City of Dallas

1500 Marilla Street,
Council Chambers, 6th Floor
Dallas, Texas 75201

Environment and Sustainability Committee

October 4, 2021

9:00 AM

The Environment and Sustainability Committee will be held by videoconference and in the City Hall Council Chambers (6th Floor).

Members of the public are encouraged to attend the meeting virtually. However, City Hall is available for those wishing to attend the meeting in person following all current pandemic-related public health protocols.

The meeting will be broadcast live on Spectrum Cable Channel 16 and online at https://bit.ly/cityofdallastv.

The public may also listen to the meeting as an attendee at the following videoconference link.

Call to Order

MINUTES

A. 21-1901 Approval of the September 21, 2021 Committee Minutes

Attachments: Minutes

BRIEFING ITEMS

B. 21-1902 CECAP: FY21-22 Annual Work Plan and the Sustainable Procurement FY22 Workplan
[Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability;
Chhunny Chhean, Director, Office of Procurement Services]

Attachments: Presentation

C. 21-1903 Dallas Water Utilities - Long Range Planning
[Terry Lowery, Director, Dallas Water Utilities]

Attachments: Presentation

D. 21-1904 Energy Management for City Buildings
[Errick Thompson, Director, Building Services Department & Srinivas Vemuri, Senior Program Manager, Building Services Department]

Attachments: Presentation

ADJOURNMENT

EXECUTIVE SESSION NOTICE

A closed executive session may be held if the discussion of any of the above agenda items concerns one of the following:

1. seeking the advice of its attorney about pending or contemplated litigation, settlement offers, or any matter in which the duty of the attorney to the City Council under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act. [Tex. Govt. Code §551.071]

2. deliberating the purchase, exchange, lease, or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.072]

3. deliberating a negotiated contract for a prospective gift or donation to the city if deliberation in an open meeting would have a detrimental effect on the position of the city in negotiations with a third person. [Tex. Govt. Code §551.073]

4. deliberating the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee unless the officer or employee who is the subject of the deliberation or hearing requests a public hearing. [Tex. Govt. Code §551.074]

5. deliberating the deployment, or specific occasions for implementation, of security personnel or devices. [Tex. Govt. Code §551.076]

6. discussing or deliberating commercial or financial information that the city has received from a business prospect that the city seeks to have locate, stay or expand in or near the city and with which the city is conducting economic development negotiations; or deliberating the offer of a financial or other incentive to a business prospect. [Tex Govt. Code §551.087]

7. deliberating security assessments or deployments relating to information resources technology, network security information, or the deployment or specific occasions for implementations of security personnel, critical infrastructure, or security devices. [Tex Govt. Code §551.089]

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Agenda Information Sheet

File #: 21-1901 **Item #:** A.

Approval of the September 21, 2021 Committee Minutes

Environment and Sustainability Committee
Meeting Record

The Environment and Sustainability Committee meetings are recorded. Agenda materials are available online at www.dallascityhall.com.

GdgfMeeting Date: September 21, 2021 **Convened:** 9:01 a.m. **Adjourned:** 10:42 a.m.

Committee Members Present:
Paula Blackmon, Chair
Paul E. Ridley, Vice Chair
Carolyng King Arnold
Adam Bazaldua
Jaime Resendez
Jaynie Schultz
Chad West

Committee Members Absent:

Other Council Members Present:

Presenters:
Michael Gange, Director, of of Environmental Quality & Sustainability
Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability
Sandy Greyson, Chair, Environment and Sustainability Task Force

AGENDA

Call to Order (9:01 a.m.)

A. Approval of the August 2, 2021 Environmental and Sustainability Committee Minutes
Presenter(s): Paula Blackmon, Chair
Action Taken/Committee Recommendation(s): A motion was made to approve the minutes for the August 2, 2021 Environmental and Sustainability Committee meeting.

Motion made by: Jaynie Schultz	Motion seconded by: Paul E. Ridley
Item passed unanimously: X	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

B. Comprehensive Environmental & Climate Action Plan (CECAP): Goals, Targets & Actions
Presenter(s): Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability
Action Taken/Committee Recommendation(s): The Committee discussed: Plans for CECAP implementation in light of budget discussions and allocations. Possible need to legislate additional provisions in building code to reduce energy usage. Impaired waterbodies. Communication and education strategies for the public. Safe and reliable transportation infrastructure.

Motion made by:	Motion seconded by:
Item passed unanimously:	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

C. City Business Climate Alliance - Update

Presenter(s): Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability

Action Taken/Committee Recommendation(s): The Committee discussed: Requested the survey to nonimate leadership and working group members. Governance and workplan of the partnership agreement.

Motion made by:	Motion seconded by:
Item passed unanimously:	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

D. ENVS Committee Discussion on ENVS Committee Priorities for FY22 & FY23

Presenter(s): Paula Blackmon, Chair, Environment and Sustainability Committee

Action Taken/Committee Recommendation(s): The Committee discussed: Policies from the CECAP and Councilmembers process to help the plan move forward and implement policies. Communication plan of the CECAP on a regional platform with adjacent cities. Solar and energy saving initiatives. Micromobility, ridesharing options and solar energy. Water and air contamination policies. Treescaping and retro fitting city facilities with solar panels.

Motion made by:	Motion seconded by:
Item passed unanimously:	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

E. Proposed Environmental Commission – Technical Resource Panel Members

Presenter(s): Michael Gange, Director, Office of Environmental Quality & Sustainability

Action Taken/Committee Recommendation(s): The Committee discussed: Community organizing and communication. The benefit of having a member in both the task force and the commission.

Motion made by:	Motion seconded by:
Item passed unanimously:	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

F. Environment and Sustainability Task Force Update

Presenter(s): Sandy Greyson, Chair, Environment and Sustainability Task Force

Action Taken/Committee Recommendation(s): The Committee discussed: Role and function of the new Environmental Commission. Flow of recommendations and ideas from the Environmental Commission. Communication task force as part of the commission.

Motion made by:	Motion seconded by:
Item passed unanimously:	Item passed on a divided vote:
Item failed unanimously:	Item failed on a divided vote:

Adjourn (10:42 a.m.)

APPROVED BY:	**ATTESTED BY:**
Paula Blackmon, Chair	**Juan Garcia, Committee Coordinator**
Environment & Sustainability Committee	**Environment & Sustainability Committee**

City of Dallas

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Agenda Information Sheet

File #: 21-1902 **Item #:** B.

CECAP: FY21-22 Annual Work Plan and the Sustainable Procurement FY22 Workplan
[Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability; Chhunny Chhean, Director, Office of Procurement Services]

CECAP: FY21-22 Annual Work Plan & the Sustainable Procurement FY22 Workplan

City of Dallas

Environment & Sustainability Committee

October 4, 2021

Susan Alvarez, Assistant Director
Office of Environmental Quality & Sustainability

Chhunny Chhean, Director
Office of Procurement Services

Workplan Overview:

CECAP & Sustainable Procurement

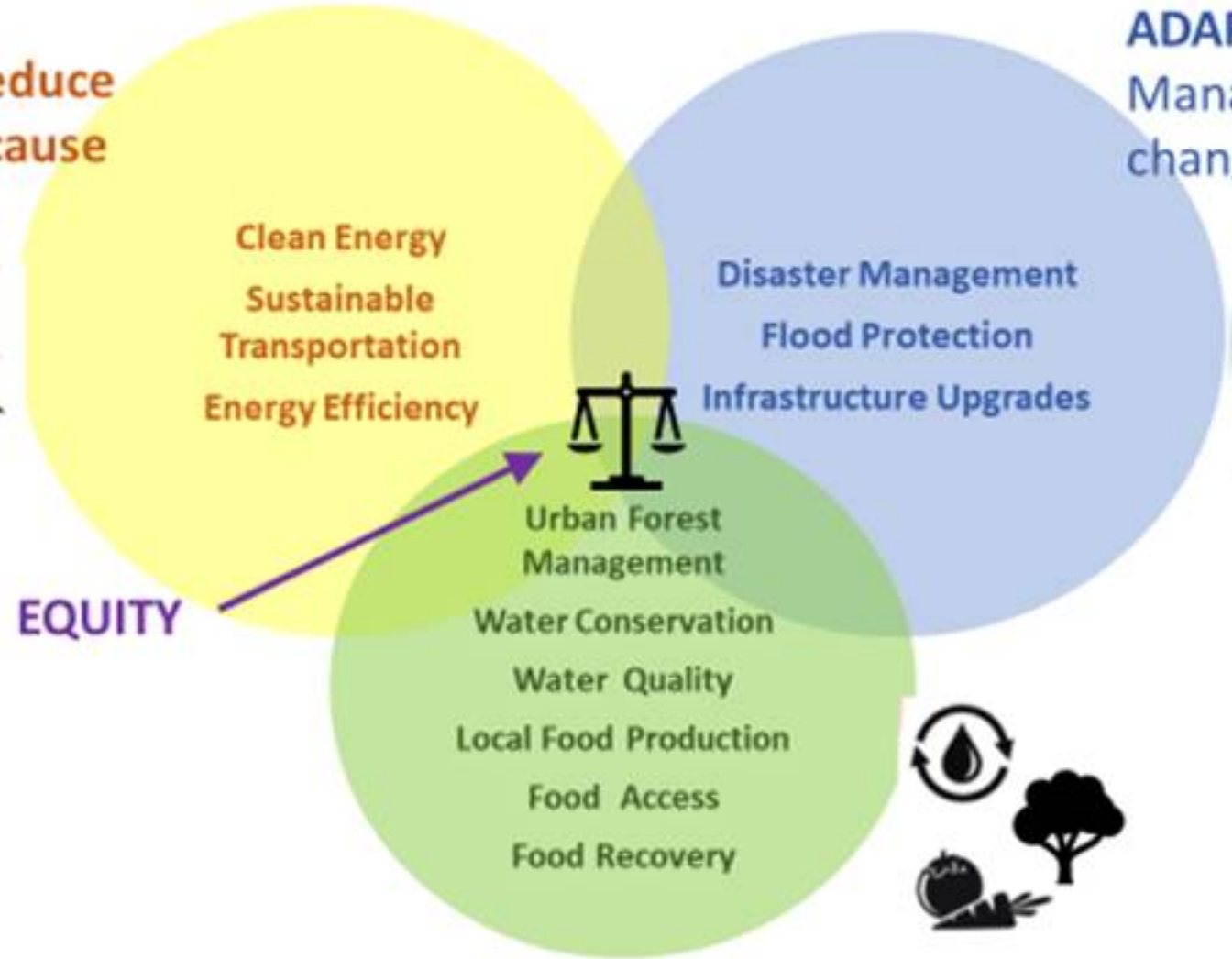
- Primary Focus Areas
- Actions and Activities
  - New Actions
  - Sector Highlights
- Adaptive Management
- Performance Measurement

2

APPROACH TO PLANNING

MITIGATION: Reduce emissions that cause climate change

ADAPTATION:
Manage risks of climate change impacts



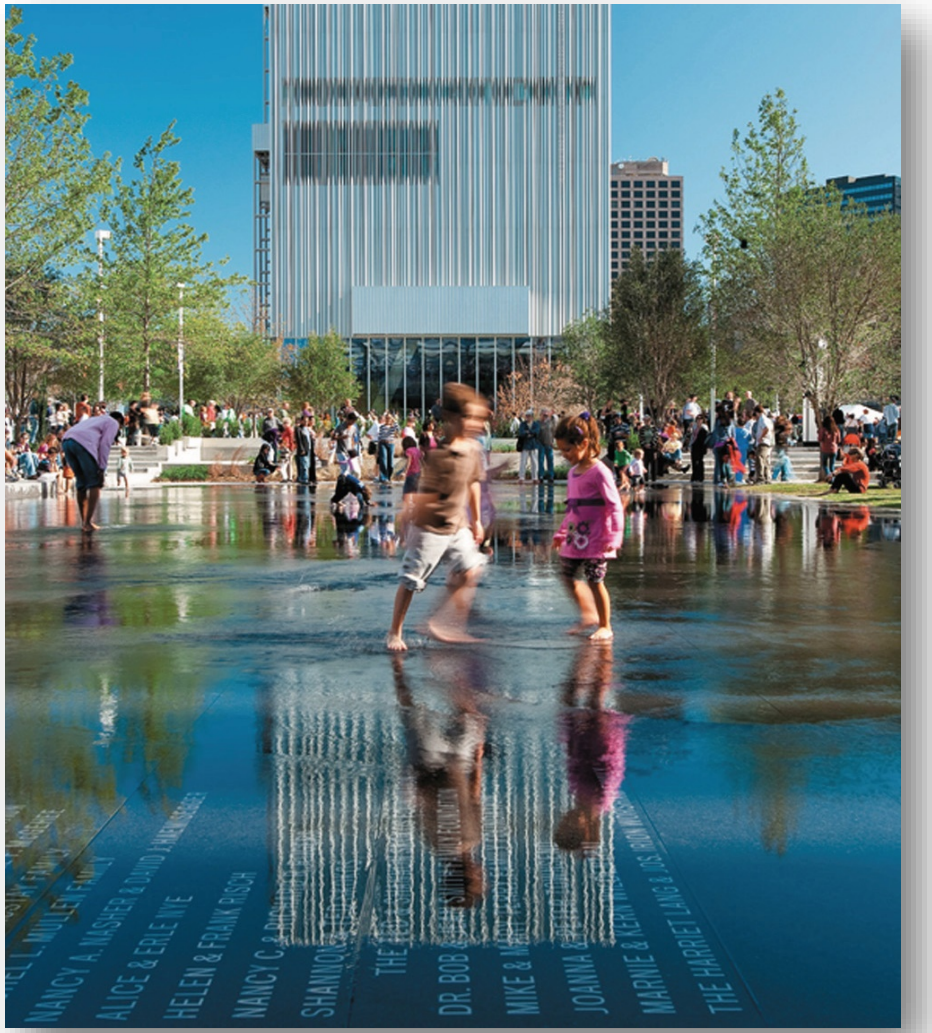
ENVIRONMENT: Improve Quality of Life + Public Health

Equity in Dallas Planning Efforts

- The City Indicators Report* identifies disparities in different communities within Dallas.
  - Through the use of disaggregated data, the Dallas' Equity Indicators Report identifies communities disproportionately impacted by disparities across five different themes, including Economic Opportunity, Education, Neighborhoods and Infrastructure, Justice & Government, and Public Health.
- As the CECAP looks to improve quality of life, reduce greenhouse gas emissions, prepare for the impacts of climate change, and create a healthier and more prosperous community, we are implementing through an equity lens to address these disparities.

* Available at: https://dallascityhall.com/departments/pnv/dallas-equity-indicators/DCH%20Documents/equity-indicators-booklet-2019.pdf

Continuing FY 21 Focus Areas



Building Capacity:

- Education and outreach
- Expanding partnerships
- Amplify ongoing actions
- Explore funding opportunities
- Pilots and proof of concept projects
- Tracking and accountability

Environment & Sustainability Task Force

- 15 community members/ subject matter experts
- Scope of Work:
  - Advise on environment, sustainability, and CECAP implementation
  - Develop the infrastructure and scope for a permanent commission, by City Ordinance

Environmental Commission

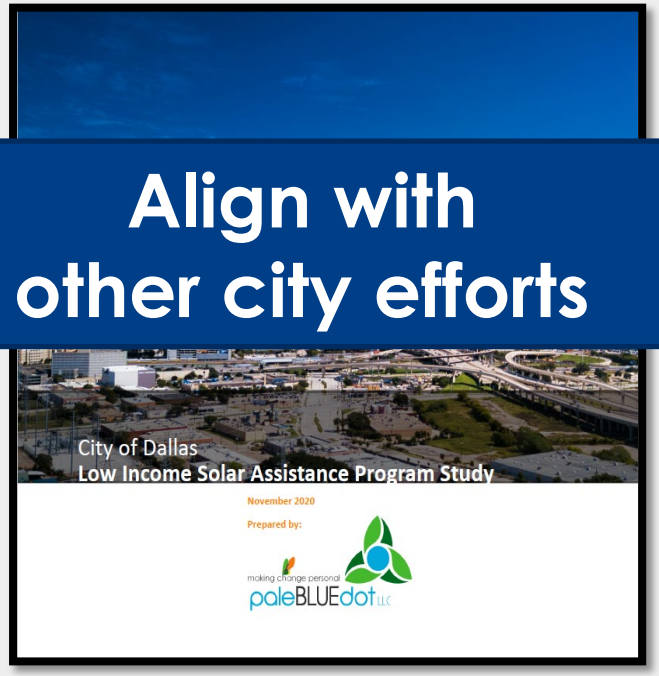
- Established by City Ordinance on April 28, 2021 and appointed on September 22, 2021
- 15 voting members
- 8 non-voting technical experts (one per CECAP Goal)
- Monthly meetings, or as needed
  - Beginning November 2021
- Standing Environmental Health Committee
- Two-year appointments for members

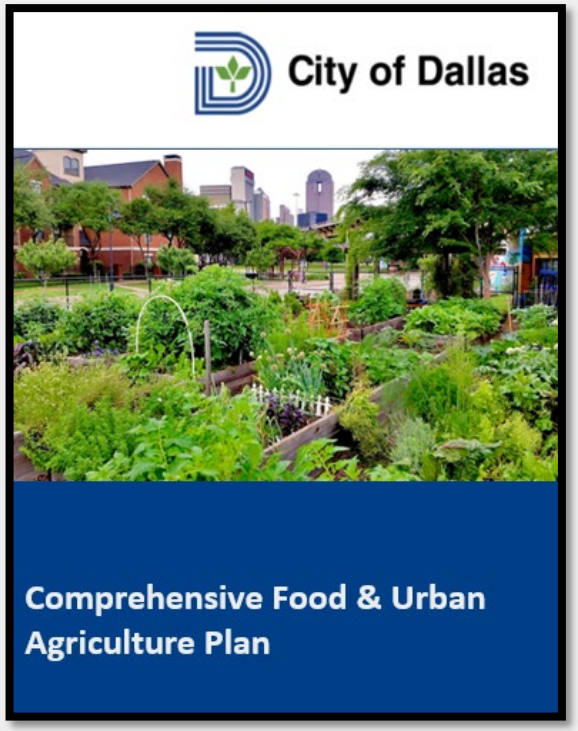
The Regional Integration of Sustainability Efforts (RISE) Coalition, formerly the North Central Texas Stewardship Forum, works to engage interested local governments in peer-exchange opportunities to support sustainability and environmental initiatives.

LEAF Stakeholder Group

- Internal stakeholder group: Leading Environmental Action Forward (LEAF)
- Participation is based on work plan commitments
- Team: Staff from 19+ departments implementing CECAP actions and other related efforts
- Meets and report quarterly
  - Reporting will shift to monthly in FY 21-22

Align with other city efforts



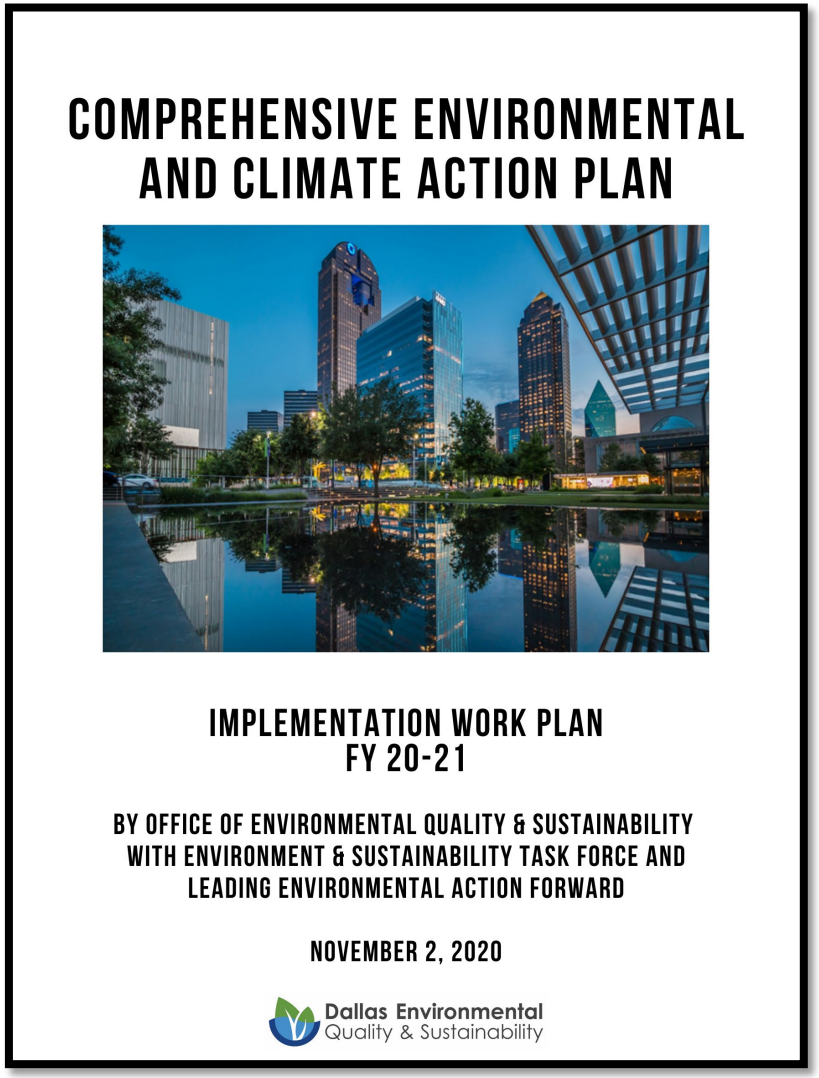


FY 20-21 Implementation Work Plan

- Includes 48 CECAP actions that are divided up into 136 milestones for implementation and tracking purposes
- Q4 Milestone Progress*

Complete:	93%
In Progress:	5%
Not Started:	2%

*these are preliminary results and are still being cross-checked



FY 21-22 Implementation Work Plan

- 30-year plan with 8 focus areas and 97 Actions
- 73 actions will be activated in FY21-22
  - 26 new actions
- 263 Milestones
  - 89 ongoing milestones
- 17 City Departments involved and counting

Goal 1: Dallas buildings are energy efficient and climate resilient.

