

Metropolitan Government
of Nashville and Davidson County

John Cooper, Mayor
Velvet Hunter, Interim Director



Department of General Services

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June 22, 2022

Metropolitan Government Clerk's Office
Metropolitan Courthouse
1 Public Square, Suite 205
Nashville, TN 37201

Dear Honorable Members of the Metropolitan Government of Nashville & Davidson County Council:

In accordance with Section 16.60.110 of the Metropolitan Code, the Department of General Services is herewith providing an annual report for calendar year 2021 describing the environmental performance and operation of the 23 LEED® (i.e., "high performance") buildings that the department manages.

The annual report requirements for LEED® buildings include:

1. The LEED® building's energy and water use compared to a non-LEED® building of similar size and use within the area of the metropolitan government;
2. The LEED® building's estimated energy and water cost savings compared to a non-LEED® building of similar size and use within the area of the metropolitan government.

The high performance buildings that are presented in this annual report are those for which a minimum of one year of energy data is available and include the following:

High Performance Building	Opening Date	LEED® level
Fire - Station #3	October 2012	LEED® Gold
Fire - Station #11	January 2014	LEED® Gold
Fire - Station #19	December 2015	LEED® Platinum
Fire - Station #20	October 2015	LEED® Silver
Fire - Station #21	November 2013	LEED® Silver
Fire - Station #30	June 2013	LEED® Silver
Fire - Station #31	September 2012	LEED® Gold
Fire - Station #32	December 2020	LEED® Gold
Fire - Station #33	April 2013	LEED® Silver
Fire - Station #35	September 2011	LEED® Silver
Fire - Station #37	August 2020	LEED® Gold
Police - Midtown Hills Precinct	August 2014	LEED® Gold
Police - West Precinct	December 2011	LEED® Gold
Police - Madison Precinct & Crime Lab	January 2014	LEED® Silver
Howard Office Building	December 2010	LEED® Silver
Lindsley Hall	April 2010	LEED® Silver

MAC - Douglass Head Start	February 2014	LEED® Silver
Highland Heights - KIPP Academy	August 2014	LEED® Silver
Library - Bellevue Branch	January 2015	LEED® Gold
Southeast Davidson Library & Community Center	October 2014	LEED® Gold
Lentz Public Health Center	July 2014	LEED® Silver
Police - Headquarters & Family Safety Center	January 2019	LEED® Gold
Bellevue Community Center	September 2020	LEED® Silver

The Energy Utilization Index (EUI) of each LEED® building was calculated and compared to similar size and use non-LEED® buildings as well as regional benchmarks. The EUI is expressed as energy consumed in one year (measured in thousands of British thermal units or kBtu) divided by the total square footage of the building. A building’s EUI varies due to factors such as age, use, controls, envelope efficiency, climate, etc. Generally, a low EUI signifies good energy performance, but certain property types will always have a higher EUI than others. For example, Police Precincts that operate 24/7 will have a higher EUI than office buildings that are in use during business hours.

The EUI of each Metro LEED® building was also compared to a regional benchmark for that type of building. Benchmark EUI data was obtained from the U.S. Department of Energy’s 2012 Commercial Building Energy Consumption Survey (CBECS). CBECS is a national sample survey of U.S. commercial buildings. The EUI by building type for the Southern region was used as the regional benchmark.

In summary, for the 23 high performance buildings reviewed in this report, Metro General Services in 2021 saved a total of more than 12,000,000 kBtu energy and avoided energy costs of more than \$390,000 compared to the non-LEED® comparable buildings.

Of the 21 facilities where non-LEED® comparable buildings with water consumption readings were available, the high performance buildings saved a total of more than 53,400 gallons of water, avoiding more than \$1,000 in water cost.

Please feel free to contact me with any questions.

