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ntroduction

In May 2020, Dallas City Council approved the "Comprehensive Environmental & Climate Action Plan (CECAP)" which provides a comprehensive roadmap that outlines the activities that the City will undertake to improve quality of life, to reduce greenhouse gas emissions, to prepare for the impacts of climate change, and to create a healthier and more prosperous community. Under this plan, the City aims to reduce greenhouse gas emissions by 43% below 2015 levels by 2030 and 100% by 2050 to achieve carbon neutrality.









Air Quality

For 2024 the total City electricity consumption was 693,853 MWh at a cost of \$48.8 million. For the year 2024 City has 3,086 active electricity accounts of these 366 are classified as buildings.

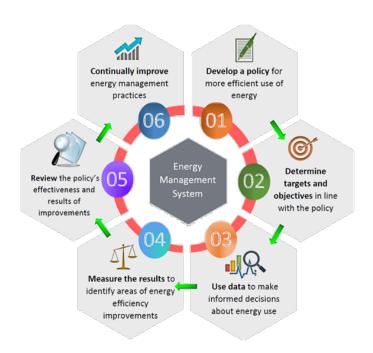
To reach these goals, the City must address carbon emissions from City owned and operated buildings. Recognizing this the City is in the process of tracking energy use in selected municipal buildings with an emphasis on how to better improve City's building energy

performance. This process is known as energy benchmarking.

The City currently tracks 195 buildings in ENERGY STAR Portfolio Manager™. This free online tool is developed by the Environmental Protection Agency (EPA) to assist building owners in tracking energy use over time. In addition, Energy Star Portfolio Manager calculates a building's energy use intensity (EUI), which is how much energy a building consumes relative to its area (kBtu/sqft). Energy Star Portfolio Manager then compares the building's EUI to the national median EUI of buildings of similar uses.

The Energy Management Program at the City was established in 2020 to oversee the energy usage in City buildings, for benchmarking purposes 2019 has been selected as the baseline year to track energy performance of City buildings.

This is the 2024 annual energy benchmarking report for selected municipal buildings owned and operated by the City of Dallas.



City Energy Use

For 2024 the total City electricity consumption was 693,853 MWh at a cost of \$48.8 million. Figure 1 and Figure 2 shows the electricity consumption and cost for all the City accounts from 2019 – 2024.

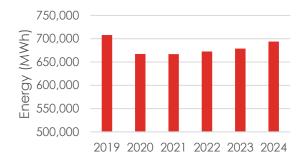


Figure 1: 2019 - 2024 Total City energy usage

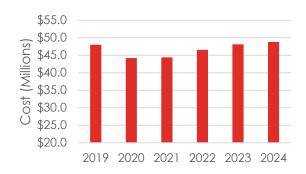


Figure 2: 2019 - 2024 Total City electricity cost

For 2024 the City has a total of 3,086 active electricity accounts, of these electricity expenses for 2,632 accounts are funded through general funds and 454 accounts are funded through enterprise funds. Figure 3 through Figure 7 shows the electricity usage and cost for general & enterprise funded accounts for 2024.

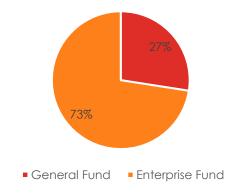


Figure 3: 2024 Total City electricity usage by fund type

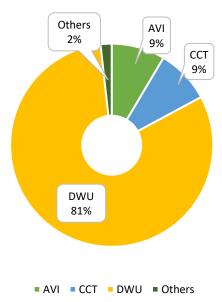


Figure 4: 2024 enterprise funded departments electricity usage

AVI - Aviation
CCT - Convention Center
DWU - Dallas Water Utilities
Others
EFM - Equipment & Fleet
SAN - Sanitation
HOU - Housing