Total actions underway: 10 of 16

10 of 16

New actions activated in FY22 (4):

- B3: Develop clear and comprehensive educational program for building owners and tenants about existing energy efficiency programs.
- B4: Implement a citywide building weatherization program through partnership with community organizations.
- B6: Establish a building efficiency and electrification program (for existing buildings) to replace appliances and systems with electric and other efficient and cost-effective options.
- B13: Establish urban greening factor requirements for new developments that quantify how projects contribute to urban greening for reduced stormwater runoff and urban heat island improvements.

38 milestones by Aviation, Building Services, Housing, Economic Development, Development Services & OEQS

FY 21-22 Highlights: Buildings

- **City Initiatives**
  - City Energy Management Program and efficiency upgrades
  - Net-zero specifications for future capital projects
  - **Begin implementation of "resilience hubs" on City-owned properties**
- **Outreach and Education**
  - Energy efficiency education, including expansion of participation in PACE
  - **Connect residents to weatherization programs**
- **Codes and Permitting**
  - **Building code amendments that support solar PV and EV charging**
  - Evaluate SolarAPP+ for solar permitting

Goal 2: Dallas generates and uses renewable, reliable, and affordable energy.

9 of 11

Total actions underway: 9 of 11

New actions activated in FY22 (3):

- E1: Maintain a high degree of reliability in the electric delivery grid through cooperative actions between the City and public utility companies.
- E2: Evaluate the potential for the City to make investments in energy storage technologies for both resilience and renewable energy development purposes.
- E4: Invest in programs through local community colleges to train and establish a local workforce that is focused on renewable energy technologies.

28 milestones by Bond & Construction Management, Building Services, Housing, Economic Development, Development Services & OEQS

FY 21-22 Highlights: Energy

- **City Initiatives**
  - Continue Green Energy Policy for City facilities
  - Feasibility studies for resilience hubs and renewable energy hubs
- **Solar**
  - Work towards SolSmart designation
  - **Continue to require innovative renewable energy as part of the design services for City facilities in new construction or renovation of existing facilities**
  - **Conduct Solar Site Location Inventory and Evaluation**
  - **Continue community solar initiatives, including best practices for designing, constructing, and operating environmentally and habitat-friendly solar farms.**
- **Outreach and Education**
  - Continue renewable energy education
  - Encourage green workforce training

Goal 3: Dallas' communities have access to sustainable, affordable transportation options.

13 of 19

Total actions underway: 13 of 19

New actions activated in FY22 (8):

- T4: Establish a comprehensive incentives package to help accelerate electric vehicle use.
- T7: Secure resources to implement the existing bicycle network masterplan.
- T8: Evaluate infrastructure to enable city policy on micro mobility services to be distributed equitably.
- T9: Increase bus service across the city by adding new routes, shortening headways, and overall increasing service reliability and customer experience.

27 milestones by Aviation, Bond Office, Convention Center, Fleet, Housing, Planning & Urban Design, Dallas Water Utilities Transportation & OEQS

Goal 3: Dallas' communities have access to sustainable, affordable transportation options. (cont'd)

- T10: Adopt a target corridor, district, or city-wide mode split goals to help reinforce policies aimed at reducing single-occupancy vehicle use.
- T12: Expand upon the DART transit-oriented development (TOD) guidelines to collaborate on a new proactive TOD and housing strategy with DART.
- T15: Implement green infrastructure programs that specify design and performance standards that treat the right-of-way as both a mobility and green infrastructure asset.
- T19: Encourage businesses, commercial entities, and institutions to electrify fleet, including, but not limited to local and regional delivery trucks and other heavier vehicles.

27 milestones by Aviation, Bond Office, Convention Center, Fleet, Housing, Planning & Urban Design, Dallas Water Utilities Transportation & OEQS

FY21-22 Highlights: Transportation

- **City Initiatives**
  - **Continue to align Forward Dallas with the Strategic Mobility Plan and CECAP goals**
  - **Continue fleet electrification with NREL**
  - **Update the 2011 Dallas Bike Plan and add 18+ bike lane miles; include considerations for micro-mobility technologies**
  - **Continue to install publicly available EV charging stations**
- **Reduce Single Occupant Vehicle Trips**
  - Work towards NCTCOG 20% SOV reduction goals
  - Revise parking code amendment that supports mode-split goals and land use strategies

Goal 4: Dallas is a zero waste community.

Total actions underway: 7 of 9

07 of 09

New actions activated in FY22 (2):

- SW4: Explore potential for electric waste collection trucks.
- SW6: Expand efforts to reduce illegal dumping by implementing recommendations identified in the “Litter and Illegal Dumping Assessment Study.”

22 milestones by Code Compliance, Convention Center, Procurement, Sanitation, Parks, & OEQS

FY 21-22 Highlights: Zero Waste

- **City Initiatives**
  - Complete Local Solid Waste Management Plan update
  - Launch the Sustainable Procurement Working Group's inaugural year workplan
- **Outreach and Education**
  - Reduce illegal dumping
  - Community Trash Off events, BOPA collection
- **Landfill Diversion**
  - **Bulk and brush pilot (6 areas) to explore brush diversion**
  - **Compost pilot**

Goal 5: Dallas protects its water resources and its communities from flooding and drought.

14 of 15

Total actions underway: 14 of 15

New actions activated in FY22 (3):

- WR10: Evaluate policies affecting drainage and erosion to ensure sustainable development and mitigate adverse impacts.
- WR13: Evaluate new technologies to lower nutrient releases into the Trinity Watershed from wastewater treatment plants and incorporate as appropriate.
- WR14: Evaluate new or improved operational strategies and technologies to optimize the use of chemicals and reduce energy usage at water and wastewater treatment facilities.

58 milestones primarily by Dallas Water Utilities, with Convention Center, & OEQS

FY 21-22 Highlights: Water Resources

- **Outreach and Education**
  - Continue programs including water conservation, leak detection, water-wise landscaping
  - Continue local and regional awareness campaigns
  - Irrigation system evaluations
- **Infrastructure Resiliency**
  - Continue major drainage infrastructure projects
  - Continue the Storm Drainage System Assessment and planning process
  - Continue implementing Drought Contingency Plan
  - Continue emergency planning to protect & maintain services of key water infrastructure in the event of extreme weather events
- **Water Quality**
  - Continue water quality monitoring and protection
  - Continue monitoring for emerging contaminants

Goal 6: Dallas protects and enhances its ecosystems, trees, and green spaces that in turn improve public health.

7 of 9

Total actions underway: 7 of 9

New actions activated in FY22 (2):

- EG1: Increase and improve access to green spaces particularly within vulnerable communities to reduce impact of urban heat island, localized flooding, and improve public health.
- EG8: Improve the quality of urban ecosystems in Dallas through the sustainable appropriate design, creation, and planting of urban habitats.

52 milestones by Dallas Water Utilities, Convention Center, Development Services, Public Works, Planning & Urban Development, & OEQS

FY21-22 Highlights: Ecosystems & Green Space

- **Green Infrastructure**
  - Assess opportunities for blue-green infrastructure to reduce flood risks (Partnership with The Nature Conservancy)
  - Greening factor as part of parking code amendment
  - Nature-based solutions to address public health challenges (i.e., Cool Schools Program)
- **Outreach and Education**
  - **Continue to promote tree-planting efforts, protect trees & prairies, and promote drought-tolerant landscapes**
  - Restore Branch-Out Dallas Program
- **Urban Forest Master Plan Implementation**
  - Initiate Tree inventory
  - **Initiate Emerald Ash Borer Plan**
  - Identify and designate trees under Article X Historic Tree Status
- **City Initiatives**
  - Update Parks O&M procedures to include eco-friendly practices
  - **Explore landscape equipment policy**

Goal 7: All Dallas' communities have access to healthy, local food.

9 of 14

Total actions underway: 9 of 14

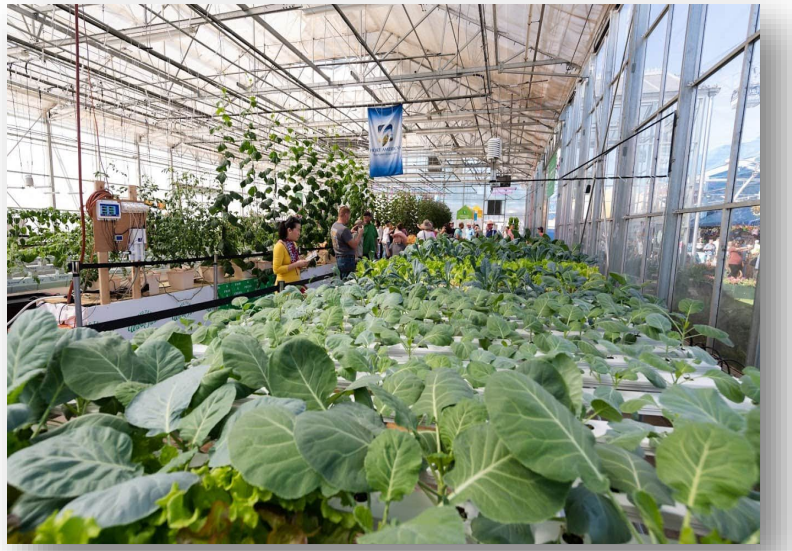
New actions activated in FY22 (4): FA4: Facilitate partnerships between schools and nonprofits to develop neighborhood-based growing initiatives and kitchen gardens in neighborhoods with low food access.

- FA6: Partner with transportation organizations to identify creative transportation solutions to access healthy food retailers in neighborhoods with low food access.
- FA7: Partner with supermarkets, food retailers and other supporting organizations to bring mobile grocery stores to neighborhoods with low food access.
- FA13: Collaborate with organizations that are working to divert surplus food from grocery stores and markets to reach communities in need.

26 milestones by Economic Development, Convention Center, Procurement, & OEQS

FY 21-22 Highlights: Food/Urban Agriculture

- **Food & Urban Agriculture Plan**
  - Continue Food Advisory Council
  - Continue work on Food & Urban Agriculture Plan
  - **Evaluate and develop a plan to remove barriers to growing local food for personal consumption or economic development**
- **Outreach and Education**
  - Provide information on local healthy food
- **Food Security – (City Equity Plan Action)**
  - Continue Supporting Healthy Dallas Food Initiative
  - **Support existing systems related to transportation and food access**
  - Develop Food Waste Pilot Program

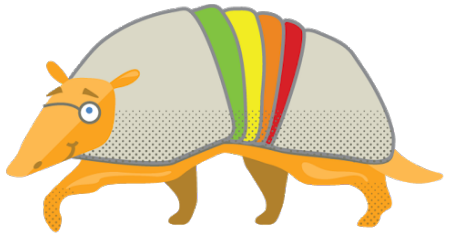


Goal 8: All Dallas' communities breathe clean air.

4 of 4

Total actions underway: 4 of 4
New actions activated in FY22: 0

All Air Quality actions have been activated and will be continued towards meeting the overall Targets of attaining National Ambient Air Quality Criteria Compliance



11 milestones by Planning & Design, Transportation & OEQS

FY 21-22 Highlights: Air Quality

- **Outreach and Education**
  - Continue to support NCTCOG Air North Texas Program and Clean Air Action Day
- **Regulatory Air Monitoring**
  - Work with TCEQ to expand network
- **Non-Regulatory Air Monitoring**
  - Expand network by implementing 2 grant programs
  - Expand data platform
- **Environmental Justice**
  - Continue work to expand strategies to address situations with inequitable industrial proximity to residential land use

Air Quality monitor installation at Exline Recreation Center

Anticipated Policy Discussions

- Many of the actions coming out of the CECAP and related planning documents will engender policy considerations by the City Council
- Anticipated policy coming forward in FY 21-22 may include, but is not limited to:
  - Update to Green Building Policy towards Net Zero Construction
  - Building Code Updates
  - Development Code updates relative to Parking Requirements and Site Greening Factors
  - Fleet Conversion
  - Polic(ies) concerning Siting and Implementation of Solar Photovoltaics

Adaptive Management

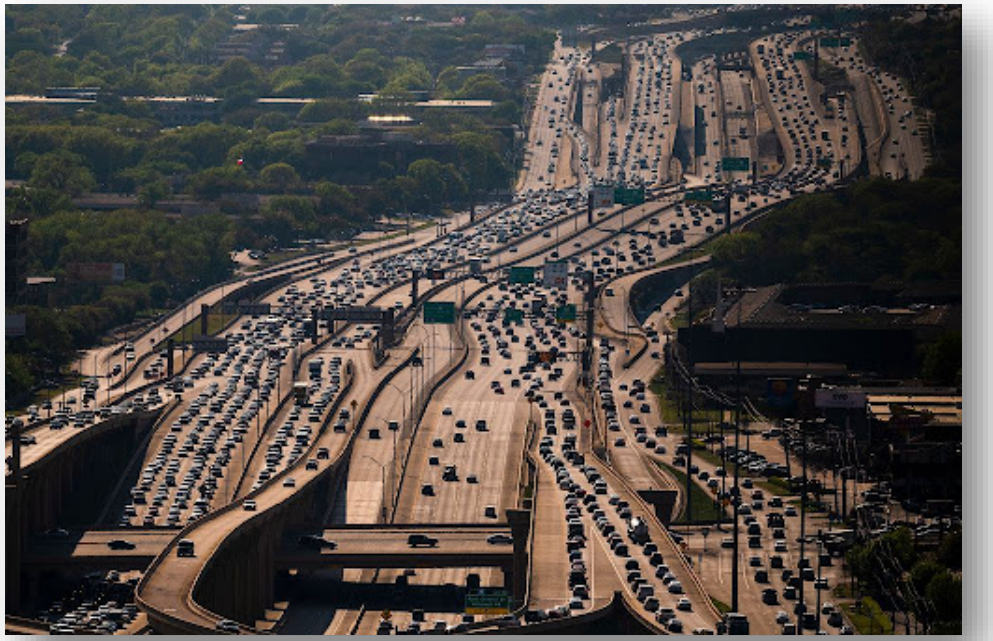
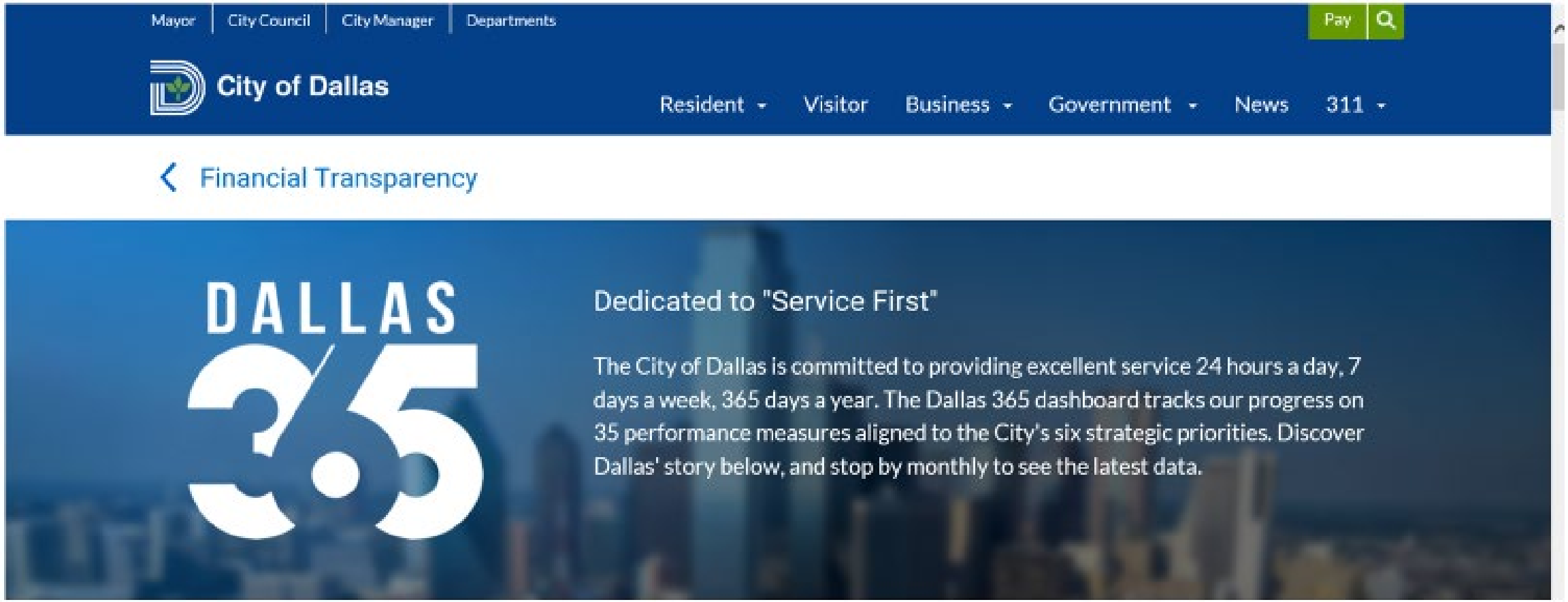


Photo Credit: Dallas Morning News

- The GHG inventory will be updated every 3 years and will be a key indicator of the success of CECAP.
- OEQS climate staff have begun updating the greenhouse gas (GHG) inventory using data from 2019.
- This will allow an assessment of where the City currently stands, guide future planning, and identify any necessary CECAP plan updates.

Performance Measure: 92% FY Milestones Implemented



CECAP Performance Dashboard

Detailed tracking will continue at DallasClimateAction.com

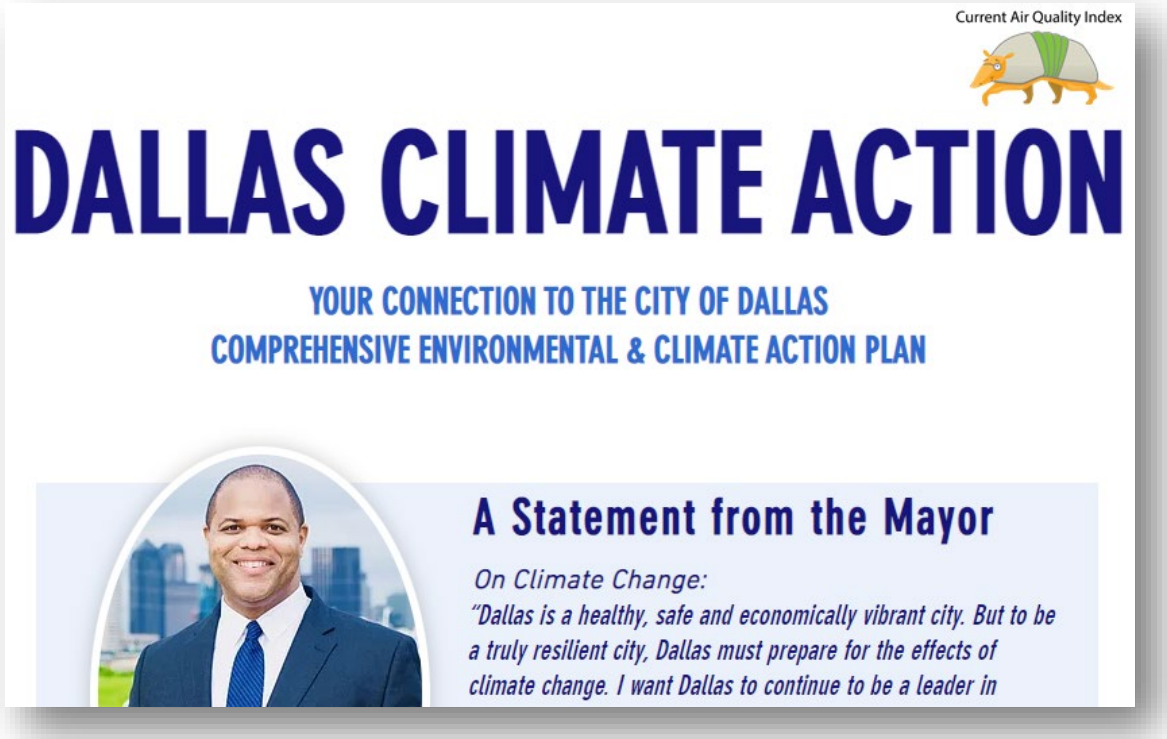
Communication

Social Media and Marketing Plan

- Staff will develop and implement a social media and marketing plan for ongoing CECAP communication
- DallasClimateAction.com website will be continually improved and optimized for mobile users
- Messaging will be tailored to target audiences including individuals, neighborhoods, businesses, and other entities

Regional Messaging

- City staff will work with the North Central Texas Council of Governments to develop regional messaging related to climate change in North Texas



CECAP FY 21-22 Budget Line Items

CECAP Sector/Action	Program	Council Appropriation	Lead Department
Air Quality/AQ2	Neighborhood AQ Monitors (ARPA)	$ 1,000,000	OEQS
Buildings/ B4	Weatherization Pilot	$ 400,000	OEQS
Energy/ E7	City Facility Solar Pilot (1/2 of 2 yr program)	$ 500,000	BSD
Urban Ag/ FA1	Urban Ag Pilot Project - Increase Access	$ 200,000	OEQS
Urban Green/ EG4	Branch-out Dallas	$ 72,000	DWU
Energy/ E1	MGT - CECAP funding (develop priorities for energy goals: Solar Siting Evaluation/ Solar environmental BMPs; EV Charging Infrastructure)	$ 500,000	OEQS
Energy / E2, E6	MGT - Community Solar Funding	$ 250,000	OEQS
Transportation T7	Bike Plan Implementation	$ 2,000,000	TRN
Transportation T10	Pilot Alley Trails (ARPA)	$ 8,800,000	PBW
Transportation T10	Sidewalk Master Plan Implementation	$ 5,000,000	PBW
Transportation T16	LED Street Lighting Improvements (1/2 of 2 year program)	$ 2,500,000	OIPSS/TRN
		$ 21,222,000	

City of Dallas

Sustainable Procurement FY22 Workplan

Environment & Sustainability Committee

Chhunny Chhean, Director
Office of Procurement Services

More Information on Sustainable Procurement

SW2: Develop a comprehensive green procurement plan for city operations and establish a sustainable procurement policy.