Sincerely,

Velvet Hunter

Velvet Hunter

Interim Director, Department of General Services

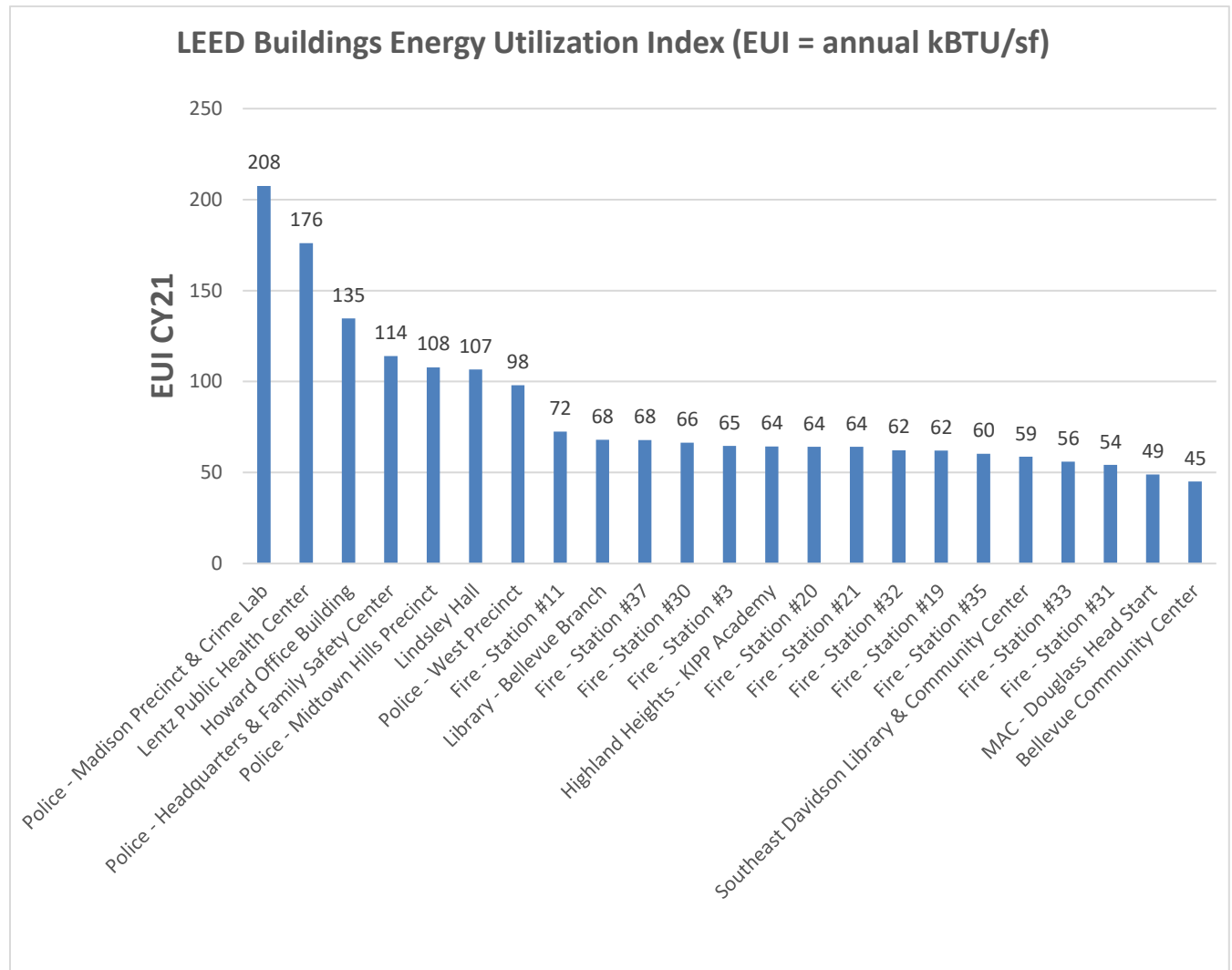
Metro Department of General Services' Summary Report

For General Services 23 LEED® buildings representing a total area of 1,037,158 square feet, the department spent \$2,273,411 on energy (\$1,942,849 for electricity, \$330,561 for natural gas) and \$323,696 on water for calendar year 2021. The utility consumption and cost per building are as follows:

High Performance Building	Building Sq. Ft.	Electricity (kWh)	Electricity cost	Gas (therms)	Gas cost	Water (gallons)	Water cost
Fire - Station #3	17,469	273,720	\$27,207.75	1,945	\$2,254.99	169,808	\$6,535.01
Fire - Station #11	15,587	229,470	\$24,588.68	3,469	\$3,641.26	213,195	\$7,231.33
Fire - Station #19	20,142	269,671	\$26,393.80	3,305	\$3,678.76	184,769	\$7,817.68
Fire - Station #20	13,573	195,456	\$23,056.92	2,039	\$2,529.07	85,278	\$5,082.00
Fire - Station #21	19,116	264,125	\$27,207.93	3,251	\$3,765.56	224,415	\$7,539.82
Fire - Station #30	14,435	221,892	\$22,704.16	2,024	\$2,579.31	158,587	\$7,473.71
Fire - Station #31	17,311	207,414	\$23,186.05	2,298	\$2,816.06	114,452	\$1,298.17
Fire - Station #32	17,693	242,657	\$21,907.20	2,728	\$3,172.88	125,673	\$7,824.33
Fire - Station #33	15,533	187,097	\$21,657.51	2,324	\$2,892.15	77,049	\$4,815.22
Fire - Station #35	11,586	113,554	\$13,262.99	3,113	\$3,612.00	148,862	\$6,626.13
Fire - Station #37	19,305	257,654	\$23,632.71	4,308	\$4,570.97	154,100	\$5,465.43
Police -Midtown Hills Precinct	21,846	676,800	\$64,478.45	465	\$997.38	210,950	\$12,676.72
Police - West Precinct	25,698	727,294	\$68,886.27	358	\$900.06	125,673	\$9,125.59
Police - Madison Precinct & Crime Lab	84,420	3,486,000	\$332,531.42	56,263	\$53,026.07	588,716	\$11,446.05
Howard Office Building	139,027	2,426,035	\$267,367.84	104,565	\$36,599.61	2,681,250	\$49,707.18
Lindsley Hall	34,198	328,070	\$35,616.64	25,262	\$8,842.25	659,537	\$12,227.02
MAC - Douglass Head Start	26,625	317,812	\$37,627.17	2,183	\$2,589.60	692,695	\$15,219.46
Highland Heights - KIPP Academy	92,459	1,683,699	\$164,211.38	1,959	\$2,484.04	632,103	\$20,700.02
Library - Bellevue Branch	24,912	494,676	\$50,777.42	66	\$609.98	775,600	\$5,708.92
Southeast Davidson Library & Community Center	80,600	1,188,600	\$116,322.78	6,760	\$6,936.16	1,366,390	\$19,663.44
Lentz Public Health Center	107,474	2,716,871	\$258,565.03	96,511	\$89,741.25	2,354,865	\$38,356.11
Police – Headquarters & Family Safety Center	170,281	2,910,302	\$241,979.89	94,875	\$88,122.94	2,984,723	\$41,088.40
Bellevue Community Center*	47,868	515,013	\$49,679.39	4,028	\$4,199.04	1,618,132	\$20,068.55

