



City of Dallas

Drafts of 2024 Five-Year Water Conservation Work Plan & 2024 Water Conservation Plan (State required)

**Parks, Trails, Environment
Committee**

March 4, 2024

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Purpose



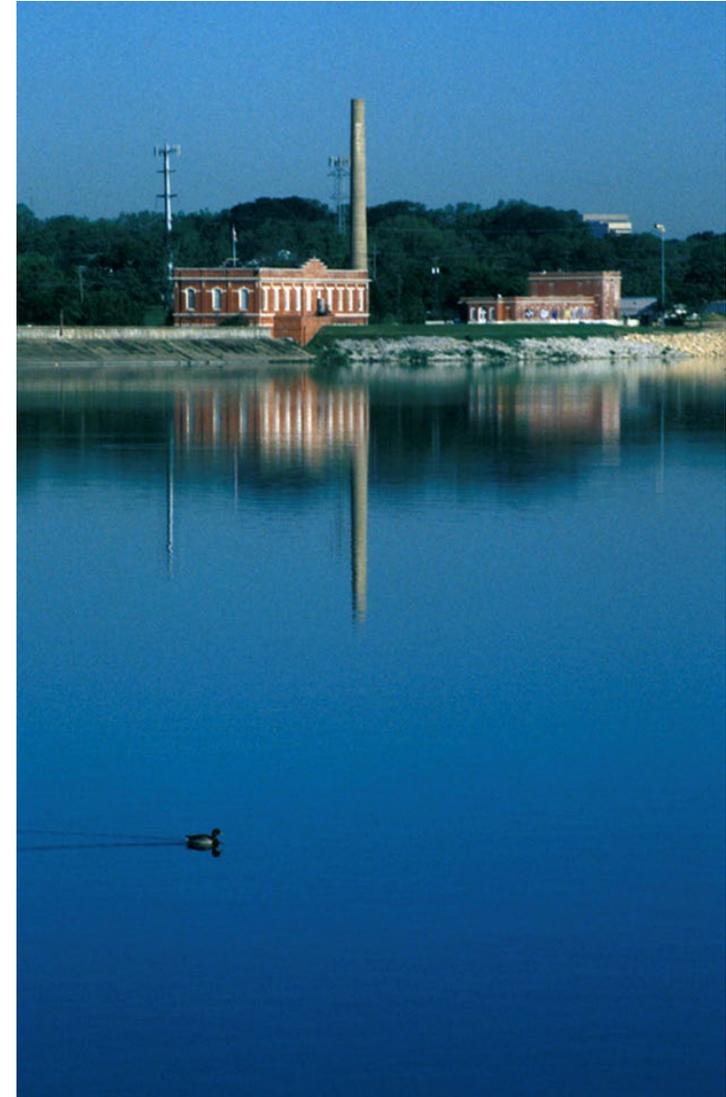
- Provide background on the Five-Year Water Conservation Work Plan and Water Conservation Plan (State required)
- Seek support from Parks, Trails and the Environment Committee for adoption of:
 - City of Dallas 2024 Five-Year Water Conservation Work Plan
 - City of Dallas 2024 Water Conservation Plan (State required)



Presentation Overview



- The Need for Water Conservation
- City of Dallas Water Conservation Efforts
 - Accomplishments
- Water Conservation Plans
 - Projected Water Savings
 - Five-Year Plan Recommended Enhancements
- Summary & Timeline
- Next Steps