FY21 Milestones

Conduct goods and services purchasing study

Implement voluntary green procurement pilot

FY 22 Milestones

Launch the Sustainable Procurement Working Group's inaugural year workplan.

As part of the workplan, update the City's Environmentally Preferred Products list for use in the City's purchase of goods

As part of the workplan, develop a total cost of ownership (TOC) model for use in analyzing the cost of a good or service

Sustainable Procurement Workplan for FY22

- CECAP called for development and passage of a sustainable procurement policy.
- The City Council passed the Sustainable Procurement Policy in May 2021.
- The Policy incorporates social, economic, and environmental factors in procurement.
- The Policy requires formation of a Working Group (Eco, Equity, Environmental Quality and Sustainability)
- The Policy requires City staff to brief a Council committee with its workplan each fiscal year and then report on the efforts of that workplan at the end of the fiscal year including incorporating the cost of going sustainable.

Sustainable Procurement Workplan for FY22

- CECAP called for development and passage of a sustainable procurement policy.
- The City Council passed the Sustainable Procurement Policy in May 2021.
- The Policy incorporates social, economic, and environmental factors in procurement.
- The Policy requires formation of a Working Group (Eco, Equity, Environmental Quality and Sustainability)
- The Policy requires City staff to brief a Council committee with its workplan each fiscal year and then report on the efforts of that workplan at the end of the fiscal year including incorporating the cost of going sustainable.

Sustainable Procurement Workplan for FY22

1. Update AD4-5 and Procurement website to reference the Sustainable Procurement Policy.
2. Update the City's Environmentally Preferred Products List to incorporate by reference the EPA's EPP.
3. Host education programs for the supplier community on how to identify human trafficking.
4. Host nonprofit outreach events to publicize ARPA-funded programs.
5. Include total cost of ownership for goods (to include disposal costs).

Sustainable Procurement Workplan for FY22

6. Amend concession contracts to ban the use of polystyrene and single-use plastics, and plastic bottles through a phased approach in consultation with departments and concessionaires.

7. Implement TCEQ's new Buy Recycled rule requiring preference of recycled materials as long as it does not exceed 10% in cost compared to nonrecycled product.

Sustainable Procurement Workplan for FY22

8. Work with Eco and the Small Business Center to award points to encourage consideration of job quality into specific procurements, e.g., more points for suppliers who offer paid time off.

9. Work with OEQS to award points for furthering CECAP milestones.

Sustainable Procurement Workplan for FY22

10. Upgrade Specific Procurements

A) Civilian uniforms—require supply chain detail to list origin of materials and labor to ensure it does not include materials from a country identified by the DOL as using child/ forced labor.

B) Vending machines Sell healthy foods and ban plastic bottles and only allow aluminum cans and glass.

C) Implement the sustainable food for city-sponsored events pilot program (continuing from a CECAP milestone from FY21).

Sustainable Procurement Workplan for FY22

D) Grounds maintenance: encourage native plants and break up contract into smaller groups to maximize award opportunities.

E) Promotional items: encourage local sourcing and use of recycled materials.

F) Printing agreement –incorporate TCEQ's Buy Recycled rule and prefer use of non-toxic dyes.


Questions?

CECAP: FY21-22 Annual Work Plan & the Sustainable Procurement FY22 Workplan

Environment & Sustainability Committee

October 4, 2021

Susan Alvarez, Assistant Director
Office of Environmental Quality & Sustainability

Chhunny Chhean, Director
Office of Procurement Services

City of Dallas

1500 Marilla Street
Council Chambers, 6th Floor
Dallas, Texas 75201

Agenda Information Sheet

File #: 21-1903 **Item #:** C.

Dallas Water Utilities - Long Range Planning
[Terry Lowery, Director, Dallas Water Utilities]

Dallas Water Utilities- Long Range Planning

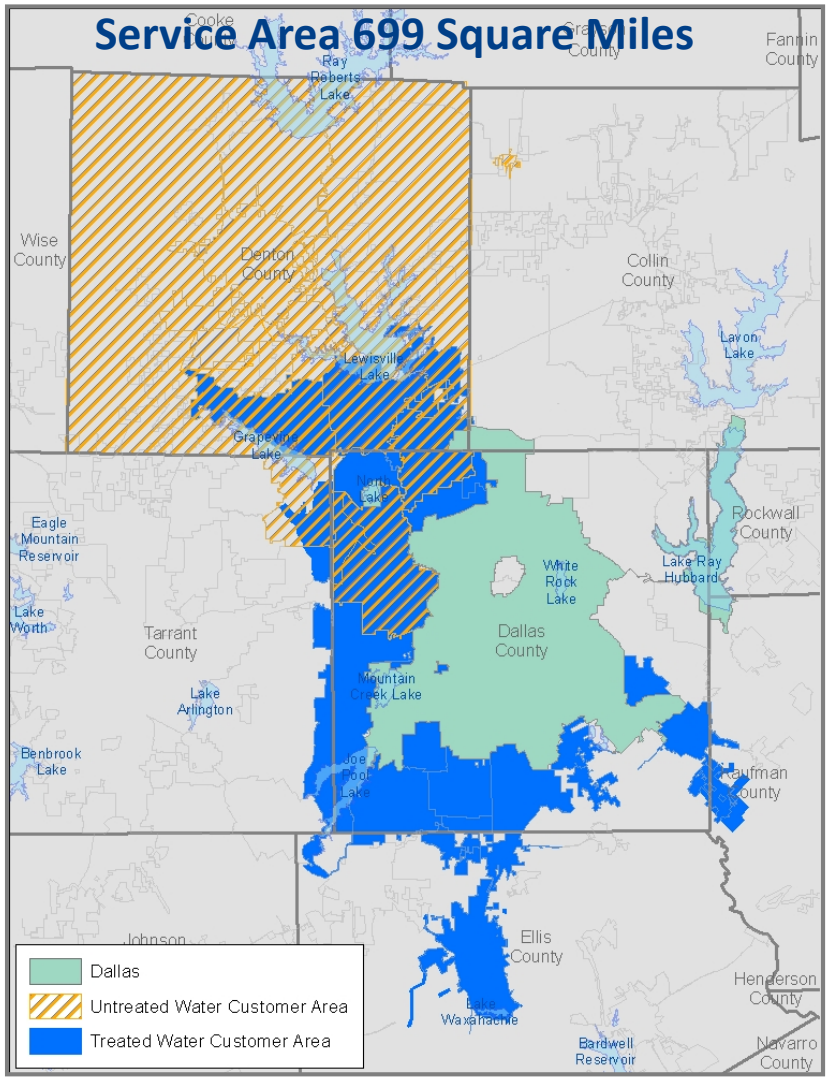
Environment and Sustainability Committee
October 4, 2021

Terry S. Lowery, Director
Dallas Water Utilities
City of Dallas

Purpose

- Provide a brief overview of Dallas Water Utilities
- Discuss Dallas' Long Range Water Supply Planning
- Provide an update on Dallas' One Water Program

Dallas Water Utilities Overview



- Established by City Charter in 1881
- Operates under Dallas City Codes, 49, 51, 19
- Funded from wholesale and retail water and wastewater revenues and stormwater fees (receives no tax dollars)
- Regional provider of water, wastewater, stormwater and flood control services
- Fiscal Year 2020 net capital water and wastewater assets of $5.5B
- Approximately 1,600 employees
- Combined operating and capital budgets of $1.1B

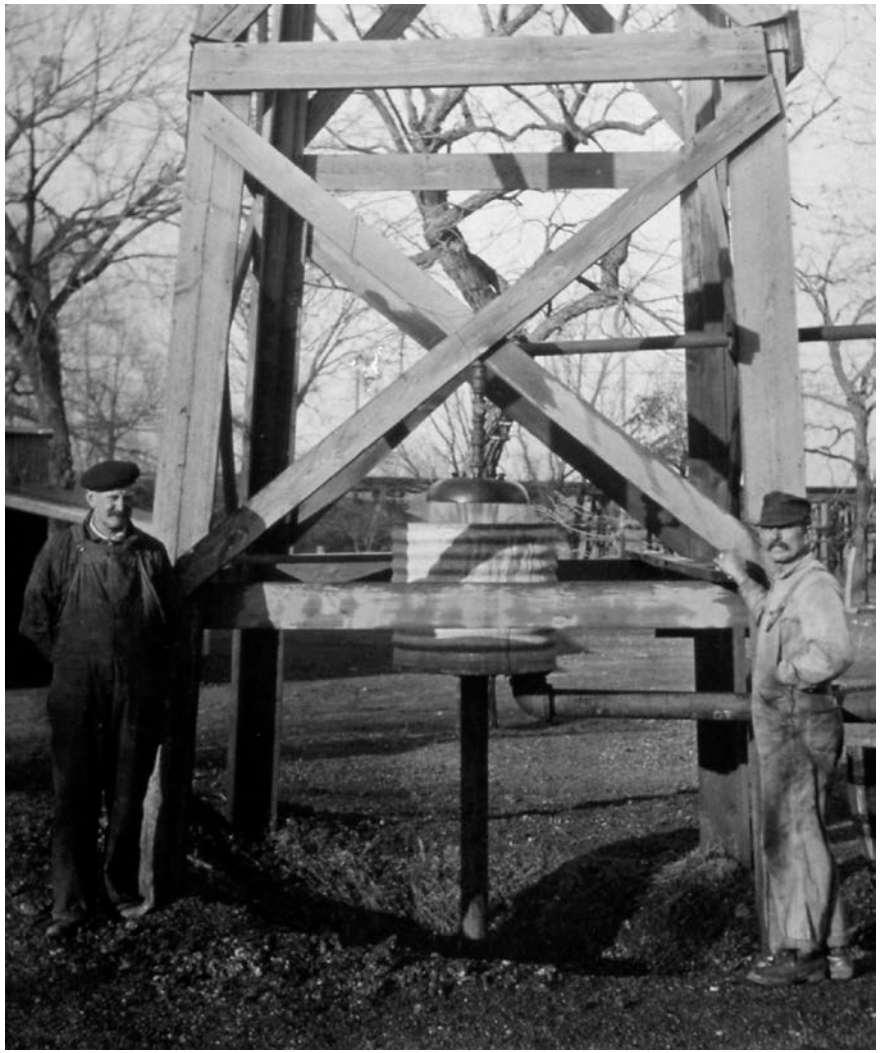
Fiscal Year 2021-22 Budget

Budget	DWU	SDM	Total
Operations	$722.4 M	$69.3 M	$791.7 M
Capital	$323.6 M	$14.7 M	$338.3 M
Total	$1,046.0 M	$84.0 M	$1,130.0 M

City of Dallas Utilities

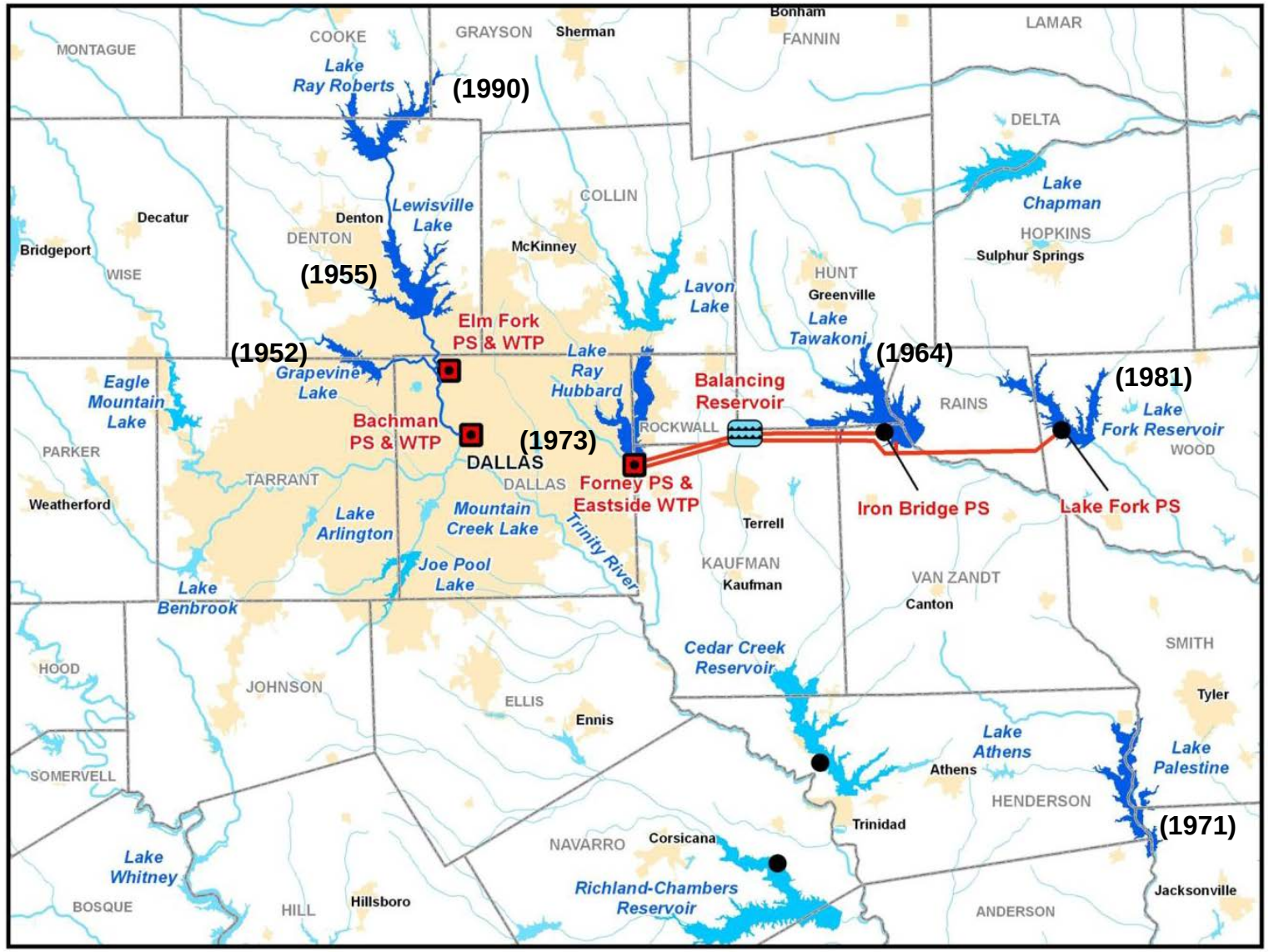
	ASSETS	CUSTOMERS
	**WATER** • 7 reservoirs, (6 connected) • 5,010 miles of water mains • 3 water treatment plants (900 MGD capacity) • 23 pump stations, 10 elevated and 12 ground storage tanks	**2.5 million treated water customers** • 1.3 million – Retail (City of Dallas) • 1.2 million – Wholesale • 23 wholesale treated water • 4 wholesale untreated water
	**WASTEWATER** • 2 wastewater treatment plants (280 MGD capacity) • 4,053 miles of wastewater main • 15 wastewater pump stations	**320,000+ retail customer accounts** • 11 wholesale wastewater
	**STORMWATER** • 8 storm water pump stations (5.7 BGD capacity) • 1,963 miles of storm sewers • 30 miles of levees • 39,000 acres of floodplain	**300,000 storm water accounts** • 265,979 Residential • 29,470 Commercial

Origins of Dallas' Water Supply System



Browder Springs 1880s

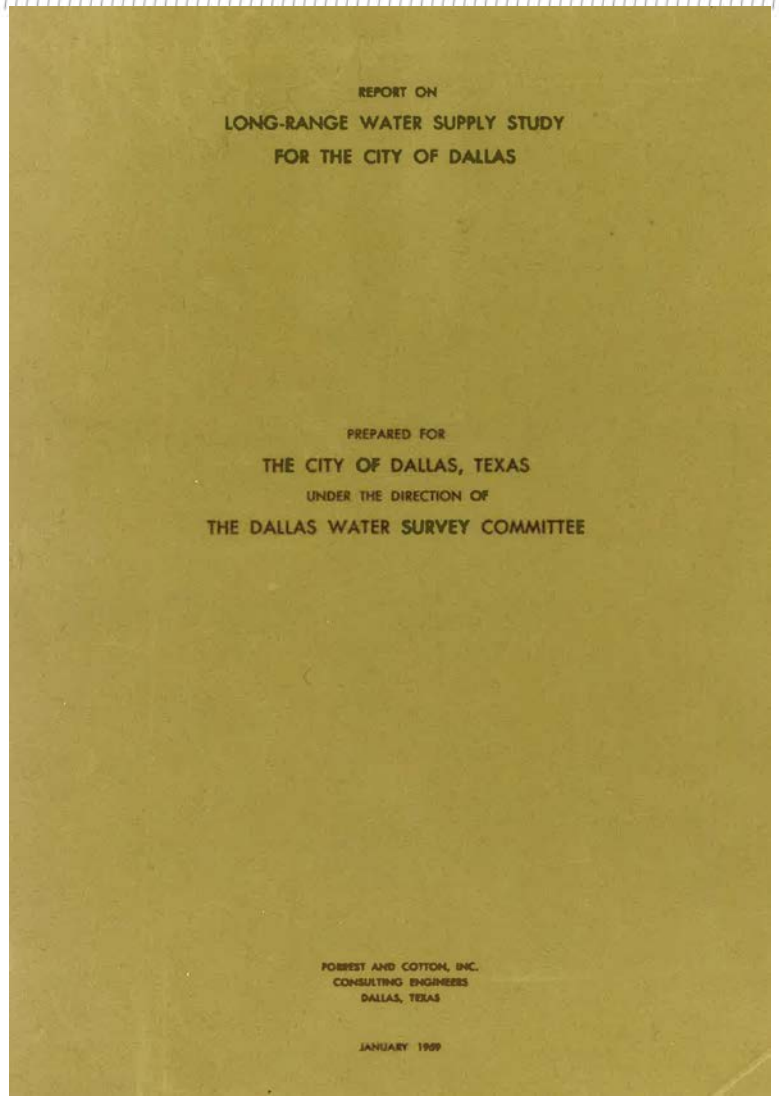
Dallas' Regional Water Supply System



Dallas' Long Range Water Supply Planning

1950's Drought (1951-1957)

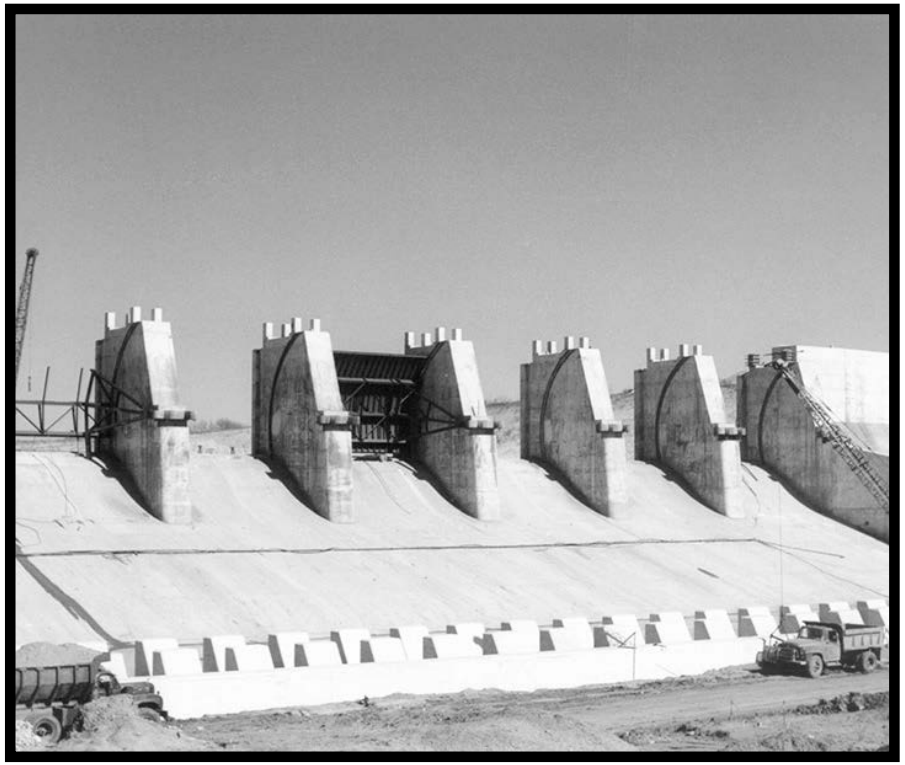
City of Dallas Red River Pump Station, 1953-1957.