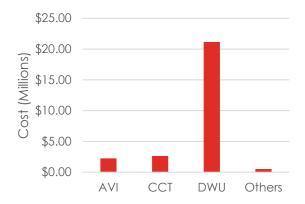


Figure 5: 2024 electricity cost for enterprise funded departments

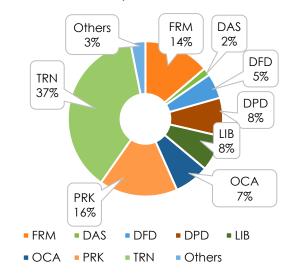


Figure 6: 2024 general funded departments electricity usage

TRN - Transportation
PRK - Park & Recreation
FRM - Facilities & Real Estate
Management
OCA - Arts & Culture
LIB - Libraries
DPD - Police
DFR - Fire & Rescue
Others
DAS - Animal Shelter
Fair Park
CCS - Code

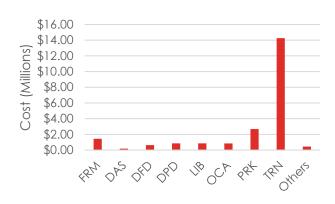


Figure 7: 2024 electricity cost for general funded departments

City Energy Policy and Procurement

On 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

City signed a new utility contract with TXU in 2019 to source 100% energy generated from wind energy. The current contract is effective until 2029 and provides a more favorable electricity rate as shown in Figure 8.

City has been recognized by U.S. Environmental Protection Agency (EPA) Green Power Partnership (GPP) organization as one of the top users of renewable energy for City buildings and facilities operation. Dallas is ranked No.2 in annual green power use in EPA's 2024 Green Power Partnership, Top 30 Local Governments list, and No.35 on their Top 100 National Organizations (including local, state, and federal agencies as well as the private sector).



Figure 8: Electricity cost (generation plus transmission & distribution charges)





RANKED NO. 2 Annual Green
Power Use In EPA's
2024 Green Power
Partnership Top 30
Local Governments
List

RANKED NO. 35 Top 100 National
Organizations
(including local,
state, and federal
agencies as well as
the private sector.)

Energy Benchmarking

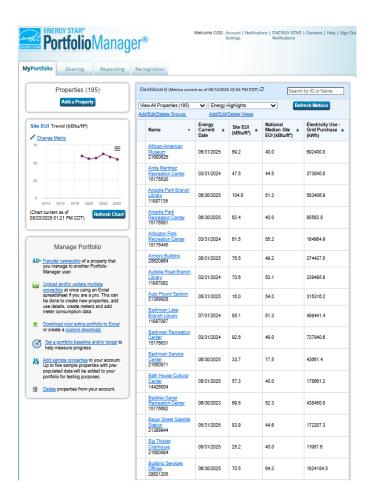
Benchmarking a building allows for review of its energy performance despite intrinsic variables such as a building's size, age, type of use, level of occupancy, and other factors such as weather. Benchmarking municipal buildings helps the City identify opportunities for energy efficiency savings, track building performance, and measure the effectiveness of energy efficiency measures. To date, the City has benchmarked 195 City-owned buildings.

Energy Star Portfolio Manager is a free online building benchmarking tool developed by the United States Environmental Protection Agency (EPA). It enables users to create building profiles by entering basic site information such as year built, number of employees, working hours and total square footage. The user enters a minimum of one year's worth of energy bills for each fuel type.

Energy Star Portfolio Manager then calculates the building's site energy use intensity (EUI) by dividing its total energy used in a single year, represented in kBtu, by its gross square footage. Next, Energy Star Portfolio Manager uses a regression equation specific to each property type that reflects data from the US Energy Information Administration's Commercial Building Energy Consumption Survey (CBECS) to calculate predicted EUI. The resulting actual/predicted EUI ratio is what determines the building's 1-100 Energy Star score. Buildings with a score of 50 perform better than fifty percent of peer buildings, while buildings scoring 75 or above are in the top 75th percentile, making them eligible for Energy Star certification.

An Energy Star score is dependent on a nationally representative data set and robust analysis. Because of this technical foundation, many of the City's municipal buildings, such as fire stations, recreation centers, libraries and service buildings cannot be benchmarked with

an Energy Star score. Alternatively, these buildings are benchmarked on the basis of site EUI. For this report, site EUI for each building is compared to the site EUI of other similar type buildings represented by the national survey data.