*The LEED building is named Bellevue Ice & Community Center. General Services only manages the Community Center part of the facility and does not manage the Ice Center; therefore, only the Community Center part of the facility is included in this report.

The following chart shows the energy performance of the LEED® buildings. A building’s Energy Utilization Index, or EUI, varies according to factors such as age, use, controls, envelope efficiency, etc.



This report will compare the EUI of these LEED® buildings to local benchmarks as well as regional benchmarks for calendar year 2021. Local comparison buildings were chosen according to the following requirements:

- Of similar size as the comparable LEED® building,
- Serve a similar function as the comparable LEED® building,
- Geographically located within Davidson County, and
- Cannot be a LEED® or high performance building.

Southern Regional benchmark data was obtained from the Department of Energy’s 2012 Commercial Building Energy Consumption Survey (CBECS). CBECS is a national sample survey of U.S. commercial buildings and provides the gross energy utilization index for the sum of major fuels for different building types and 2012 is the most recent CBECS data available. Preliminary 2018 CBECS data will be released in August 2022.

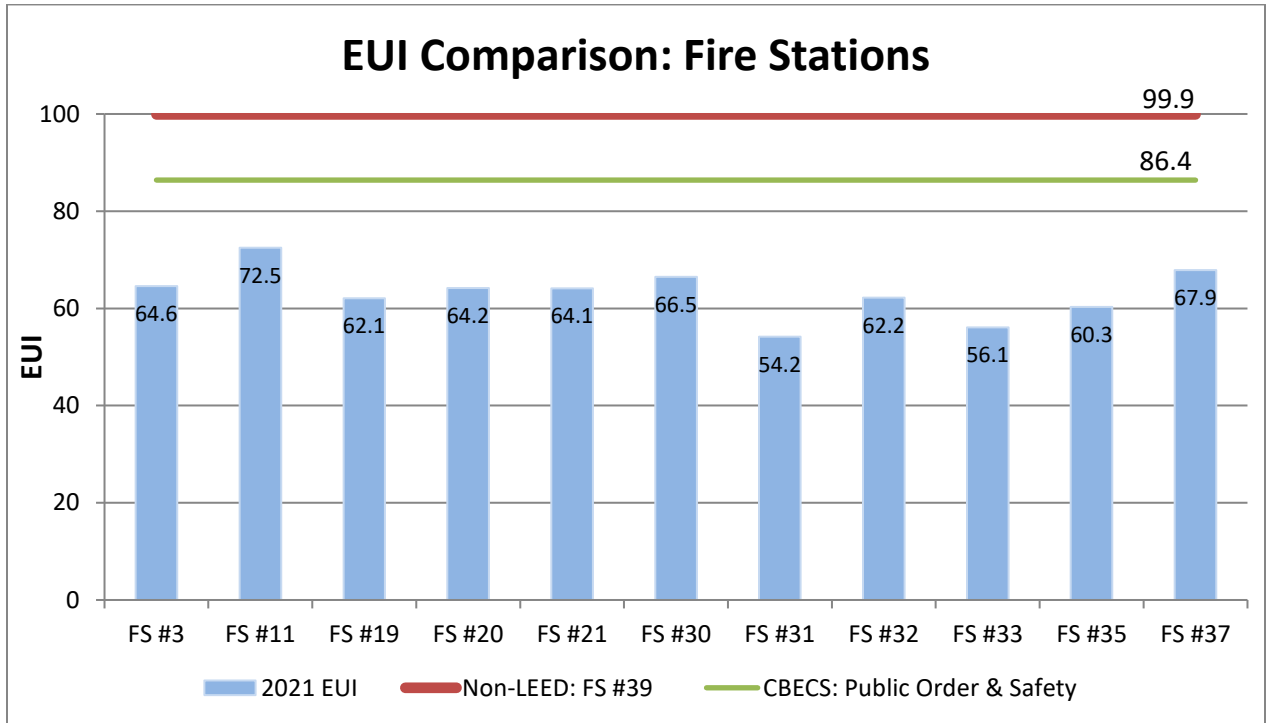
The following comments pertain to the energy cost comparisons done for each group of buildings:

- Commercial electricity bills include both electricity usage charges and electricity demand charges. Best practice is to calculate *energy cost per square foot* by excluding the electricity demand charges. Energy costs for this calculation thus consist of the sum of electricity usage charges and natural gas charges.
- For the CBECS benchmark, the mean square footage per building type is shown as a comparison. The energy cost for the CBECS benchmark is derived from the sum of the major fuel expenditures in millions of dollars, divided by the total floor space in millions of square feet for the sample group of buildings. This is not meant to be an accurate reflection of energy cost but a reference point.
- The annual savings were calculated by comparing the BTUs for the LEED® building and the comparison building (for the same square footage) and multiplying the difference by the average cost per BTU. The annual savings are thus dependent on the EUI of the buildings and do not necessarily correlate to the energy cost per square foot.