Long Range Water Supply Plan 1959.

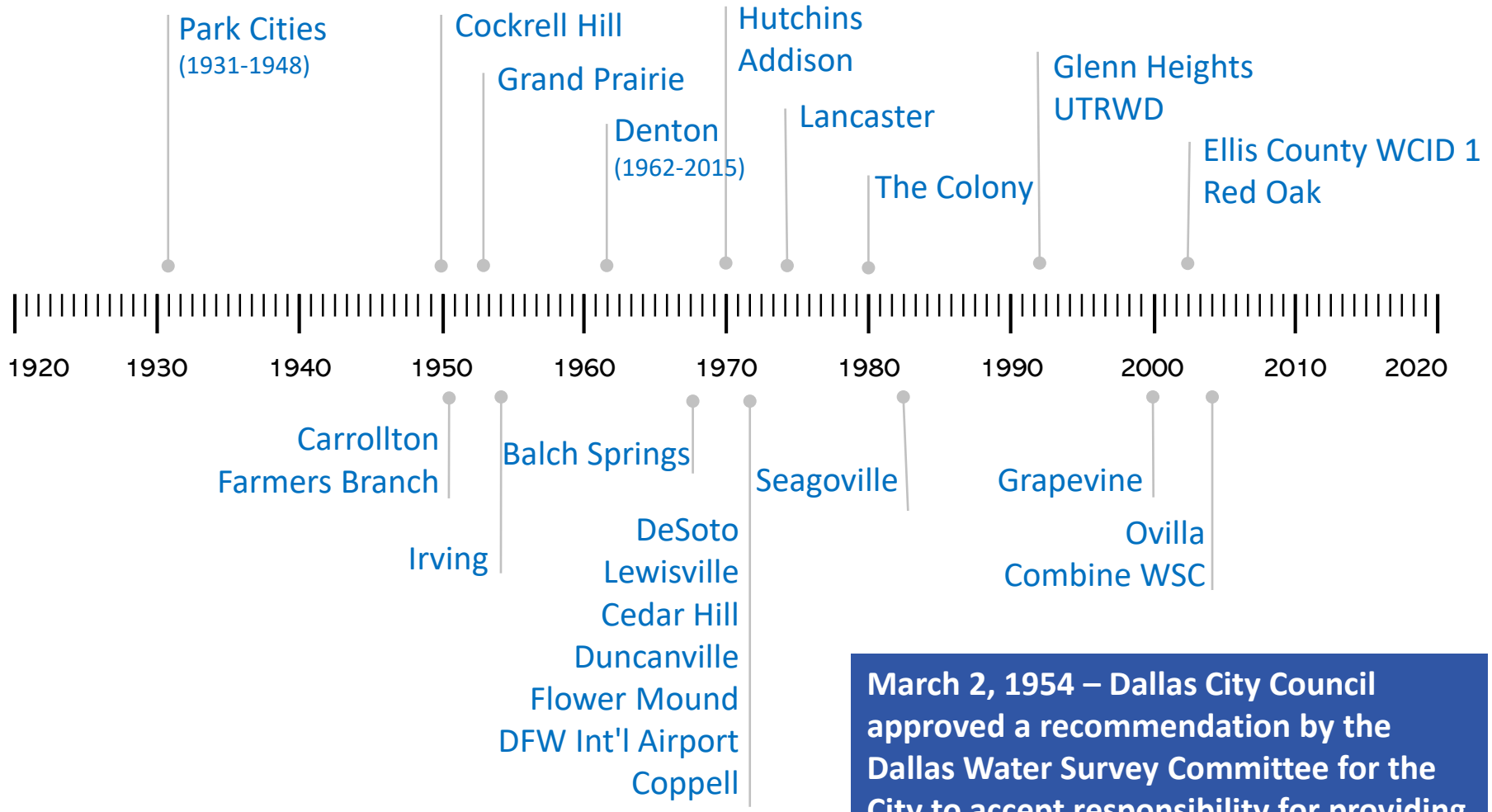
Long Range Water Supply Planning

- In response to the drought of the 50's, Dallas started the current era of long range water supply planning
- Dallas' 1959 Plan included the recommendation that Dallas supply water to surrounding cities
- The 1959 Plan was updated in 1975, 1989, 2000, 2005, and 2014
- A new update is scheduled to begin in 2022



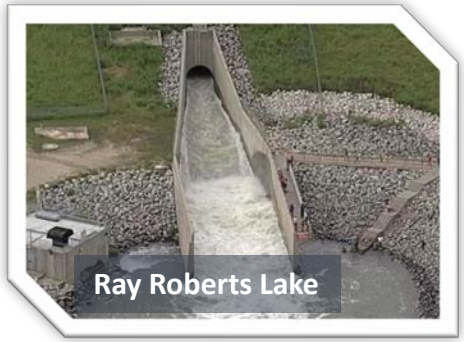
Forney Dam at Lake Ray Hubbard
Installation of Tainter Gates

Wholesale Treated and Untreated Water Customers



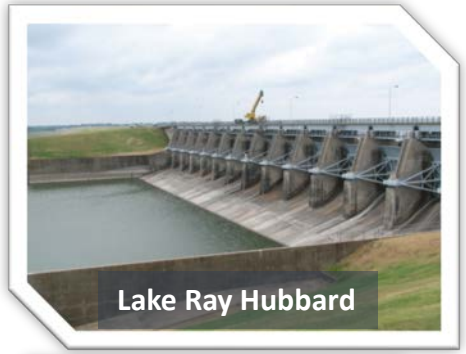
March 2, 1954 – Dallas City Council approved a recommendation by the Dallas Water Survey Committee for the City to accept responsibility for providing water supplies to all of Dallas County

Foundation of Water Supply Planning



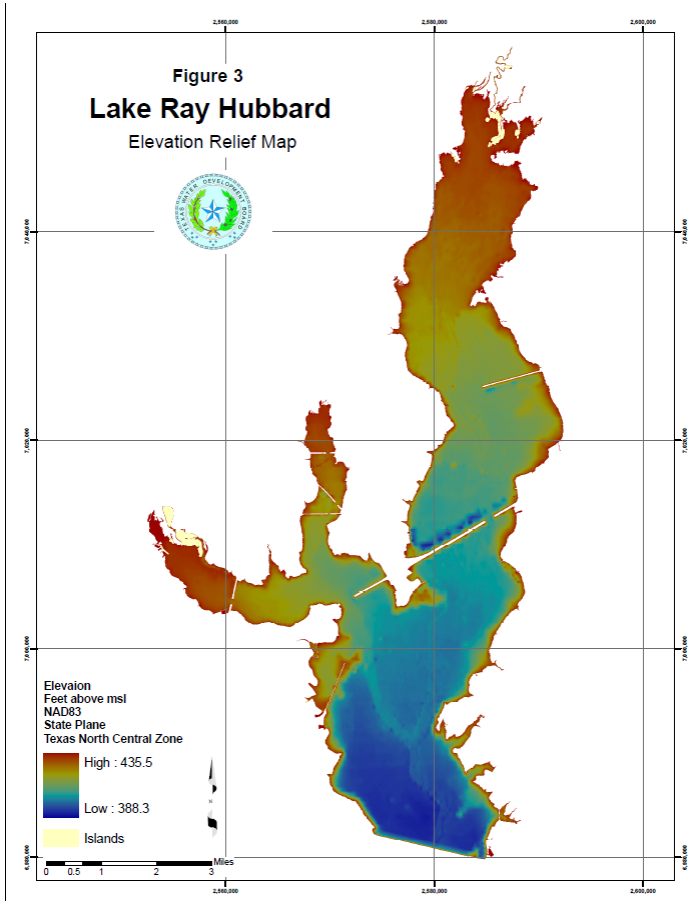
Existing Infrastructure must be:

Maintained,
Operational,
and
Storing Water
throughout the Planning Horizon



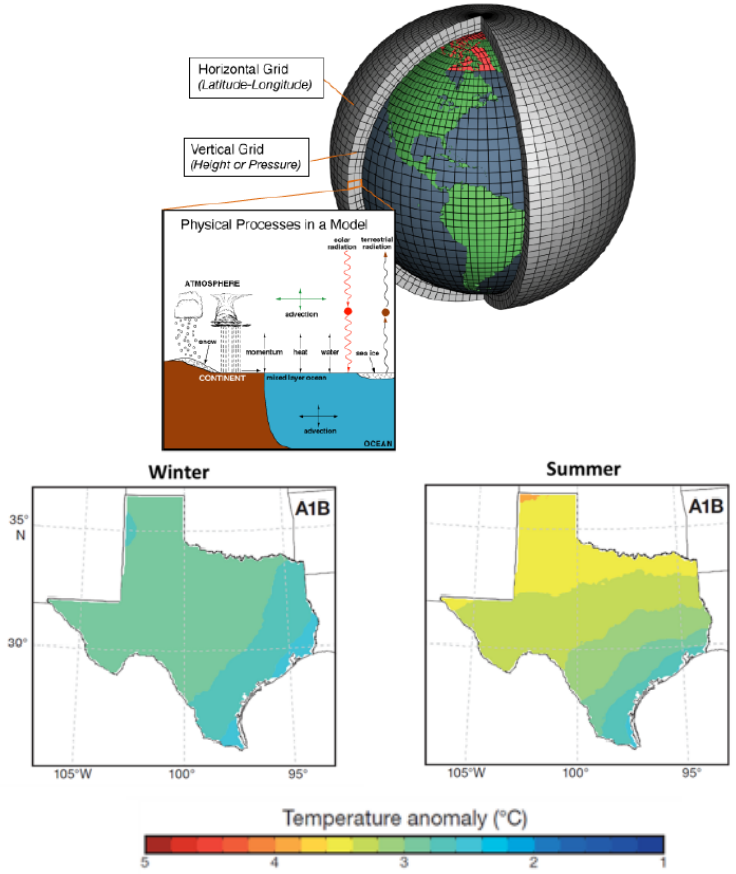
Effects on Existing Supplies

Sedimentation



Decreased Storage Volume

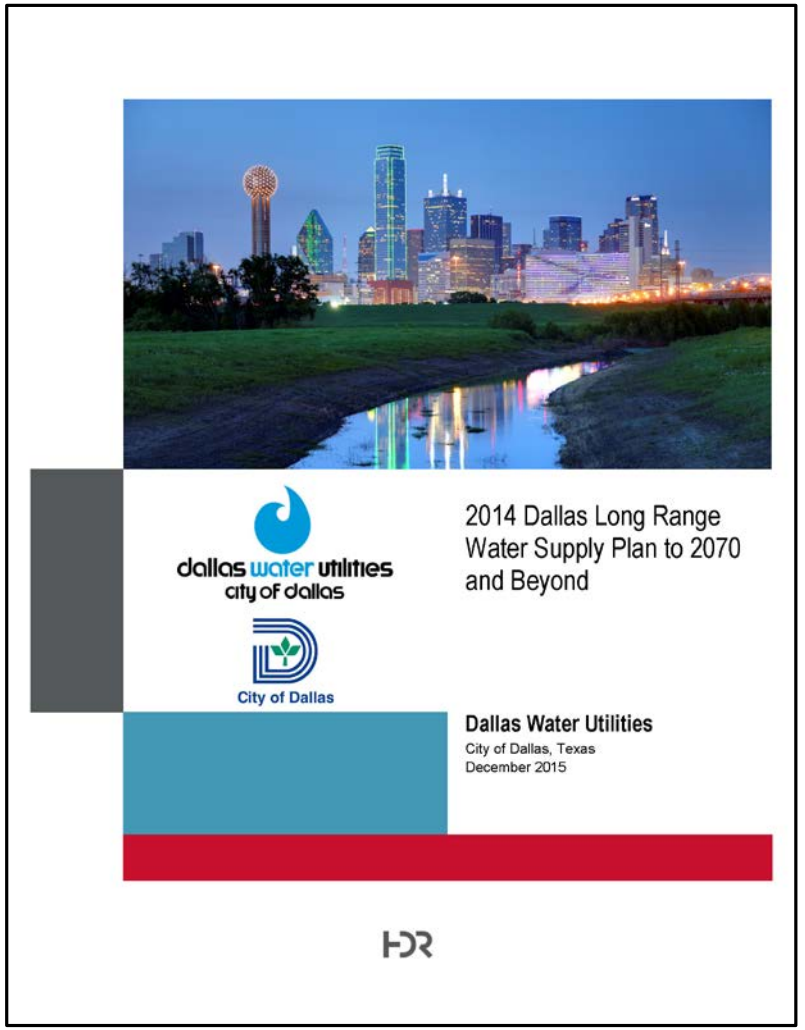
Climate Change



Increased Evaporation

2014 Long Range Water Supply Plan

- Adopted by City Council on October 8, 2014
  - http://dallascityhall.com/departments/waterutilities/DCH%20Documents/2014_LRWSP_Final_Report_all_11302015.pdf
- System average day water demands reduced by 23% or approximately 151 million gallons per day (MGD) while population grows
- Connected firm yield reduced over time due to sedimentation and increased evaporation from higher temperatures
- Projected supply and demand deficit beginning in 2027
- Strategies to meet 2070 DWU system demands consist of:
  - 12% additional conservation
  - 36% indirect reuse
  - 27% connection to existing water supplies
  - 25% new surface water



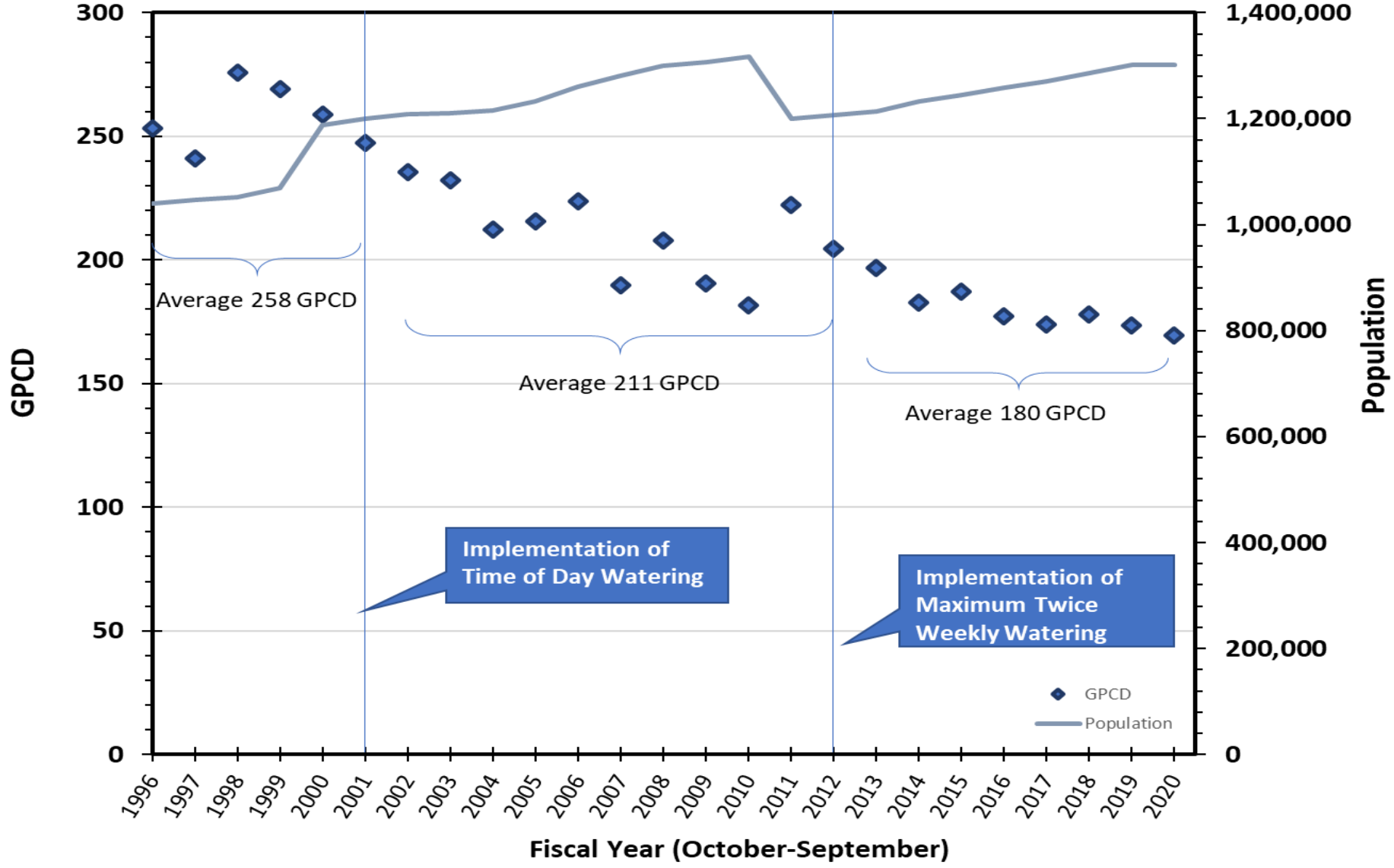
Current Projects – Status and Timing

- Water Conservation (Ongoing)
  - Gallons per Capita per Day (GPCD) reduced from 247 in FY2001 to 168 in FY2020
- Main Stem Pump Station (2020)
  - Develop amendment to North Texas Municipal Water District (NTMWD) Swap Agreement for cost sharing
- Integrated Pipeline Project (IPL) – Lake Palestine Connection (2027)
  - Tarrant Regional Water District (TRWD) – Land Acquisition
  - TRWD – 404 Permit application submitted
  - Engineering design 90% compete
- IPL to Bachman Connection (2027)
  - Feasibility and Preliminary Alignment Study complete
  - Finalizing pipeline alignment, right-of-way acquisition and permitting for bed and banks water rights in Joe Pool Lake will begin in FY2022

History of Dallas' Water Conservation Program

- 1980 – 2000: Education and outreach
- 2001: Irrigation Ordinance adopted; conservation rate tier added; Water Conservation Division established
- 2002: Public Awareness Campaign
- 2005: Five-Year Strategic Plan adopted; proactive leak detection and repair accelerated
- 2006: Mascot DEW joins Conservation
- 2010: Five-Year Plan updated
- 2012: Irrigation Ordinance amended to include mandatory twice weekly maximum schedule
- 2016: Five-Year Work Plan adopted
- 2019 Water Conservation Plan

Impacts of Water Conservation Program



Integrated Pipeline (IPL) Project

- Partner - Tarrant Regional Water District
- 350 MGD Total System Capacity –
  - 150 Dallas
  - 200 TRWD
- 149.5 miles of 108, 96, and 84 inch pipe
- Savings –
  - ~ $200 million in capital costs;
  - ~$20 million per year in debt service coverage savings for the life of the bonds.
- Redundancy and Reliability by interconnecting TRWD's supply with Dallas' supply
- Dallas' IPL to the Bachman Connection alignment study is underway