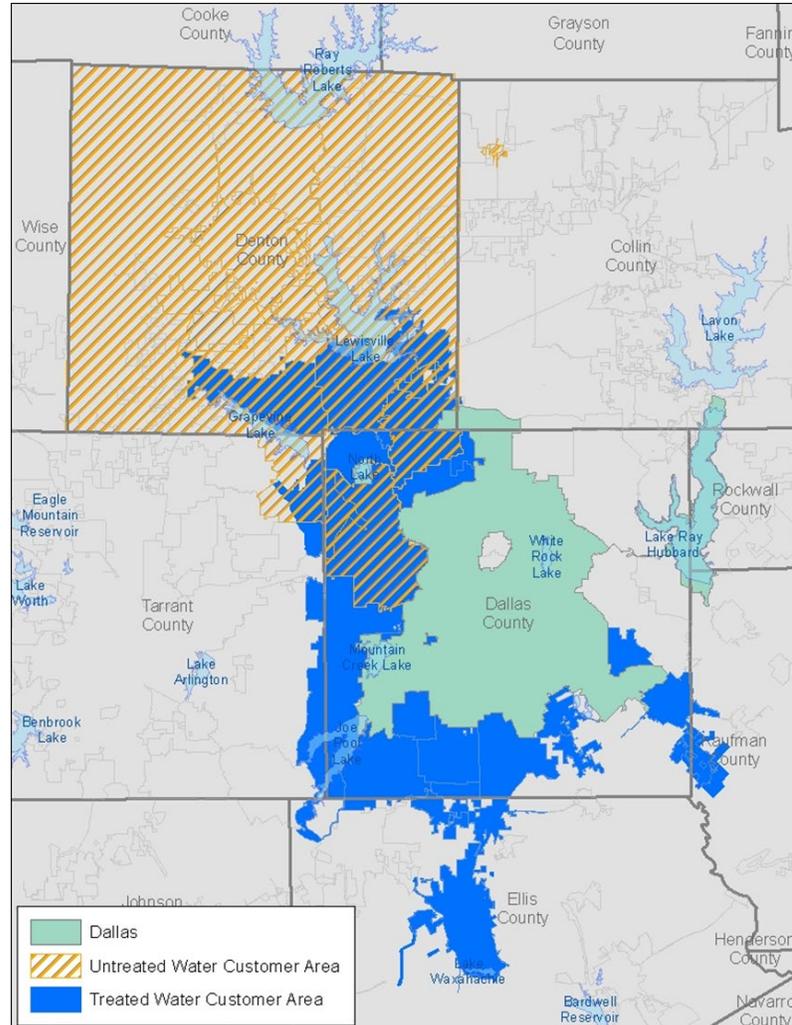




The Need for Water Conservation



Dallas' Service Area and Drivers of Water Use



Population served: 2.6 million

- 1.3 million in City of Dallas
- 1.3 million in 27 wholesale customer cities

Drivers of Water Use

- Population growth
- Economic conditions (jobs, new businesses, etc.)
- Household water use
- Outside watering
- System water losses
- Weather patterns