Fire Stations

Energy Consumption

Energy consumption for the eleven LEED® Fire Stations is compared in the graph below to the non-LEED® Fire Station #39 as well as to the Southern regional CBECS benchmark for a similar type building. As the graph shows, General Services’ LEED® fire stations performed better than both the comparable non-LEED® building and the regional benchmark.



Energy costs for the eleven LEED® Fire Stations are compared in the following table to the non-LEED® Fire Station #39 as well as to the Southern region CBECS benchmark for a similar type building (Public Order & Safety).

	Building sf	Energy Cost/sf	EUI	Annual savings compared to non-LEED® FS #39	Annual savings compared to regional benchmark
Fire - Station #3	17,469	\$1.52	64.6	\$16,109.64	\$9,946.33
Fire - Station #11	15,587	\$1.65	72.5	\$10,680.38	\$5,418.06
Fire - Station #19	20,142	\$1.35	62.1	\$20,695.98	\$13,302.02
Fire - Station #20	13,573	\$1.74	64.2	\$14,257.87	\$8,869.30
Fire - Station #21	19,116	\$1.48	64.1	\$17,268.11	\$10,743.81
Fire - Station #30	14,435	\$1.59	66.5	\$12,722.09	\$7,582.13
Fire - Station #31	17,311	\$1.37	54.2	\$21,970.27	\$15,482.38
Fire - Station #32	17,693	\$1.27	62.2	\$19,363.59	\$12,423.23
Fire - Station #33	15,533	\$1.45	56.1	\$19,203.65	\$13,286.36
Fire - Station #35	11,586	\$1.33	60.3	\$11,081.01	\$7,300.18
Fire - Station #37	19,305	\$1.31	67.9	\$16,142.13	\$9,338.76
Non-LEED®: FS #39	9,595	\$1.82	99.9		
CBECS: Public Order & Safety	14,800	\$1.67	86.4		
Total				\$179,494.73	\$113,692.53

Water Consumption

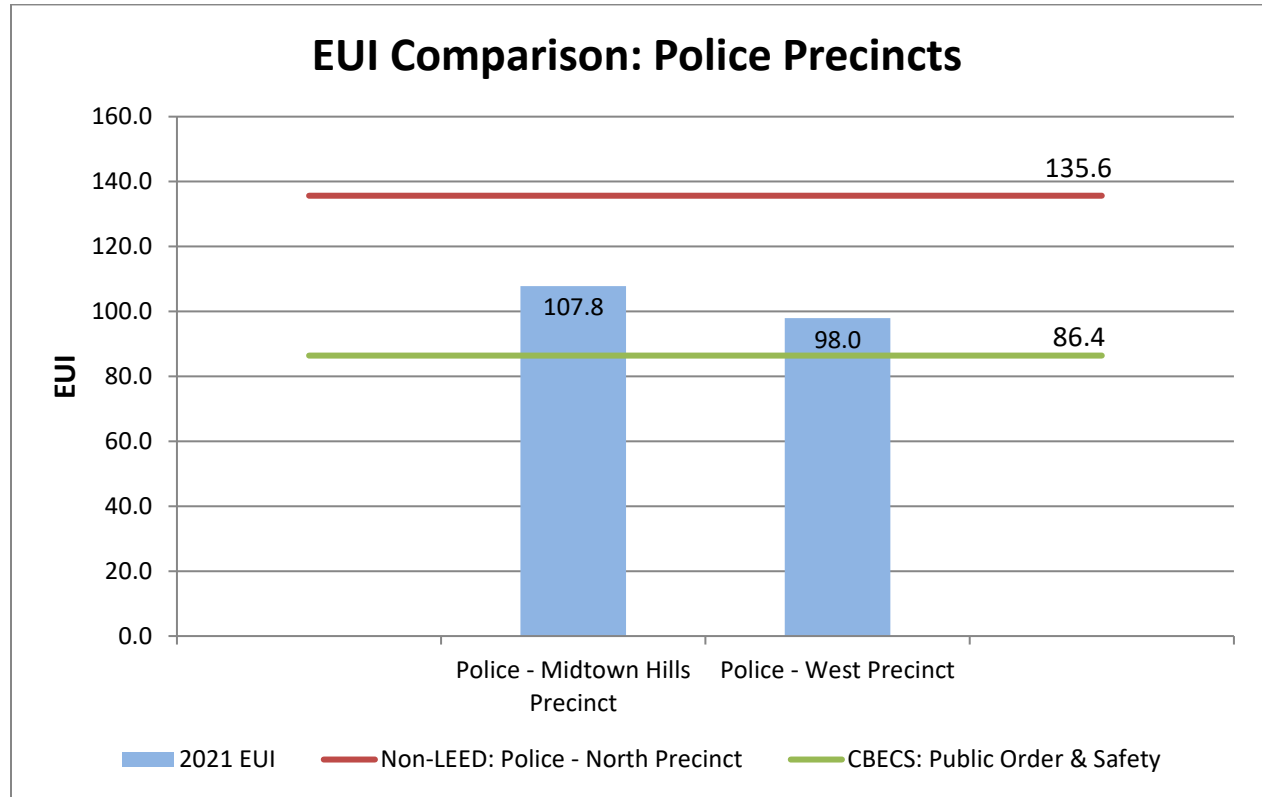
Water consumption and comparisons to the non-LEED® Fire Station #39 are shown in the table below. The water intensity (gallons used/square feet) is compared, as well as the water usage after accounting for the different sizes in buildings. For instance, if Fire Station #39 was the same size as Fire Station #31, Fire Station #31 would use 252,617 gallons less water than Fire Station #39 during calendar year 2021.