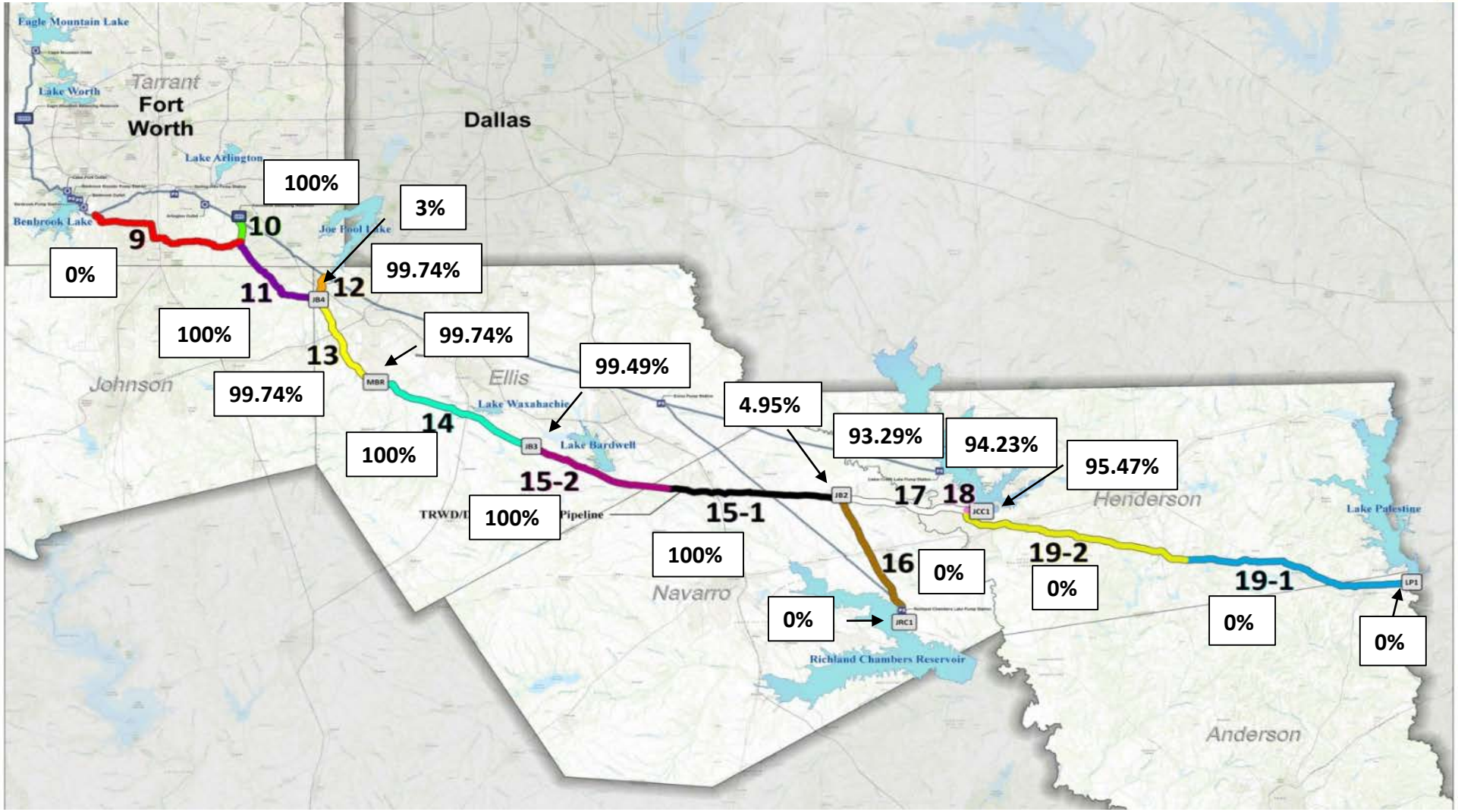
Midlothian Balancing Reservoir

Joint Booster Pump Station 3 (JB3)

Kennedale Balancing Reservoir Pressure Control Station

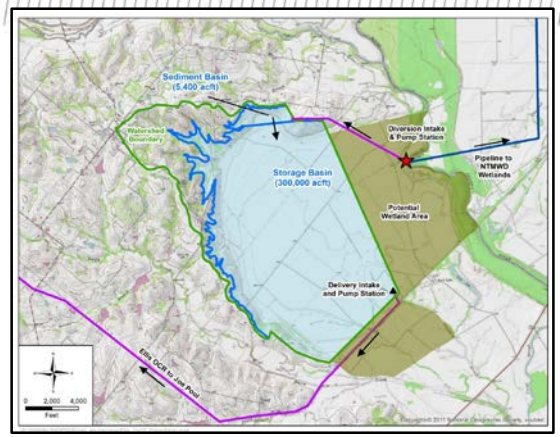
Installation of 108-inch pipe along Section 17

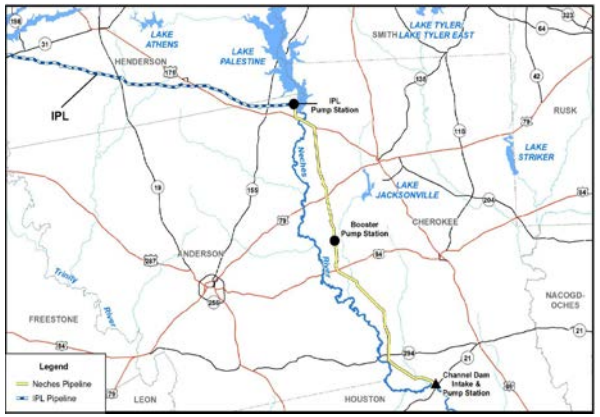
IPL Progress



Future Projects

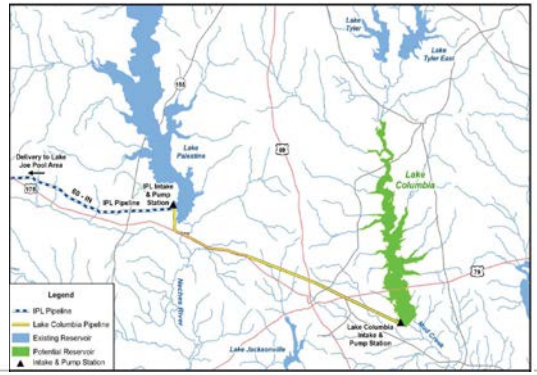
- Main Stem Balancing Reservoir (2050)
  - Develop scope of work for preliminary engineering, geotechnical evaluation and land acquisition
  - Evaluate financing alternatives





- Neches Run-of-River (2060)
  - Develop agreement with Upper Neches River Municipal Water Authority
  - Assist with water rights permitting

- Lake Columbia (2070)
  - Develop agreement with Angelina Neches River Authority



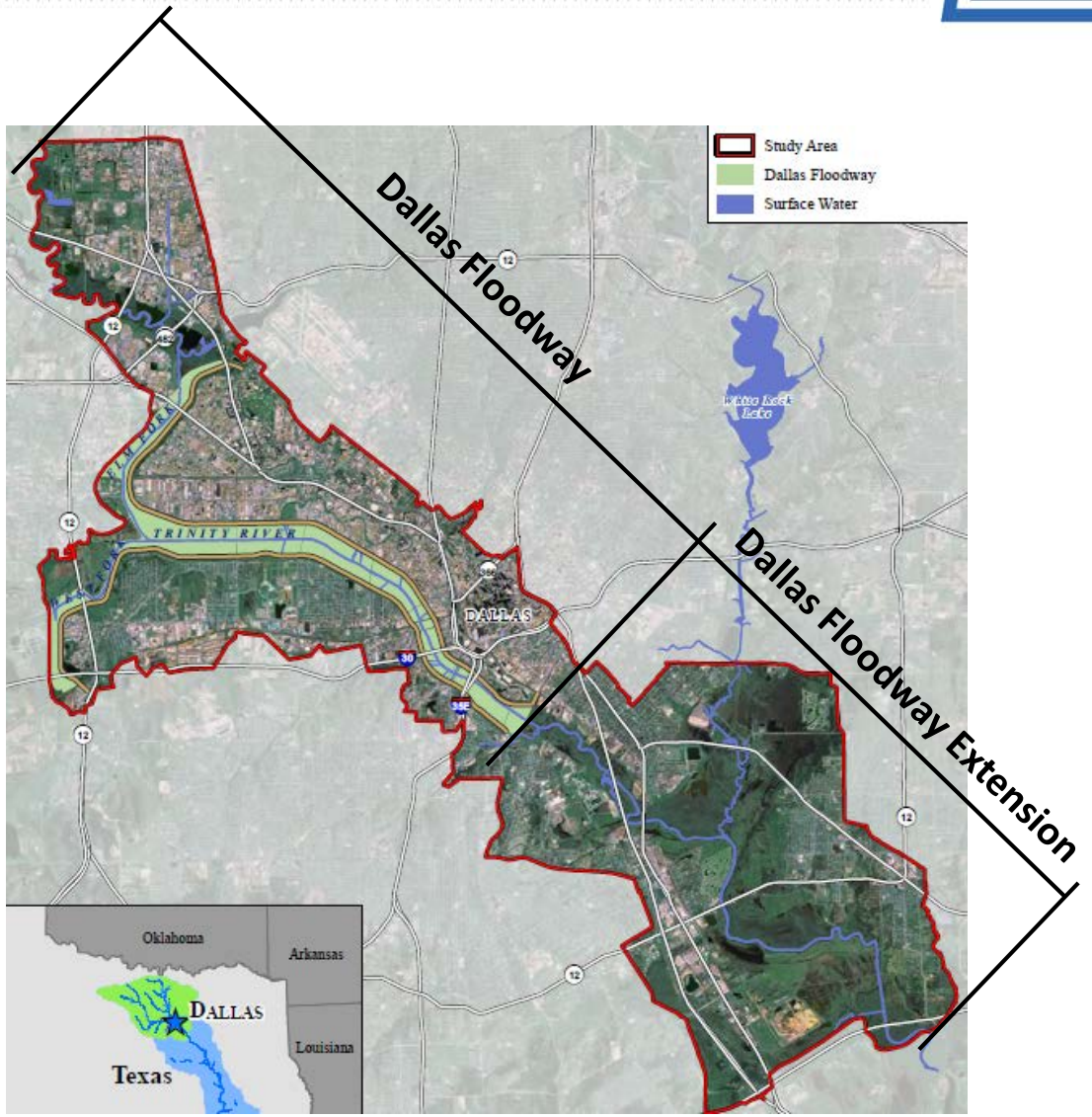
Recommended Water Strategies

Recommended Strategies	Projected Supply (MGD)	Total Project Cost (Million Dollars)	Unit Cost ($/1,000 gal)
Additional Conservation	46.4	$51.7 [a]	$0.38
Indirect Reuse Implementation - Main Stem Pump Station – NTMWD Swap Agreement	31.1	$25.9 [b]	$0.25
Indirect Reuse Implementation - Main Stem Balancing Reservoir	102	$675	$1.74
Connect Lake Palestine	102	-	-
IPL Part 1 – Connection to Lake Palestine [c]	-	$939	$2.31
IPL Part 2 – Connection to Bachman WTP [c]	-	$244	$0.49
Neches Run-of-River	42.2	$227	$1.88
Lake Columbia	50.0	$289	$1.78
Totals	**373.7**	**$2,451.6**	**$1.24**

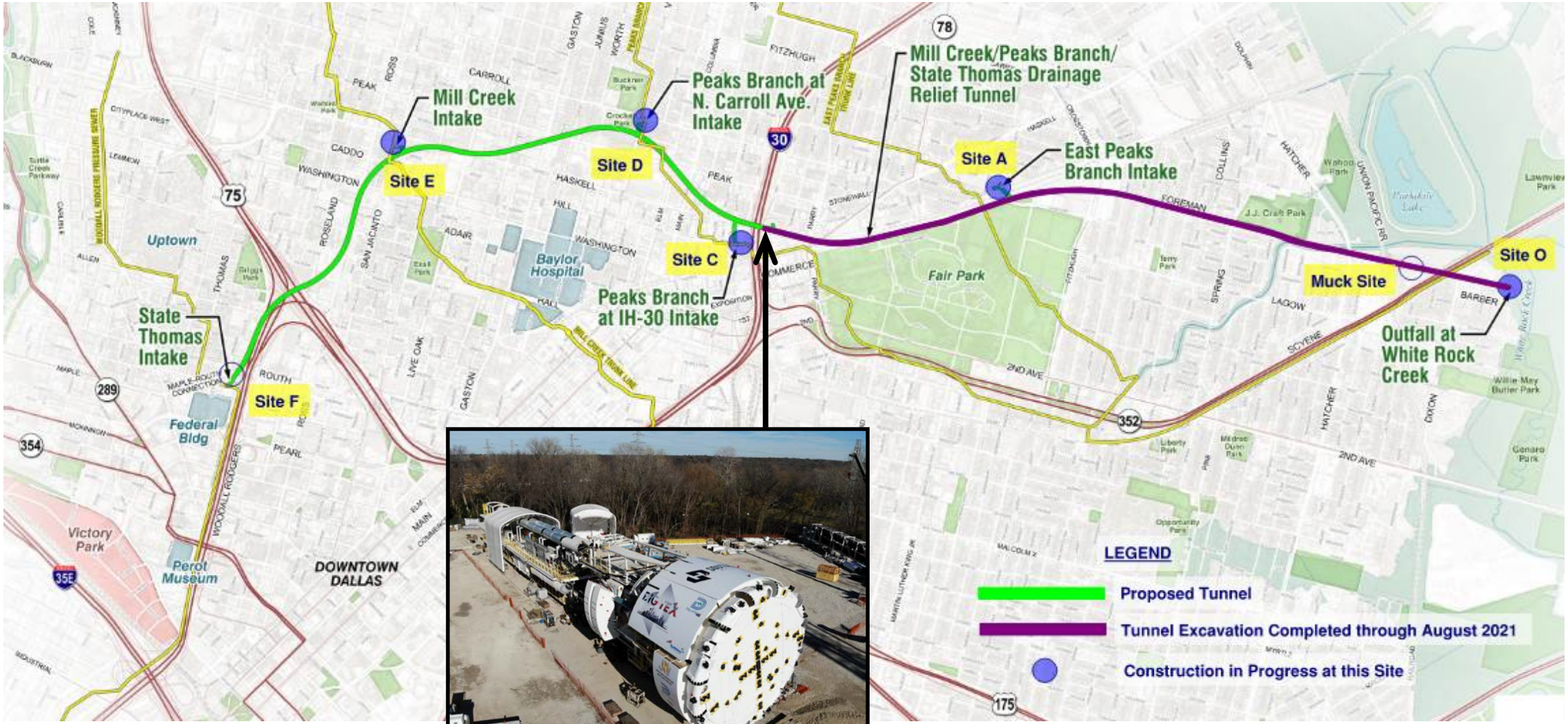
[a] Equivalent total project cost based on net present value analysis for the 50-year planning horizon
[b] Represents Dallas' portion of the total project cost
[c] The IPL project requires both the following projects to provide 102 MG to the Dallas system.

Dallas Floodway and Floodway Extension

- Dallas Levee System protects:
  - Over 40,000 acres of development outside the levees
  - $14 Billion in real and personal property
  - Over 400,000 people living in the protected levees
- All flood risk management projects included in the Dallas Floodway and Dallas Floodway Extension were funded in the Bi-Partisan Budget Bill of 2018

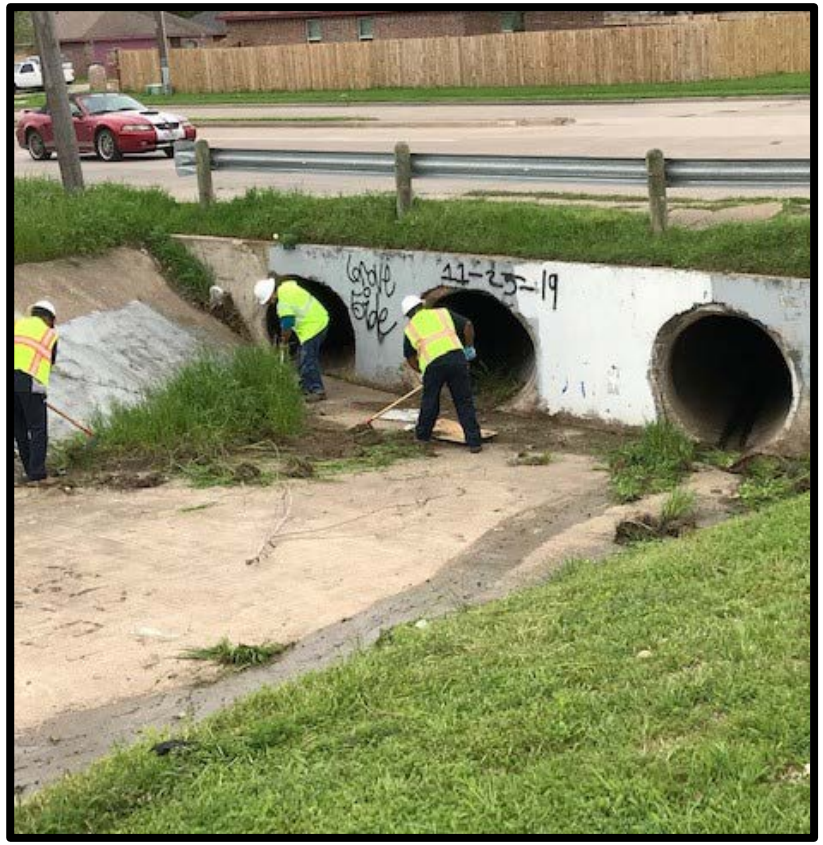


Mill Creek Drainage Relief Tunnel



Neighborhood Drainage Program

- For FY20, an additional $2.5M was invested in the program
- Reduce neighborhood flooding and increase quality of life through:
  - Proactive maintenance of stormwater pipes, channels and creeks, and floodway management areas
  - Increased minor erosion repairs
  - Remove invasive species and replace with natural, noninvasive species
  - Identify areas that need cleaning with closed-circuit television video to prevent flooding on local streets
- Goal is to provide efficient, effective and timely response to property owner calls



Dallas' One Water: A Water Efficient Future

One Water Defined

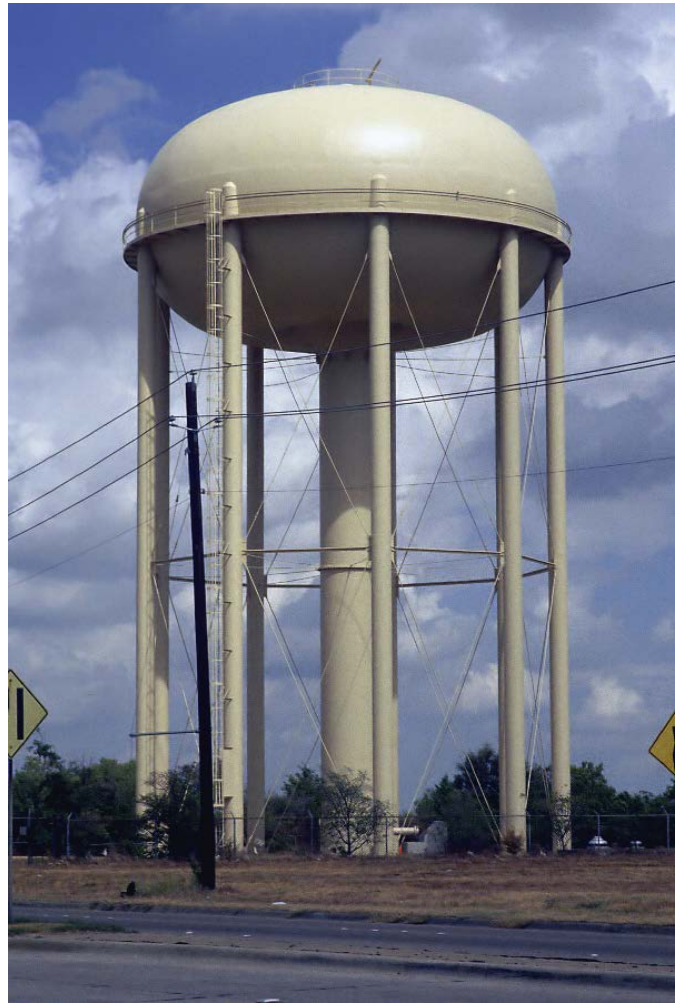
- One Water is an integrated planning and implementation approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs

Benefits of a One Water Approach

- Greater resilience and reliability by considering all water, including stormwater, as a resource
- Sustainable community development
- Seamless coordination with State and Federal regulatory agencies
- Economic growth opportunities by ensuring a diverse, and stable water supply, treatment and drainage system

One Water Next Steps: Water

- Water Production Master Plan
- Water Delivery Master Plan
- Improve efficiency through work order and asset management system and Field Mobility projects
- Customer enhancement through automated meter infrastructure
- Update Long Range Water Supply Plan



One Water Next Steps : Wastewater

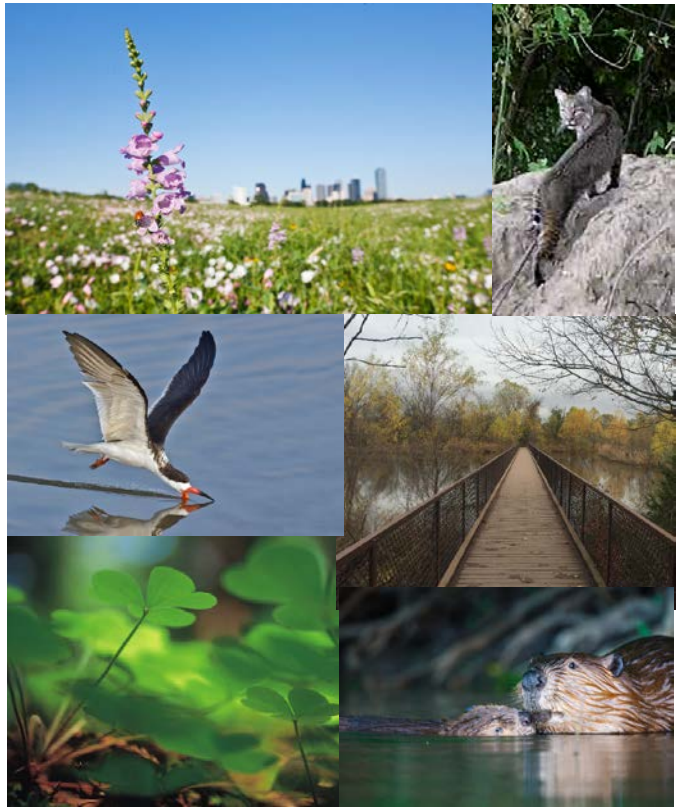
- Wastewater Treatment Facilities Strategic Plan
- Renew Trinity Compact Agreement
- Renew Central Wastewater Treatment Plant discharge permit
- Evaluate system efficiencies between Stormwater Operations and Wastewater Operations
- Update Pretreatment Ordinance

One Water Next Steps: Stormwater

- Comprehensive Stormwater System Assessment
  - Phase I to be presented in Fall 2021
  - Phase II – to be initiated in Fall 2021
- Develop and implement capital funding plan to improve sustainability of stormwater infrastructure
- Complete USACE Dallas Floodway and Dallas Floodway Extension flood risk projects by 2026
- Update Floodplain Ordinance to include Federal Emergency Management Agency's (FEMA) program modifications

In Summary

Environmental Stewardship



Social Equity

Economic Prosperity

Dallas Water Utilities- Long Range Planning

Environment and Sustainability Committee
October 4, 2021

Terry S. Lowery, Director
Dallas Water Utilities
City of Dallas

City of Dallas

1500 Marilla Street
Council Chambers, 6th Floor
Dallas, Texas 75201

Agenda Information Sheet

File #: 21-1904 **Item #:** D.

