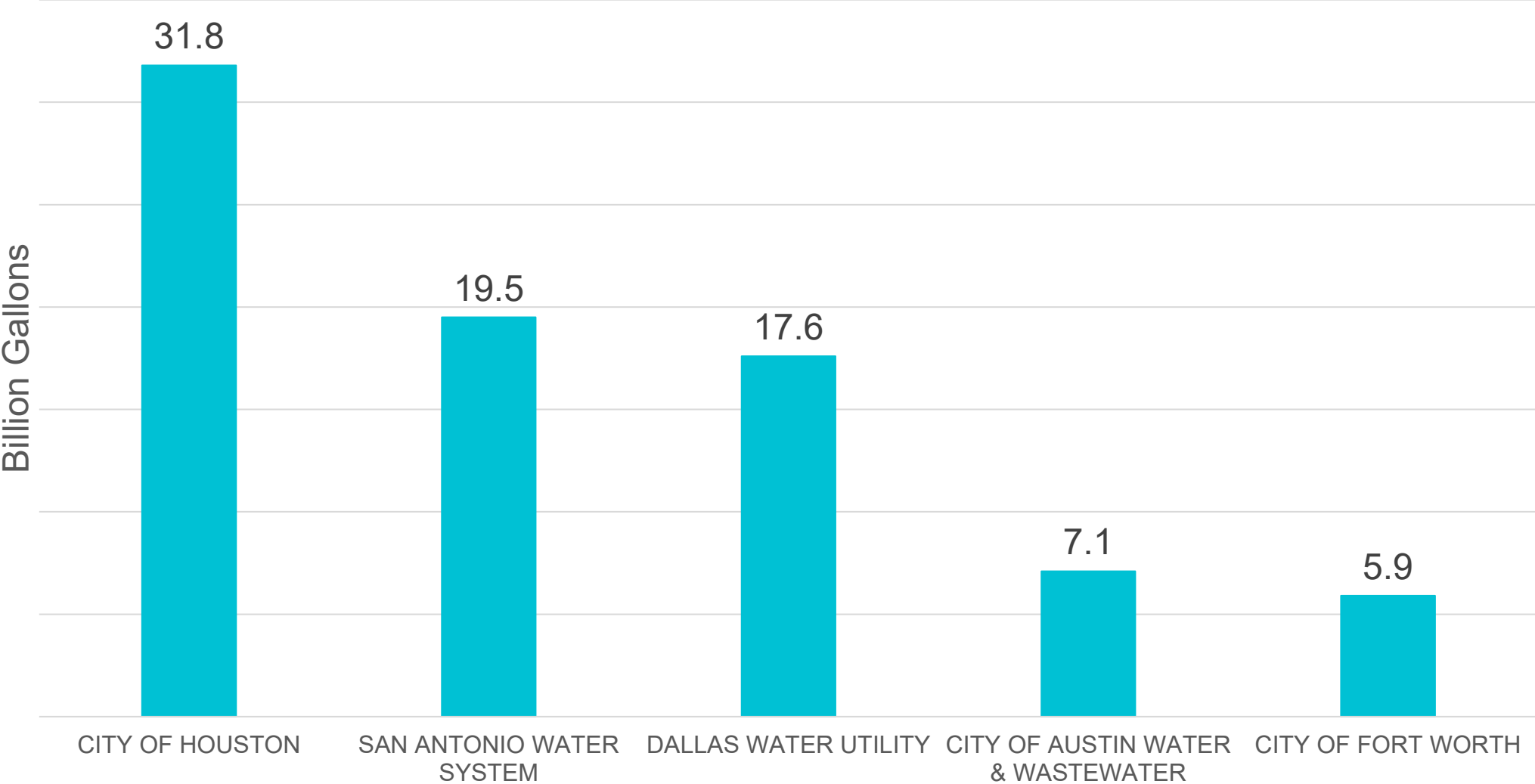


HISTORICAL WATER LOSS AND GOALS

	2022	2023	2029 Goal	2034 Goal
Water Loss GPCD ^a	29	37	35	33
Infrastructure Leakage Index (ILI) ^b	5.32	6.79	6.45	6.13