	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to FS #39 (gallons)
Fire - Station #3	17,469	169,808	9.7	200,612
Fire - Station #11	15,587	213,195	13.7	117,318
Fire - Station #19	20,142	184,769	9.2	242,330
Fire - Station #20	13,573	85,278	6.3	202,529
Fire - Station #21	19,116	224,415	11.7	180,928
Fire - Station #30	14,435	158,587	11.0	147,498
Fire - Station #31	17,311	114,452	6.6	252,617
Fire - Station #32	17,693	125,673	7.1	249,496
Fire - Station #33	15,533	77,049	5.0	252,318
Fire - Station #35	11,586	148,862	12.8	96,812
Fire - Station #37	19,305	154,100	8.0	255,251
Non-LEED® comparable: FS #39	9,595	203,456	21.2	
Total				2,197,709

Police Precincts

Energy Consumption

Energy consumption for the two police precincts is compared in the graph below to the non-LEED® North Police Precinct as well as to the Southern regional CBECS benchmark for a similar type building (Public Order and Safety). Madison Police Precinct & Crime Lab is compared separately due to the unique operations of the crime lab.



Energy costs for the two police precincts are compared in the table below to the non-LEED® North Police Precinct as well as to the Southern regional CBECS benchmark for a similar type building (Public Order & Safety).

	Building sf	Energy Cost/sf	EUI	Annual savings compared to non-LEED® North PP	Annual savings compared to regional benchmark
Police - Midtown Hills Precinct	21,846	\$2.24	107.8	\$16,884.46	-\$13,014.73
Police - West Precinct	25,698	\$2.00	98.0	\$26,847.81	-\$8,233.21
Non-LEED®: North PP	21,378	\$2.37	135.6		
CBECS: Public Order & Safety	14,800	\$1.67	86.4		
Total				\$43,732.27	-\$21,247.94

- For West Police Precinct, the square footage for the parking garage was not included in the building square footage, but the electricity consumption for the lighting in the parking garage is included in the energy metrics since it is not separately metered.

Water Consumption

Water consumption comparisons to the non-LEED® North Police Precinct are shown in the table below.

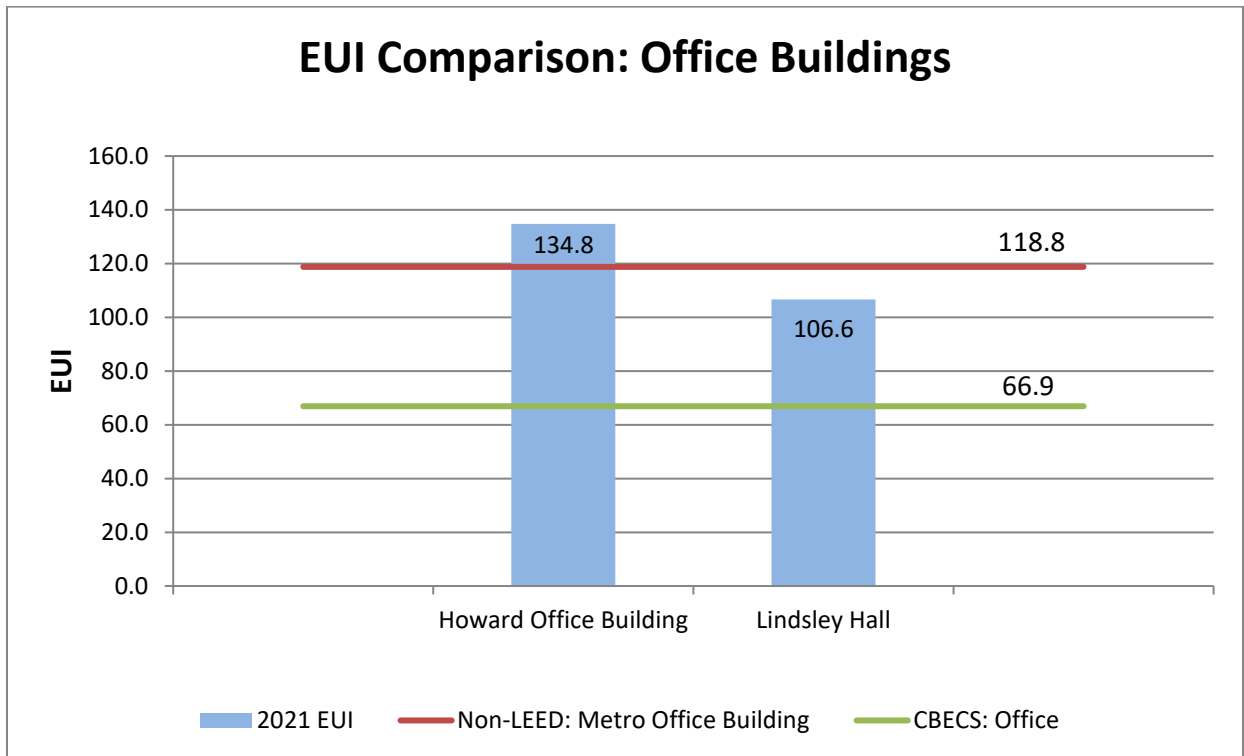
	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to North PP (gallons)
Police - Midtown Hills Precinct	21,846	210,950	9.7	-97,059
Police - West Precinct	25,698	125,673	4.9	8,301
Non-LEED®: North PP	21,378	111,452	5.2	
Total				-88,757