Energy Management for City Buildings
[Errick Thompson, Director, Building Services Department & Srinivas Vemuri, Senior Program Manager, Building Services Department]

City of Dallas

Energy Management for City Buildings

October 4, 2021

Environment and Sustainability Committee

Errick Thompson, PE, CFM®, Director
Building Services Department

Srinivas Vemuri, PhD, PE,
Senior Program Manager
Building Services Department

Presentation Overview

- Background
- Comprehensive Environmental and Climate Action Plan (CECAP) Implementation
- Recommended FY2021-22 Solar + Storage Project Selection Criteria
- Potential Policy Considerations
- Next Steps

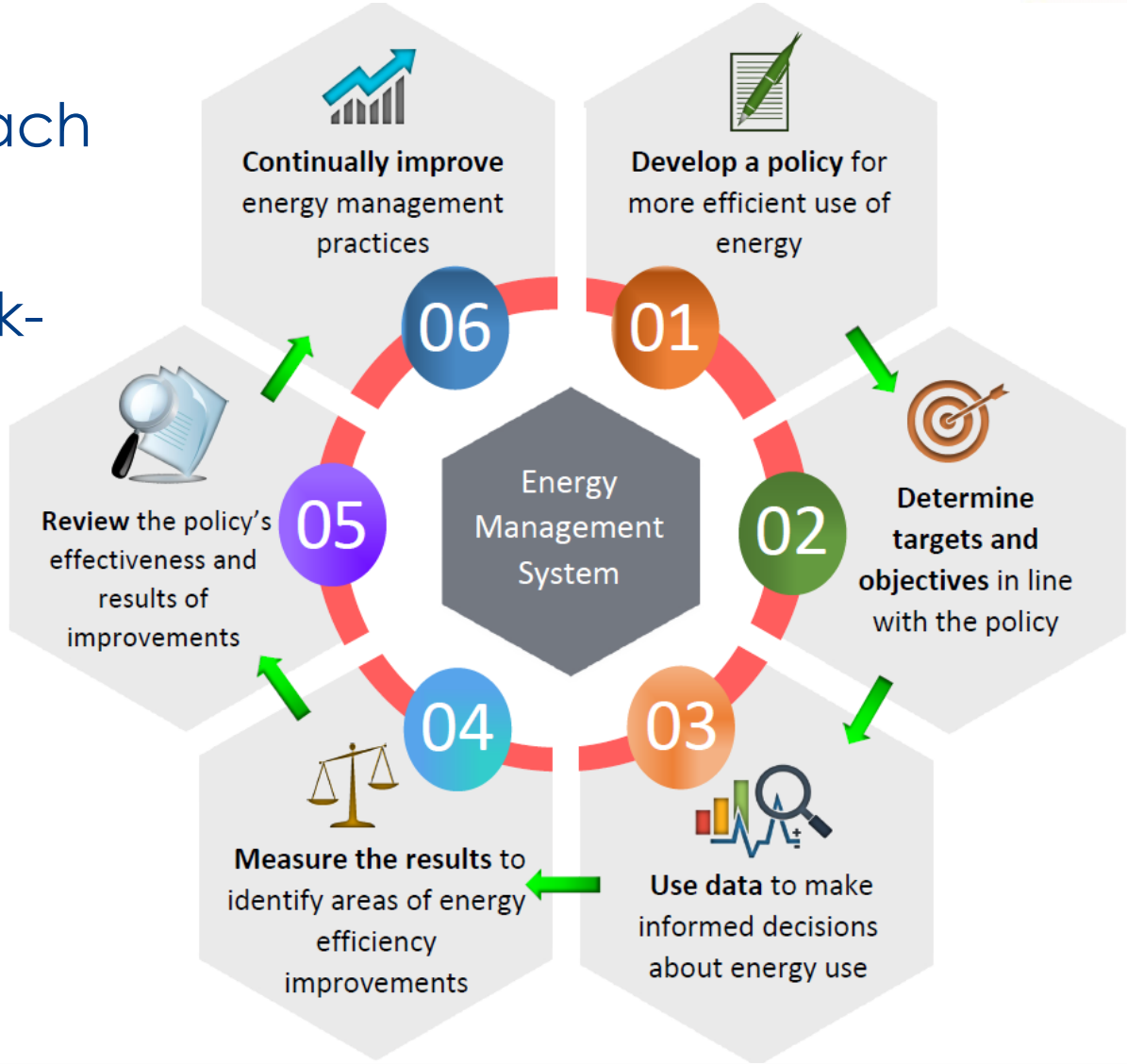
Background

- April 10, 2019, City Council adopted the Green Energy Policy (CR 19-0484) documenting the City of Dallas' commitment to:
    - Use clean and efficient energy
    - Purchase 100 percent renewable energy
    - Promote renewable energy projects and partnerships that reduce environmental impacts
- Resolution also provided for the establishment of an energy management program

Background

Energy Management System

- Systematic and iterative approach to intentional energy decisions
- Largely based on plan-do-check-act model
- Anticipated results:
  - Reduced environmental footprint (reduced energy consumption/ increased renewable energy generation)
  - Reduced energy costs



Background

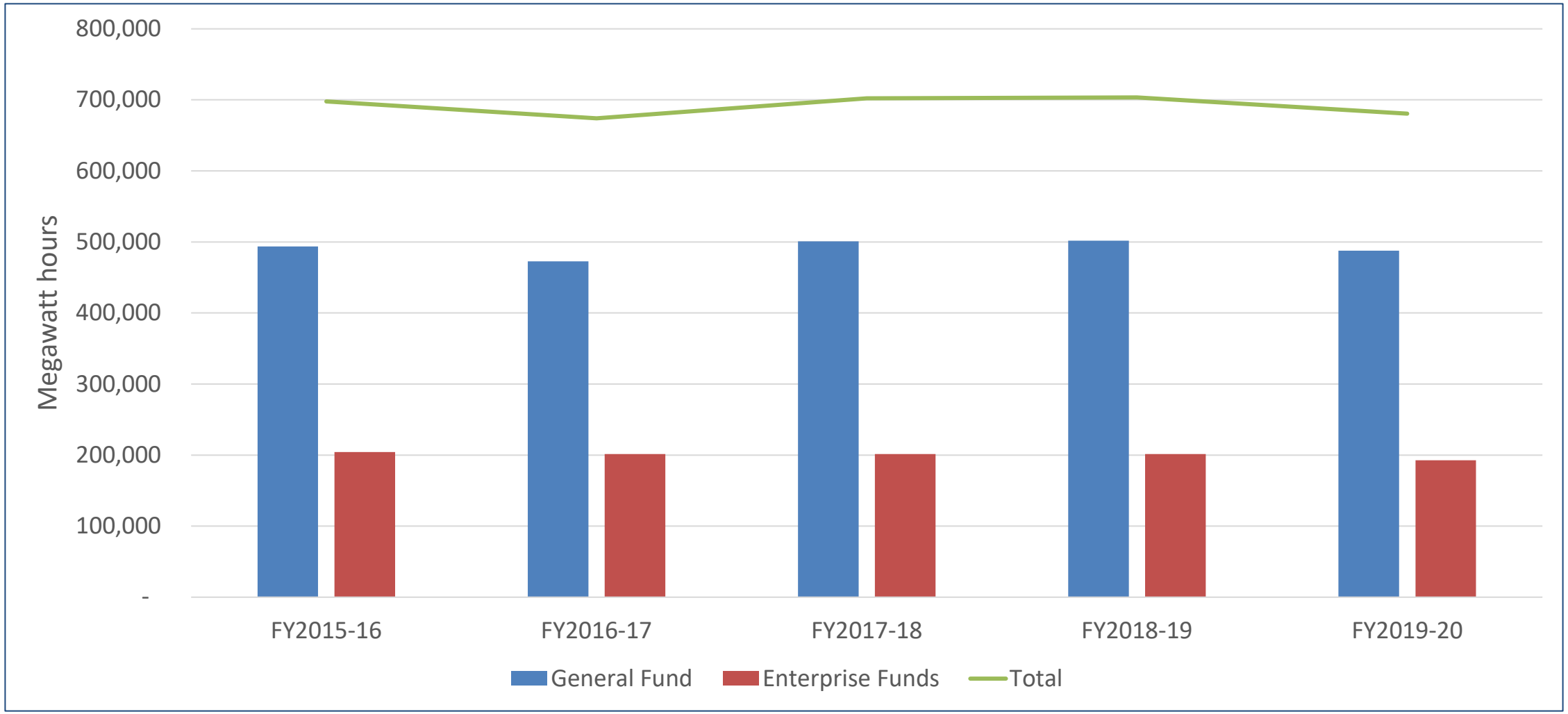
- Council adopted the "Comprehensive Environmental and Climate Action Plan (CECAP)" to reduce City of Dallas greenhouse gas emissions by 43% below 2015 levels by 2030 and 100% by 2050 to achieve carbon neutrality
- City entered 10-year, 100% wind–based electricity contract with TXU in 2019 (annually represents over **35,000 metric tons of CO_2 equivalent emissions avoided**)
- Dallas ranks #2 in annual green power use in EPA's 2020 Green Power Partnership Top 30 Local Governments list and #22 on the Top 100 National Organizations (including local, state, and federal agencies as well as private sector entities)

Background

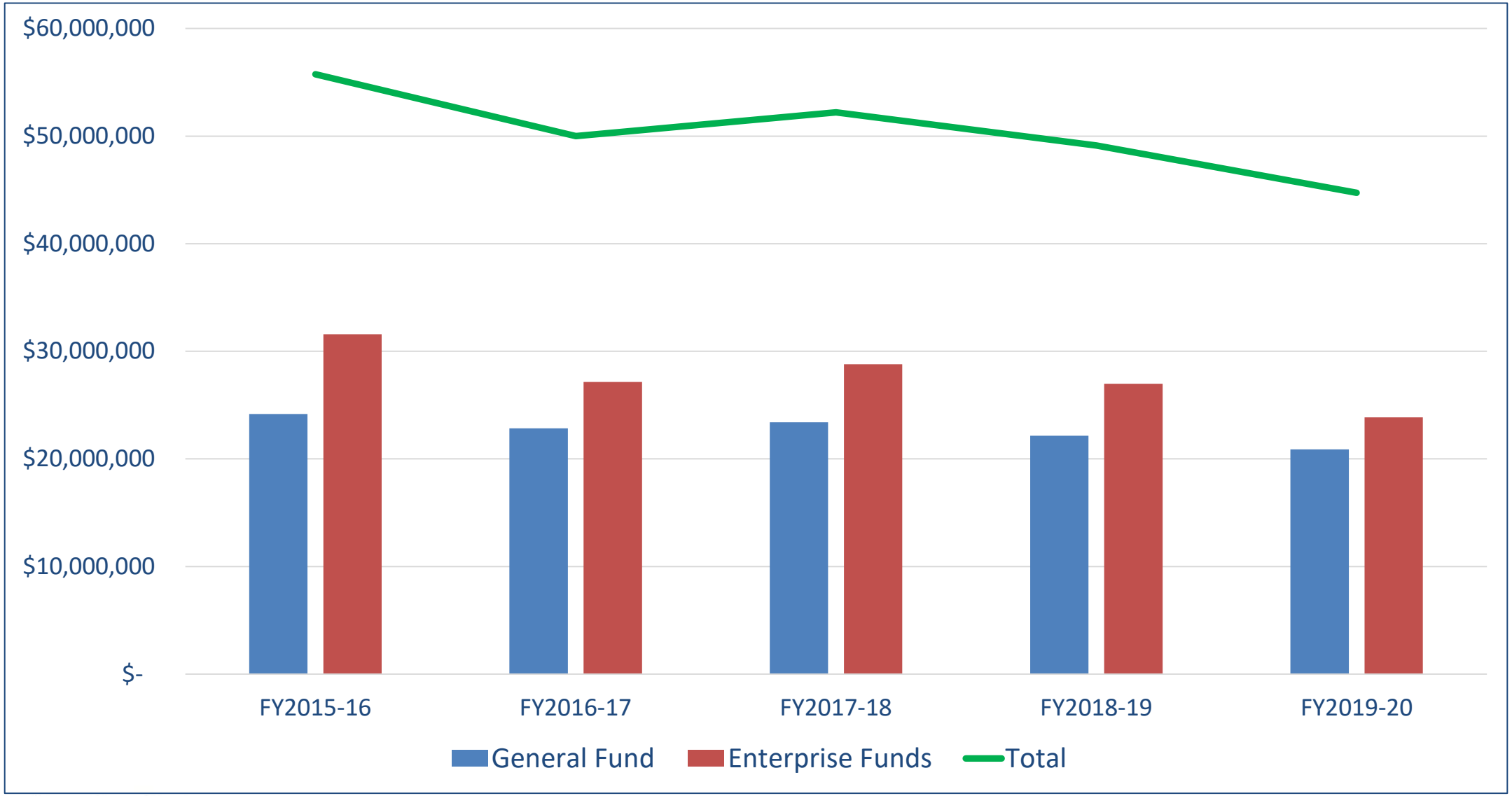
- 387 of the City's 2,893 electricity accounts are for buildings
  - 307 for general fund buildings
  - 80 for enterprise buildings

- FY2019-20 total City electricity consumption was 680,497 MWh at a cost of $44.7m

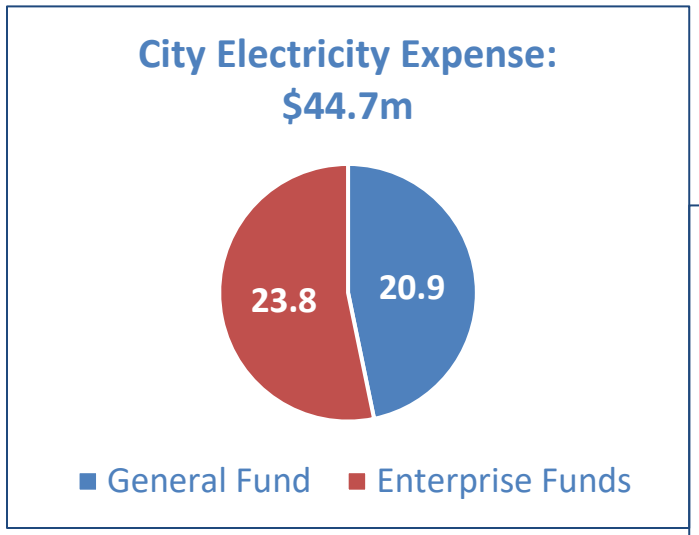
Background: 5 Year Electricity Consumption

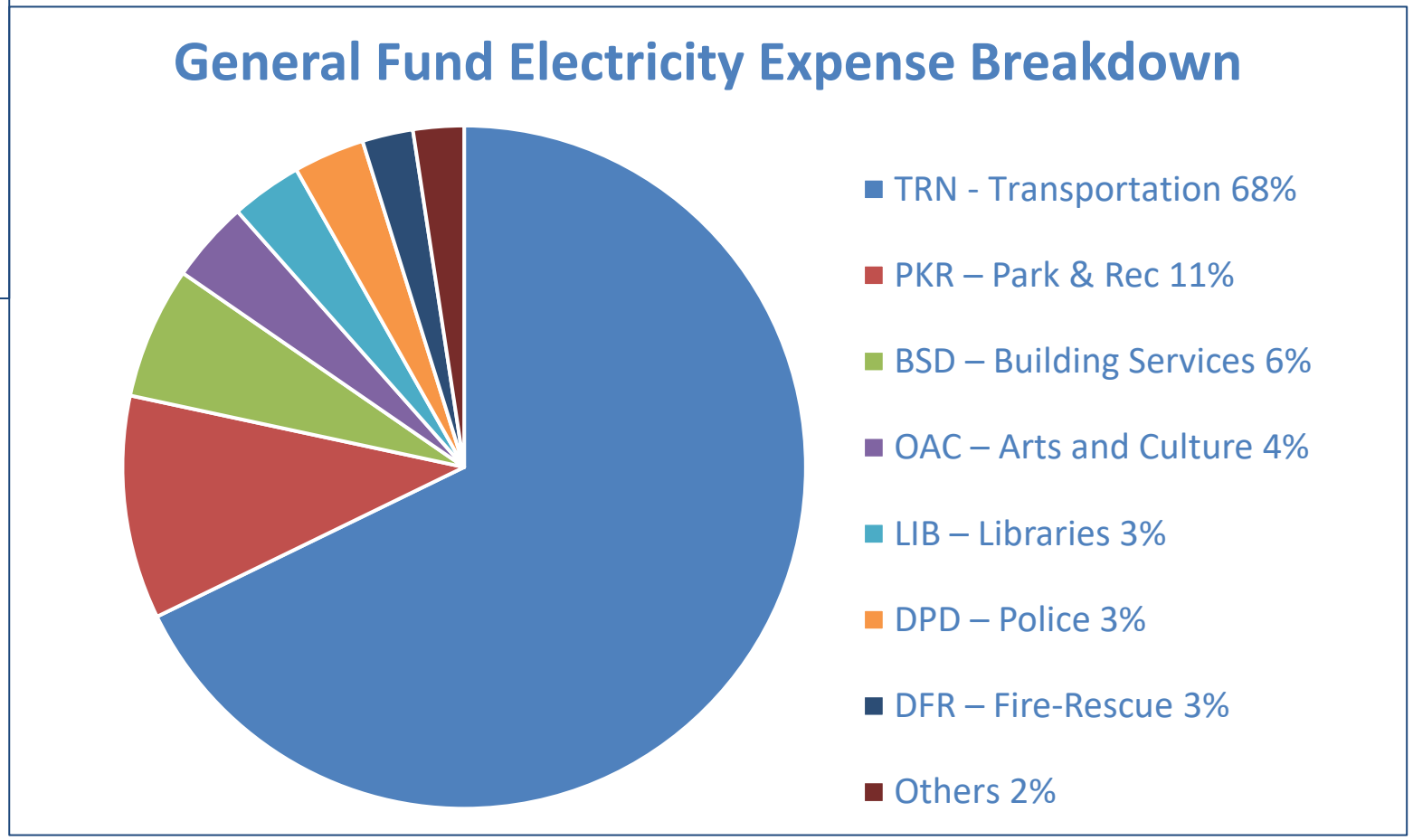


Background: 5 Year Electricity Expense



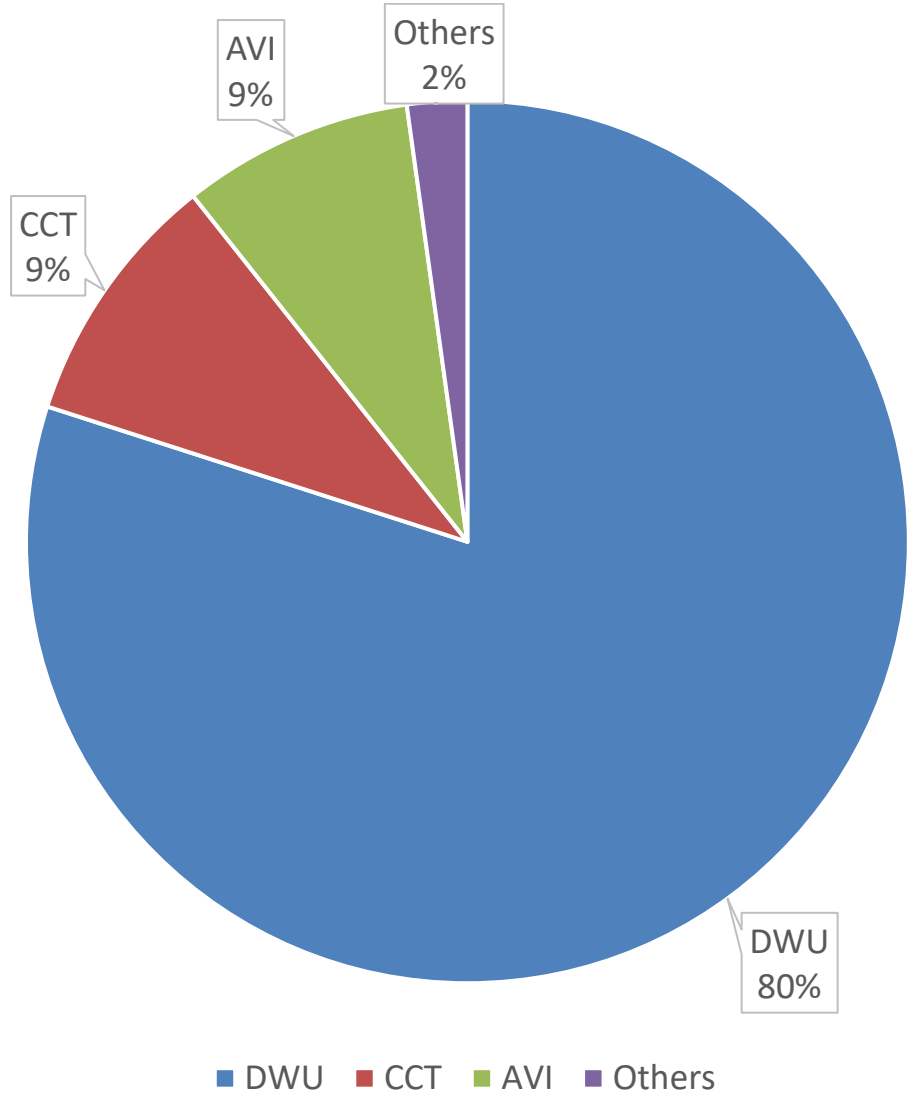
Background: FY2019-20 Electricity Expense





