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CITY SECRETARY
DALLAS, TEXAS

City of Dallas

POSTED CITY SECRETARY
DALLAS, TX

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



Environment and Sustainability Committee

November 1, 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](#).

2021 CITY COUNCIL APPOINTMENTS

| COUNCIL COMMITTEE | |
|--|---|
| ECONOMIC DEVELOPMENT Atkins (C), Arnold (VC), McGough, Narvaez, Resendez, West, Willis | ENVIRONMENT AND SUSTAINABILITY Blackmon(C), Ridley (VC), Arnold, Bazaldua, Resendez, Schultz, West |
| GOVERNMENT PERFORMANCE AND FINANCIAL MANAGEMENT Mendelsohn (C), Willis (VC), Atkins, Bazaldua, McGough, Ridley, West | HOUSING AND HOMELESSNESS SOLUTIONS Thomas (C), Moreno (VC), Arnold, Blackmon, Mendelsohn, Ridley, Schultz |
| PUBLIC SAFETY McGough (C), Mendelsohn (VC), Atkins, Moreno, Resendez, Thomas, Willis | QUALITY OF LIFE, ARTS, AND CULTURE Bazaldua (C), West (VC), Arnold, Blackmon, Narvaez, Ridley, Thomas |
| TRANSPORTATION AND INFRASTRUCTURE Narvaez (C), Atkins (VC), Bazaldua, Mendelsohn, Moreno, Schultz, Willis | WORKFORCE, EDUCATION, AND EQUITY Schultz (C), Thomas (VC), Blackmon, McGough, Moreno, Narvaez, Resendez |
| AD HOC JUDICIAL NOMINATING COMMITTEE Resendez (C), Arnold, Bazaldua, Ridley, Thomas, West, Willis | AD HOC LEGISLATIVE AFFAIRS Atkins (C), McGough, Mendelsohn, Narvaez, Willis |
| AD HOC COMMITTEE ON COVID-19 RECOVERY AND ASSISTANCE Thomas (C), Atkins, Mendelsohn, Moreno, Ridley | AD HOC COMMITTEE ON GENERAL INVESTIGATING & ETHICS Mendelsohn (C), Atkins, Blackmon, McGough, Schultz |

(C) – Chair, (VC) – Vice Chair

Handgun Prohibition Notice for Meetings of Governmental Entities

"Pursuant to Section [30.06](#), Penal Code (trespass by license holder with a concealed handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a concealed handgun."

"De acuerdo con la sección [30.06](#) del código penal (ingreso sin autorización de un titular de una licencia con una pistola oculta), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola oculta."

"Pursuant to Section [30.07](#), Penal Code (trespass by license holder with an openly carried handgun), a person licensed under Subchapter H, Chapter 411, Government Code (handgun licensing law), may not enter this property with a handgun that is carried openly."

"De acuerdo con la sección [30.07](#) del código penal (ingreso sin autorización de un titular de una licencia con una pistola a la vista), una persona con licencia según el subcapítulo h, capítulo 411, código del gobierno (ley sobre licencias para portar pistolas), no puede ingresar a esta propiedad con una pistola a la vista."

Note: A quorum of the Dallas City Council may attend this Council Committee meeting.

Call to Order**MINUTES**

- A. [21-2127](#) Approval of the October 4, 2021 Committee Minutes

Attachments: [Minutes](#)

BRIEFING ITEMS

- B. [21-2128](#) Energy Management for City Buildings
[Erick Thompson, Director, Building Services Department;
Srinivas Vemuri, Senior Program Manager, Building Services Department]

Attachments: [Presentation](#)

- C. [21-2129](#) Sanitation Services Performance & Initiatives Update
[Jerome Council, Director, Sanitation Services Department]

Attachments: [Presentation](#)

- D. [21-2130](#) Emerald Ash Borer Planning Update
[City of Dallas Forestry Team: Sarah Standifer, Assistant Director, Dallas
Water Utilities Department; M. Renee' Johnson, Assistant Director, Park
and Recreation
Department]

Attachments: [D Emerald Ash Borer Planning Update 11012021](#)

BRIEFING MEMORANDUM

- E. [21-2131](#) Comprehensive Environmental & Climate Action Plan (CECAP) FY 20-21
Performance Summary Memo
[Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]

Attachments: [Memorandum](#)

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]



City of Dallas

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

Agenda Information Sheet

File #: 21-2127

Item #: A.

Approval of the October 4, 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.

Meeting Date: October 04, 2021

Convened: 9:01 a.m.

Adjourned: 11:00 a.m.

Committee Members Present:

Paula Blackmon, Chair
Paul E. Ridley, Vice Chair
Carolyn King Arnold
Adam Bazaldua
Jaime Resendez
Jaynie Schultz
Chad West

Committee Members Absent:

Other Council Members Present:

Presenters:

Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability
Chhunny Chhean, Director, Office of Procurement Services
Terry Lowery, Director, Dallas Water Utilities
Erick Thompson, Director, Building Services Department

AGENDA

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

A. Approval of the September 21, 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 September 21, 2021 Environmental and Sustainability Committee meeting.

Motion made by: Chad West
Item passed unanimously: X
Item failed unanimously:

Motion seconded by: Adam Bazaldua
Item passed on a divided vote:
Item failed on a divided vote:

B. CECAP: FY21-22 Annual Work Plan and the Sustainable Procurement FY22 Workplan

Presenter(s): Susan Alvarez, Assistant Director, Office of Environmental Quality & Sustainability; Chhunny Chhean, Director, Office of Procurement Services

Action Taken/Committee Recommendation(s): The Committee discussed: Implementation of the City-wide weatherization program and similarities of the existing program through the County. Income-ceilings on homeowners as part of the grant program. Urban greening factor requirements. Possibility of changing the zoning code to reduce the coverage percentage for different zoning categories. Ways to identify "resilience hub". Incentives or mandates to accomplish the building of code amendments that support solar PV and EV charging. Designation of SolSmart. Status of the NREL fleet electrification study and timeline of completion. Recommendations in the CECAP pertaining to curtailing the use of two-cycle gas-powered motors. Plan to address

the zoning needs for the City's five transit-oriented developments with DART. Consideration of city-owned properties as part of the composting pilot programs. Translation of the Dallas Climate Action Plan into other languages.

Motion made by:

Item passed unanimously:

Item failed unanimously:

Motion seconded by:

Item passed on a divided vote:

Item failed on a divided vote:

C. Dallas Water Utilities – Long Range Planning

Presenter(s): Terry Lowery, Director, Dallas Water Utilities

Action Taken/Committee Recommendation(s): The Committee discussed: The use of wastewater or stormwater as drinking water. Amount of lead service lines and health focused programs that address health issues that occur with lead service lines. Water testing and system filtration to maintain adequate levels of PFAS in our water. Resources needed to conduct assessment to assist with neighborhood drainage issues. Additional funding for these programs pending passage of the federal infrastructure bill.

Motion made by:

Item passed unanimously:

Item failed unanimously:

Motion seconded by:

Item passed on a divided vote:

Item failed on a divided vote:

D. Energy Management for City Buildings

Presenter(s): Errick Thompson, Director, Building Services Department; Srinivas Vemuri, Senior Program Manager, Building Services Department

Action Taken/Committee Recommendation(s): The Committee discussed: Council will revisit this item during the November Committee meeting.

Motion made by:

Item passed unanimously:

Item failed unanimously:

Motion seconded by:

Item passed on a divided vote:

Item failed on a divided vote:

Adjourn (11:00 a.m.)

APPROVED BY:

Paula Blackmon, Chair

Environment & Sustainability Committee

ATTESTED BY:

Juan Garcia, Committee Coordinator

Environment & Sustainability Committee



City of Dallas

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

Agenda Information Sheet

File #: 21-2128

Item #: B.

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

November 1, 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

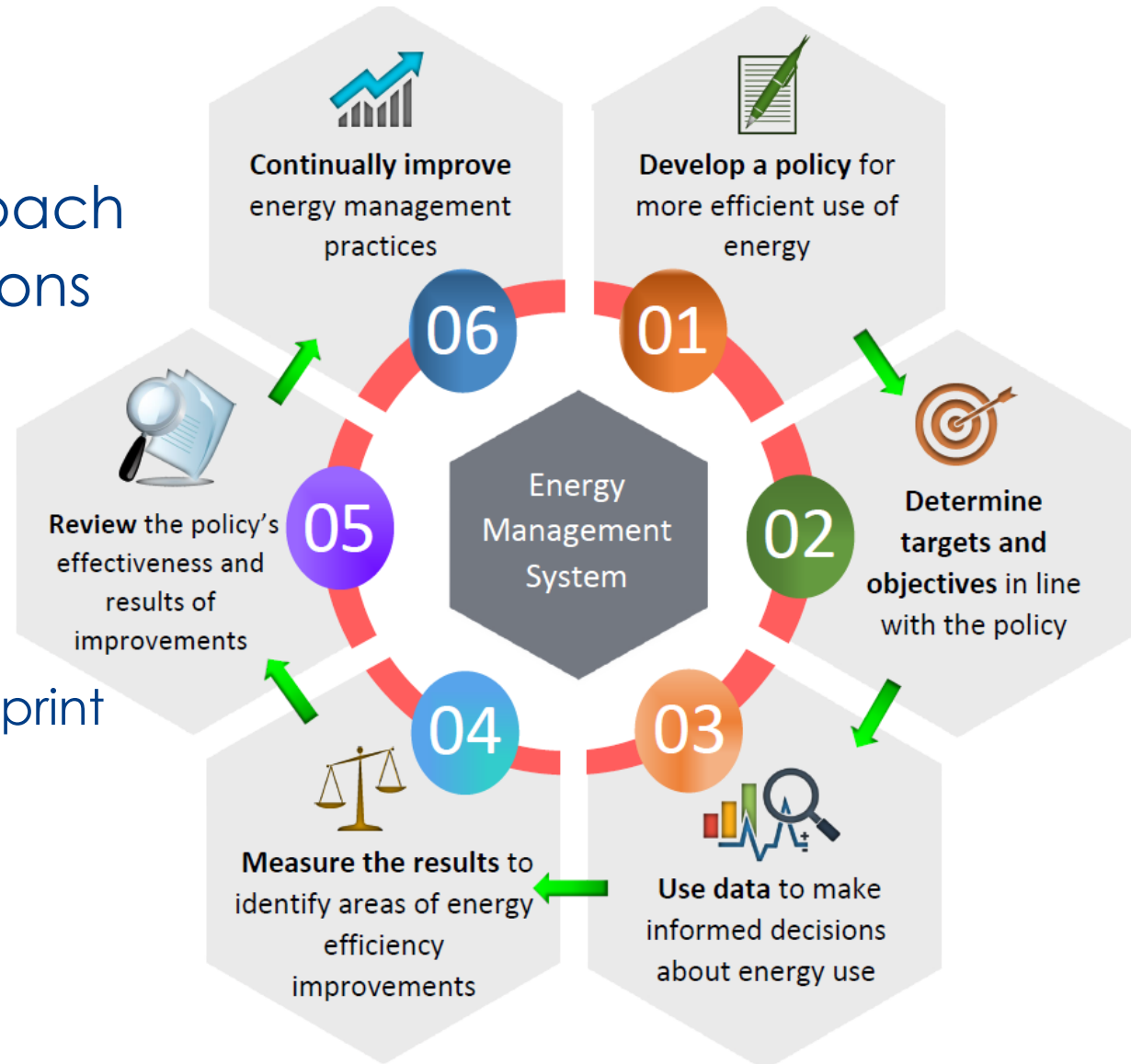


Background



Energy Management System

- Systematic, iterative approach to intentional energy decisions
- Largely based on plan-do-check-act model
- Anticipated results:
 - Reduced environmental footprint
 - 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 CO₂ equivalent emissions avoided**)
- Dallas ranks #2 in annual green power use in EPA’s 2020 Green Power Partnership Top 30 Local Governments list and #28 on the Top 100 National Organizations (including local, state, and federal agencies as well as private sector entities)



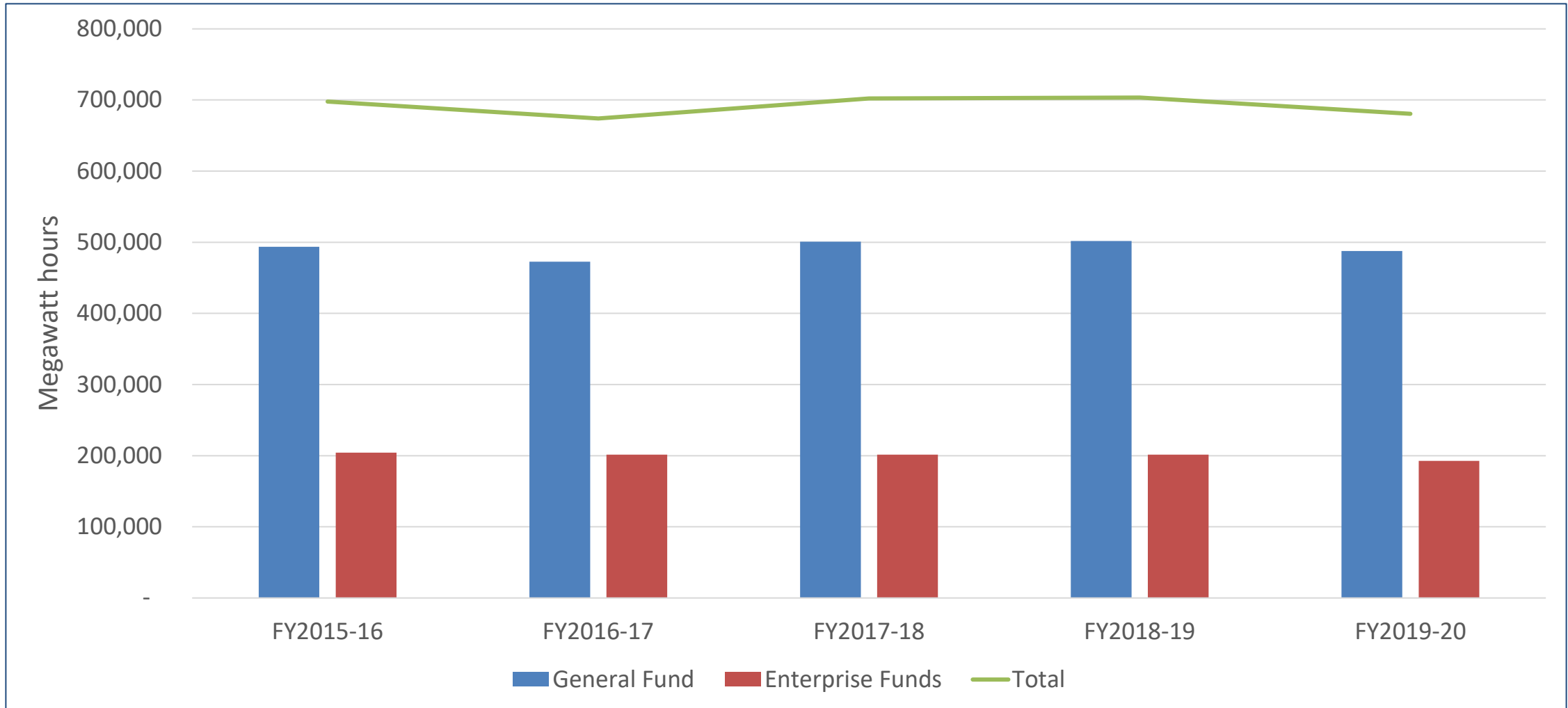
Background



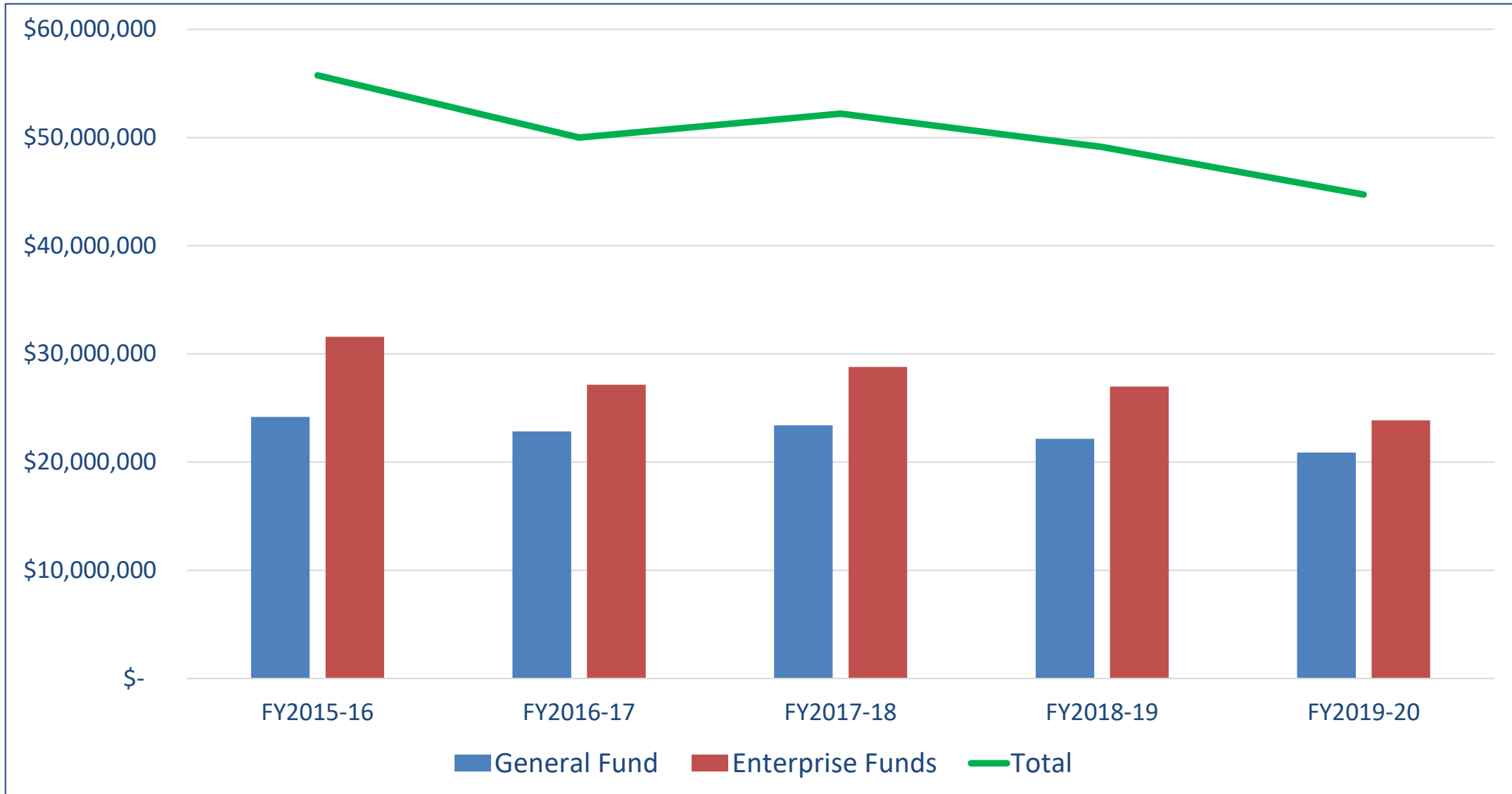
- 387 of the City's 2,893 electricity accounts are for buildings
 - 307 for general fund buildings
 - 80 for enterprise buildings
- FY2019-20 total City electricity consumption was 680,497 MWh at a cost of \$44.7m