- The water used by the Edgehill Community Garden is separately metered and was not included in the Midtown Hills water usage.

Office Buildings

Energy Consumption

Energy consumption for the two office buildings is compared in the graph below to the non-LEED® Metro Office Building as well as to the Southern regional CBECS benchmark for a similar type building.



- Electricity usage of the data centers at Howard Office Building was not included in the calculations.
- The cooling tower electricity is part of the Howard Office Building, but it contributes to Lindsley Hall and Metro Office Building too. The total energy of the cooling tower was divided by square footage per building.

Energy costs for the two office buildings are compared in the following table to the non-LEED® Metro Office Building as well as to the Southern regional CBECS benchmark for a similar type building (Office).

	Building sf	Energy Cost/sf	EUI	Annual savings compared to non-LEED® Metro Office Building	Annual savings compared to regional benchmark
Howard Office Building	139,027	\$1.55	134.8	-\$36,063.35	-\$153,057.12
Lindsley Hall	34,198	\$1.13	106.6	\$5,072.05	-\$16,558.12
Non-LEED®: Metro Office Building	68,383	\$1.19	118.8		
CBECS: Office	14,100	\$1.69	66.9		
Total				-\$30,991.30	-\$169,615.24

Water Consumption

Water consumption at the two office buildings and comparisons to the non-LEED® Metro Office Building are shown in the table below.

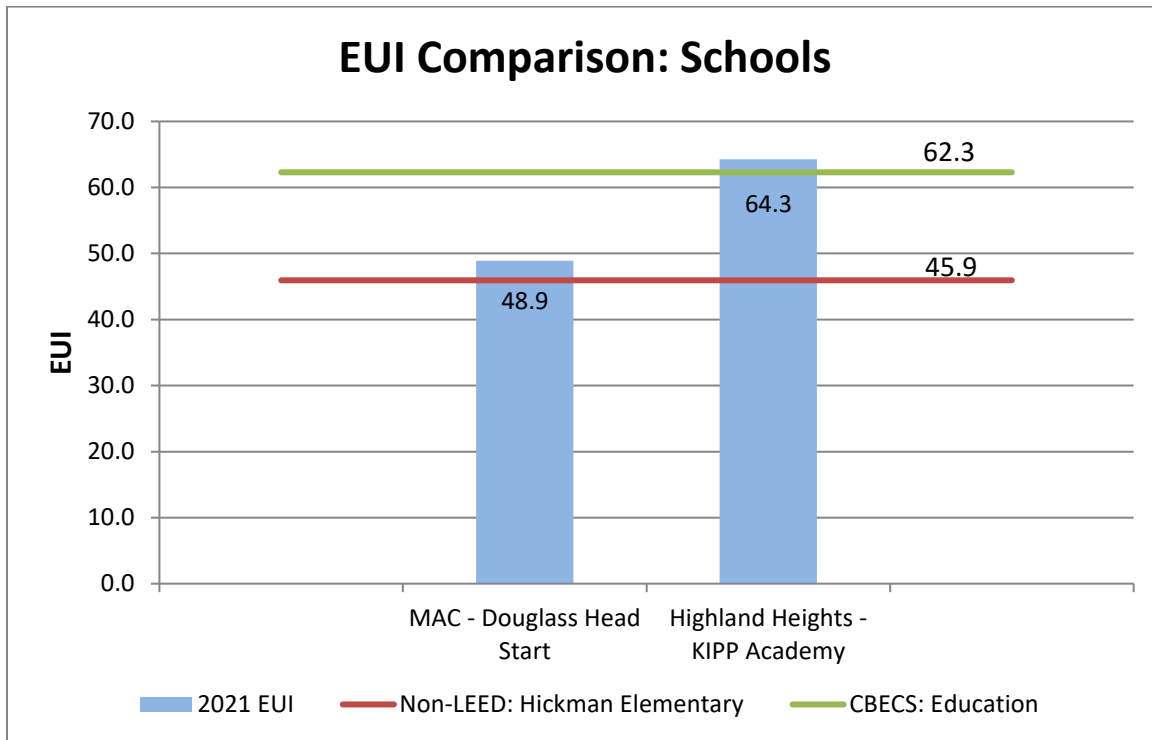
	Building sf	Water Consumption (gallons)
Howard Office Building	139,027	2,681,250
Lindsley Hall	34,198	659,537
Non-LEED®: Metro Office Building	68,383	1,318,505

- The water meters on the Richard H. Fulton Campus service multiple buildings; therefore, for this analysis, water usage is appropriated to each building solely according to square footage. This report does not compare the water usage for Lindsley and Howard with the water usage for Metro Office Building.