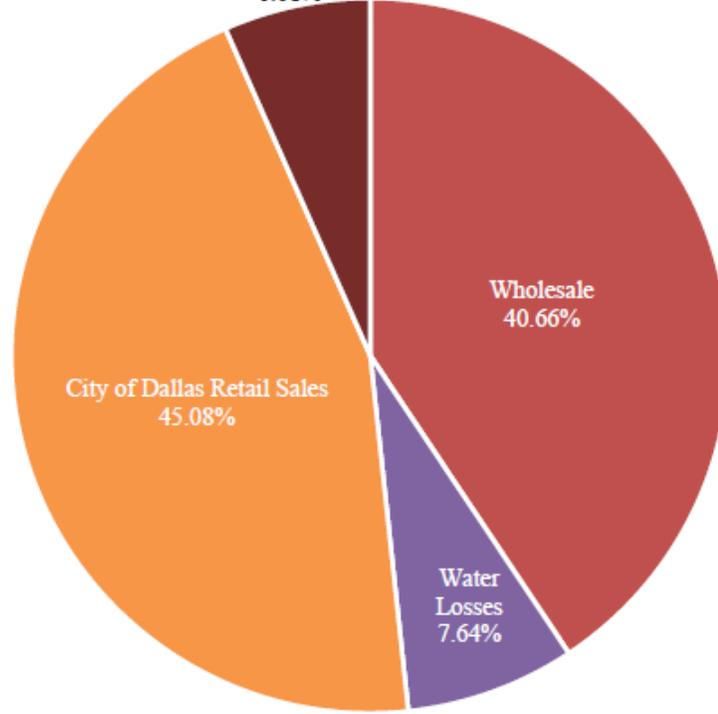


Annual Water Production and Retail Treated Water Use

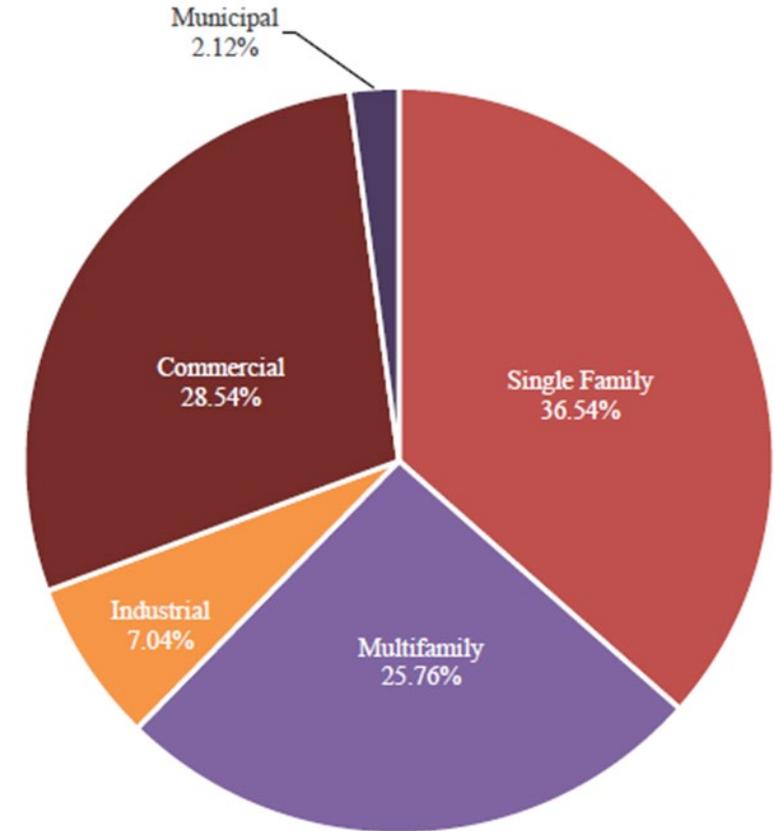


Average Annual Treated Water Production of 139.46 BG from FY15 – FY22

Known Utility System Maintenance and Operation Losses
6.61%



Annual Average Retail Treated Water Sales of 66.9 BG from FY15 – FY22





City of Dallas Water Conservation Efforts



Water Conservation



- **Conservation as a Demand Management Tool**
 - Extends the life of our existing resources
 - Delays the need for future water sources
 - Puts Dallas in compliance with the State's conservation requirements
- **Conservation Efforts are Effective**
 - Over 387 billion gallons (an average of 50 MGD) saved
 - Enough to fill Lake Ray Hubbard twice (over 2.5 years of water supply)
 - Perceptions and behaviors are changing
 - Since 2001 GPCD Reduced 32%
- **2024 Work Plan will keep the momentum going**