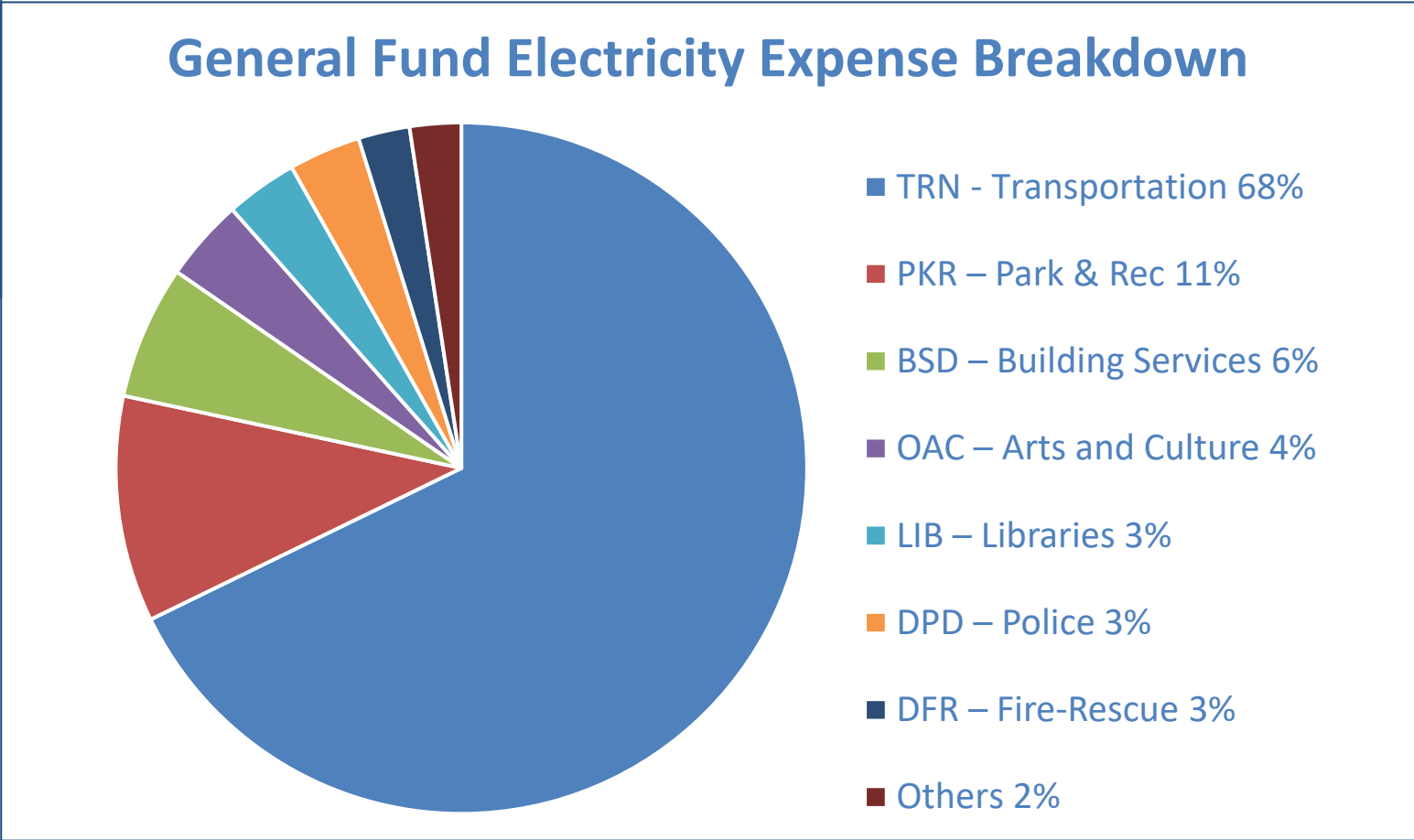
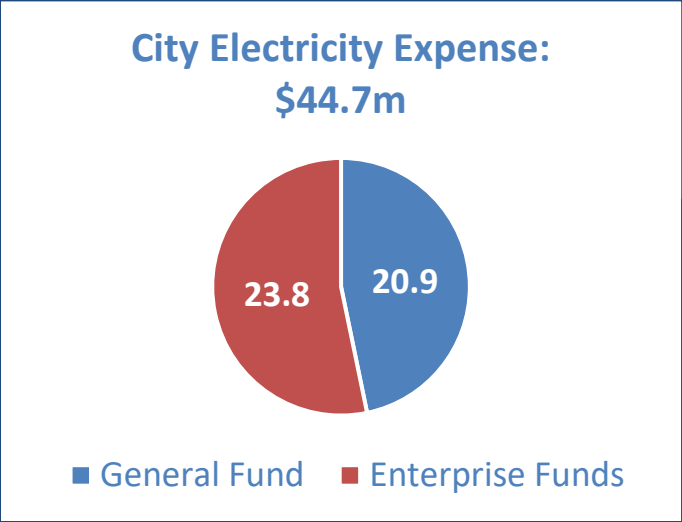
Background: 5 Year Electricity Consumption



Background: 5 Year Electricity Expense



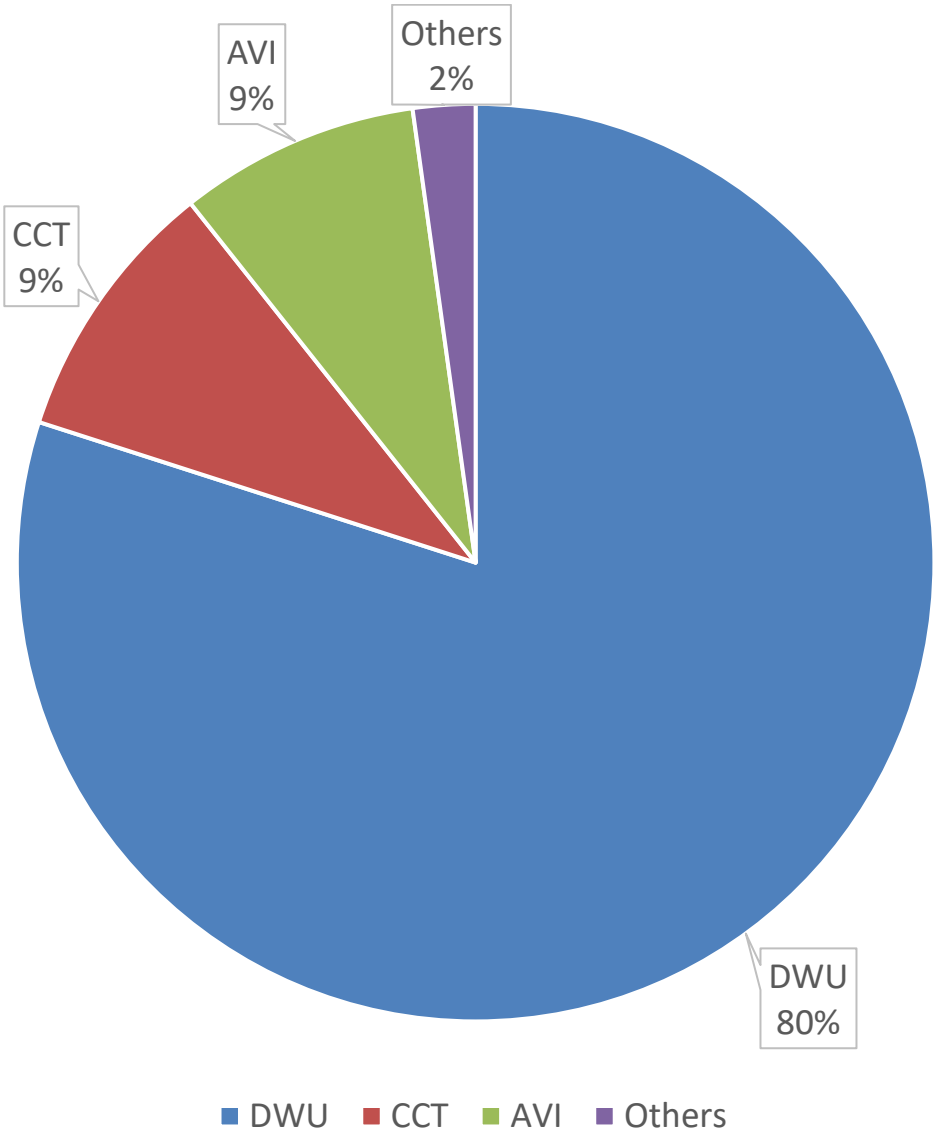
Background: FY2019-20 Electricity Expense



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



- Energy benchmarking of City facilities helps identify high- and under-performers and prioritize candidates for energy conservation measures
- 125 City facilities benchmarked for energy usage in FY2021
- FY2022 target adds another 50 and FY2023 an additional 25 for total of 200



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 45 – 52) 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 |

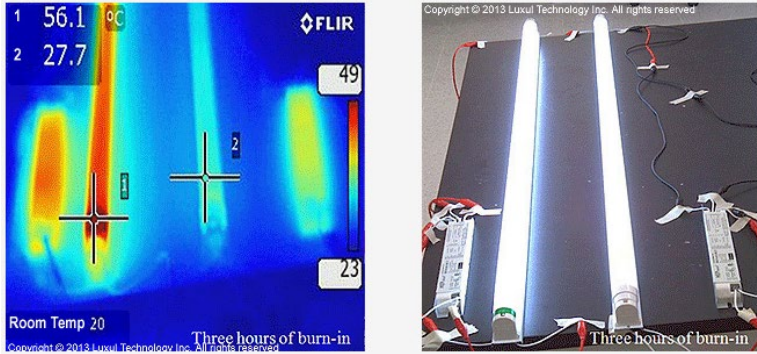
14 facilities prioritized based on preliminary energy benchmarking results, total energy usage, and equity considerations



CECAP Implementation: Energy Auditing



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



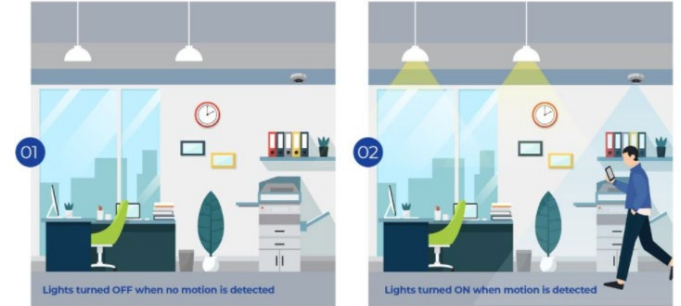
<http://www.luxultek.com/>

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



- More feasible project using SECO criteria, treats (as report recommends) the 14 facilities as a single 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



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 eight (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 |

Eight (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 funding to implement seed projects, annual energy savings achieved by seed projects are used to “pay back” initial seed project costs and those funds are then available 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: potential federal infrastructure funding, Oncor efficiency incentive program, SECO Technical Assistance Programs, etc.)

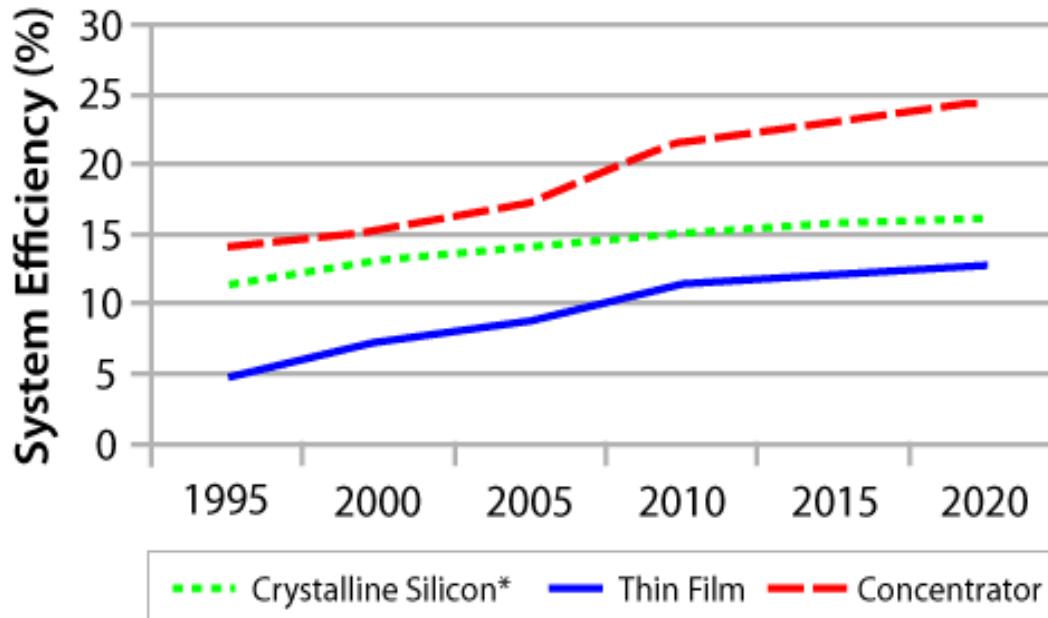


Solar Photovoltaics Over Time

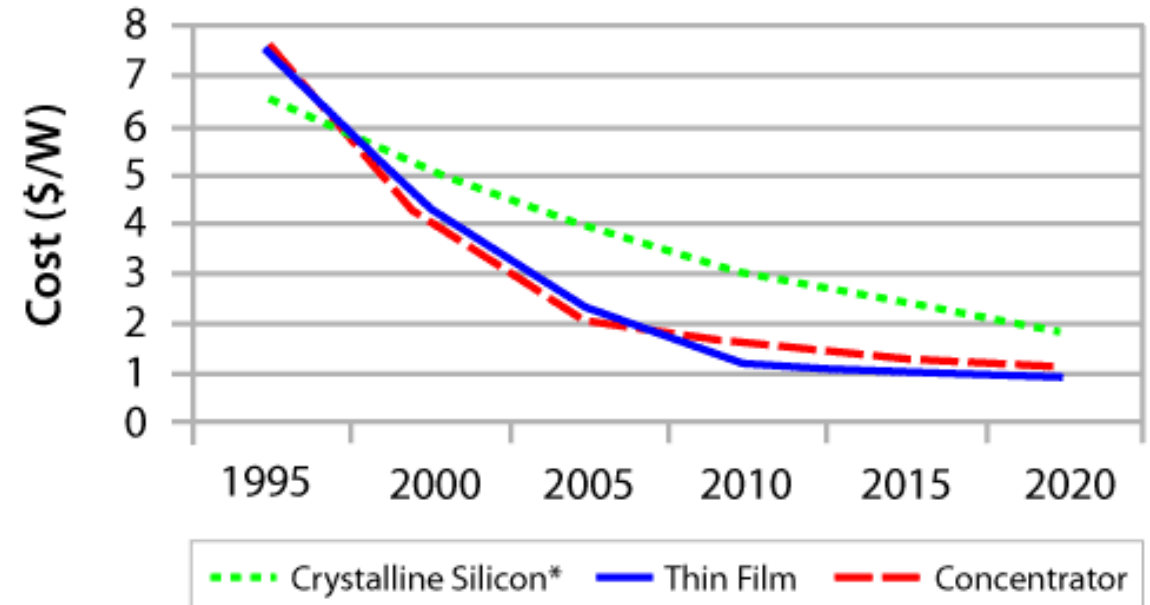


Increasing efficiency . . .