Schools

Energy Consumption

Energy consumption for the two schools is compared in the graph below to the non-LEED® Hickman Elementary as well as to the Southern regional CBECS benchmark for a similar type building.



Energy costs for the two schools are compared in the following table to the non-LEED® Hickman Elementary, as well as to the Southern regional CBECS benchmark for a similar type building (Education).

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® Hickman Elementary	Annual savings compared to regional benchmark
MAC - Douglass Head Start	26,625	\$1.16	48.9	-\$2,452.19	\$10,994.27
Highland Heights – KIPP Academy	92,459	\$1.14	64.3	-\$47,503.66	-\$5,064.24
Non-LEED®: Hickman Elementary	71,466	\$0.87	45.9		
CBECS: Education	32,500	\$1.35	62.3		
Total				-\$49,955.85	\$5,930.03

Water Consumption

Water consumption at the two schools and comparisons to the non-LEED® Hickman Elementary building are shown in the table below.

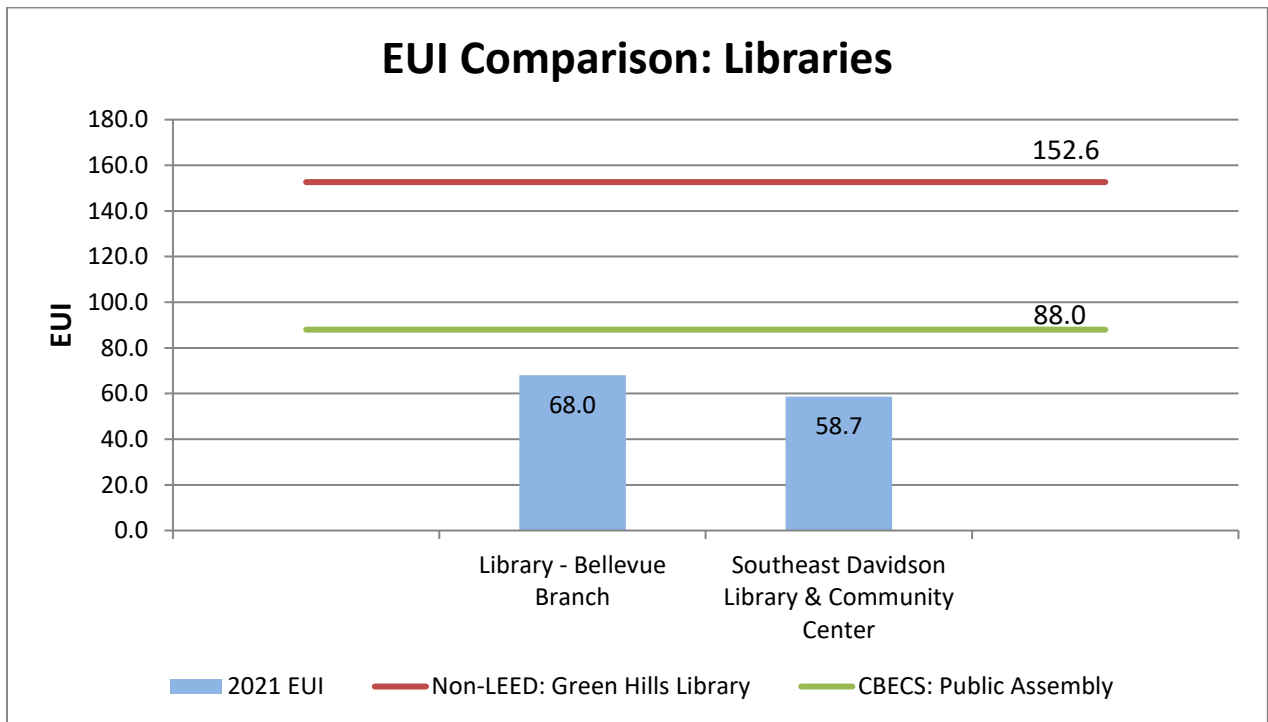
	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to Hickman (gallons)
MAC - Douglass Head Start	26,625	692,695	26.0	-456,381
Highland Heights – KIPP Academy	92,459	632,103	6.8	188,528
Non-LEED®: Hickman Elementary	71,466	634,304	8.9	
Total				-267,854

Libraries

Energy Consumption

Energy consumption for the two libraries is compared in the graph below to the non-LEED® Green Hills Library as well as to the Southern regional CBECS benchmark for a similar type building.

The Southeast Davidson Regional Community Center houses a community center as well as a library. For this report, the building is compared to a non-LEED® library.