Save Water.
Nothing Can Replace It!
www.SaveDallasWater.com



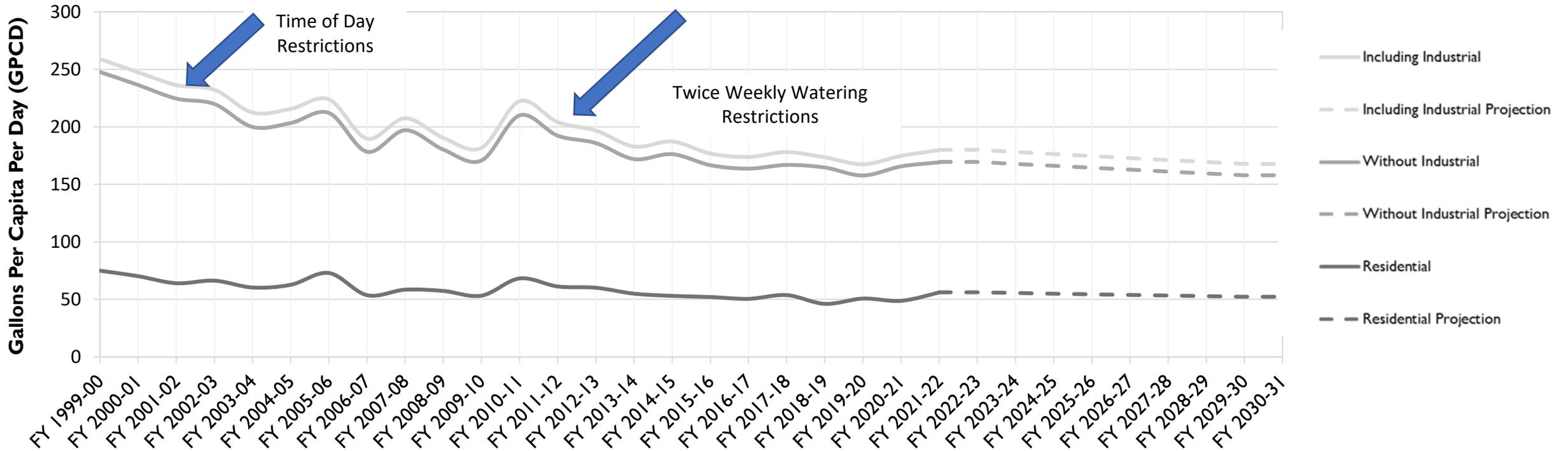
Water Is Awesome Use it. Enjoy it. Just don't waste it.



Water Conservation Program Chronology and Trends



1980's	2001	2005	2007	2010	2012	2016	2019	2024
• Education and outreach only	• Ordinance passed prohibiting landscape water waste	• Water Conservation Five-Year Strategic Plan Adopted	• Time-of-Day watering restrictions expanded	• Five-Year Strategic Plan Updated	• Landscape irrigation limited to a maximum of twice weekly	• Five-Year Work Plan Update	• Move to OEQS*	• Five-Year Work Plan Updated



*Fully funded by DWU





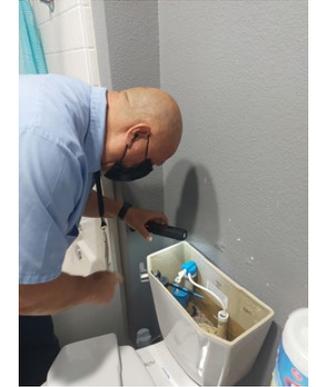
Accomplishments



Accomplishments



- **New Throne for Your Home (NTFYH)**
 - Single Family
 - Cumulative Number of Toilets Distributed (Vouchers + Rebates): **54,633**
 - Cumulative Water Saved: **266** MG
 - Multi-Family
 - Cumulative Number of Toilets Distributed: **68,605**
 - Cumulative Water Saved: **312** MG
- **Minor Plumbing Repair (MPR) Program**
 - Cumulative Number of MPR Fixtures distributed: **14,188**
 - Cumulative Water Saved: **40.9** MG
- **Environmental Education Initiative (EEI)**
 - Reached cumulative number of
 - Students: **127,838**
 - Teachers: **8,302**
 - Residents: **128,741**
 - Schools: **309**



Accomplishments



- **Landscape Ordinance Amendments**

- Time of day watering restrictions
- Mandatory maximum twice weekly watering schedule
- Article X Revision for Landscape and Tree Preservation

- **Enhanced Enforcement**

- Provided funding in each year for Code Compliance personnel overtime pay (2 FTEs)
- Conduct targeted, neighborhood sweeps to enforce ordinances

- **Irrigation System Evaluations**

- Cumulative Number of Irrigation Audits: **9,733**
- Cumulative Potential Water Saved: **543** MG

- **Industrial, Commercial, Institutional (ICI) Water Efficiency Opportunity Surveys & Rebate Programs**

- Cumulative Potential Water Savings from Surveys: **698** MG/Yr
- Cumulative Water Savings from Rebates: **121** MG/Yr