PV System Efficiency



PV System Capital Cost



<https://sites.lafayette.edu/egrs352-sp14-pv/technology/history-of-pv-technology/>

. . . decreasing costs



Battery Storage Example



Battery storage costs and output/capacity vary:

Example Facility Solar PV installation: 100 kW

- Tesla 13.5 kWh Powerwall*
Approx. cost: \$13.4k (\$992/kWh)
Provides enough storage to power for 8 minutes
- Tesla 232 kWh Powerpack*
Approx. cost: \$160k (\$690/kWh)
Provides enough storage to power for 2 hours, 20 minutes
- Tesla 3000 kWh Megapack*
Approx. cost \$1.3m (\$412/kWh)
Provides enough storage to power for 30 hours



Tesla Powerpacks
Source: Businessinsider.com

* **Lithium-Ion battery technology**



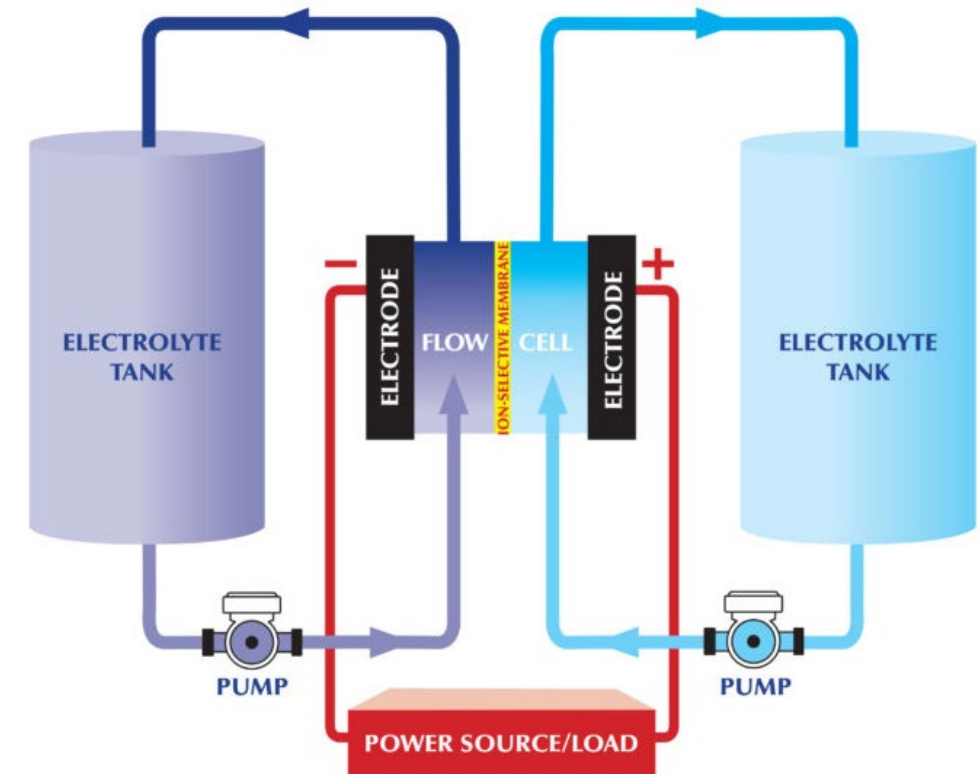
Battery Storage



Flow Batteries

Built with three primary (and readily available) components: iron, salt, and water system (electrolyte, electrode, membrane, and pumps) and compared to lithium-ion:

- Provides longer storage
- Have fewer safety concerns (potentially resulting in easier permitting)
- Offer longer operating life (up to 25 years)
- Have lower energy density and as a result require larger footprint



<https://flowbatteryforum.com/what-is-a-flow-battery/>





True resilience will generally consist of multiple energy sources (grid, solar, storage, fuel-fired generator, etc.) working in concert.



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. 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*



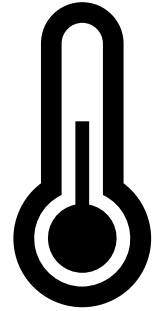
Potential Policy Considerations



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
- Align equipment and building operating schedules where applicable (turn the HVAC equipment on & off closer to normal building 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 requiring minimum Seasonal Energy Efficiency Ratio (SEER) of 16 for applicable replacement HVAC equipment at City facilities

Current National SEER Minimums



Potential Policy Considerations



4. Consider adopting the 2018 (or 2021) International Energy Conservation Code
5. Consider requiring low-pitch roof replacements for City facilities over conditioned space be Energy Star® rated
6. Consider an energy proposition in the City's next capital bond program
7. Consider requiring U.S.-manufactured solar panels



In Conclusion



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



Next Steps



- Continue work on FY2021-22 CECAP Action Items
- Publish inaugural Annual Energy Report – December 2021
- Prepare and submit projects for potential 2022 Oncor incentives (application window anticipated to open mid-December)
- Implement energy projects beginning 1st quarter of 2022
- Launch energy management software integration with Energy Star® Portfolio Manager® – March 2022





Questions / Discussion





City of Dallas

Energy Management for City Buildings

November 1, 2021

**Environment and Sustainability
Committee**

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

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



Appendix





Messaging Example




NATIONAL ENERGY EFFICIENCY DAY
OCTOBER 6, 2021


SIMPLE TIPS FOR HOME AND OFFICE



When possible, turn off lights when you leave a room/office for more than a few minutes

Adjust thermostat to save up to 3% on annual energy for each degree raised/lowered in cooling/heating seasons

CONSERVE TO PRESERVE - WE CAN ALL PLAY A PART

 Building Services Department
City of Dallas

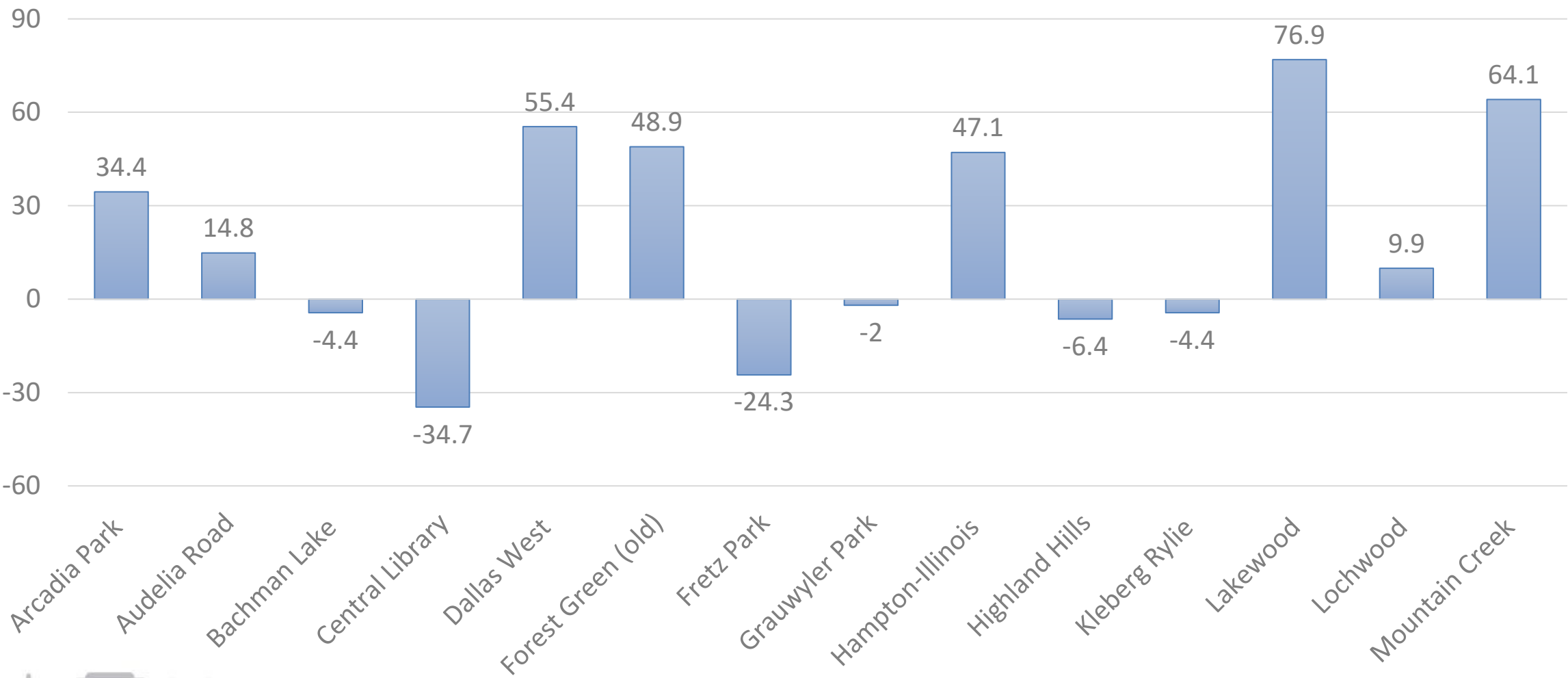


Energy Benchmarking: Libraries



Forest Green (old) is no longer a City facility as of October 7, 2021

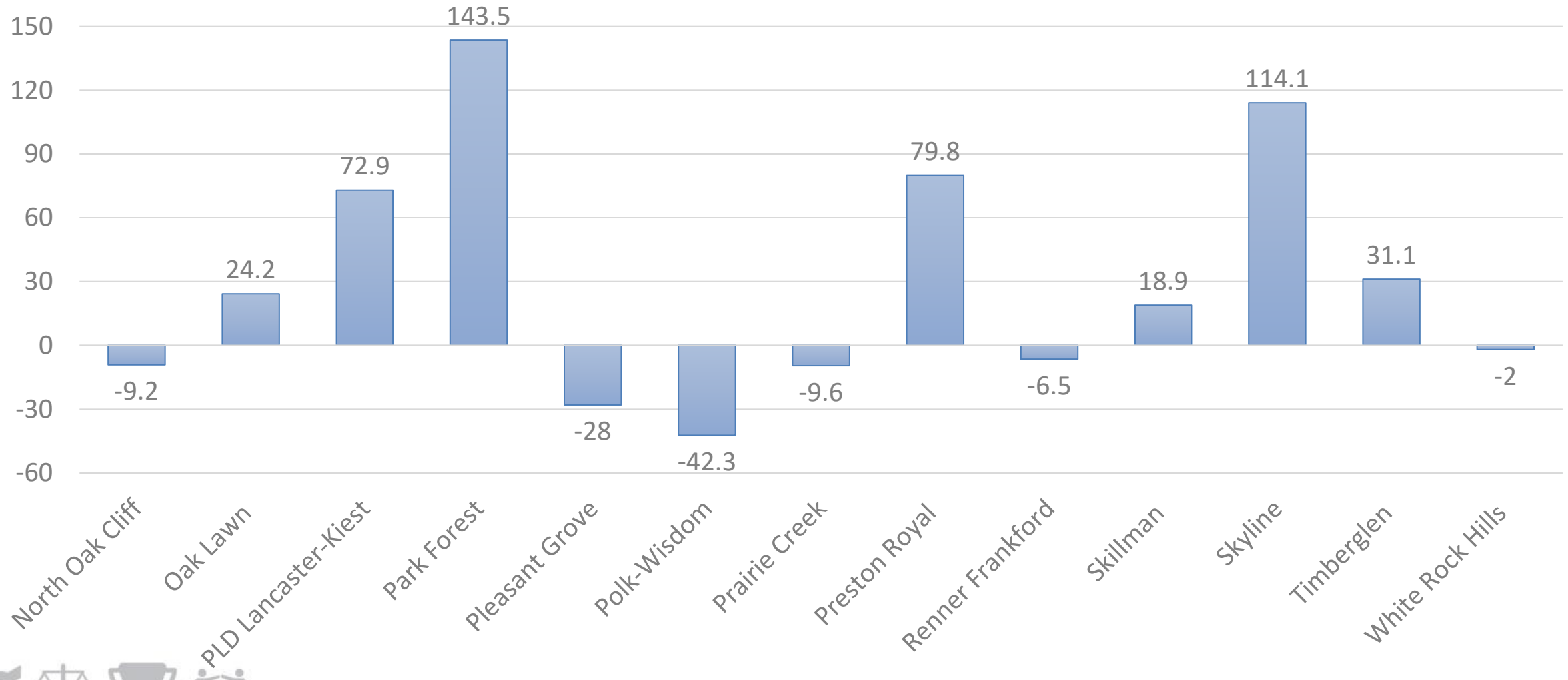
% Deviation from National Median Site EUI



Energy Benchmarking: Libraries



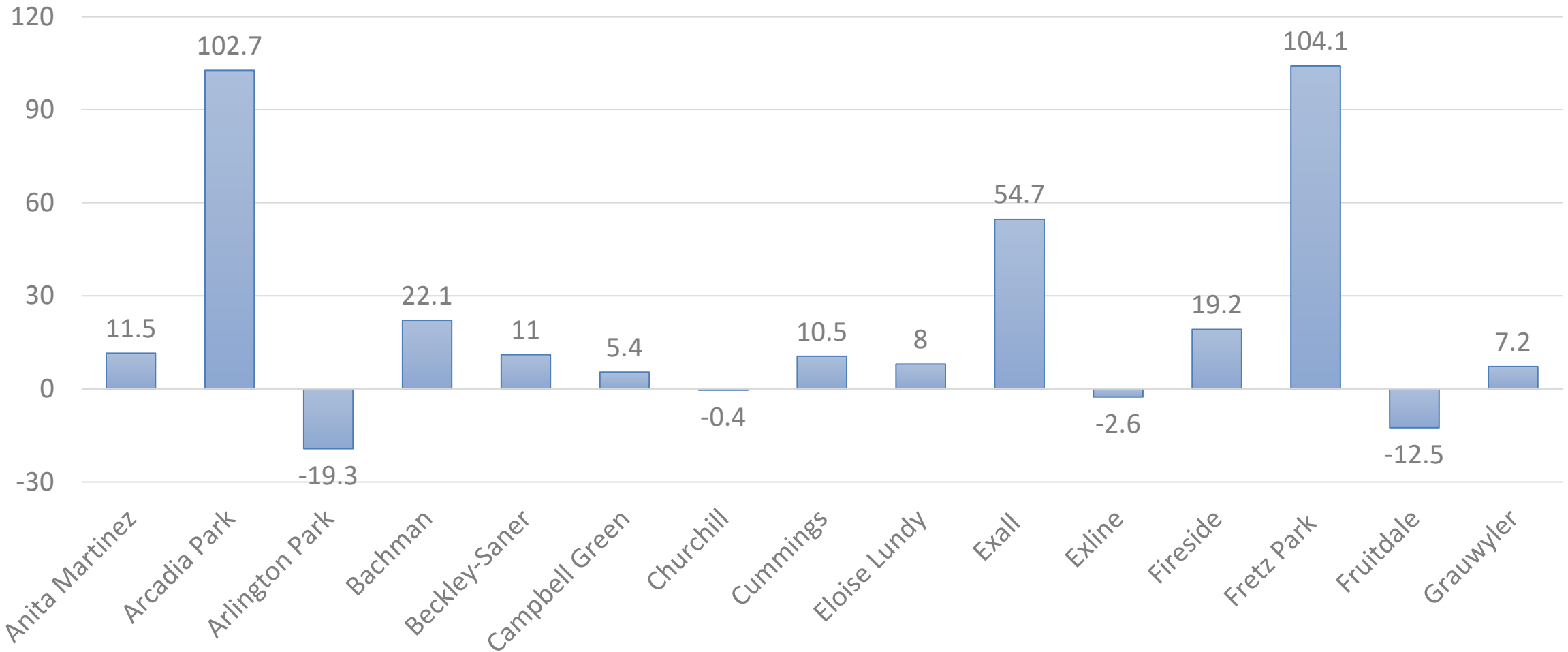
% Deviation from National Median Site EUI



Energy Benchmarking: Recreation Centers



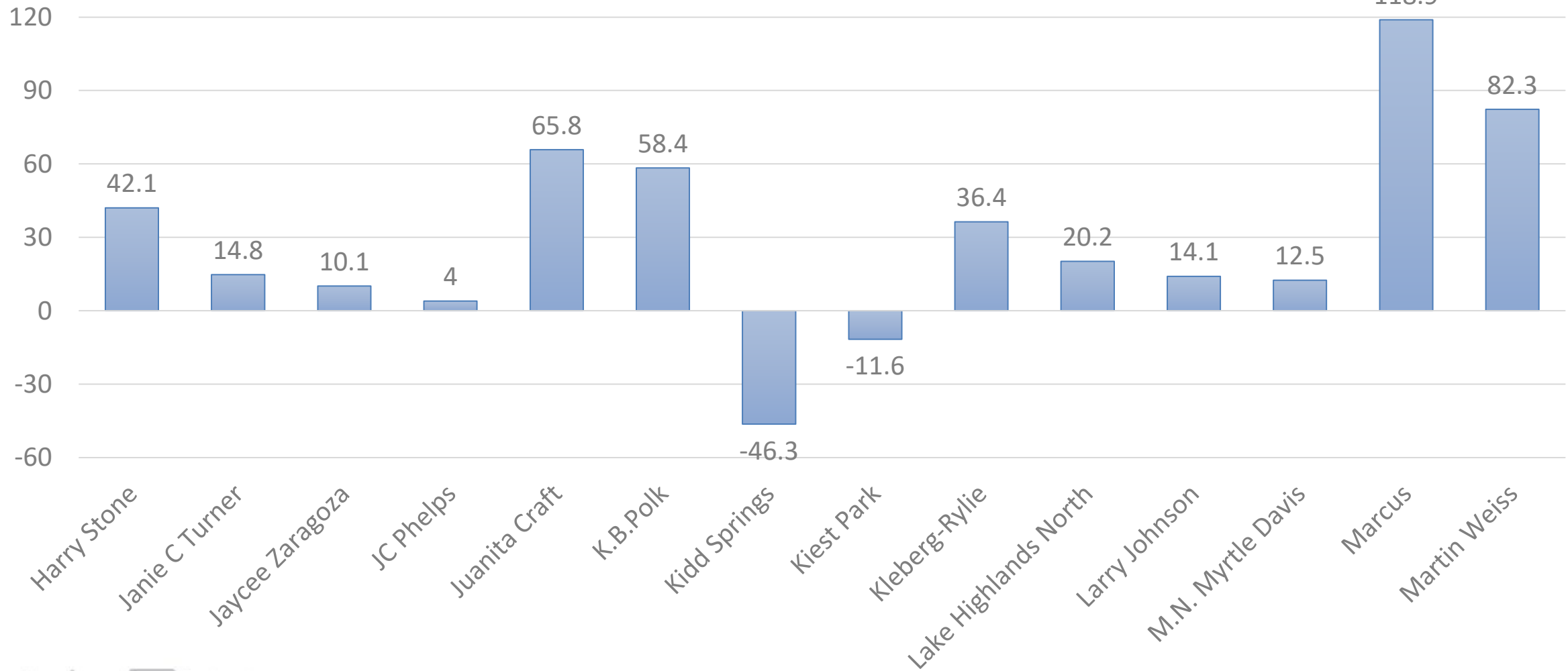
% Deviation from National Median Site EUI