A total of 195 City owned buildings, comprising of 6,514,583 square feet of occupied space, have been energy benchmarked in Energy Star Portfolio Manager. Of the 195 buildings 57 are parks & recreational facilities, 29 libraries, 58 fire stations, 11 police facilities, 13 arts & cultural facilities and 27 administrative & other facilities.

The energy management program at the City was established in 2020 to oversee the energy usage in City buildings. For benchmarking purposes, 2019 EUI has been selected as the baseline year to track energy performance of City buildings. Figure 9 shows the 2024 EUI for all 195 buildings in relation to the 2019 EUI baseline. There has been a reduction of 22% in 2024 EUI compared to 2019 EUI baseline.

For data consistency in Energy Star Portfolio Manager all the energy usage follows calendar year and not the fiscal year.

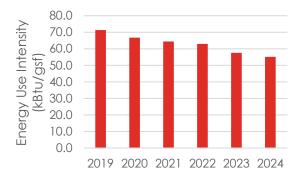


Figure 9: Benchmarked buildings portfolio EUI







A total of 29 libraries comprising of 1,109,045 square foot of occupied space have been energy benchmarked in Energy Star Portfolio Manager. Based on the EUI analysis from Energy Star Portfolio Manager 5 libraries performed well (highlighted in the table below), whereas 24 libraries have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. Table 1 below lists the Energy Star Portfolio Manager EUI data for all the 29 libraries.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
Arcadia Park Branch Library	139	51.3	170.9
Audelia Road Branch Library	65.4	54.1	21
Bachman Lake Branch Library	78.4	51.3	52.8
Dallas West Branch Library	107.7	80	34.7
Forest Green Branch Library	25	51.3	-51.2
Fretz Park Branch Library	57.7	54.9	5.3
Grauwyler Park Branch Library	52.6	51.3	2.6
Hampton-Illinois Branch Library	77.7	58.1	33.7
Highland Hills Branch Library	66.4	53.1	25
J. Erik Jonsson Central Library	37.7	57.4	-34.4
Kleberg Rylie Branch Library	141.6	74.8	89.2
Lakewood Branch Library	102.2	55.7	83.4
Lochwood Branch Library	54.1	51.3	5.5
Mountain Creek Branch Library	73.7	62.4	18.2
North Oak Cliff Branch Library	70.7	55.9	26.5
Oak Lawn Branch Library	92.1	61	50.8
Park Forest Branch Library	136.2	60.7	124.4
Paul Laurence Dunbar Lancaster-Kiest Branch Library	136.2	59.9	127.6
Pleasant Grove Branch Library	48.9	51.3	-4.7
Polk-Wisdom Branch Library	38.4	51.3	-25.1
Prairie Creek Branch Library	40.6	51.3	-20.8
Preston Royal Branch Library	122.7	63.4	93.5
Renner Frankford Branch Library	92.2	72.6	27
Skillman Southwestern Branch	=		45.
Library	59.1	51.3	15.1
Skyline Branch Library	131.5	51.3	156.4
Timberglen Branch Library	53.6	51.3	4.6
Vickery Park Branch Library	59.2	51.3	15.5

Vickery Meadow Branch			
Library	59.2	51.3	15.5
White Rock Hills Branch Library	52.3	51.3	1.9