Accomplishments



- **Public awareness campaigns**

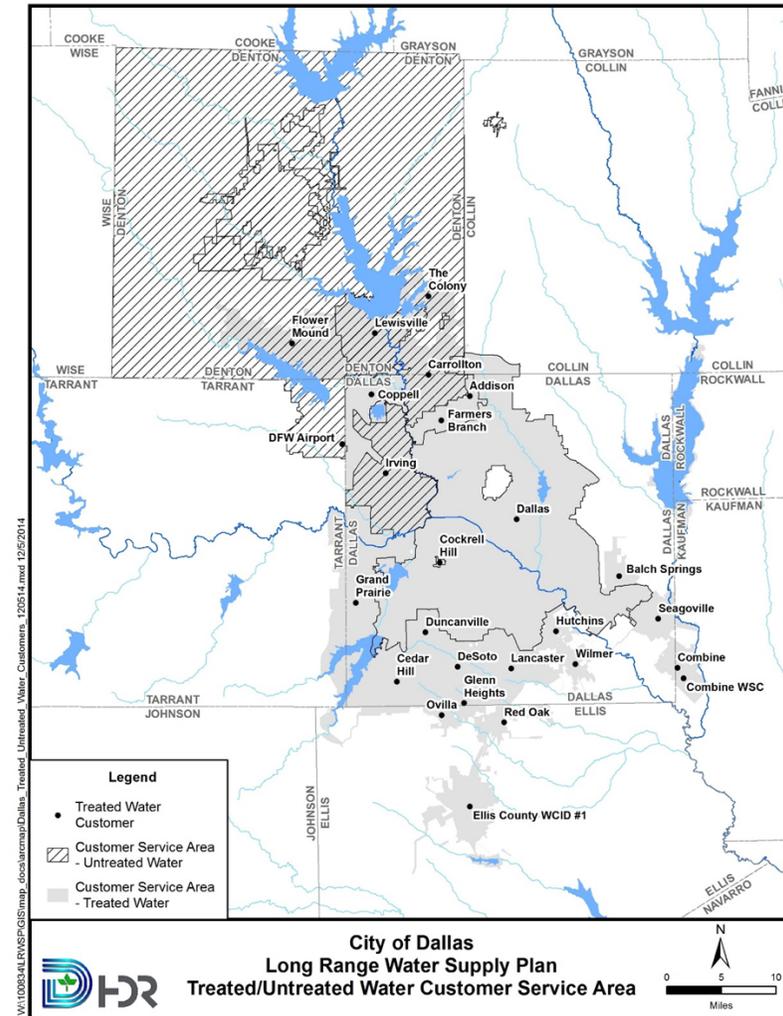
- 2018 Revamped Save Dallas Water website “Save Water. Nothing Can Replace It”
- Regional Public Awareness Campaign, “Water is Awesome” Partnership with Tarrant Regional Water District since 2009

- **City Leadership and Commitment Grant**

- \$200,000 Available to City Departments for conservation projects

- **Wholesale Customer Cities Monitoring, Measurement and Reporting of Water Conservation Programs**

- Increased adoption of outdoor watering Best Management Practices in customer cities
 - 7 cities have an Outdoor Watering Schedule
 - 16 cities have Time of Day Watering
 - 12 cities have Water Conservation Pricing



Accomplishments



- **Water Loss Reduction**

- Proactive Leak Detection and Repair
 - Since FY 2005 estimated **5.5** BG saved
- Distribution System Main Replacement
 - Maintained **5,038** miles of pipeline in FY 2022
 - System age dropped from 48% to 46%
 - Since 2001, main breaks per mile decreased from 0.6 to 0.1
- Filter Cleaning at Water Treatment Plants
 - Optimize backwash

- **Meter Reading (Apparent Loss Reduction)**

- Developed practice to replace meters
 - FY 2016 – 2022 average meter replacement: **24,591**
- Modernization of Meter Reading Process
- Two automated network systems installed (pilot projects)
 - Advanced Metering Infrastructure (AMI) Fixed Network
 - AMR Mobile Network
 - Approximately 22,000 meters currently read using a Mobile Network