Energy Benchmarking: Recreation Centers



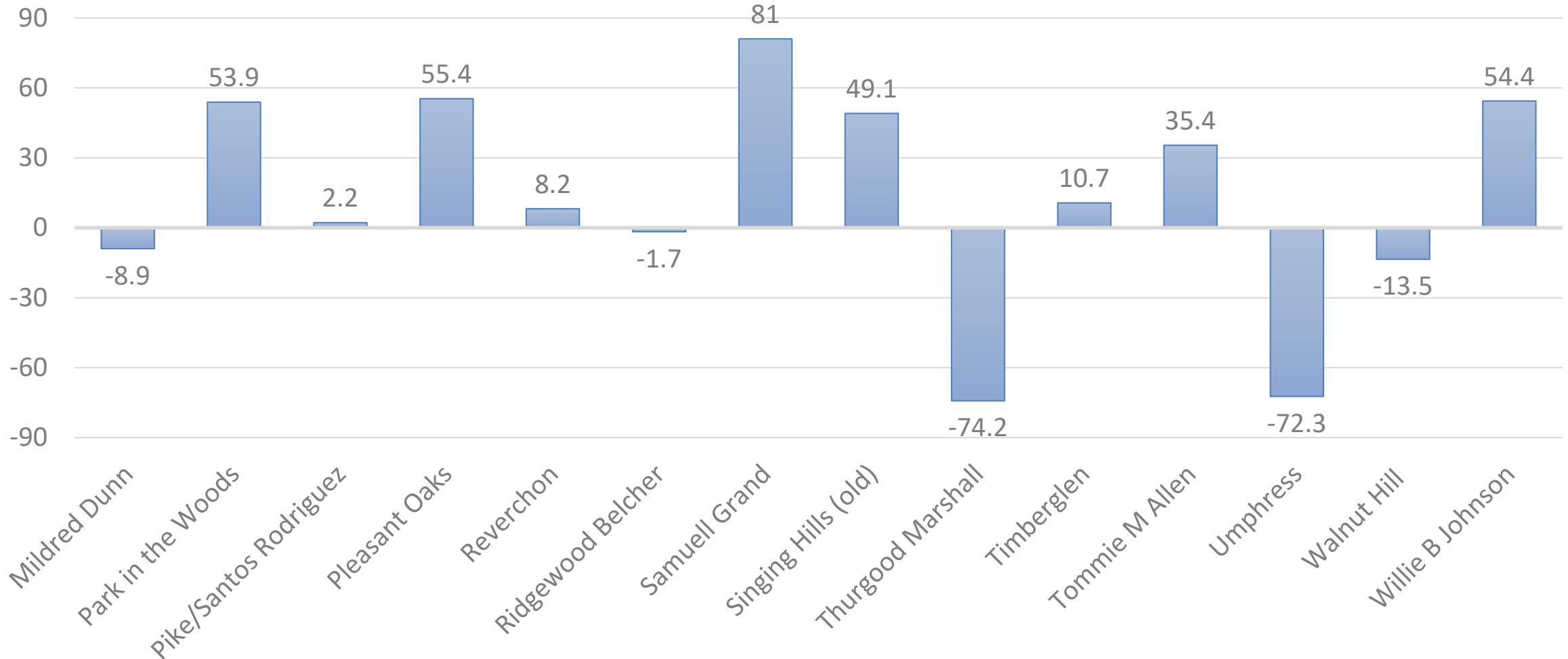
% Deviation from National Median Site EUI



Energy Benchmarking: Recreation Centers



% Deviation from National Median Site EUI



Energy Benchmarking: Libraries



Forest Green (old) is no longer a City facility as of October 7, 2021

| Site | Site EUI (kBtu/ft ²) | National Median Site EUI (kBtu/ft ²) | % 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 (old) | 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/ft ²) | National Median Site EUI (kBtu/ft ²) | % 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 |

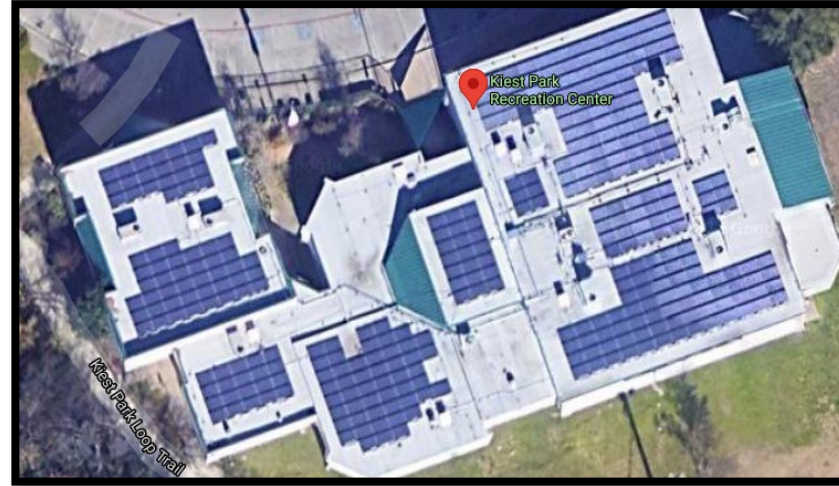
Note: Umphress and Thurgood Marshall were closed for significant portions of the year for renovations



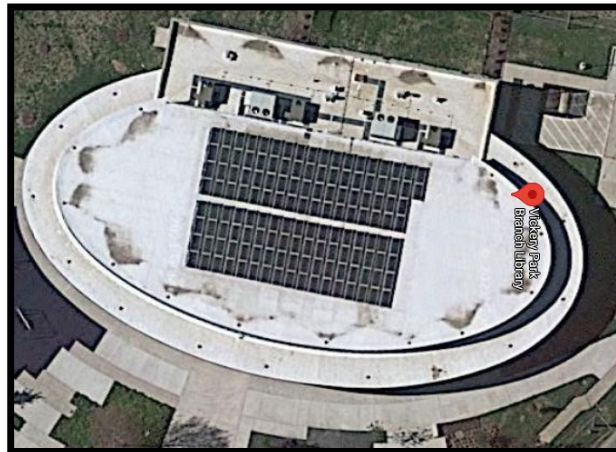
Current Solar Installations



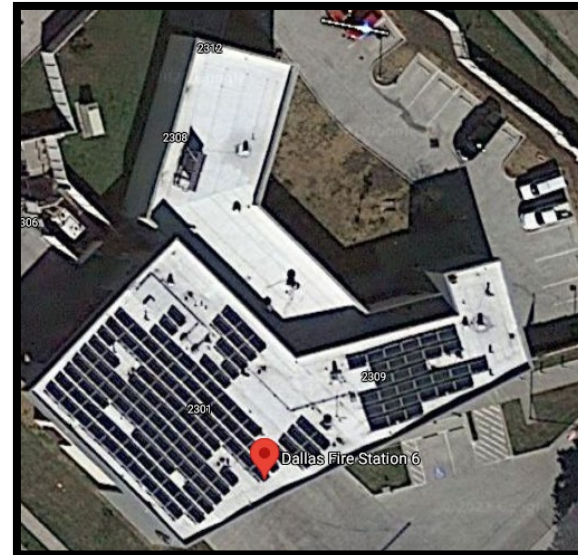
- Vickery Park Library
- Fire Station No. 6
- Fire Station No. 27
- Kiest Park Recreation Center
- Northcentral Police Station
- Northeast Police Station
- Southeast Police Station



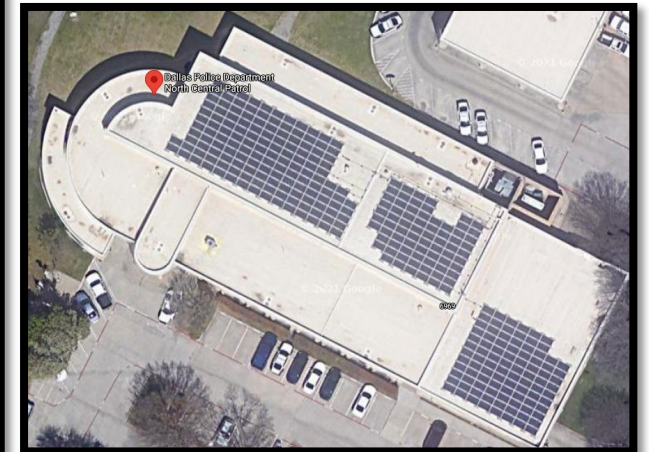
Kiest Park
Recreation
Center
(90kW)



Vickery Park Library (51 kW)



Fire Station No. 6 (26 kW)



Northcentral Police (100 kW)





City of Dallas

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

Agenda Information Sheet

File #: 21-2129

Item #: C.

Sanitation Services Performance & Initiatives Update
[Jerome Council, Director, Sanitation Services Department]



City of Dallas

Sanitation Services Performance & Initiatives Update

**Environment and
Sustainability Committee
November 1, 2021**

Jay Council, Director
Department of Sanitation Services
City of Dallas

Presentation Overview



- Background
- 2021 Operational & Business Issues
- Performance Update
- Brush and Bulky Item Separation Pilot Update
- Local Solid Waste Management Plan Update
- New Initiatives for 2022
- Next Steps



Background



- Sanitation provides recycling and solid waste collection services to approximately 250,000 customers
 - Approximately 2.4 million collection points each month
 - 1 million garbage collection points
 - 1 million recycling collection points
 - 240,000 brush and bulky waste collection points
 - Monthly residential service fee
\$34.30/month plus tax as of October 1
- Sanitation operates one of the largest landfills in Texas by volume, and one of the largest publicly owned and operated landfills in the United States



Background



- FY 2021-22 operating budget of approximately \$140 million
- 594 full-time positions and 215 temporary laborer positions
- Approximately 375 vehicles and heavy equipment units
- Two Major Operational Divisions
 - Recycling & Solid Waste Operations
 - Public-facing component
 - Recycling, garbage, brush and bulky waste collections
 - Post-Collection Operations
 - Final disposal component
 - McCommas Bluff Landfill, Materials Recovery Facility, Transfer Stations
- Support Services: Environmental, Safety, Business Operations, Customer Service, Community Affairs



Presentation Overview



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2021 Operational & Business Issues



- **Brush & Bulky Item Collection Delays Due to Winter Storm**
 - Larger than the usual Spring volume of debris set out in March began a cascade of brush collection delays lasting through May
 - 40 contract crews brought in assist with collections
 - Cost of \$5.6 million
- **Garbage and Recycling Collection Delays Due to Staffing**
 - June through August
 - Temporary Laborer Contract
 - Contract on a one-year extension at \$12.38/hour living wage
 - Vendor not awarded new contract
 - Two factors resulted in shortage of helpers
 - Sanitation Truck Drivers
 - Pronounced effect of industry-wide shortage of CDL drivers began in May
 - Operational adjustments made, prioritizing garbage collection, extending workdays and work weeks



Presentation Overview



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Performance Update



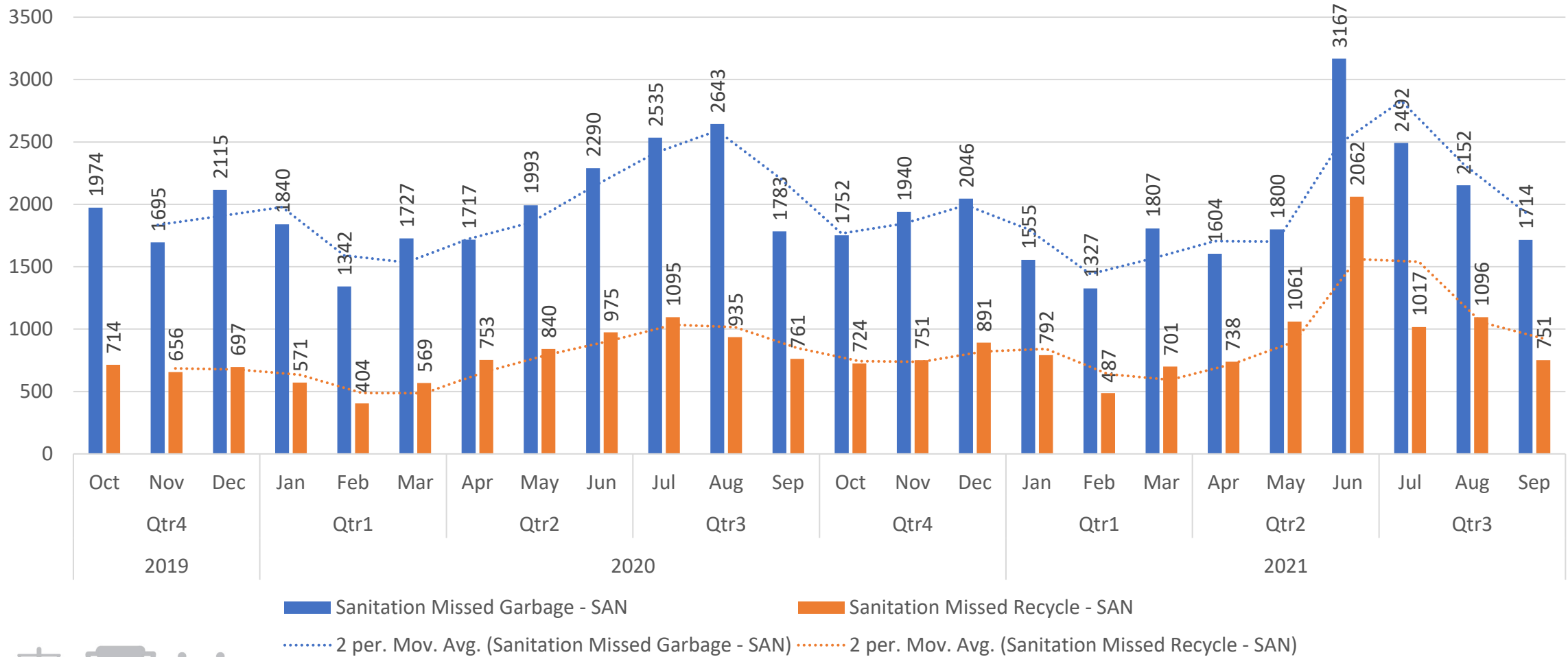
- Reduction in number of missed collection service requests since peak in June
- New Temporary Laborer Contract effective August 16, 2021
 - Provided an average 95% of required laborers daily
- Staffing goal of 240 truck drivers
 - Approximately 200 in mid-August
 - 222 on staff as of October 27, 2021
 - 15 candidates have received offer letters, in on-boarding process



Performance Update



Missed Garbage and Recycling Service Requests FY 2019-20 and FY 2020-21



Performance Update



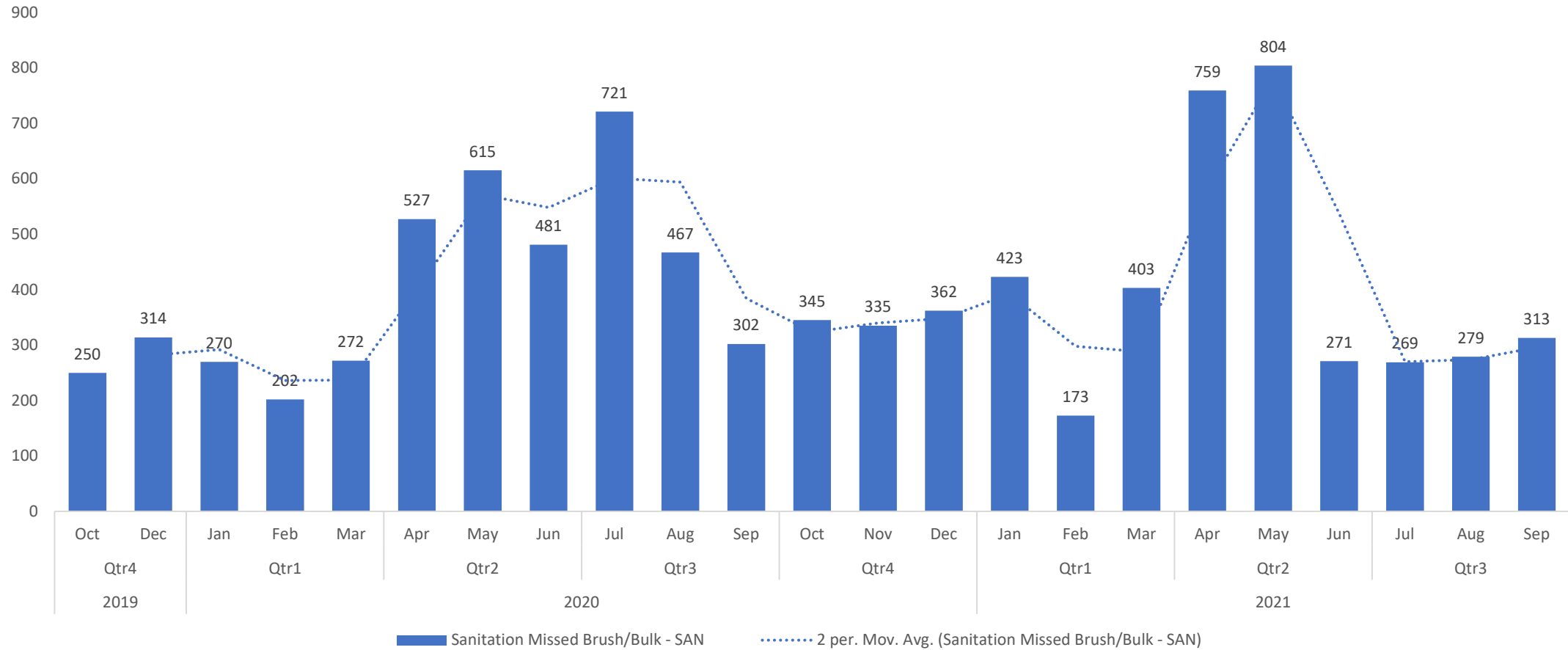
- Brush and bulky waste collections on time since June
 - Supplemental contractor assistance still required
 - Compliance with program guidelines challenging
 - 10 cubic yard limit (once annual 20 cubic yard oversize collection)
 - Prohibited items and placement
- Service provided at a loss over the last several years
 - Increased volumes, labor and equipment costs
 - Cost included in residential fee
- Ongoing discussions with Council on ways to achieve a cost-efficient program aligned with the Comprehensive Environmental and Climate Action Plan (CECAP) goals
 - A 90-day pilot program in 6 neighborhoods began in October