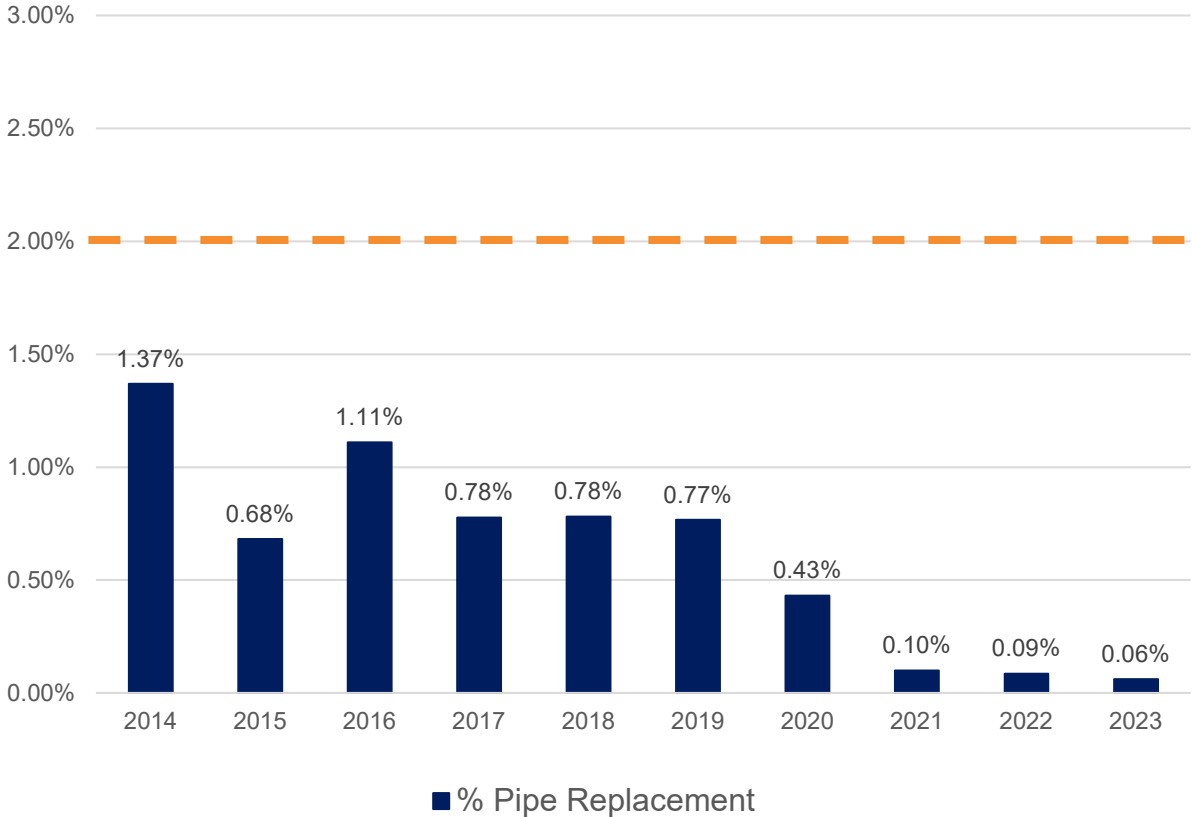
a. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365
 b. ILI = Current Annual Real Losses ÷ Unavoidable Annual Real Losses (Number of service connections ÷ length of watermains ÷ average pressure)

2023 – WATER LOSS AROUND TEXAS



HISTORICAL PIPE REPLACEMENT

2% pipeline replacement assumes 50-year lifespan = 20% replacement every 10 years.



- **6% replacement in the last 10 years.**
- **An additional ~\$1.1 billion would have been needed to meet the 2% annual pipe replacement target over the last decade.**



ROBUST PIPELINE REPLACEMENT PROGRAM BENEFITS

- Increase pipeline replacement to 6%.
 - We are focusing on the most vulnerable areas of our distribution system.
 - Potential water saved is enough to supply 160,000 households.
 - Postpones expansion of our treatment purification facilities.
 - Improve water pressure and reliability
 - Exceed Water Loss goals in Water Conservation Plan.

HOUSTON PUBLIC WORKS' STRATEGIES TO CONSERVE WATER



Dedicated leak detection crews to test water mains



Installation of Advanced Metering Infrastructure (**AMI**)