Water Conservation Plans



Water Conservation Plans

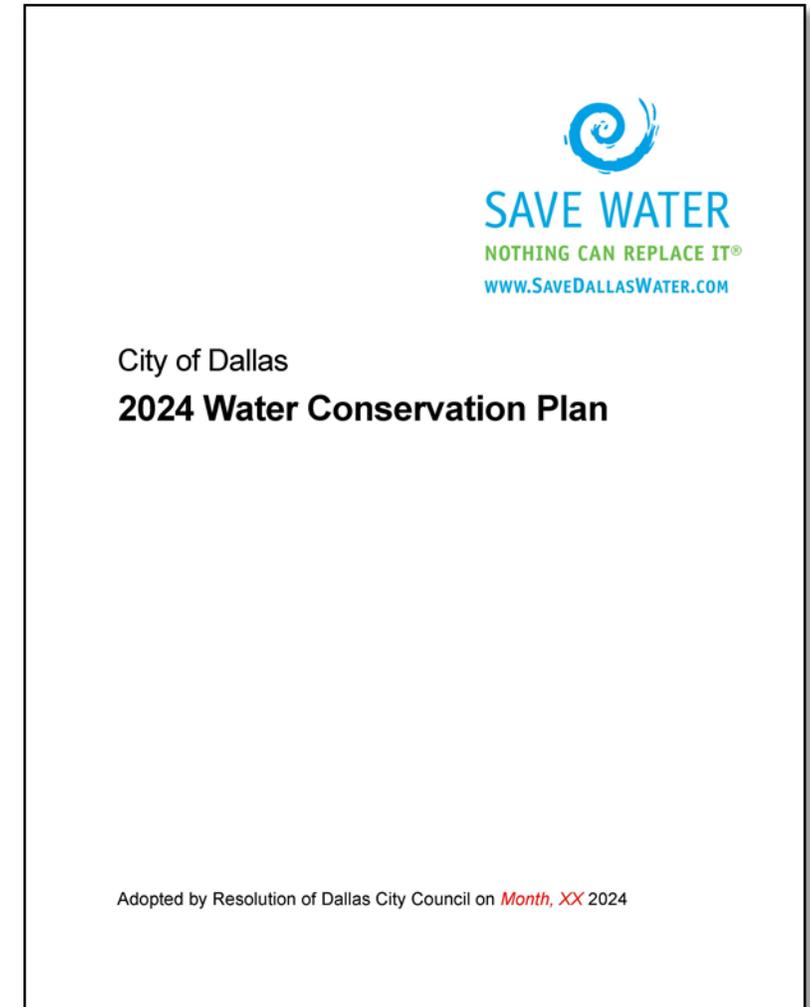


Five-Year Water Conservation Work Plan

- Road map for compliance with State mandates
- Major component of Long-Range Water Supply strategies

Water Conservation Plan (State required)

- Mandated by Texas Administrative Code, Title 30, Rule 288.2
- Required submission every five years
- **Next plan due by May 1, 2024**



Work Plan Development Process



- Examined programs and water use, and targeted strategic areas for additional opportunities
- Strategies that will continue from previous plans include:
 - Continued Customer Engagement
 - Water System Improvements
 - Ordinance Review
- Selected strategies projected to reduce per capita consumption by an average of 0.94% per year from FY 2023 - FY 2027



Proposed Measures by User Group



No.	Proposed Measure	User Group				Action		
		SF	MF	ICI	DWU	Ongoing	Enhance	New
1	New Throne For Your Home (Single-Family Toilet)	✓				★		
2	New Throne For Your Home (Multi-family Toilet)		✓			★		
3	Minor Plumbing Repair Program	✓				★		
4	Environmental Education Initiative K-12	✓	✓			★		
5	Irrigation System Evaluation Program	✓	✓	✓		★		
6	Residential Irrigation Incentive Program	✓						★
7	City Leadership & Commitment Grant Program			✓		★		
8	Enhanced Enforcement	✓	✓	✓		★		
9	Public Awareness Campaigns - Outreach and Engagement	✓	✓	✓	✓	★	★	
10	ICI Audit and Rebate Program			✓		★	★	
11	ICI Incentive Program for Qualifying Non-Profits			✓				★
12	Wholesale Customer Cities Program					★		
13	Real Loss Program				✓	★		
14	Real Loss Reduction; Active Leak Detection – Additional Leak Repair, Detection and Pressure Reducing Valve Crew				✓	★	★	
<i>SF = Single Family; MF = Multi-Family; ICI = Industrial, Commercial, and Institutional</i>								