Performance Update



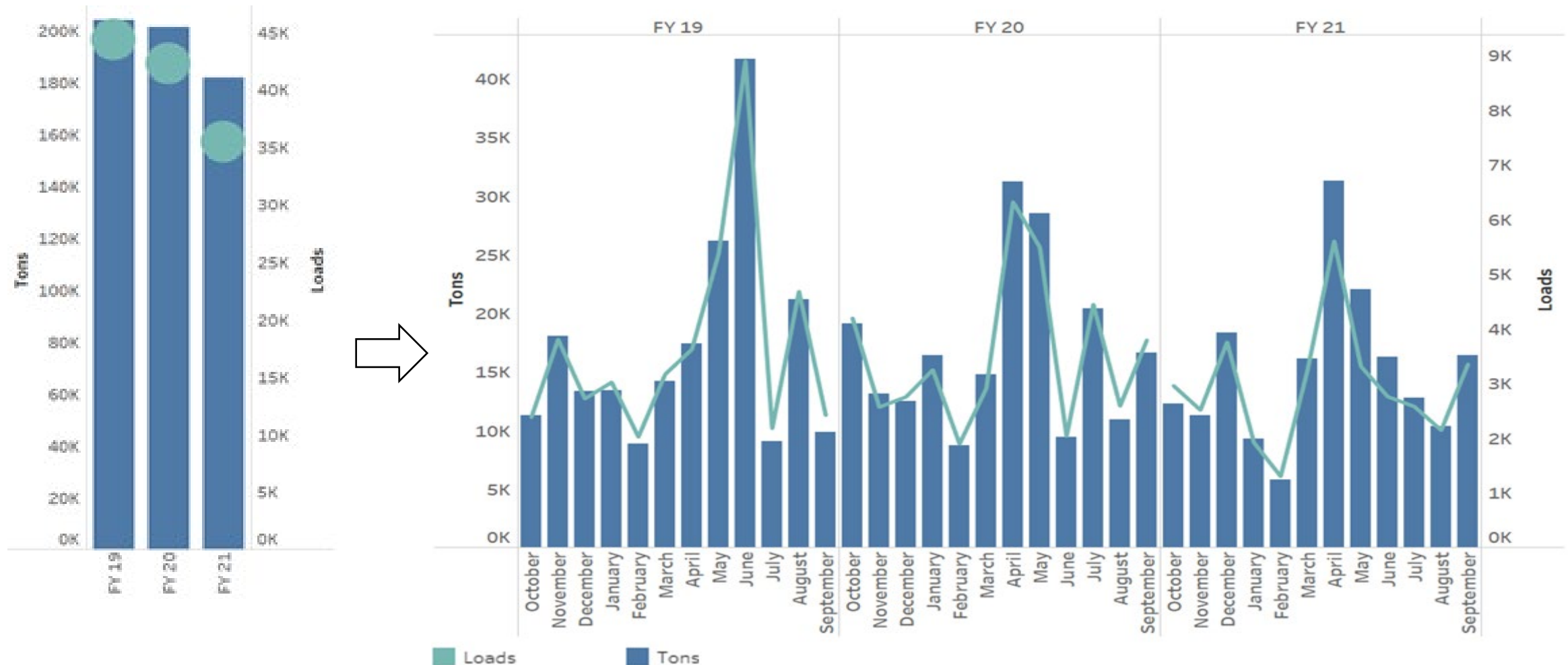
Missed Brush and Bulky Waste Service Requests FY 2019-20 and FY 2020-21



Performance Update



Missed Brush and Bulky Waste Loads and Tons FY 2019-20 and FY 2020-21



Presentation Overview



- Background
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Brush & Bulky Item Separation Pilot Update



- 6 neighborhoods selected for 90-day pilot from Oct-Dec
- Maintains monthly brush collection
 - Must be free of refuse, construction/demolition debris, and other non-green waste materials
- Bulky item transitions to quarterly service
 - Collected once during pilot program
 - Furniture, appliances, mattresses, other household objects too large to fit in roll cart
 - Bulky items must be placed in a separate pile from brush when both are set out



Brush & Bulky Item Separation Pilot Update



[Oak Park North/Twin Oaks](#)



[Ledbetter Gardens/Westmoreland Heights](#)



[Highland Hills](#)



[Pemberton/Trinity Forest](#)



[Casa View Oaks](#)



[Schreiber Manor/Forestcrest Estates](#)



Guidelines

- Brush continues to be collected monthly
 - Small tree limbs, shrubbery, and yard trimmings
- Bulky item collection will occur once during the 3-month pilot period
 - Furniture, appliances (refrigerants removed, if applicable, doors removed from refrigerators), mattresses, other household objects too large to fit in roll cart.
- When bulky items are placed out for collection, they must be placed in a separate pile from brush materials
- The existing 10 cubic yard limit remains in place for the total volume of set out each month
 - A once annual oversize collection of up to 20 cubic yards may be requested by calling 311 the week in advance of collection



Brush & Bulky Item Separation Pilot Update



- Residents in the pilot neighborhoods were notified in English and Spanish
 - Email to addresses on file for e-billing
 - Paper letters to all homes
 - Door hangers placed at all homes
 - Text messages to all phone numbers associated with billing accounts
 - 6 community meetings held
- Sanitation tagging improper set outs, and making a second pass through the neighborhood 1-2 days later to collect those corrected
 - Residents largely complied with pilot guidelines for October collections



Brush & Bulky Item Separation Pilot Update



- Residents may take materials to transfer stations or landfill at no charge
- Intent is to have brush materials mulched for beneficial reuse
 - Exploring developing composting program
- Regular monthly brush and bulky item collection will resume in January
 - Sanitation will report to City management and City Council on what was learned and make a recommendation on next steps



Presentation Overview



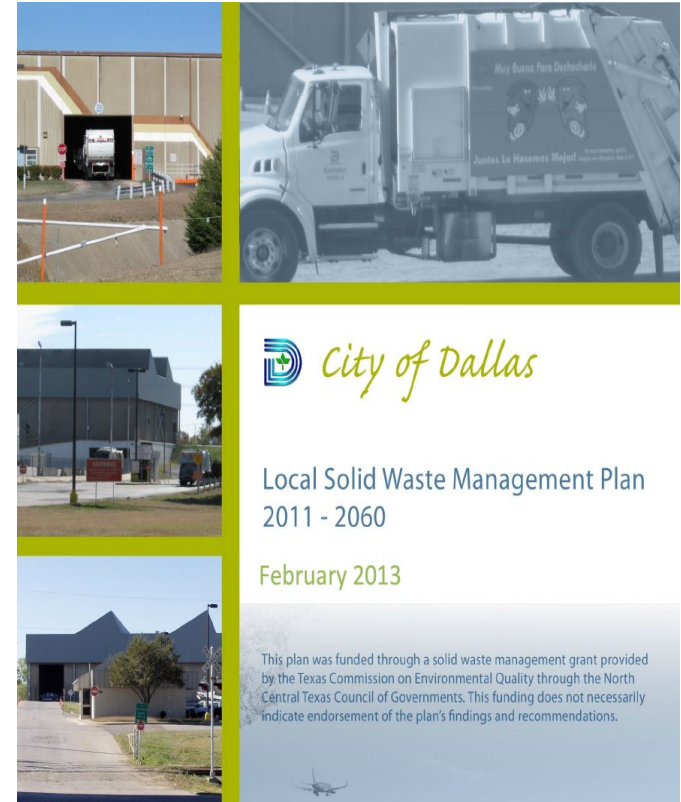
- Background
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Local Solid Waste Management Plan Update



- The purpose of the plan is to identify policies, programs, and infrastructure that will be needed to manage solid waste and recyclable materials generated in the City over the next 50 years
 - Current plan developed beginning in 2011, adopted by City Council in 2013
- Update needed to re-evaluate goals
 - Current system has advanced since 2011 LSWMP
 - Align with CECAP and other multi-department planning efforts
 - Decennial update process began in Spring 2020
- Last update to ENVIS committee in May 2021
 - Updated committee on upcoming system analysis and plan for stakeholder engagement process
- Since last update:
 - Staff interviews, field work and system analysis nearing completion
 - Citywide survey of residents and businesses (English and Spanish) and stakeholder engagement complete
 - In process of evaluating effectiveness of 2011 LSWMP implementation strategies, establishing updated goals, and identifying alternative strategies for evaluation



Stakeholder Engagement Results (to date)



- 5,500+ survey responses (includes single-family, multi-family and commercial respondents)
- Approximately 6,800 visits to LSWMP Update webpage
- Completed seven stakeholder engagement meetings
 - Three neighborhood groups, Dallas Regional Chamber, Texas Restaurant Association (Greater Dallas Chapter), Apartment Association of Greater Dallas, Texas Campaign for the Environment
- Completed interviews with multiple City departments and stakeholders
 - SAN, DWU, OEQS, Economic Development, Dallas County, Development & Sustainability, Code Compliance

**WE NEED YOUR INPUT ON
DALLAS' LOCAL SOLID WASTE
MANAGEMENT PLAN**

Learn more and take the survey online at

DALLASZEROWASTE.COM



Your input is important and will be used to inform decisions about Dallas' solid waste and recycling programs as well as future opportunities to reduce waste destined for the landfill.



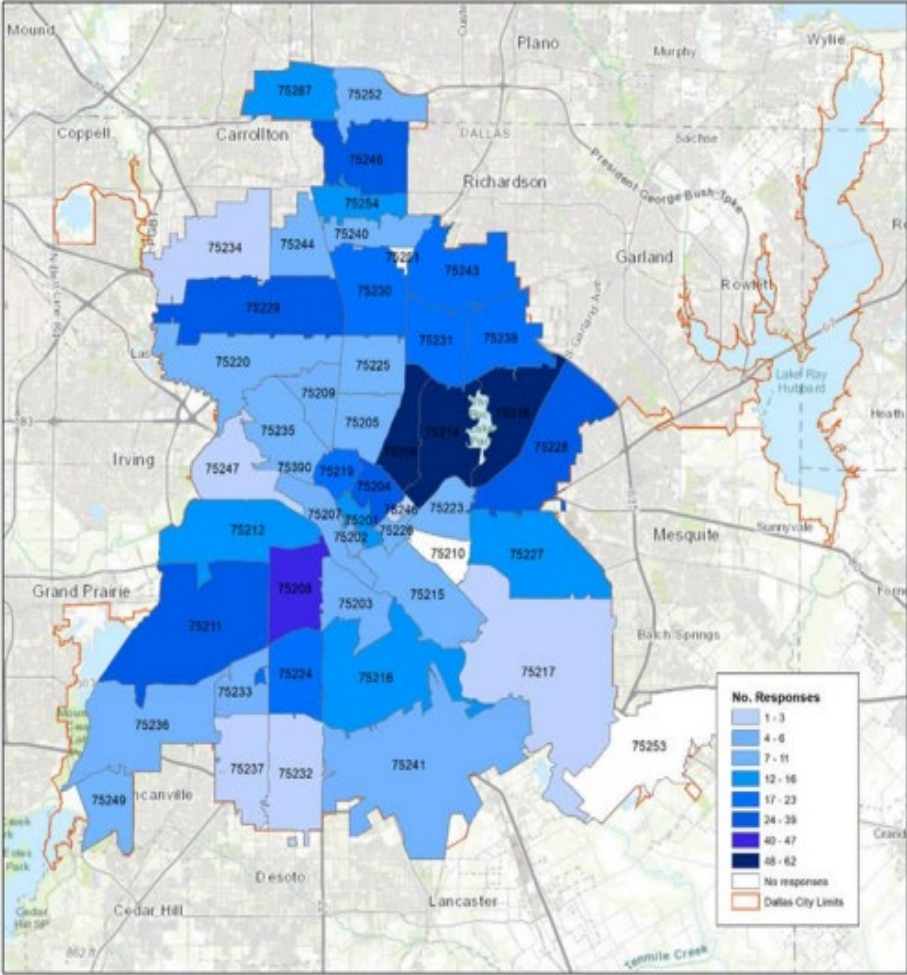
Sanitation



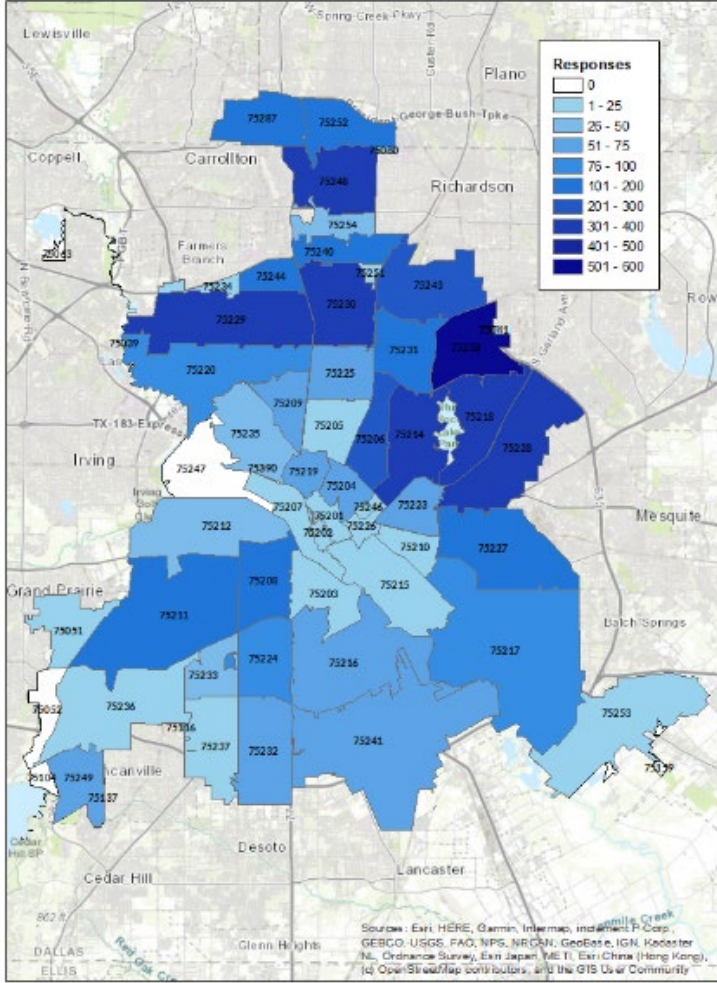
Building on CECAP Stakeholder Engagement



DISTRIBUTION OF SURVEY RESPONSES



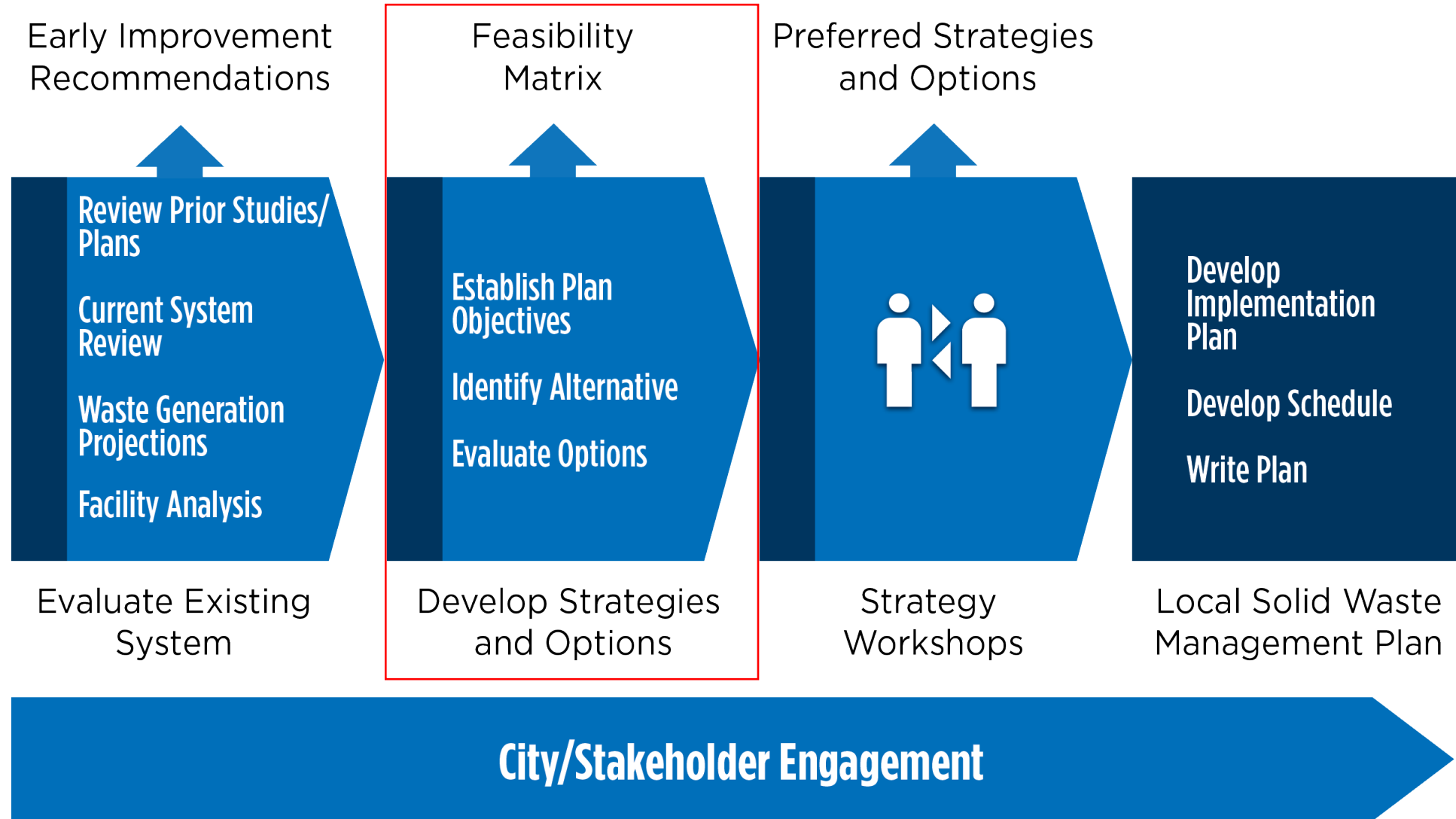
CECAP



LSWMP Update



LSWMP Update Development Progress



Next Steps in LSWMP Update Development



- Finalize results of the current system and facility capacity analysis
- Evaluate effectiveness of 2011 LSWMP implementation, update goals and determine future strategy options
- Continue stakeholder engagement efforts
 - Re-engage community stakeholders in early 2022
 - Identify community meetings and events to share information (with help from ENVIS committee/council to identify opportunities)
 - Share results of current system analysis and collect feedback on future strategy options
- Evaluate options for the City's future solid waste management needs
- Develop 5-year implementation/funding plan
- Submit LSWMP Update for council adoption



Presentation Overview



- Background
- 2021 Operational & Business Issues
- Performance Update
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New Initiatives for 2022



- Implement an organizational reroute that balance all routes and service days
- Change from a 4/10 to a 5/8 work week to improve service delivery, reduce overtime, and reduce the need for contract labor
- Continue to shift from manual to automated collection vehicles, further reducing the need for temporary labor



Presentation Overview



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Next Steps



- Evaluate the viability of monthly brush and quarterly bulk trash collection for citywide implementation
- Develop the capacity to transfer and process organics citywide
- Develop tiered options for residential collection in rear alley and front of house
- Host meetings with neighborhood associations and community advocates on planned service changes, to ensure awareness, and compliance





City of Dallas

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

Agenda Information Sheet

File #: 21-2130

Item #: D.