Table 1: Energy Star Portfolio Manager EUI data for libraries



nergy Benchmarking Analysis - Dallas Fire & Rescue

A total of 58 fire stations comprising of 561,218 square foot of occupied space have been energy benchmarked in Energy Star Portfolio Manager. Based on the EUI analysis from Energy Star Portfolio Manager 14 fire stations performed well (highlighted in the table below), whereas 44 fire stations have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. Table 2 below lists the EUI data for all the 58 fire stations.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
Fire Station #01	77.6	60.9	27.4
Fire Station #02	80.7	65.3	23.5
Fire Station #03	80.5	62	29.8
Fire Station #04	35.2	44.6	-21
Fire Station #05	80.5	61.7	30.5
Fire Station #06	95.2	52.4	81.5
Fire Station #07	74.6	66.2	12.7
Fire Station #08	104	62.9	65.3
Fire Station #09	58	62.3	-6.8
Fire Station #10	83.1	60.2	38.2
Fire Station #11	79.5	52.6	51.2
Fire Station #12	105.2	72.8	44.5
Fire Station #13	106.6	61.9	72.1
Fire Station #14	72.5	61.2	18.4
Fire Station #15	85.7	62.9	36.2
Fire Station #16	17	44.6	-62
Fire Station #17	130.5	67.8	92.5
Fire Station #18	90.9	62.4	45.7
Fire Station #19	31.5	44.6	-29.3
Fire Station #20	89.4	66.4	34.7
Fire Station #21	76.4	65.2	17.2
Fire Station #22	36.6	64.4	-43.1
Fire Station #23	85.9	65.9	30.3
Fire Station #24	123.6	64.2	92.5
Fire Station #25	80	50.5	58.4
Fire Station #26	85.9	62.1	38.3
Fire Station #27	59.7	44.6	33.8
Fire Station #28	37.3	44.6	-16.4
Fire Station #29	83.3	65.4	27.4

Fire Station #30	84.1	59.9	40.2
Fire Station #31	68.5	60.2	13.8
Fire Station #32	48.2	53.2	-9.4
Fire Station #33	79.5	61.5	29.2
Fire Station #34	54.4	46.1	18
Fire Station #35	53.2	57.1	-6.9
Fire Station #36	33.2	57.1	-41.9
Fire Station #37	108.9	66.8	63
Fire Station #38	132.2	70.6	87.2
Fire Station #39	84.6	60.8	39.2
Fire Station #40	103.1	68.9	49.6
Fire Station #41	43	44.6	-3.5
Fire Station #42	69.4	62.6	10.9
Fire Station #43	100.1	62.8	59.3
Fire Station #44	72.5	62.2	16.6
Fire Station #45	62.7	64.4	-2.5
Fire Station #46 (331 E Camp)	76.7	44.6	71.9
Fire Station #47	87.8	63.3	38.6
Fire Station #48	25.9	99.4	-74
Fire Station #49	56.9	90.4	-37
Fire Station #50	88.9	57.2	55.4
Fire Station #51	78.6	64.2	22.4
Fire Station #52	86.4	66.7	29.5
Fire Station #53	111.7	65.6	70.4
Fire Station #54	84.4	65.2	29.4
Fire Station #55	58.6	50.5	16
Fire Station #56	132.1	78.8	67.6
Fire Station #57	89.8	64.7	38.7
Fire Station #58	3.1	44.6	-93.1

Table 2: Energy Star Portfolio Manager EUI data for fire stations



nergy Benchmarking Analysis – Parks & Recreation

A total of 57 parks & recreation facilities comprising of 868,788 square foot of occupied space have been energy benchmarked in Energy Star Portfolio Manager. Based on the EUI analysis from Energy Star Portfolio Manager 8 recreation centers performed well (highlighted in the table below), whereas 49 recreation centers have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. One recreation center has EUI data incomplete. Table 3 below lists the EUI data for all the 57 parks & recreation facilities.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
Anita Martinez Recreation Center	50.2	44.5	12.7
Arcadia Park Recreation Center	74.1	40	85.2
Arlington Park Recreation Center	53.9	54	-0.2
Bachman Recreation Center	66.9	47.3	41.5
Beckley-Saner Recreation Center	70.6	49.1	43.7
Big Thicket Clubhouse	27	40	-32.5
Campbell Green Recreation Center	37.1	40.7	-8.9
Cedar Crest Golf Course Clubhouse	3.8	39.1	-90.3
Cedar Crest Maintenance Barn	53.6	34.6	55
Children's Aquarium Dallas	162.5	40	306.3
Churchill Recreation Center	55.7	51.1	9
Cummings Recreation Center	77.7	47.4	63.8
Eloise Lundy Recreation Center	46.6	40	16.5
Exall Recreation Center	104.4	49.1	112.6
Exline Recreation Center	53	50	6
Fireside Recreation Center	78.6	56.8	38.2
Fretz Park Recreation Center	74.9	47.7	56.9
Fruitdale Recreation Center	63.4	57.6	10
Grauwyler Recreation Center	54	51.3	5.3
Grover Keeton Cart Barn	55.8	34.6	61.3
Grover Keeton Club House	113.3	39.1	189.5
Grover Keeton Maintenance Barn	113.2	34.6	227.2
Harry Stone Recreation Center	99.9	50.6	97.5
Janie C Turner Recreation Center	62.9	49.1	28.1
Jaycee Zaragoza Recreation Center	61	45.3	34.5
JC Phelps Recreation Center	83.8	47.3	77
Juanita Craft Recreation Center	58.9	40	47.2
K.B.Polk Recreation Center	82.3	51.1	61.2