Background: FY2019-20 Enterprise Electricity Expense

Department	Electricity Expense
DWU – Dallas Water Utilities	$19,073,300
CCT – Convention Center	$2,234,690
AVI - Aviation	$2,021,794
Others	$524,248



Background

- Building Services Department (BSD) leads implementation of the energy management program with support from several stakeholder departments
- Early focus has been on understanding current status and then developing strategies and activities to reduce energy consumption and associated greenhouse gas emissions
- This briefing focuses on the 307 building energy accounts funded in the general fund
  - FY2019-20 electricity consumed: 100,435 MWh (14% of total City consumption)
  - $5.7m

CECAP Implementation

CECAP is arranged in eight sectors:

Buildings

Energy

Transportation

Solid Waste

Water Resources

Ecosystems / Greenspace

Food / Urban Agriculture

Air Quality

Energy Management primarily supports the Buildings and Energy Sectors, but also Transportation and Air Quality to a lesser degree

CECAP Implementation

Multiple Buildings Sector action items in the FY2020–21 CECAP plan for City facilities were initiated including:

- Energy benchmarking for City facilities
- Citywide energy management system implementation
- Energy audits to identify retrofit opportunities
- No cost to low-cost retrofits and efficiency improvements identified in energy audits
- Renewable energy feasibility studies to identify appropriate locations for installing solar photovoltaic panels on City facilities

CECAP Implementation

Major Buildings sector actions items for FY2021– 22:

- Add 50 more City facilities to energy benchmarking initiative (for a total of 175) using Energy Star® Portfolio Manager®
- Prioritize at least 10 additional City facilities for energy assessments and 10 for solar feasibility studies based on benchmarking data
- Evaluate funding opportunities and partnerships for energy conservation
- Develop annual energy report for benchmarked City facilities
- Evaluate at least 5 City facilities for resilience/renewable energy hubs (rubric prepared by North Texas Renewable Energy Group, Office of Equity and Inclusion, and Office of Environmental Quality and Sustainability)
- Develop and distribute additional energy awareness messaging

CECAP Implementation: Energy Benchmarking

- Benchmarking energy consumption of City facilities to help identify underperforming facilities and prioritize energy conservation measures
- Currently 125 City facilities have been benchmarked for energy usage
- Target is to benchmark energy usage for 200 City facilities by FY2023

CECAP Implementation: Energy Benchmarking

- Portfolio Manager®:
  - requires annual facility energy usage (electricity, gas), facility area, facility type, operating hours, number of employees & computers to generate a facility site energy use intensity (EUI)
  - compares a facility's EUI performance to the median EUI performance of similar facilities from a national database
- Results:
  - 12 of 27 libraries and 11 of 43 recreation centers perform well (use less energy than their benchmarks)
  - 15 of 27 libraries and 32 of 43 recreation centers present opportunities (use more energy than their benchmarks)

See Appendix (slides 40 – 47) for additional details

CECAP Implementation: Energy Management Software

Our utility partner, TXU, has developed an energy management software "Load Analyzer Tool" with data for City accounts including the following features:

- Web-based platform that providing centralized energy & utility data reporting solutions
- Simple comparisons of facilities or groups of facilities by usage, cost, usage per square foot, etc.
- Quick comparisons of current vs. previous year / other time periods to see impacts of projects or initiatives
- 15-minute interval meter data for all TXU electricity accounts

Additional expanded services pending include Energy Star Portfolio Manager® integration to automate annual benchmarking and a Measurement & Verification feature to track performance of energy projects in terms of energy use and cost savings (anticipated March 2022)

Brief
Load Analyzer Tool Demonstration

So now we have some data, what do we do with it?

CECAP Implementation: Energy Auditing

Recently completed preliminary energy assessments (ASHRAE Level 1) onsite energy audits for 14 City facilities in partnership with the State Energy Conservation Office (SECO) and Jacobs Engineering

MLK Complex A - Administration	Dallas West Branch Library
MLK Complex B - Health Center	Hampton-Illinois Branch Library
MLK Complex C - Branch Library	Lakewood Branch Library
MLK Complex D - Child Care	Mountain Creek Branch Library
MLK Complex E - Recreation Center	Park Forest Branch Library
Oak Cliff Municipal Center	Paul Laurence Dunbar Lancaster-Kiest Branch Library
Arcadia Park Branch Library	Skyline Branch Library

14 facilities prioritized based on preliminary energy benchmarking results, total energy usage, and equity considerations

CECAP Implementation: Energy Auditing

- More feasible project using SECO criteria, treats (as report recommends) the 14 facilities as one project with a 19-year payback period
- Total annual energy savings is projected to be 3,036 MWh or approximately 3% of total general fund buildings' energy usage in FY2019-20

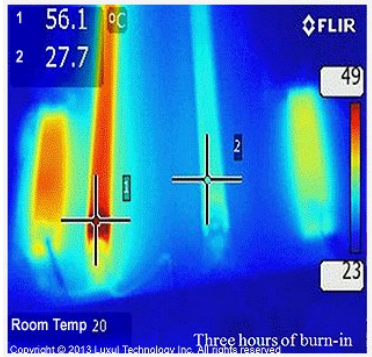
Energy Conservation Measure	Implementation Cost	Electricity Savings (MWh)	Natural Gas Savings* (Mcf)	Energy Cost Savings	Simple Payback** (years)
Lighting Retrofits	$676,725	1,283	-162	$84,634	8.00
Solar PV systems	$2,196,563	1,753	0	$70,340	31.23
Total	**$2,873,288**	**3,036**	**-162**	**$154,975**	**18.54**

***Compared to fluorescent lamps, LED lamps generate less heat resulting in a modest increase in winter natural gas consumption**

****Shorter, more attractive payback periods are more challenging to attain with our favorable electricity contract rates as compared to average Texas commercial energy rates**

CECAP Implementation: Energy Auditing

Draft energy audit report received in September identifying and recommending various energy conservation measures such as:

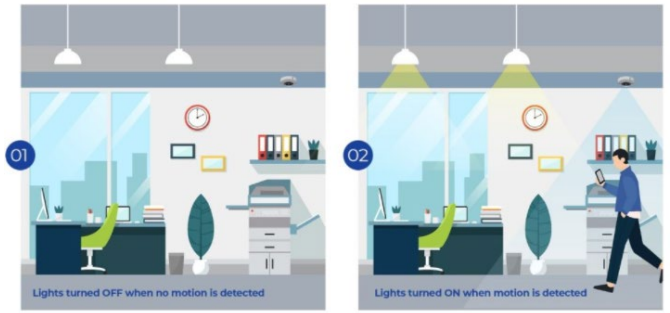


http://www.luxultek.com/

Interior lighting upgrades from fluorescent to LED. LED lamps operate much cooler compared to fluorescent and have longer life

https://www.energyhouseusa.com/

Exterior lighting upgrades from HID to LED



https://wisilica.com/

Interior lighting controls

https://www.solarquotes.com.au/

Solar Photovoltaics

CECAP Implementation: Energy Auditing

Additional 12 City facilities selected for energy assessments through SECO partnership bringing the total to 26 facilities - site surveys complete, draft audit reports anticipated in December

Tommie M. Allen Recreation Center	Reverchon Recreation Center
Beckley-Saner Recreation Center	Samuell Grand Recreation Center
Martin Weiss Recreation Center	Juanita Craft Recreation Center
Marcus Recreation Center	Pleasant Oaks Recreation Center
Fretz Park Recreation Center	Harry Stone Recreation Center
K.B. Polk Recreation Center	Park in the Woods Recreation Center

BSD anticipates applying for SECO preliminary energy assessments program for 10 to 12 City facilities annually

CECAP Implementation: Solar Feasibility Assessments

Recently completed assessments of 8 City facilities in partnership with SECO and Jacobs Engineering

Fretz Recreation Center	Dallas Animal Services
West Dallas Multipurpose Center	Bachman Recreation Center
MLK Complex	ECO Park
Oak Cliff Municipal Center	Fire Training Administration

8 facilities prioritized based on preliminary energy benchmarking results, total energy usage, and equity considerations

CECAP Implementation: Solar Feasibility Assessments

Total annual energy savings from implementing the solar projects identified in the report projected to be 5,422 MWh or approximately 5% of total general fund buildings' electricity use in FY2019-20

Energy Conservation Measure	Implementation Cost	Electricity Savings (MWh)	Energy Cost Savings	Simple Payback (years)
Solar PV systems	$8,075,938	5,422	$217,434	37.14

Shorter, more attractive payback periods are more challenging to attain with our favorable electricity contract rates - in addition, the City is not eligible for popular federal tax incentives

CECAP Implementation: Solar Feasibility Assessments

From a purely financial or accounting standpoint, the identified solar projects and their payback periods might not be considered viable – other important considerations are warranted

CECAP Implementation: Funding

Multiple options for consideration to fund energy projects:

- Annual operating budget (examples: $1.5m included in the adopted FY2021-22 budget, routine lighting, HVAC, and roofing upgrades, etc.)
- City-issued debt (equipment notes, certificates of obligation, master lease, general obligation bonds, etc.)
- Revolving fund (City dedicates funds for seed projects, energy savings from those projects are used to "pay back" the project cost and those funds are then used to implement additional energy projects)

CECAP Implementation: Funding

- SECO Loan STAR program (City takes loan from SECO for implementing energy projects and pays back the loan from savings generated by the project - limited to projects with payback periods **less than 15 years**)

- Energy Savings Performance Contracts (City takes loan from private financial entity for implementing energy projects and pays back the loan from savings generated by the project - no limitation on payback period but higher cost of capital)

- Power Purchasing Agreement (City agrees to buy, from solar developer, power generated from a renewable energy project at an agreed upon rate for a fixed duration)

- Grants, rebates, and other incentives (example: Oncor efficiency incentive program, SECO Technical Assistance Programs, etc.)

CECAP Implementation: Funding

Battery storage costs for commercial applications are evolving and vary as function of size and capacity as shown in the example below:

Solar PV installation size: 100 kW

- Tesla 13.5 kWh Powerwall costs approximately $13.4k ($992/kWh) and provides enough storage to power for 8 minutes
- Tesla 232 kWh Powerpack costs approximately $160k ($690/kWh) and provides enough storage to power for 2 hours and 20 minutes
- Tesla 3000 kWh Megapack costs approximately $1.3m ($412/kWh) and provides enough storage to power for 30 hours

Recommended Project Selection Criteria

Criteria needed to select projects that support CECAP goals and are also efficient and cost-effective – Committee endorsement is sought today on the following recommended criteria:

1. Building roof condition, orientation, and available unobstructed area
2. Foliage / neighboring structure shading
3. Building energy offset of **30% or more***
4. Payback period of **25 years or less***
5. Building electrical infrastructure condition
6. Available space for battery storage (for solar + storage projects)

*** Where feasible, expand project scope to include energy efficiency improvements to increase energy offset and/or shorten corresponding payback period**

Example Potential Project One

For illustrative purposes, consider the **Lakewood Branch Library**:

Baseline annual energy consumption
212,800 kWh ($14,244)

Retrofit with an 80kW rooftop solar array ($165,000)
- **61%** of baseline energy consumption offset by solar: 129,564 kWh ($5,104)
- Simple Pay Back Period: **32.3 years**

- Lighting upgrades (26,901 kWh, $1,592) + solar (above) = **74%** of baseline energy consumption offset
- Simple Pay Back Period: **26.3 years**

After expanding scope to include lighting upgrades, this project does not meet the recommended FY2021-22 project selection criterion of 25 year or less payback period

Example Potential Project Two

For illustrative purposes, consider the **Mountain Creek Branch Library**:

Baseline annual energy consumption
247,240 kWh ($13,251)

Retrofit with a 55kW rooftop solar array ($113,500)
- **38%** of baseline energy consumption offset by solar: 93,286 kWh ($3,635)
- Simple Pay Back Period: **31.2 years**

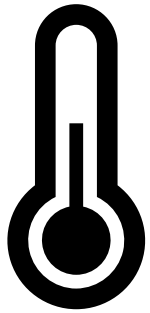
- Lighting upgrades (65,492 kWh, $4,086) + solar (above) = **64%** of baseline energy consumption offset
- Simple Pay Back Period: **18.6 years**

After expanding scope to include lighting upgrades, this project would meet the recommended FY2021-22 project selection criteria

Potential Policy Considerations

1. Consider adopting temperature setpoint standards

Adjusting space temperature setpoints and HVAC equipment schedules at City facilities can produce up to 15% energy savings from baseline conditions



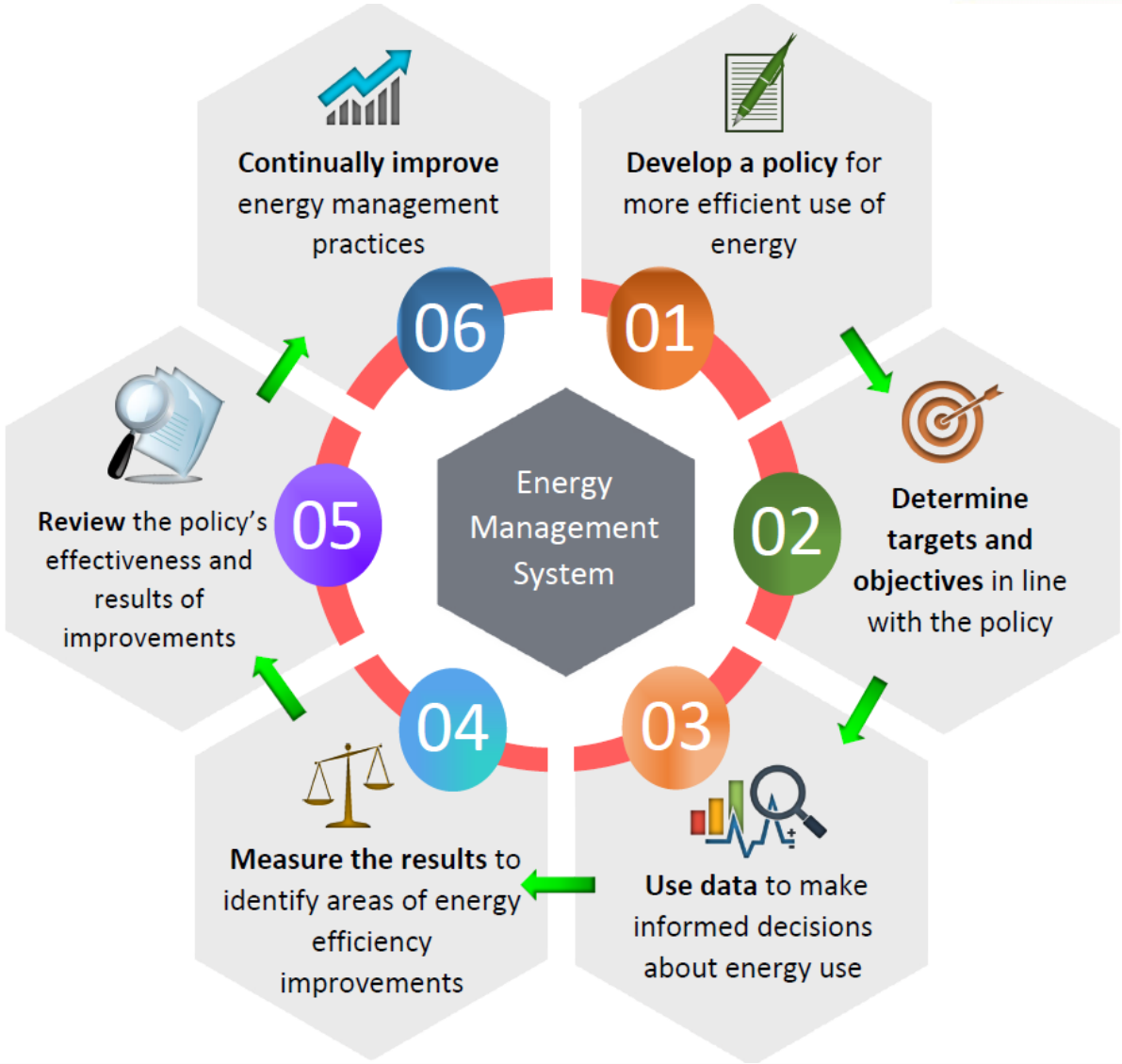
- Adjust cooling and heating setpoints (**consistent with energy code**)to:
  - Occupied / Unoccupied Cooling Setpoint: 75°F / 85°F
  - Occupied / Unoccupied Heating Setpoint: 70°F / 55°F
- Adjust HVAC equipment schedules to more closely align with building operating schedules where applicable (turn the HVAC equipment ON & OFF 1 to 2 hours before and after normal operating hours)
- Make and document exceptions (such as 3-degree reduction from standard cooling setpoint in fire stations and large assembly areas)

Potential Policy Considerations

2. Consider requiring that appliances procured be Energy Star® rated (in development as part of the City's Sustainable Procurement program)
3. Consider adopting the 2018 (or 2021) International Energy Conservation Code
4. Consider requiring low-pitch roof replacements for City buildings over conditioned space be Energy Star® rated
5. Consider an energy proposition in the City's next capital bond program

In Conclusion

Energy Management System continues to evolve with efforts underway in each of the six major system components in support of multiple CECAP Sectors



Next Steps

- Periodic energy awareness messaging distributed (example: National Energy Efficiency Day is October 7th)
- FY2021-22 CECAP action item implementation beginning October
- Inaugural Annual Energy Report – December 2021
- Energy projects implementation beginning 1st quarter 2022
- Energy management software integration with Energy Star® Portfolio Manager® – March 2022

Questions / Discussion

City of Dallas

Energy Management for City Buildings

October 4, 2021

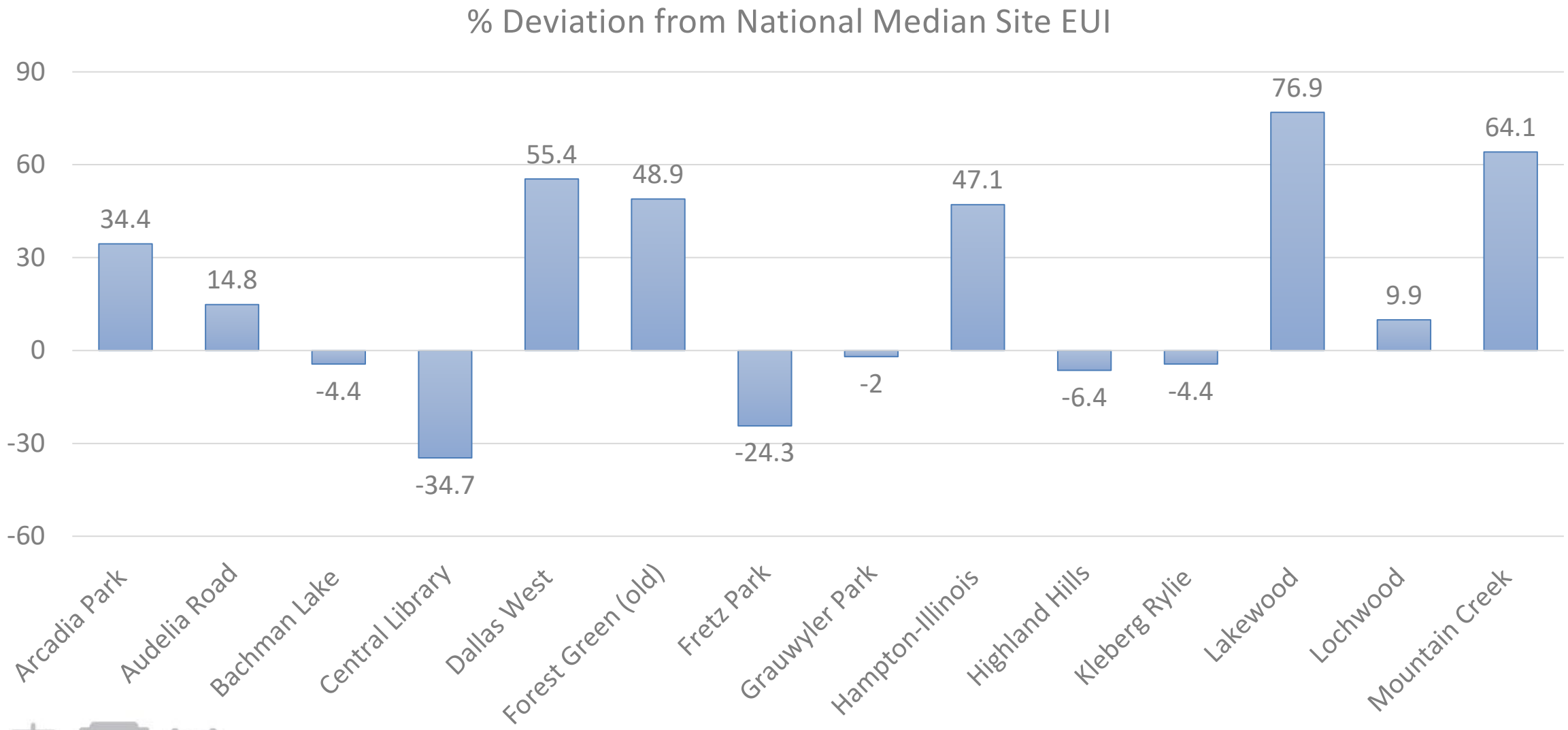
Environment and Sustainability Committee