Emerald Ash Borer Planning Update

[City of Dallas Forestry Team: Sarah Standifer, Assistant Director, Dallas Water Utilities
Department; M. Renee' Johnson, Assistant Director, Park and Recreation
Department]



City of Dallas

Emerald Ash Borer (EAB) Environmental and Sustainability

November 1, 2021

Urban Forest Task Force-Executive Team

Sarah Standifer, DWU

M. Renee Johnson, PKR

Tina Richardson, PW

Megan Wimer, DS



Presentation Overview

- Action Plan
- Monitoring Efforts
- Site Visit
- Next Steps



EAB Overview

- The emerald ash borer (*Agrilus planipennis*) is a destructive non-native wood-boring pest of ash trees (*Fraxinus* spp.). Native to Asia, the emerald ash borer beetle (EAB) was unknown in North America until its discovery in southeast Michigan in 2002. All native ash species are susceptible to attack. Ash trees with low population densities of EAB often have few or no external symptoms of infestation. EAB is a significant threat to urban, suburban, and rural forests as it kills both stressed and healthy ash trees. EAB is very aggressive and ash trees may die within two or three years after they become infested.



Action Plan

- COD Forestry Technical Team partnering with state and federal agencies to develop comprehensive proactive and reactive plan for all forested areas
- Combines existing monitoring efforts with action steps to implement additional activities



Action Plan

- Includes management strategies and will rely on best management practices for public and private partners to:
 - Assess and monitor forested areas across the City
 - Explore existing canopies and fuel loads for safety of adjacent neighborhoods
 - Increase biodiversity through supplemental plantings of trees to encourage additional flora and fauna
- Anticipated completion Spring 2022
 - Drafts to be provided for public comment



Monitoring Efforts

- Working with Texas A&M Forest Service to provide constant updates on EAB status
- 8 traps were strategically placed within Dallas city limits in 2021 (additional in the County)
- Traps removed with no sign of EAB in August 2021
- Adults most active early summer





Monitoring Efforts

- Ash Tree Inventory
 - Compared 2014 Park Tree Inventory in 43 Parks to current ash populations at same locations
 - Found increased ash populations along creeks and waterways
 - Equal or less ash trees found in other parks
 - Additional inventories throughout 2022 and 2023



Active Site Visit

- Opportunity to visit an active site that will show effects of EAB activity
- Friday, June 3, 2022
- Camp Broadway, Lake



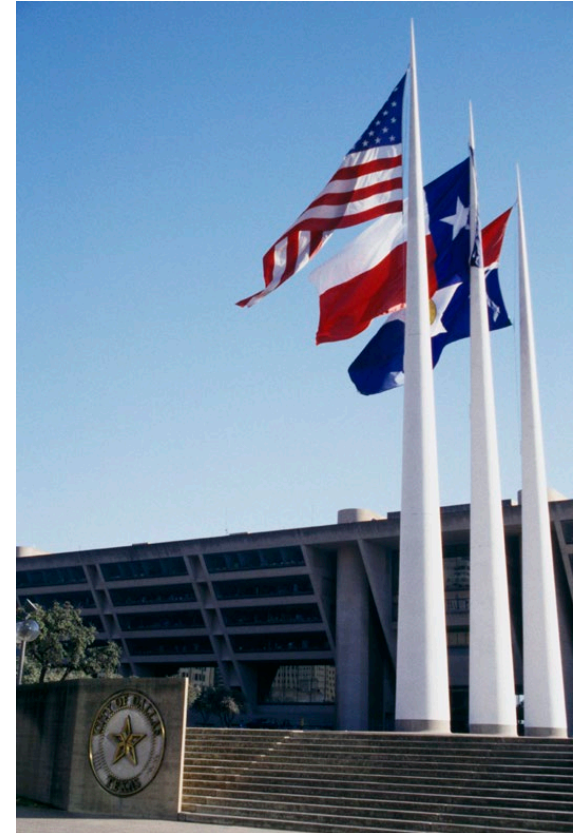
Next Steps

- Continue working with Texas A&M Forest Service on monitoring movement of the beetle in the region
- Continue public education efforts through ongoing meetings, field assessments and interactive updates to the Urban Forestry website
(<https://dallascityhall.com/projects/forestry/Pages/home.aspx>)
- Continue inventory efforts and targeted actions (“SLAM”)



Questions?

Urban Forest Task Force-Technical Team
CODForestry@dallascityhall.com



@DallasWaterUtilities



City of Dallas

Emerald Ash Borer (EAB) Environmental and Sustainability

November 1, 2021

Urban Forest Task Force-Executive Team

Sarah Standifer, DWU

M. Renee Johnson, PKR

Tina Richardson, PW

Megan Wimer, DS



City of Dallas

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

Agenda Information Sheet

File #: 21-2131

Item #: E.

Comprehensive Environmental & Climate Action Plan (CECAP) FY 20-21 Performance Summary
Memo

[Susan Alvarez, Assistant Director, Environmental Quality & Sustainability]

Memorandum



DATE October 27, 2021

CITY OF DALLAS

TO Honorable Chair and Members of the Environment & Sustainability Council Committee

SUBJECT **Comprehensive Environmental & Climate Action Plan (CECAP): FY 2021
Performance Summary Report Memorandum**

This memorandum transmits a copy of the Comprehensive Environmental & Climate Action Plan (CECAP) FY 2021 Summary Performance Report, provided for your review and information. The report provides status of the FY 20-21 efforts under the CECAP as required by Resolution 20-0688, adopting the CECAP for implementation towards our commitment to meeting the goals of the 2017 Paris Climate Agreement through the US Climate Mayors pledge.

This report provides key highlights in each of the eight primary CECAP focus areas and appends tables and graphics that provide detailed information on the status of each action and milestone included in the FY 2020-2021 CECAP Implementation Work Plan. The shared outcomes have been briefed to the Environment & Sustainability Task Force prior to compilation into the attached report. Detailed performance information may also be found at: <https://www.dallasclimateaction.com/>.

We are proud of working along with our colleagues in 17 City of Dallas departments towards successfully completing 126 of the 136 milestones included in this plan, thus activating 48 of the 97 actions in this 30-year plan. We are collectively making enormous strides towards a more sustainable environment and better quality of life for the Dallas community. Staff will be providing regular updates to both the Environment Commission and the ENVIS City Council Committee going forward. Should you have questions or need additional information, please contact me or Sheila Delgado at 214-670-1642.

Joey Zapata
Assistant City Manager

c: T.C. Broadnax, City Manager
Chris Caso, City Attorney
Mark Swann, City Auditor
Billerae Johnson, City Secretary
Preston Robinson, Administrative Judge
Kimberly Bizer Tolbert, Chief of Staff to the City Manager
Majed A. Al-Ghafry, Assistant City Manager

Jon Fortune, Assistant City Manager
Joey Zapata, Assistant City Manager
Dr. Eric A. Johnson, Chief of Economic Development and Neighborhood Services
M. Elizabeth Reich, Chief Financial Officer
M. Elizabeth (Liz) Cedillo-Pereira, Chief of Equity and Inclusion
Directors and Assistant Directors



2021

CECAP: IMPLEMENTATION SUMMARY REPORT



Office of Environmental Quality & Sustainability

11/1/2021

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Comprehensive Environmental & Climate Action Plan

Fiscal Year 2021 Implementation Summary Report

I. Introduction

This FY 21 Implementation Summary report provides an update on progress of the City's Comprehensive Environmental & Climate Action Plan (CECAP) during its first year of implementation (FY 21). Year one of CECAP focused on building capacity through education and outreach, expanding partnerships, amplifying ongoing actions, exploring funding opportunities, pilots and proof of concept projects, and tracking and accountability. The FY 21 Implementation Work Plan included activation of 48 of the CECAP's 97 actions. Each action included in the plan includes 126 milestones identified as key steps towards full activation of the strategy and that were tracked and reported quarterly.

II. Background

The CECAP was passed unanimously by Dallas City Council on May 27, 2020, and serves as a comprehensive roadmap to outline the specific activities that the City plans to undertake to improve quality of life for all residents, to reduce greenhouse gas emissions, to prepare for the impacts of climate change, and to create a healthier and more prosperous community. The Council has provided the staff direction to continue to develop and maintain programs that improve regional air quality, reduce carbon emissions and otherwise address climate change, as a common-sense approach that is good for our residents, our businesses and our planet.

The goals and actions set forth in the CECAP are determined to build coalitions and strengthen communities and are determined to significantly reduce carbon emissions and improve the quality of life for residents. The plan proposes 97 actions across eight sectors. The suite of actions in the plan have been carefully selected to include mitigation, adaptation, and environmental quality activities, all under an equity lens, to start Dallas on a 30-year path towards achieving carbon neutrality by 2050. Each action was evaluated for the potential to deliver a robust range of co-benefits, including social equity, economic, public health, mitigation, sustainability over time, environmental quality, and adaptation.

With equity and inclusion as core values, the CECAP proposes solutions that will improve our natural environment, our educational and economic outcomes, the affordability of our housing stock, and our transportation systems. The IWP outlines efforts that collectively maintain the City of Dallas as a leader in reducing emissions and sets the path forward towards addressing climate and environmental risk with effective, equitable, and common-sense solutions. The CECAP commits to reaching net zero carbon by 2050, with an interim goal of a 43 percent reduction in greenhouse gas emissions from 2015 levels by 2030.

During this time, three stakeholder groups were formed to advise on outreach, strategies, and milestones. These groups include the Environment and Sustainability Council Committee (ENVS), the Environment and Sustainability Task Force (EAS-TF), Leading Environmental Action Forward (LEAF), and Regional Integration of Sustainability Efforts (RISE) Coalition. Each had an important role towards engaging the public, stakeholders and even other North Texas Cities.

III. Summary Results

With appreciation for the ongoing effort and collaboration with 17 City departments as well as external partner organizations, 126 (93%) of the 136 milestones defined in the FY 21 Implementation Work Plan were completed, exceeding the goals as set forth by the Dallas City Manager. Seven (5%) milestones remain in progress, while three (2%) are not started. The following provides a summary of programmatic highlights. Tables summarizing sector-by-sector milestone status are attached, and may also be found online at [DallasClimateAction.com](https://dallasclimateaction.com).

Goal 1: Dallas Buildings are Energy-Efficient and Climate Resilient.

The combined building and energy sectors account for the highest percentage of GHG emissions in Dallas (64%). In FY 20-21, six actions from this sector were initiated, with 16 identified milestones. These actions included expansion of existing programs and efforts, and key updates to existing codes and ordinances. Interdepartmental collaboration included Building Services, Aviation, Economic Development, Office of the Bond Program, Housing & Neighborhood Revitalization, Parks, Libraries, and the Office of Environmental Quality & Sustainability. Highlights of key milestones completed in the Building Sector include, but are not limited to:

- Initiated energy benchmarking
- Performed energy audits
- Maintained/improved Airport Carbon Accreditation
- Increased participation in PACE Program
- Began developing net-zero specifications for 2022 Facility Bond Program



Completed construction & opened New Vickery Park Library

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

The combined building and energy sectors account for the highest percentage of GHG emissions in Dallas (64%). While the City has committed to using 100 percent renewable energy, there is a desire to convert from using renewable energy credits to local on- and off-site generation. In FY

20-21, six actions from this sector were initiated, with 16 identified milestones. These actions included expansion of existing programs and efforts, as well as updates to existing codes and ordinances. Implementation was performed through interdepartmental collaboration of the Office of Environmental Quality & Sustainability, Building Services, Sanitation Services, Office of the Bond Program, and the Office of Government Affairs. Highlights of milestones completed in the Energy Sector include, but are not limited to:



324 Solar Panel installation at Kiest Park (Previous installation)

- Collaborated with North Texas Renewable Energy Group to develop evaluation criteria for resilience hubs at city-owned facilities
- Completed Community Solar Study via technical assistance grant from US Department of Energy National Community Solar Partnership
- Installed solar on low-income housing projects (residential/multi-family)
- Developed Request for Competitive Sealed Proposals for a solar farm at Deepwood and Loop 12 landfills (project on short-term hold)

Goal 3: Dallas' Communities Have Access to Sustainable, Affordable, Transportation Options.

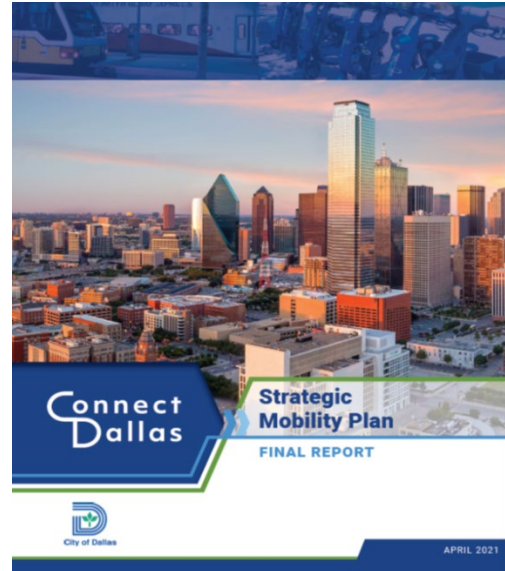
The transportation sector forms the single largest contribution of GHG emissions in Dallas (34%), of which 98 percent is attributed to on-road transportation. The majority (78%) of Dallas residents drive to work alone, while another 23.2 percent carpool, telework (4.8%), and use transit (3.8%), and other modes of transportation.

In FY 20-21, six actions from this sector, with 24 milestones, were initiated. These actions included implementation of the Connect Dallas Mobility Plan, along with expansion of existing programs and efforts, as well as updates to existing codes and ordinances. This sector involved Transportation, Equipment & Fleet Management, Office of the Bond Program, Economic Development, the Ad Hoc COVID Recovery Committee, Sustainable Development & Construction, Planning & Urban Design, as well as external partners such as DART and DISD.

During FY 20-21, the NCTCOG implemented a resolution requesting participating Cities to pledge towards a 20 percent reduction in Single Occupancy Vehicular travel. The goals of the CECAP for FY 2030 are consistent with this regional initiative.

Highlights of milestones completed in the Transportation Sector include, but are not limited to the information provided on the following page:

- Adopted Connect Dallas Strategic Mobility Plan
- Initiated fleet electrification study via a contract with the National Renewable Energy Laboratory
- Received funding for 50 electric vehicle charging stations through the Volkswagen Mitigation Trust Settlement, a grant program administered by TCEQ
- Worked towards coordinating transportation with the Forward Dallas Comprehensive Land Use Plan Update and DART Transit Oriented Development (TOD)
- Worked with DART on the bus network redesign



Goal 4: Dallas is a Zero-Waste Community.

Because of good landfill management practices that entail aggressive gas collection and re-sale, the emissions from the waste sector in Dallas are very minimal. However, during the public engagement conducted to develop the CECAP, there was significant public interest in additional actions within this sector. In FY 20-21, five actions from this sector, with 10 milestones were initiated. These actions include developing an update to the 2013 Local Solid Waste Management Plan (AKA Zero Waste Plan), along with expansion of existing programs and efforts, and updates to existing codes and ordinances. Implementation of these milestones involved collaboration by the Office of Environmental Quality & Sustainability, Office of Procurement Services, and Sanitation Services. Highlights of milestones completed in the Zero Waste Sector include, but are not limited to:



Typical Bulk/Brush Layout: Pilot for separating bulk/brush underway

- Actively promoted source reduction, recycling, and composting
- Developed and initiated the Sustainable Procurement Program
- Improved solid waste, recycling, and brush/bulky waste collection efficiency
- Initiated update to Local Solid Waste Management Plan

Goal 5: Dallas Protects its Water Resources and its' Communities from Flooding and Drought.

The water and wastewater sectors together comprise less than 1 percent of the Dallas' GHG emissions; however, climatic variation from flooding to drought forms the largest single risk posed by climate change. Dallas Water Utilities has proactively planned for future conditions as a part of standard operations for years. The CECAP builds upon these ongoing robust plans and related actions. In FY 20-21, 11 actions from this sector, with 27 milestones were initiated, and or performed as part of planned ongoing operations by the utility. These actions include expansion of existing programs and efforts, as well as updates to existing codes and ordinances. Implementation of Goal 5 milestones was primarily under Dallas Water Utilities leadership with participation by the Office of Environmental Quality & Sustainability, Sustainable Development & Construction, Park & Recreation, and the Office of Planning and Urban Design. Highlights of key milestones completed in the Water Resources Sector include, but are not limited to the following:

Outreach and Education – Continue:

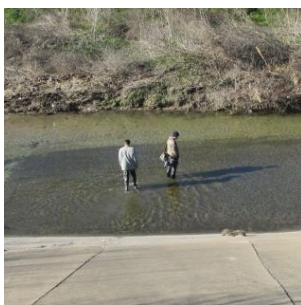
- Water conservation, leak detection, water-wise landscaping programs
- Local and regional awareness campaigns
- Irrigation system evaluations

Infrastructure Resiliency – Continue:

- Major drainage infrastructure projects
- Storm Drainage System Assessment and planning process
- Implementing Drought Contingency Plan
- Emergency planning to protect & maintain key water infrastructure services in extreme weather



"Big Tex", AKA the Mill Creek Project tunneling equipment



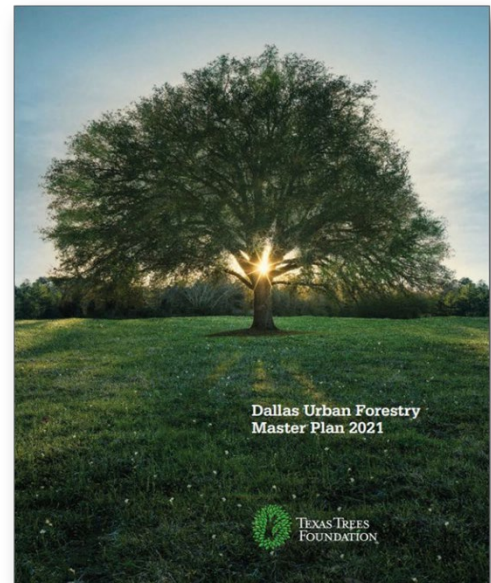
Water Quality – Continue:

- Ongoing water quality monitoring and protection programs
- Ongoing monitoring for emerging contaminants

Goal 6: Dallas Protects and Enhances its Ecosystems, Trees, and Greenspaces That in Turn Improve Public Health.