Kidd Springs Recreation Center	26.9	48.6	-44.6
Kiest Park Recreation Center	41.7	40	4.3
Kiest Tennis Center	563.4	40	1308.5
Kleberg-Rylie Recreation Center	58.1	51.9	12
L.B. Houston - Golf Cart Barn	57.1	34.6	65
L.B. Houston - Repair Shop	37.5	34.6	8.4
L.B. Houston - Tennis	206	40	414.9
Lake Highlands North Recreation Center	35.6	40	-11.1
Larry Johnson Recreation Center	67	54.1	23.7
Marcus Annex Senior Center	83.5	40	108.8
Marcus Recreation Center	95.5	48.2	98.2
Martin Weiss Recreation Center	86.2	44.8	92.4
Mattie Nash Myrtle Davis Recreation Center	58.4	44.1	32.5
Mildred Dunn Recreation Center	64.4	40	61
New Singing Hill Recreation Center	64.7	40	61.7
Park in the Woods Recreation Center	50.5	40	26.3
Pike/Santos Rodriguez Recreation Center	31.3	41.8	-25.1
Pleasant Oaks Recreation Center	60	48.9	22.8
Reverchon Recreation Center	66.3	49.7	33.5
Ridgewood Belcher Recreation Center	69.4	40	73.5
Samuell Grand Recreation Center	82.8	47.5	74.4
Stevens Club House	132.9	39.1	239.6
Stevens Golf - Maintenance Shop Building	106.1	34.6	206.6
Thurgood Marshall Recreation Center	22.2	40	-44.6
Timberglen Recreation Center	56.9	46.2	23.1
Tommie M Allen Recreation Center	52.6	40	31.5
Umphress Recreation Center	12.5	40	-68.8
Walnut Hill Recreation Center	42.5	40	6.2
Willie B Johnson Recreation Center	339.5	40	748.6

Table 3: Energy Star Portfolio Manager EUI data for parks & recreation facilities



nergy Benchmarking Analysis – Arts & Culture Facilities

A total of 13 arts & culture facilities comprising of 861,612 square foot of occupied space have been energy benchmarked in Energy Star Portfolio Manager. Based on the EUI analysis from Energy Star Portfolio Manager 3 arts & culture facilities performed well (highlighted in the table below), whereas 10 arts & culture facilities have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. Table 4 below lists the EUI data for all the 13 arts & culture facilities.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
African-American Museum	72.8	40	81.9
Bath House Cultural Center	59.8	40	49.4
Dallas City Performance Hall	66.2	40	65.5
Dallas Museum of Art	43.4	40	8.5
Dallas Theater Center - Kalita Humphreys Theater	62.8	40	56.9
Dallas Theater Center - Second Thought Theater	37.7	40	-5.7
Hall of State	29	40	-27.4
Juanita Craft Civil Rights House	81	40	102.6
Latino Cultural Center	141.2	40	252.9
Majestic Theatre	70.8	40	77.1
Museum of Natural History	63.2	40	58
Oak Cliff Cultural Center	53.8	39.1	37.5
South Dallas Cultural Center	32.8	40	-18