Projected Water Savings

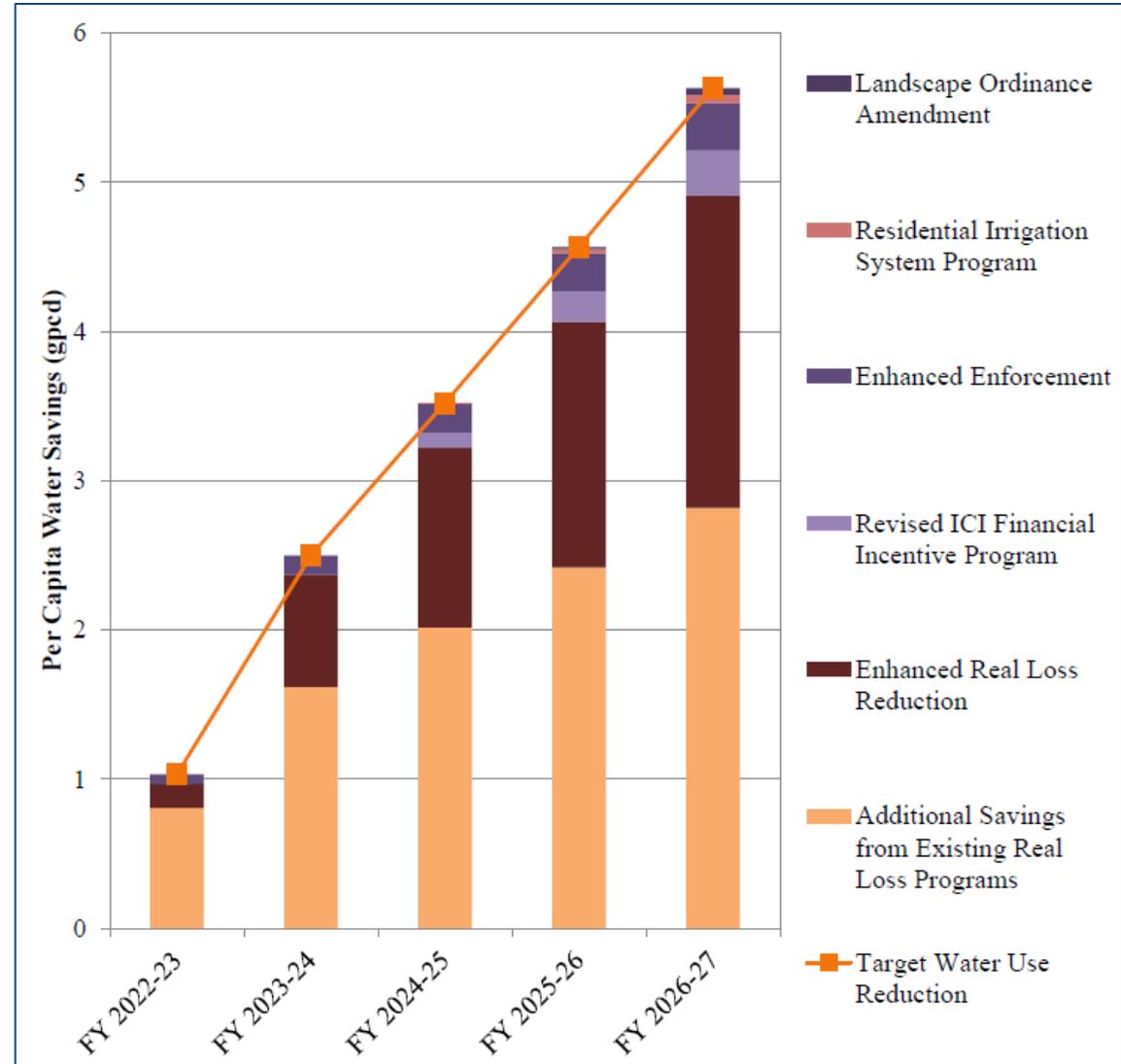


Projected Per Capita Water Savings from Selected Strategies



Per Capita Water Consumption Goal

Water Savings	Historic 5-yr Average	5-yr Goal for Year 2029	10-yr Goal for Year 2034
Total GPCD	175	168	160