In Dallas, there are 388 parks totaling over 27,000 acres, plus the approximate 6,000-acre Great Trinity Forest. However, these green spaces are not evenly distributed, and only about 60 percent of Dallas residents have access to a park within ½ mile walk of their home. Additionally, the City of Dallas is second only to Phoenix, Arizona relative to the size of the urban heat island. In FY 20-21, five actions from this sector, with 17 milestones were initiated. These actions include implementing the Urban Forest Master Plan, along with expansion of existing programs and efforts, as well as updates to existing codes and ordinances. Goal 6 actions and milestones involved collaboration between Dallas Water Utilities, Sustainable Development & Construction, Office of Environmental Quality & Sustainability, Parks & Recreation, Planning & Urban Design, and Public Works. Key highlights of accomplishments under this sector include but are not limited to:

- Adopted and began implementing the City of Dallas Urban Forest Master Plan
- Completed green infrastructure modelling with The Nature Conservancy and Texas A&M Agrilife
- Initiated tree inventory of all public lands and created the City of Dallas Tree Task Force
- Initiated Dallas Forestry Website
- Developed and Initiated Emerald Ash Borer Plan
- Continued Branch-Out, Branching Out Dallas, Cool Schools and Re-tree post-storm planting programs
- Completed Parks' Sustainable Landscape Equipment Pilot



Goal 7: All Dallas' Communities have Access to Healthy, Local Food.

Access to healthy food for vulnerable communities in southern and western Dallas is a significant challenge. It has been documented that over 36 percent of Dallas' residents live in census tracts that meet the USDA definition for food deserts. Additionally, the food supply chain is heavily dependent upon food suppliers outside of Texas and the United States. Rising temperatures, changing precipitation patterns and more frequent droughts may result in losses to crops and livestock, and could lead to supply chain issues and increased food insecurity. This is also an area with significant community concern. In FY 20-21, five actions from this sector, with 17 milestones were initiated. These actions include developing an Urban Agriculture Plan to guide efforts

forward as well as updates to existing codes and ordinances. Departments involved in Goal 7 activities include Office of Environmental Quality & Sustainability, Office of Innovation, Economic Development, Office of Procurement Services, and Convention & Event Services. Key Highlights include, but are not limited to:

- Initiated Healthy Food Procurement for City Events via a Request for Proposals (underway)
- Initiated Food Advisory Council with both internal and external stakeholders
- Initiated Comprehensive Food & Urban Agriculture Planning efforts
- Initiated USDA grant to address food waste
- Supported neighborhood, school, and church community gardens
- Participated in the North Texas Food Policy Alliance through the University of Texas at Arlington Regional Center for Excellence to address food security at a regional level.



“Growzilla” – a controlled environment agricultural facility located at Fair Park

Goal 8: All Dallas’ Communities Breathe Clean Air.


While air quality in Dallas is generally improving, in north Texas, 10 counties including Dallas, do not consistently meet the 2008 Federal Air quality criteria for ground level ozone; nine counties consistently do not meet the 2015 federal ozone standard. In addition, in 2020, the regional air quality for ground level ozone was deemed to be in “Severe Non-Attainment” despite the government shutdown and reduced traffic and transportation.

Air Quality is also an area with significant community concern. In FY 20-21, work commenced on 10 milestones under the four actions in this sector. These actions include implementing both regulatory and non-regulatory monitors, and expanding several existing programs. Departments working towards these efforts include the Office of Environmental Quality & Sustainability, Transportation, Planning & Urban Design, and Sustainable Development & Construction. All Air Quality actions have been activated and will be continued towards meeting programmatic targets of attaining National Ambient Air Quality Criteria standards compliance.

Highlights in the Air Quality Sector are provided on the following page:



Breathe Easy Air Quality monitor installation at Exline Recreation Center

- Installed and activated new TCEQ regulatory monitoring site at Pilgrim Drive
- Installed Breathe Easy Dallas air quality monitors in 12 locations across City
- Continued Air North Texas program of air-quality focused public information efforts with the NCTCOG 
- Developed and shared mapping of Industry v residential & other sensitive receptors with the Planning & Urban Design group to support Comprehensive Landuse Plan update efforts.

IV Ongoing Efforts

With appreciation for the work accomplished towards completing the milestones under the FY 20-21 Implementation Work Plan, we recognize several milestones that are still **in progress** that will continue into FY 22. These milestones include:

- **Buildings**
 - B11: Develop a list of building codes related to solar photovoltaics and EV charging
- **Transportation**
 - T1: Complete fleet electrification study
- **Zero Waste**
 - SW5: Formally complete and adopt updated Local Solid Waste Management Plan
- **Water Resources**
 - WR7: Evaluate feasibility for undertaking additional initiatives to qualify for Class 4 FEMA rating
 - WR15: Award construction contracts that will result in the replacement and rehabilitation of approximately 32 miles of wastewater pipelines, including relocation and private development projects
- **Ecosystems**
 - EG3: Establish protocols for assessing tree canopy loss

- **Food Security**

- FA14: Develop a program to help event organizers donate surplus food

There are also three milestones that are **not started**, all of which are related to the future high-speed rail line currently under development.

- T2: Work with DART to incentivize and expand current offerings in the city for transit commuting services (Not Started)
- T2: Work with partners to identify businesses that heavily utilize short-haul air travel (Not Started)
- T2: Work with transit commuting services to create awareness campaigns and benefits to shift away from short-haul air travel (Not Started)

V Adaptive Management

The CECAP commits to regular review of performance towards meeting the emissions reduction goals set forth in the 2017 Paris Agreement, per the U.S. Climate Mayors commitment. This review is based upon performing regular updates of the greenhouse gas (GHG) inventory and assessment of data trends towards reductions in emissions. The CECAP includes a minimum three-year GHG inventory interval.

The CECAP was based upon the most GHG inventory available to the department. This baseline inventory was completed using the International Local Governments for Sustainability (ICLEI) methodology in 2019, using data for the 2015 calendar year.

While sufficient for initial planning, the OEQS climate staff have begun updating this inventory this year to reflect data from 2019, to allow an assessment of where the City currently stands relative to GHG emissions, and to guide future planning, identify any necessary CECAP plan updates and help guide the overall focus for implementation.

Because of the government shutdown, and other related anomalous data excursions during 2020, the data from 2019 will be used to support this effort, and the ICLEI methodology, using the Clearpath tool will be used to develop this inventory (consistent with the 2015 effort).

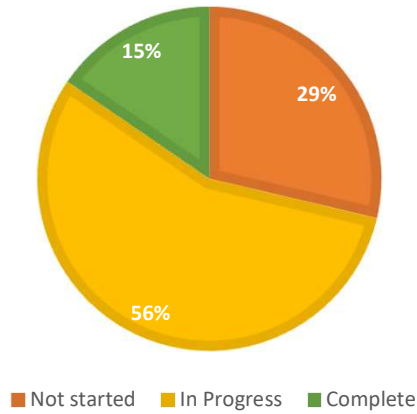
The results of this new inventory and evaluation of trends in emissions reduction will be brought forward to the Dallas City Council in Spring, 2022, along with any recommended updates to the CECAP, based on these data.

It should also be noted that the City of Dallas intends to contribute these data with the NCTCOG's Regional Integration of Sustainability Efforts (RISE) Coalition towards forming a regional emissions inventory. The regional effort may also be considered relative to any potential revisions to the CECAP.

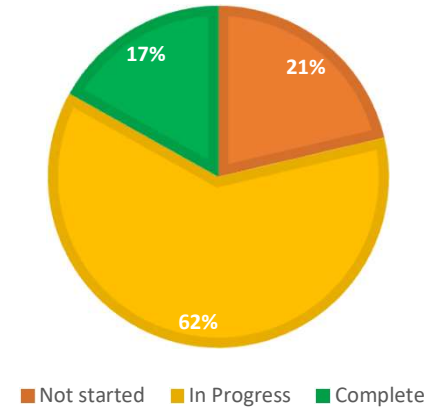
APPENDIX – Tables & Graphs

FY 20-21 Milestone Progress by Quarter

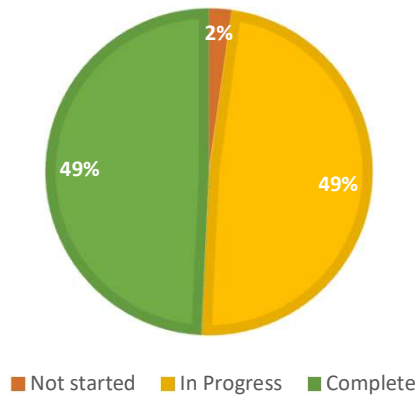
FY20-21 Q1 MILESTONE PROGRESS



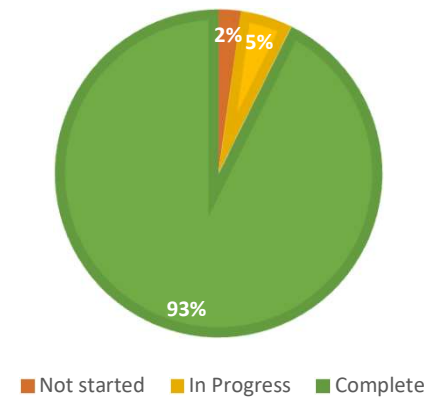
FY20-21 Q2 MILESTONE PROGRESS



FY20-21 Q3 MILESTONE PROGRESS



FY20-21 Q4/EOY MILESTONE RESULTS



FY 20-21 Quarterly Milestone Progress

| Overall Progress | | | | | | | | | |
|------------------|----|-----|-----|-----|-----|-----|-----|--------|-----|
| | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | |
| Not started | | 39 | 29% | 29 | 21% | 3 | 2% | 3 | 2% |
| In Progress | | 76 | 56% | 84 | 62% | 66 | 49% | 7 | 5% |
| Complete | | 21 | 15% | 23 | 17% | 67 | 49% | 126 | 93% |
| | | 136 | | 136 | | 136 | | 136 | |

Quarterly Milestone Progress by Sector

| Buildings | | | | | | | | | | Energy | | | | | | | | | |
|-----------------|----|----|-----|----|-----|----|-----|--------|-----|-------------|----|----|-----|----|-----|----|-----|--------|------|
| | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | | | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | |
| Not started | | 6 | 38% | 0 | 0% | 0 | 0% | 0 | 0 | Not started | | 11 | 69% | 8 | 50% | 0 | 0% | 0 | 0% |
| In Progress | | 8 | 50% | 12 | 75% | 8 | 50% | 1 | 6% | In Progress | | 4 | 25% | 7 | 44% | 7 | 44% | 0 | 0% |
| Complete | | 2 | 13% | 4 | 25% | 8 | 50% | 15 | 94% | Complete | | 1 | 6% | 1 | 6% | 9 | 56% | 16 | 100% |
| | | 16 | | 16 | | 16 | | 16 | | | | 16 | | 16 | | 16 | | 16 | |
| Transportation | | | | | | | | | | Zero Waste | | | | | | | | | |
| | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | | | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | |
| Not started | | 7 | 29% | 7 | 29% | 3 | 13% | 3 | 13% | Not started | | 2 | 20% | 2 | 20% | 0 | 0% | 0 | 0% |
| In Progress | | 14 | 58% | 14 | 58% | 12 | 50% | 1 | 4% | In Progress | | 6 | 60% | 6 | 60% | 6 | 60% | 1 | 10% |
| Complete | | 3 | 13% | 3 | 13% | 9 | 38% | 20 | 83% | Complete | | 2 | 20% | 2 | 20% | 4 | 40% | 9 | 90% |
| | | 24 | | 24 | | 24 | | 24 | | | | 10 | | 10 | | 10 | | 10 | |
| Water Resources | | | | | | | | | | Ecosystems | | | | | | | | | |
| | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | | | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | |
| Not started | | 1 | 4% | 0 | 0% | 0 | 0% | 0 | 0% | Not started | | 3 | 18% | 3 | 18% | 0 | 0% | 0 | 0% |
| In Progress | | 20 | 77% | 21 | 81% | 12 | 46% | 2 | 8% | In Progress | | 12 | 71% | 12 | 71% | 6 | 35% | 1 | 6% |
| Complete | | 5 | 19% | 5 | 19% | 14 | 54% | 24 | 92% | Complete | | 2 | 12% | 2 | 12% | 11 | 65% | 16 | 94% |
| | | 26 | | 26 | | 26 | | 26 | | | | 17 | | 17 | | 17 | | 17 | |
| Food | | | | | | | | | | Air Quality | | | | | | | | | |
| | Q1 | Q2 | Q1 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | | | Q1 | Q1 | Q2 | Q2 | Q3 | Q3 | Q4 | Q4/EOY | |
| Not started | | 8 | 47% | 8 | 47% | 0 | 0% | 0 | 0% | Not started | | 1 | 10% | 1 | 10% | 0 | 0% | 0 | 0% |
| In Progress | | 7 | 41% | 7 | 41% | 12 | 71% | 1 | 6% | In Progress | | 5 | 50% | 5 | 50% | 3 | 30% | 0 | 0% |
| Complete | | 2 | 12% | 2 | 12% | 5 | 29% | 16 | 94% | Complete | | 4 | 40% | 4 | 40% | 7 | 70% | 10 | 100% |
| | | 17 | | 17 | | 17 | | 17 | | | | 10 | | 10 | | 10 | | 10 | |

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

| # | Action | FY 20-21 Milestones | Status |
|------------|---|---|---|
| B1 | <p>B1: Demonstrate leadership in developing a carbon neutrality plan for municipal operations.</p> <p>Primary benefit: Mitigation Co-benefits: Cost savings, education</p> | <p>Conduct energy benchmarking for City facilities Establish an inter-departmental energy committee Initiate a citywide energy management system</p> <p>Initiate energy audits to identify retrofit opportunities</p> <p>Begin implementing no cost to low cost retrofits and efficiency improvements identified from energy audits</p> <p>Initiate renewable energy feasibility study to identify suitable locations for installing solar photovoltaic panels on City of Dallas facilities</p> | <p>Complete</p> <p>Complete</p> <p>Complete</p> <p>Complete</p> <p>Complete</p> <p>Complete</p> |
| B2 | <p>B2: Achieve Level 3+ Airport Carbon Accreditation at Love Field for carbon neutral operations, maintain accreditation for DFW and pursue for Dallas Executive Airport</p> <p>Primary benefit: Mitigation Co-benefits: Cost savings</p> | <p>Maintain Level 2 accreditation at Love Field Airport</p> <p>Maintain Level 3 carbon accreditation at DFW</p> | <p>Complete</p> <p>Complete</p> |
| B5 | <p>B5: Identify new financing mechanisms to accelerate energy efficiency improvements in existing buildings.</p> <p>Primary benefit: Mitigation Co-benefits: Cost savings, education, inequality</p> | <p>Expand participation in the City's existing PACE financing program</p> | <p>Complete</p> |
| B7 | <p>B7: Increase participation and scope of the Dallas Green Business Certification Program</p> <p>Primary benefit: Mitigation Co-benefits: Cost savings, education, resource consumption</p> | <p>Evaluate existing program for participation and effectiveness</p> <p>Partner with Chambers of Commerce to increase awareness and participation in the program</p> | <p>Complete</p> <p>Complete</p> |
| B11 | <p>B11: Update the Building Code to require wiring conduits for solar photovoltaics and electric vehicle charging infrastructure in new construction</p> <p>Primary benefit: Mitigation Co-benefits: Adaptation</p> | <p>Develop a list of building codes related to solar photovoltaics and EV charging</p> <p>Initiate building code updates upon completion of the NCTCOG 2021 Code Update process</p> | <p>In Progress</p> <p>Complete</p> |
| B15 | <p>B15: Evaluate potential city-owned properties for the creation of "resilience hubs"</p> <p>Primary benefit: Adaptation Co-benefits: Public health, cost savings, inequality</p> | <p>Develop a criteria rubric for resilience hubs</p> <p>Identify potential resilience hubs</p> <p>Evaluate viability of potential resilience hubs</p> | <p>Complete</p> <p>Complete</p> <p>Complete</p> |