Table 4: Energy Star Portfolio Manager EUI data for arts & culture facilities



A total of 11 new police facilities comprising of 712,616 square foot of occupied space were energy benchmarked in Energy Star Portfolio Manager since 2021. Based on the EUI analysis from Energy Star Portfolio Manager 2 police facilities performed well (highlighted in the table below), whereas 9 police facilities have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. Table 5 below lists the EUI data for all the 11 police facilities.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
Bexar Street Satellite Station	75.4	44.6	69.1
Dallas Police Academy Training Building	31.8	62.9	-49.5
DPD Property and Evidence Unit	82.5	64.4	28.2
Jack Evans Police Headquarters	45.6	44.9	1.5
North Central Patrol	77.9	56.5	37.9
North East Patrol	97.5	54.8	77.8
North West Patrol	49.6	44.6	11.3
Quartermaster Section	33.2	44.6	-25.7
South Central Patrol	82.3	44.6	84.6
South East Patrol	70.8	45.8	54.6
South West Patrol	60.4	44.6	35.4

Table 5: Energy Star Portfolio Manager EUI data for police facilities

Energy Benchmarking Analysis – Administrative & Other Facilities

A total of 27 administrative and other facilities comprising of 2,401,304 square foot of occupied space have been energy benchmarked in Energy Star Portfolio Manager. Based on the EUI analysis from Energy Star Portfolio Manager 17 administrative and other facilities performed well, whereas 10 administrative and other facilities have EUI greater than the EUI for similar benchmarked buildings and present opportunities to implement energy conservation measures to reduce energy usage. Table 6 below lists the EUI data for all the 27 administrative and other facilities.

Property Name	Site EUI (kBtu/ft²)	National Median Site EUI (kBtu/ft²)	% Difference from National Median Site EUI
Armory Building	71.7	49	46.4
Auto Pound Section	17.3	54	-67.9
Bachman Service Center	26.6	17.3	53.7
Building Services Offices	72.5	64	13.2
City Hall	76.5	77.9	-1.8
Dallas Fire Rescue	78.5	53.3	47.1
District 8 Council Office	36.9	47.6	-22.3
EBS Roofing & Maintenance	49.7	34.6	43.7
Eco Park	35.7	34.7	2.9
Fair Oaks Service Center	6.9	17.1	-59.8
Fire Training Administration	46	66.5	-30.8
Hensley Field – Auto Parts Storage	16.9	34.6	-51.2
I.C. Harris Building	23.6	31.9	-26
Municipal Courts Headquarters	23.4	48.7	-51.8
Northeast Service Center	8.3	34.6	-75.9
Northwest Service Center	89.2	34.6	157.9
Oak Cliff Municipal Center	38.9	56.9	-31.5
Offices of Code Compliance	10	48.4	-79.3
Park Central Service	28.5	17.3	64.7
Radio Shop/Communications Building	63.6	31.9	99.5
South Central Community Code	0.7	46	-98.5
Southeast Service Center	33.5	34.6	-3.1
Southwest Facility Community Code District Office (Code Compliance)	1.9	53.9	-96.5
Southwest Service Center	10	34.6	-71.1
Stemmons Building	51.3	66.5	-22.8

Thanksgiving Square	24.3	39.1	-38
West Dallas Multipurpose Center	133.7	52.5	154.7

Table 6: Energy Star Portfolio Manager EUI data for administrative & other facilities



The Energy Management Team at the Facilities & Real Estate Management Department has established the following goals for the upcoming fiscal year:

- Continue efforts to reduce energy use intensity at City-owned buildings
- Develop programs for implementing renewable energy and energy conservation measures at City-owned buildings such as solar PV & LED lighting
- Monitor and communicate energy saving efforts and achievements
- Continue work on FY2025 CECAP action items
- Complete construction of pilot solar PV + battery energy storage system project at Bachman Recreation Center, solar PV at Beckley Saner Recreation Center
- Complete construction of lighting improvements at 5 City buildings under Energy Efficiency & Conservation Block Grant (EECBG)

For additional information or questions, please contact; Srinivas Vemuri at srinivas.vemuri@dallas.gov and 214-671-8392.