Errick Thompson, PE, CFM®, Director
Building Services Department

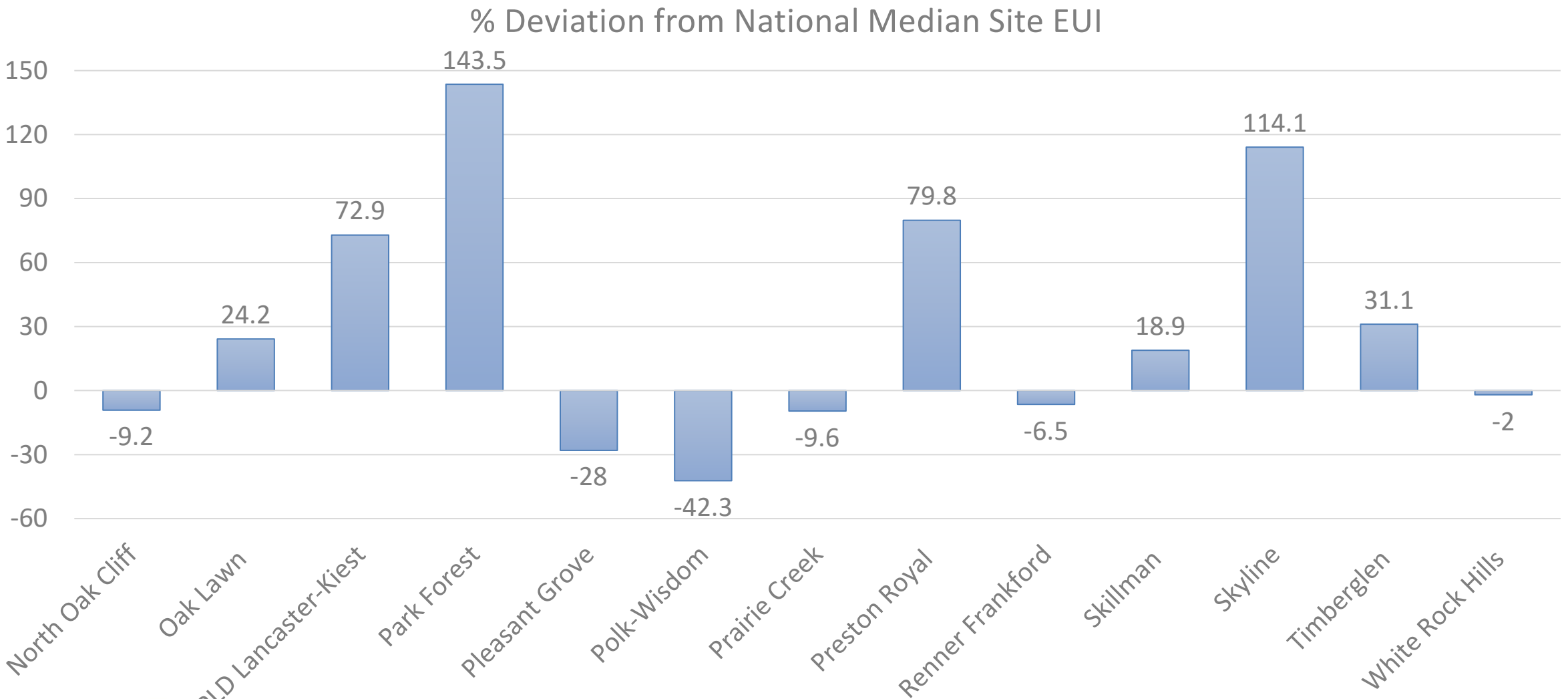
Srinivas Vemuri, PhD, PE,
Senior Program Manager
Building Services Department

Appendix

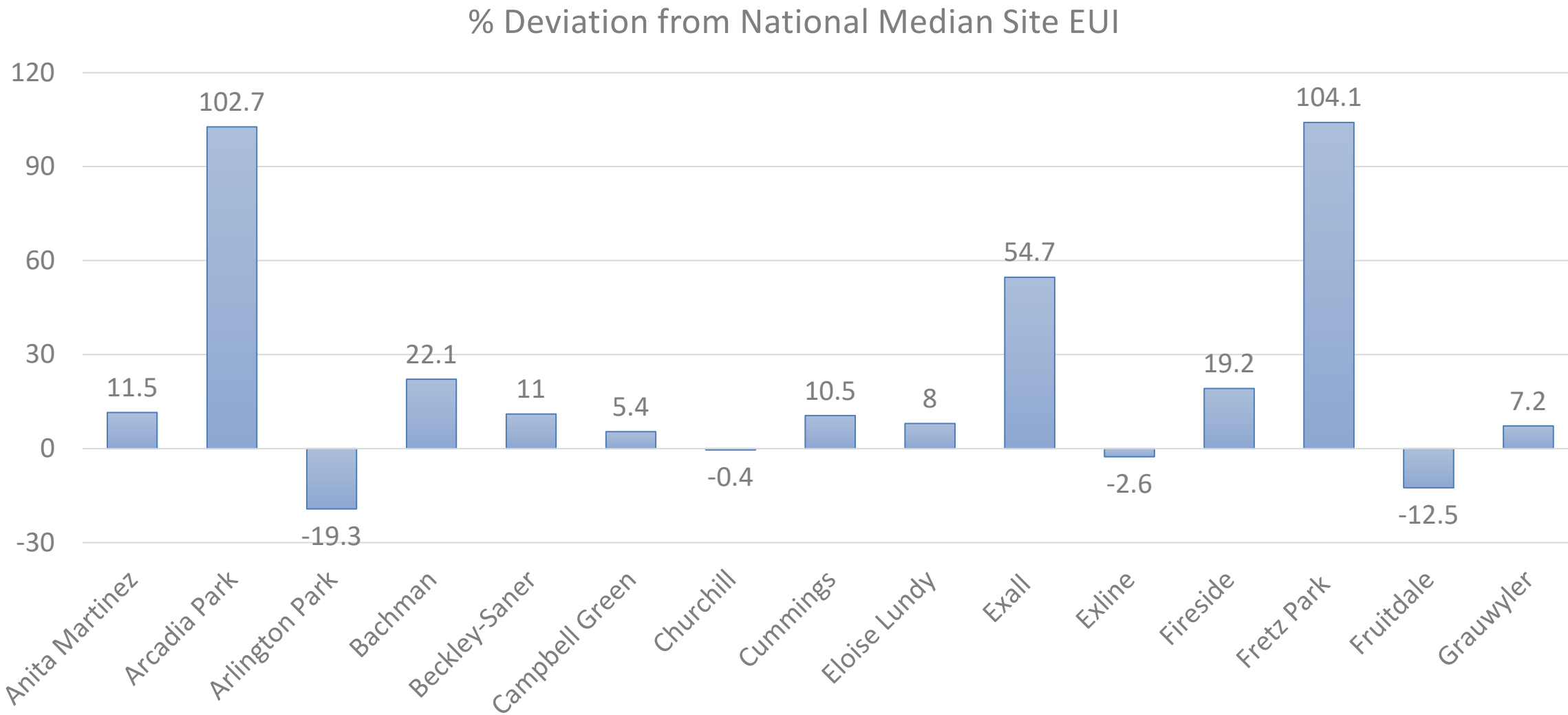
Energy Benchmarking: Libraries



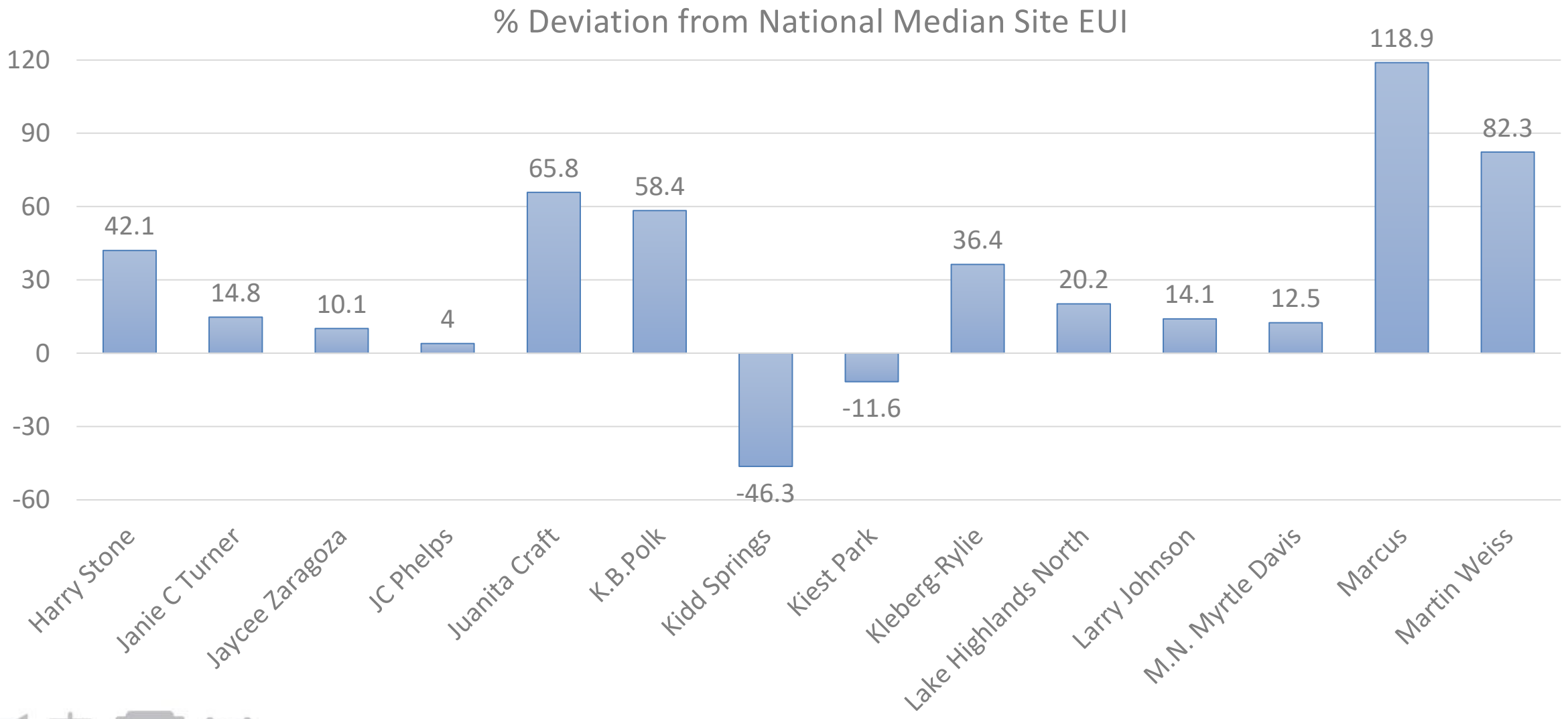
Energy Benchmarking: Libraries



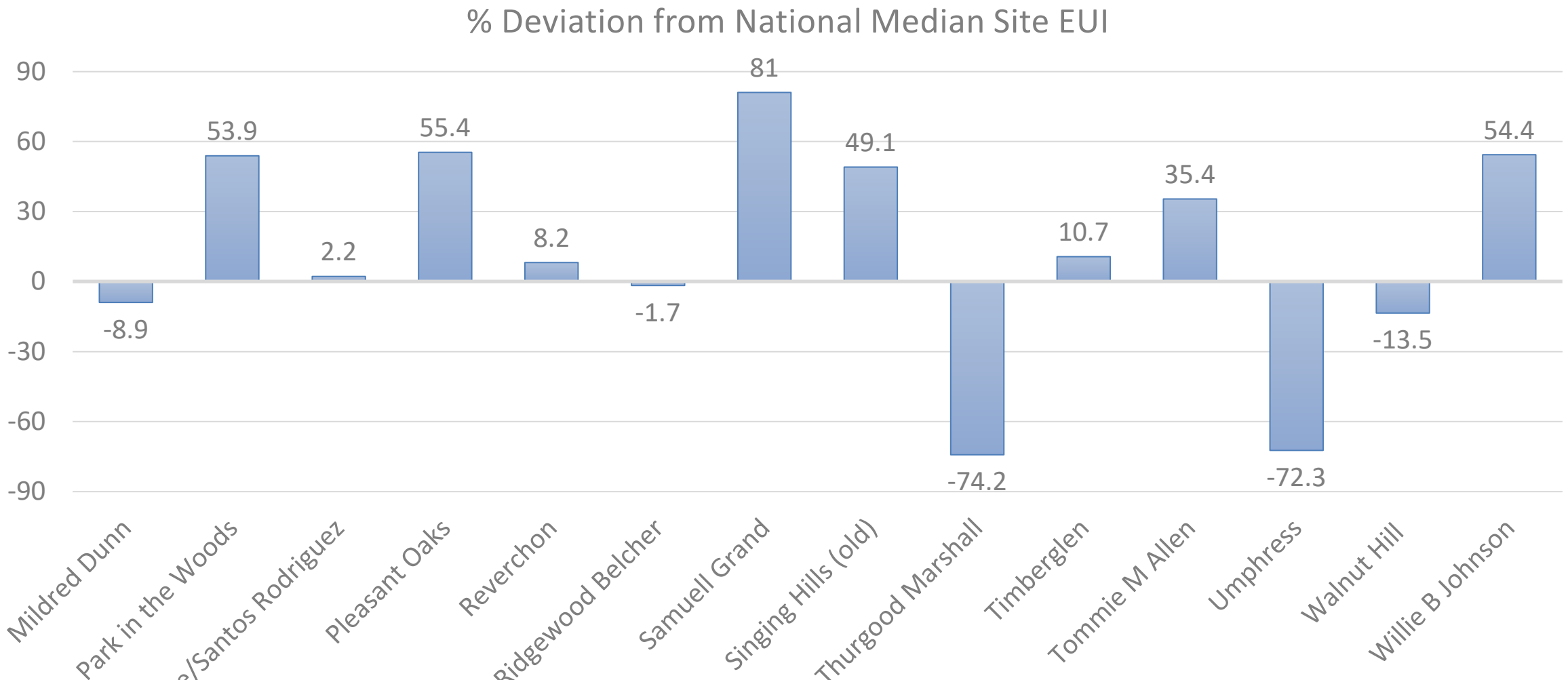
Energy Benchmarking: Recreation Centers



Energy Benchmarking: Recreation Centers



Energy Benchmarking: Recreation Centers



Energy Benchmarking: Libraries

Site	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Deviation from National Median Site EUI
Park Forest	159.8	65.6	143.5
Skyline	109.8	51.3	114.1
Preston Royal	105.1	58.5	79.8
Lakewood	129.5	73.2	76.9
PLD Lancaster-Kiest	97.7	56.5	72.9
Mountain Creek	113.8	69.3	64.1
Dallas West	112.9	72.7	55.4
Forest Green	76.4	51.3	48.9
Hampton-Illinois	90.9	61.8	47.1
Arcadia Park	68.9	51.3	34.4
Timberglen	80.5	61.4	31.1
Oak Lawn	78.9	63.6	24.2
Skillman Southwestern	61	51.3	18.9
Audelia Road	64.2	55.9	14.8

Site	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Deviation from National Median Site EUI
Lochwood	56.4	51.3	9.9
Grauwyler Park	53.7	54.8	-2
White Rock Hills	50.3	51.3	-2
Bachman Lake	49	51.3	-4.4
Kleberg Rylie	61.8	64.6	-4.4
Highland Hills	51.3	54.8	-6.4
Renner Frankford	64.7	69.2	-6.5
North Oak Cliff	54.7	60.3	-9.2
Prairie Creek	46.4	51.3	-9.6
Fretz Park	40.7	53.7	-24.3
Pleasant Grove	37	51.3	-28
J. Erik Jonsson Central Library	37.1	56.9	-34.7
Polk-Wisdom	29.6	51.3	-42.3

Energy Benchmarking: Recreation Centers

Site	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Deviation from National Median Site EUI
Marcus	102.1	46.6	118.9
Fretz Park	94.9	46.5	104.1
Arcadia Park	81.1	40	102.7
Martin Weiss	83.9	46	82.3
Samuell Grand	102.1	56.4	81
Juanita Craft	66.3	40	65.8
K.B.Polk	74.6	47.1	58.4
Pleasant Oaks	78	50.2	55.4
Exall	87.3	56.5	54.7
Willie B Johnson	87.5	56.7	54.4
Park in the Woods	61.6	40	53.9
Singing Hills (old)	59.6	40	49.1
Harry Stone	73.4	51.7	42.1
Kleberg-Rylie	73.6	54	36.4
Tommie M Allen	68.5	50.6	35.4

Site	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Deviation from National Median Site EUI
Bachman	65.3	53.5	22.1
Lake Highlands North	62.8	52.2	20.2
Fireside	67.5	56.6	19.2
Janie C Turner	56.7	49.4	14.8
Larry Johnson	69	60.5	14.1
M.N. Myrtle Davis	53.1	47.2	12.5
Anita Martinez	52.4	47	11.5
Beckley-Saner	64.5	58.1	11
Timberglen	62.7	56.7	10.7
Cummings	58.6	53	10.5
Jaycee Zaragoza	47.5	43.1	10.1
Reverchon	49	45.3	8.2
Eloise Lundy	43.2	40	8
Grauwyler	54.3	50.6	7.2

Energy Benchmarking: Recreation Centers

Site	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Deviation from National Median Site EUI
Campbell Green	42.5	40.3	5.4
JC Phelps	51.2	49.2	4
Pike / Santos Rodriguez	43	42.1	2.2
Churchill	54.3	54.5	-0.4
Ridgewood Belcher	39.3	40	-1.7
Exline	58.2	59.7	-2.6
Mildred Dunn	51.8	56.9	-8.9
Kiest Park	35.4	40	-11.6
Fruitdale	62.7	71.6	-12.5
Walnut Hill	47.9	55.3	-13.5
Arlington Park	48.1	59.6	-19.3
Kidd Springs	26.9	50.1	-46.3
Umphress	11.1	40	-72.3
Thurgood Marshall	13.2	51.2	-74.2

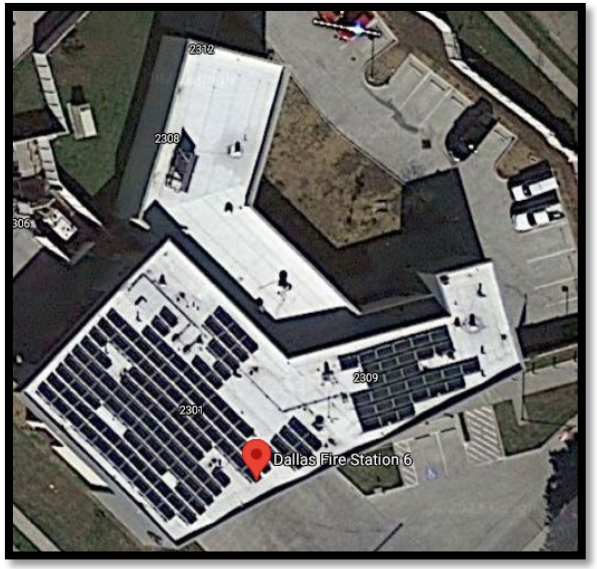
Note: Umphress and Thurgood Marshall were closed for significant portions of the year for renovations

Current Solar Installations

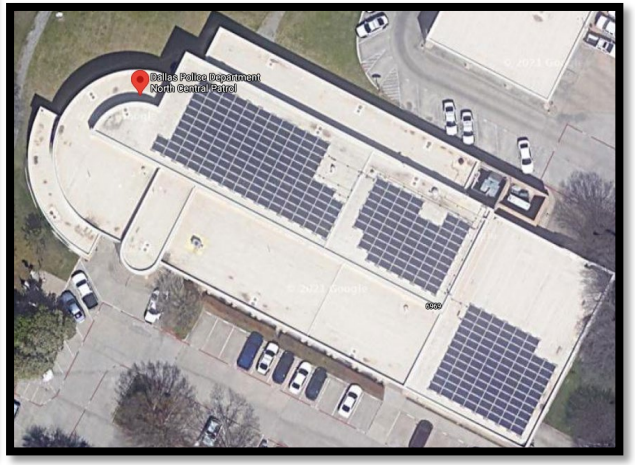
- Vickery Park Library
- Fire Station No. 6
- Fire Station No. 27
- Kiest Park Recreation Center
- Northcentral Police Station
- Northeast Police Station
- Southeast Police Station

Kiest Park Recreation Center (90kW)

Vickery Park Library (51 kW)



Fire Station No. 6 (26 kW)



Northcentral Police (100 kW)