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

| # | Action | FY 20-21 Milestones | Status |
|-----|--|---|----------|
| E3 | E3: Continue partnership with public utility companies on an intensive program on renewable energy options. Primary benefit: Mitigation Co-benefits: Employment, cost savings, education | Develop educational programs focused on commercial, industrial, and institutional sectors | Complete |
| | | Partner with stakeholders (local utilities, PACE program, educational institutions, etc.), to participate in public information program | Complete |
| | | Explore new financing opportunities such as grants and subsidies | Complete |
| | | | |
| E5 | E5: Build a regional strategic partnership to promote adoption of renewable energy. Primary benefit: Mitigation Co-benefits: Employment, education | Identify potential partners (counties, school districts, universities, etc.) | Complete |
| | | Develop strategic partnerships to increase investment in renewable energy projects | Complete |
| | | | |
| E6 | E6: Establish and invest in renewable energy hubs through partnerships with the private sector. Primary benefit: Mitigation Co-benefits: Employment, cost savings, adaptation | Establish criteria rubric for renewable energy hubs | Complete |
| | | Identify institutional and contractual requirements to form partnership for joint development of renewable projects | Complete |
| | | Evaluate funding opportunities | Complete |
| | | | |
| E7 | E7: Extend city efforts to develop more renewable energy projects on city facilities. Primary benefit: Mitigation Co-benefits: Cost savings, adaptation | Initiate renewable energy feasibility study to identify suitable locations for installing solar photovoltaic panels on City of Dallas facilities | Complete |
| | | Complete Community Solar Technical Assistance Grant Project from USDOE Grants to attain recommendations for City Community Solar Program to benefit low-income residents. | Complete |
| | | Initiate Community Solar Pilot Program | Complete |
| | | Identify funding sources for design and installation of renewable energy projects for multiple city facilities. | Complete |
| | | | |
| E8 | E8: Continue to implement Green Energy Policy for city facilities. Primary benefit: Mitigation Co-benefits: Cost savings | Continue to implement Green Energy Policy | Complete |
| | | Identify opportunities for partnerships that can facilitate implementation of renewable energy projects | Complete |
| | | | |
| E10 | E10: Advocate for renewable energy policies at the state and federal levels Primary benefit: Mitigation | Advocate through U.S. Climate Mayors for policies that facilitate decarbonization of the power sector | Complete |
| | | Work with Texas mayors to advocate the state legislature to increase the Texas Renewable Portfolio Standard to 90% zero-carbon electricity by 2050. | Complete |

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

| | Action | FY 20-21 Milestones | Status |
|------------|---|---|-------------|
| T1 | T1: Work with City of Dallas, DISD, and DART to transition the bus and light duty fleet to 100% electric by 2040. Primary benefit: Mitigation Co-benefits: Air quality, cost savings | Determine locations for EV charging stations | Complete |
| | | Conduct a fleet electrification study | In Progress |
| | | Explore funding opportunities for EV charging and fleet electrification | Complete |
| | | Install public and semi-public EV charging infrastructure as feasible | Complete |
| T2 | T2: Work with private and public intrastate transport operators to expand transit services between major super commuting cities. Primary benefit: Mitigation Co-benefits: Air quality | Work with DART to incentivize and expand current offerings in the city for transit commuting services | Not Started |
| | | Continue to work on development of high-speed rail | Complete |
| | | Work with partners to identify businesses that heavily utilize short-haul air travel | Not Started |
| | | Work with transit commuting services to create awareness campaigns and benefits to shift away from short-haul air travel | Not Started |
| T5 | T5: Support and expand recommended Travel Demand Management strategies identified in the Strategic Mobility Plan. Primary benefit: Mitigation Co-benefits: Air quality, public health, cost savings | Adopt Strategic Mobility Plan | Complete |
| | | Work with business community to educate on benefits of travel demand, including, but not limited to, work at home, and shifting office schedules | Complete |
| T11 | T11: Develop a new comprehensive land use strategy in the upcoming comprehensive plan update to pair with the SMP and CECAP goals, adopt policy to reduce transportation related GHG emissions. Primary benefit: Mitigation Co-benefits: Air quality, employment, public health, cost savings | Initiate comprehensive land use plan update, as feasible | Complete |
| | | During development process, coordinate with DART's long-range transit plan and the TOD policy | Complete |
| | | During development process, ensure alignment with the bus system, regional job growth, density and CECAP goals | Complete |
| | | During development process, ensure alignment with other relevant plans such as the Strategic Mobility Plan, Economic Development Plan, and Comprehensive Housing Policy | Complete |
| | | Evaluate need for a policy requiring conformity with land use strategy for staff approval | Complete |
| | | Evaluate need for a policy requiring non-conforming developers to demonstrate how they will mitigate negative impacts | Complete |
| T14 | T14: Adopt a revised parking ordinance strategy that supports new mode split goals and land use strategy that minimizes available parking in transit-oriented districts. Primary benefit: Mitigation Co-benefits: Air quality, cost savings | Consider establishing parking maximums in areas with mature transit infrastructure | Complete |
| | | Consider establishing parking management districts as needed | Complete |
| | | Pilot a parking district in a Dallas PID, as feasible | Complete |
| T16 | T16: Convert all traffic lights and streetlights to LEDs. Primary benefit: Mitigation Co-benefits: Cost savings | Contract with ONCOR to perform lighting energy audits | Complete |
| | | Identify best available retrofit improvements | Complete |
| | | Update streetlight standards to require energy-efficient streetlights for new and replacement installations | Complete |
| | | Initiate conversion of traffic lights to LEDs, where feasible | Complete |
| | | Initiate conversion of streetlights to LEDs, where feasible | Complete |

Goal 4: Dallas is a zero waste community.

| # | Action | FY 20-21 Milestones | Status |
|-----|---|---|-------------|
| SW1 | SW1: Actively promote source reduction, recycling, and composting to the Dallas community. Primary benefit: Environmental quality Co-benefits: Resource consumption, emissions reduction, employment | Expand current education efforts to inform residents and business owners of their options to refuse, reduce, reuse, and recycle | Complete |
| | | | |
| SW2 | SW2: Develop a comprehensive green procurement plan for city operations and establish a sustainable procurement policy. Primary benefit: Environmental quality Co-benefits: Resource consumption, resource conservation, emission reduction, employment, cost savings | Conduct goods and services purchasing study Implement voluntary green procurement pilot | Complete |
| | | | Complete |
| SW3 | SW3: Improve solid waste, recycling, and brush/bulky waste collection efficiency. Primary benefit: Mitigation Co-benefits: Cost savings, air quality | Evaluate benchmarks for service frequency Evaluate collection routes for efficiency | Complete |
| | | | Complete |
| SW5 | SW5: Update and implement the Zero Waste Management Plan. Primary benefit: Mitigation Co-benefits: Resource consumption, air quality | Update the Local Solid Waste Management Plan Formally adopt revised Local Solid Waste Management Plan Monitor and evaluate waste to energy alternatives for feasibility | Complete |
| | | | In Progress |
| | | | Complete |
| SW8 | SW8: Continue to capture gas and expand capacity from landfill for reuse and evaluate for city operations. Primary benefit: Mitigation Co-benefits: Resource consumption, air quality, cost savings | Annually evaluate need for gas collection system expansion Expand program as needed to increase methane recovery | Complete |
| | | | Complete |

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

| # | Action | FY 20-21 Milestones | Status |
|-----|--|---|-------------|
| WR1 | WR1: Continue investment in public awareness campaigns to increase knowledge of the value of water and importance of conservation. Primary benefit: Adaptation Co-benefits: Stewardship, resource conservation, education | Continue to offer rebate and incentive-based programs to promote water conservation in an effort to resourcefully manage the City's annual GPCD | Complete |
| | | Continue to offer education and outreach opportunities to promote water conservation in an effort to resourcefully manage the City's GPCD | Complete |
| | | Continue the 'Save Water. Nothing Can Replace It.' local public awareness campaign, promoting local conservation programs and educational opportunities for DWU customers | Complete |
| | | Continue activities and efforts related to the "Defend Your Drains" public awareness campaign | Complete |
| | | Continue the North Texas Regional unified public awareness campaign | Complete |
| | | Continue water conservation outreach efforts to support wholesale customer cities | Complete |
| WR2 | WR2: Continue investment in leak detection and expand programs to reduce overall water loss through the conveyance systems. Primary benefit: Adaptation Co-benefits: Stewardship, education | Continue existing leak detection programs | Complete |
| | | Expand leak detection programs, as feasible | Complete |
| | | Continue requesting and tracking TWDB Annual Water Conservation Reports for wholesale customer cities, which include 5- and 10-year water loss targets | Complete |
| WR4 | WR4: Encourage businesses and residents to plant drought-tolerant and native vegetation or xeriscape to reduce irrigation water use. Primary benefit: Adaptation Co-benefits: Stewardship, resource consumption, emissions reduction, cost savings | Continue to offer free automatic irrigation system evaluations and promote best management practices on outdoor watering | Complete |
| | | Develop additional resources to promote reducing outdoor water use | Complete |
| | | Continue ongoing education and outreach programs to promote best management practices that recognize landscape design that reduces water consumption | Complete |
| WR5 | WR5: Continue to monitor and protect water quality and implement improvement projects in the watershed. Primary benefit: Environmental quality Co-benefits: Water quality, public health | Continue to collaborate with other agencies within the Trinity Watershed | Complete |
| | | Update current Stormwater Quality Monitoring Program to include other surface water bodies and expand upon parameters monitored | Complete |
| WR6 | WR6: Continue to protect and monitor water quality by tracking emerging contaminants that may impact public health. Primary benefit: Environmental quality Co-benefits: Public health | Enhance monitoring plan for emerging contaminants, (i.e., PFAS) as needed | Complete |
| | | | |
| WR7 | WR7: Use FEMA community rating system to educate and protect communities from flooding. Primary benefit: Adaptation Co-benefits: Cost savings | Evaluate feasibility for undertaking additional initiatives to qualify for Class 4 rating | In Progress |
| | | Use rating system to educate flood-prone communities | Complete |

| | | | |
|-------------|---|---|-------------|
| WR8 | <p>WR8: Complete the implementation of major planned and ongoing drainage infrastructure projects to improve community resilience to flooding.</p> <p>Primary benefit: Adaptation Co-benefits: Cost savings</p> | Fund and implement highlighted stormwater capital improvement objectives for FY 20-21 from SDM Budget | Complete |
| | | Continue construction of Mill Creek Drainage Relief Tunnel scheduled for completion in 2023 | Complete |
| | | Implement Dallas Floodway/Dallas Floodway Extension | Complete |
| WR9 | <p>WR9: Initiate a comprehensive storm drainage system assessment and planning process.</p> <p>Primary benefit: Adaptation Co-benefits: Public health</p> | <p>Initiate comprehensive storm drainage assessment activities that will identify resources and organizational needs, assess infrastructure condition, identify critical projects, and evaluate stormwater utility funding needs</p> | Complete |
| | | | |
| WR11 | <p>WR11: Continue monitoring, evaluating, and updating the drought contingency plan.</p> <p>Primary benefit: Adaptation Co-benefits: Public health, resource conservation</p> | <p>Continue to monitor and evaluate effectiveness of the Drought Contingency Plan Update Drought Contingency Plan as necessary</p> | Complete |
| | | | Complete |
| WR12 | <p>WR12: Continue contingency planning to protect and maintain service of key water infrastructure facilities from extreme weather events.</p> <p>Primary benefit: Adaptation Co-benefits: Cost savings, emissions reduction</p> | <p>Evaluate recommended risk management strategies developed as part of a completed Risk and Resilience Assessment for DWU's critical water facilities to plan and prioritize future mitigation measures</p> <p>Evaluate potential to install secondary power sources for critical infrastructure</p> | Complete |
| | | | Complete |
| WR15 | <p>WR15: Continue investment in sewer collection system to reduce inflow/infiltration (I/I) to improve water quality and reduce energy usage.</p> <p>Primary benefit: Environmental quality Co-benefits: Cost savings, emissions reduction, public health</p> | <p>Award construction contracts that will result in the replacement and rehabilitation of approximately 32 miles of wastewater pipelines, including relocation and private development projects</p> | In Progress |
| | | | |

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

| # | Action | FY 20-21 Milestones | Status |
|-----|---|--|-------------|
| EG2 | EG2: Assess opportunities for blue-green infrastructure in the public realm to reduce flood risk. Primary benefit: Adaptation Co-benefits: Emissions reduction, air quality, water quality, public health, resource conservation | Initiate comprehensive storm drainage system assessment activities to identify areas prone to current and future flood risk | Complete |
| | | Complete engineering efforts for a pilot project at 8470-8506 Britannia Way for the construction of alternative “green” erosion control measures | Complete |
| | | | |
| EG3 | EG3: Increase tree canopy in both private and public realm to complete implementation of recommendations from the Urban Forest Master Plan. Primary benefit: Adaptation Co-benefits: Emissions reduction, air quality, water quality, public health | Adopt Urban Forest Master Plan | Complete |
| | | Begin implementation of actions in the Dallas Urban Forest Master Plan | Complete |
| | | Establish protocols for assessing canopy loss | In Progress |
| | | Establish protocols for managing debris | Complete |
| | | Initiate program development protocols for replanting and monitoring, including after storms and droughts that result in loss | Complete |
| | | | |
| EG4 | EG4: Continue ongoing programs to collaborate with community organizations to promote tree planting efforts, protection of trees and prairies, and drought tolerant landscapes. Primary benefit: Adaptation Co-benefits: Emissions reduction, air quality, water quality, public health, employment | Work with community-based organizations on land stewardship programs that educate residents and businesses and that plant and maintain trees in areas subject to heat island impacts | Complete |
| | | Initiate ongoing effort to develop educational resources on best practices for maintaining mature trees | Complete |
| | | Increase community outreach on tree knowledge and forest education | Complete |
| | | Support partnerships and initiatives that protect and expand Blackland Prairies, as feasible | Complete |
| | | Continue Branch Out Dallas, Branching Out Dallas, and Reforestation Program | Complete |
| | | | |
| EG5 | EG5: Update city park operations and maintenance procedures to include comprehensive ecofriendly and sustainable best management practices. Primary benefit: Environmental quality Co-benefits: Education, air quality | Update park operations and maintenance procedures to include ecofriendly and sustainable practices | Complete |
| | | Train City parks maintenances staff on the updated sustainable practices | Complete |
| | | | |
| EG9 | EG9: Support public and private partnerships using nature-based solutions to address public health challenges. Primary benefit: Environmental justice Co-benefits: Education, public health, employment | Provide technical assistance with grant writing | Complete |
| | | Provide informational resources on funding opportunities and financing options to nonprofits | Complete |
| | | Work with the Nature Conservancy, Re-tree, and Texas Trees on Breathe Easy Dallas, post-tornado reclamation and Cool-Schools Programs | Complete |

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

| # | Action | FY 20-21 Milestones | Status |
|-------------|---|--|-------------|
| FA1 | FA1: Increase access to information on sustainable agriculture, best practices, and the benefits of healthy and local foods. Primary benefit: Adaptation Co-benefits: Public health, cost savings, education | Work in partnership with organizations to provide free education on the components of urban agriculture | Complete |
| | | Connect UA stakeholders to technical assistance | Complete |
| | | Work with Dallas schools to increase climate friendly food options in schools | Complete |
| | | | |
| FA2 | FA2: Create a Food Advisory Council. Primary benefit: Environmental quality Co-benefits: Stewardship, education, resource consumption, emissions reduction, adaptation | Establish scope, roles, and responsibilities of the Food Advisory Council | Complete |
| | | Identify potential members including farmers, advocates, nonprofits, restaurants, grocers' associations, chefs, food-supply chain entities/brokers, public health experts, and community members | Complete |
| | | Establish the Food Advisory Council | Complete |
| FA3 | FA3: Develop a Dallas Comprehensive Food and Urban Agriculture Plan. Primary benefit: Environmental quality Co-benefits: Water quality, employment, education, public health, resource consumption | Initiate development of a Dallas Comprehensive Food and Urban Agriculture Plan | Complete |
| | | As part of the Urban Agriculture Plan, perform a comprehensive review of policy and regulatory barriers to growing local food for personal consumption or economic development | Complete |
| | | As part of the Urban Agriculture Plan, develop a plan to remove aforementioned barriers | Complete |
| | | As part of the Urban Agriculture Plan, evaluate demographic and community-specific needs | Complete |
| | | As part of the Urban Agriculture Plan, identify incentives to support agriculture that provides carbon sequestration benefits | Complete |
| FA9 | FA9: Establish a local food procurement plan to encourage local food purchasing at city-sponsored events. Primary benefit: Environmental quality Co-benefits: Employment, public health, adaptation | Build on local preference procurement policy to address food procurement that emphasizes healthy, local food | Complete |
| | | Define geographic and nutritional standards for all City-sponsored events | Complete |
| | | Initiate development of and pilot local food procurement procedures to support policy development | Complete |
| FA14 | FA14: Adopt a special events ordinance that encourages procurement of locally sourced food, recycling of waste generated, and compost bins at special events. Primary benefit: Environmental quality Co-benefits: Education, public health, stewardship | Initiate draft ordinance for special events that requires multiple waste management options | Complete |
| | | Research best practices and legal requirements for a related ordinance | Complete |
| | | Develop a program to help event organizers donate surplus food | In Progress |

Goal 8: All Dallas' communities breathe clean air.

| # | Action | FY 20-21 Milestones | Q4 Status |
|-----|--|--|-----------|
| AQ1 | AQ1: Work with the Texas Commission on Environmental Quality to install additional air quality monitoring stations across the city. Primary benefit: Environmental justice Co-benefits: Air quality, public health | Work with TCEQ to identify location for installation of a new monitoring station | Complete |
| | | Install new monitoring station at Dallas Pilgrim Drive as approved by TCEQ in FY 19-20 | Complete |
| | | Continue to make data available to the public | Complete |
| AQ2 | AQ2: Partner with nonprofits and schools to develop and implement non-regulatory monitors in neighborhoods. Primary benefit: Environmental justice Co-benefits: Air quality, public health | Work with The Nature Conservancy and Texas Trees Foundation to site and install non-regulatory monitors in neighborhoods based upon public health and other data | Complete |
| | | Select locations in coordination with stakeholders | Complete |
| | | Use resulting neighborhood level data to track progress for air quality improvement | Complete |
| AQ3 | AQ3: Continue to support and expand on the Air North Texas campaign to raise public awareness and improve air quality. Primary benefit: Environmental justice Co-benefits: Air quality, public health, education | Continue to support Air North Texas Campaign | Complete |
| | | Expand on Air North Texas Campaign | Complete |
| | | Tailor communication to suit needs of different communities | Complete |
| AQ4 | AQ4: Ensure new industries are an appropriate distance away from neighborhoods. Primary benefit: Environmental justice Co-benefits: Air quality, public health | Develop a map of environmental data and known environmentally impacted parcels by performing analysis of residential and industrial properties, highlighting Racially and Ethnically Concentrated Areas of Poverty (RECAP) | Complete |
| | | | |
| | | | |