Five-Year Plan Recommended Enhancements



Five-Year Plan Recommended Enhancements



- **Residential Irrigation System Rebate Program**
 - **Proposed new program**
 - Incentives to complement highly successful irrigation system check-up program and water wise landscape seminars
 - Offer incentives for
 - Drip irrigation equipment
 - Spray heads with more efficient distribution patterns
 - Zone Conversion
 - **What we get**
 - Projected average water savings of **5 MG/Yr**



Five-Year Plan Recommended Enhancements



- **Industrial, Commercial & Institutional (ICI) Financial Incentive Programs**
 - **Proposed new programs**
 - **ICI Water Efficiency Partnership (WEP) Program** for ICI facility managers and leaders that represent high water use industries.
 - **ICI Water Efficiency Training Program** for ICI facility managers and leaders with a focus on the EPA WaterSense program.
 - **ICI Qualifying Non-Profit Retrofit Program** to provide authorized plumbing retrofits for qualifying nonprofit facilities. Retrofits include high-efficiency toilets, faucet aerators and showerheads.
 - **What we get**
 - Increased program participation
 - Increased outreach to medium and small businesses
 - Projected average water savings of **46** MG/Yr



Five-Year Plan Recommended Enhancements



- **Public Awareness Campaign Enhancement**

- Broaden digital audience reach with a permanent staff (versus temporary help) to:
 - Advance Water Conservation messaging
 - Manage Save Dallas Water Website and social media accounts
 - Create custom digital content
 - Adhere to City media guidelines

- **Ordinance Review**

- Review ordinance and regulations relating to landscaping

- **What we get**

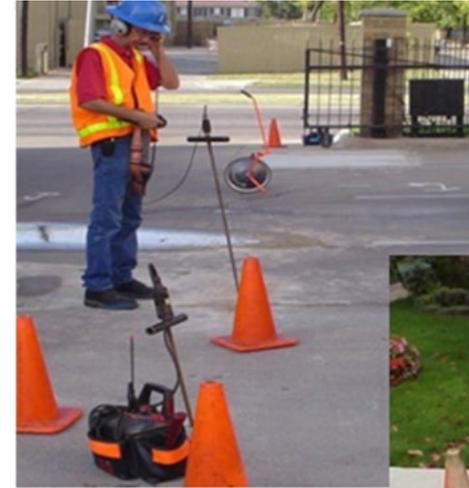
- Increased transparency, trust and participation
- Increased awareness of outdoor water conservation programs
- Reduced outdoor water use



Five-Year Plan Recommended Enhancements



- **Real Loss Reduction: Proactive Leak Detection and Repair Enhancements**
 - Expand leak detection programs:
 - Add funding for large diameter leak condition assessment
 - 2 Technicians for Leak Detection
 - 4 Technicians for Leak Repair
 - 2 Technicians for Pressure Reducing
- **What we get**
 - Lowered utility costs
 - Minimized property damage
 - Reduced customer disruptions
 - Projected average water savings of **346** MG/Yr





Summary and Timeline



Summary



- Five-Year Work Plan serves as a road map to comply with State's water conservation requirements
- Dallas has made great strides in reducing its per capita water demand using conservation and efficiency programs
 - A 32% decrease in per capita usage since FY 2001
 - Ongoing water conservation efforts have saved approximately **387** BG
- Proposed 2024 Water Conservation Plan goal is to reduce per capita water use by an average 0.94% percent per year over the next five years by
 - Implementing measures with higher water savings early
 - Aligning strategies that have similarities/synergies



Timeline For Plan Adoption



- Community Survey
 - Fall 2023
- Plans finalized and posted to www.savedallaswater.com
 - March 2024
- Council adopts plans subject to annual appropriations
 - April 2024
- 2024 Water Conservation Plan will be submitted to TCEQ
 - May 1, 2024



Next Steps



- Seek support from Parks, Trails and the Environment Committee for adoption of:
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