Updating of the advanced hydraulic water model



Proactive Leak Detection Programs



Continuous prioritization and replacement of aging water lines

PUBLIC EDUCATION AND PROGRAMS

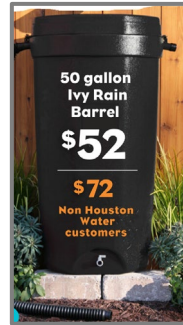
Leak Repair Workshops



Water Works Festival



Spring Rain Barrel Sale



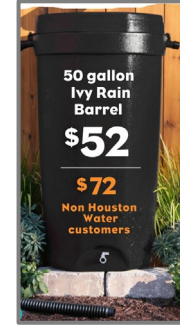
Summer Camps



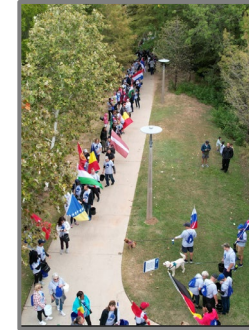
Imagine a Day Without Water



Fall Rain Barrel Sale



Walk For Water



Winter Sprinkler Shutoff



March

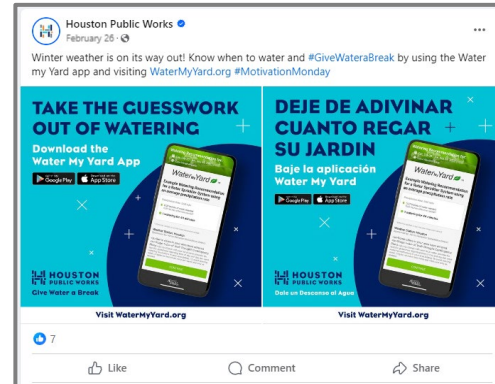
April

May

June - Sept

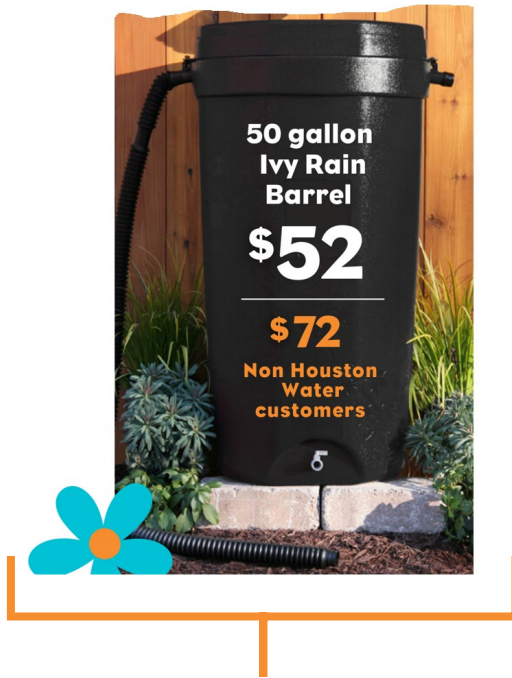
October

Nov-Feb



Year-round social media

INCENTIVE PROGRAMS



Subsidized Rain Barrel Sale



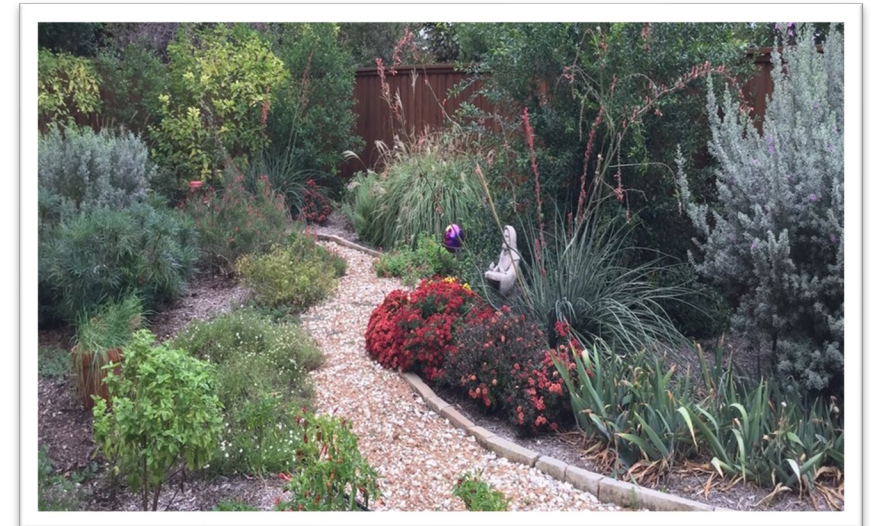
Water Efficient Showerhead Giveaway Program



High Efficiency Toilet and Showerhead Rebate Program for Multi-Family Homes

WHAT'S NEXT?

- Continued investment in pipe replacement and infrastructure.
- Expand public education, wholesale water conservation and incentive programs
- Implement the high-efficiency toilet and showerhead rebate program for multi-family homes
- Pilot program providing plumbing assistance for economically disadvantaged customers
- Conduct residential landscape irrigation evaluations
- Develop a xeriscaping program
- Develop a golf course water conservation program



SCHEDULE FOR PLAN ADOPTION



Thank you!

www.houstonpublicworks.org/waterconservation



HoustonPublicWorks.org



[@HouPublicWorks](https://www.instagram.com/HouPublicWorks)