Energy costs for the two libraries are compared in the table below to the non-LEED® Green Hills Library as well as to the Southern regional CBECS benchmark for a similar type building (Public Assembly).

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® Green Hills Library	Annual savings compared to regional benchmark
Library - Bellevue Branch	24,912	\$1.54	68.0	\$63,930.25	\$15,096.53
Southeast Davidson Library & Community Center	80,600	\$1.05	58.7	\$197,232.25	\$61,513.42
Non-LEED®: Green Hills Library	25,540	\$2.36	152.6		
CBECS: Public Assembly	18,200	\$1.83	88.0		
Total				\$261,162.49	\$76,609.95

Water Consumption

Water consumption at the two library buildings and comparisons to the non-LEED® Green Hills library is shown in the table below.

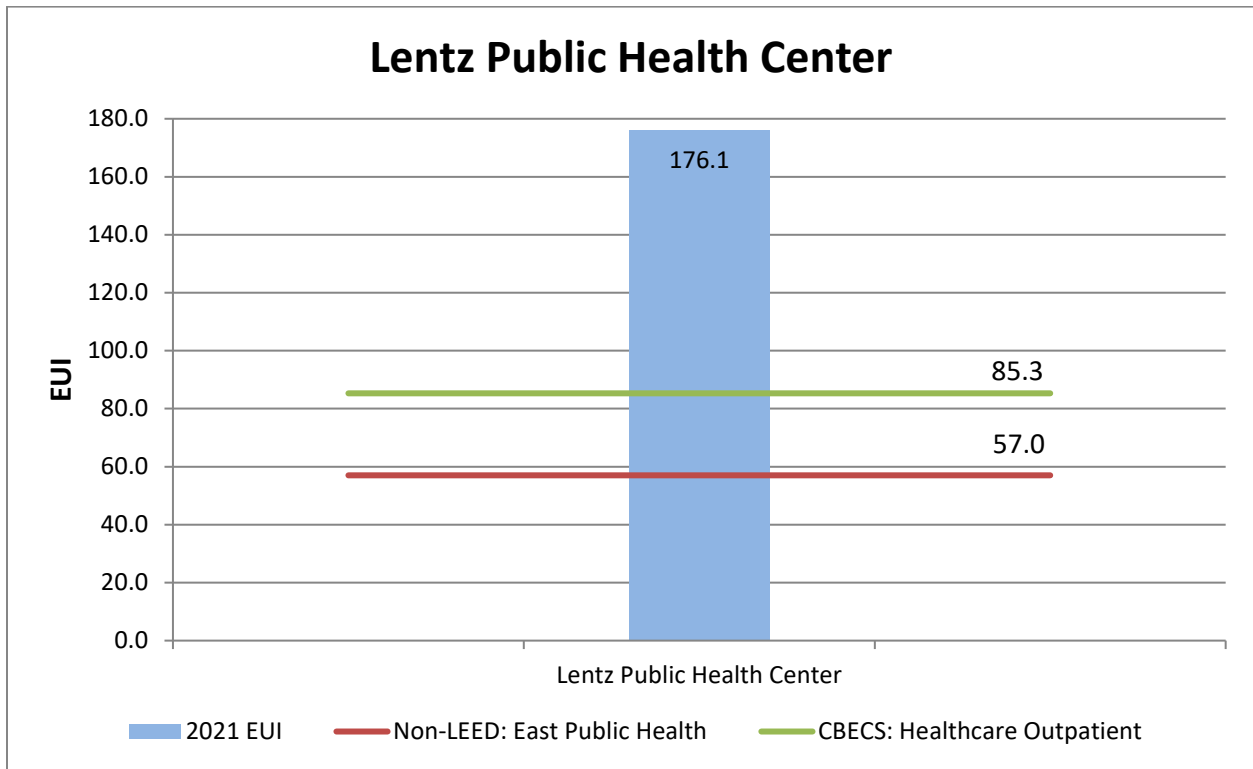
	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to Green Hills (gallons)
Library - Bellevue Branch	24,912	775,600	31.1	-284,574
Southeast Davidson Library & Community Center	80,600	1,366,390	17.0	222,270
Non-LEED®: Green Hills Library	25,540	503,404	19.7	
Total				-62,305

- The water meter at SE Davidson Library and Community Center is combined with Ford Ice Center Antioch. Because the water usage is not sub-metered, the chart above splits these two facilities according to square footage. Note that this estimate does not equate an exact division of water consumption because without sub-metering, it is difficult to draw an accurate picture of water consumption between the buildings.

Lentz Public Health Center

Energy Consumption

Energy consumption for Lentz is compared in the graph below to the non-LEED® East Public Health as well as to the Southern regional CBECS benchmark for a similar type building.



Lentz has a high energy usage for operations since there are multiple clinics within the building, special coolers to keep vaccines, and specialized air handling equipment to accommodate tuberculosis areas. It is difficult to find a comparable public service building in Davidson County of similar size.

East Public Health was open during weekdays in 2021. In contrast, Lentz was operating 7 days per week during the pandemic since staff worked during the weekends.

The energy cost for Lentz is compared in the table below to the non-LEED® East Public Health as well as to the Southern regional CBECS benchmark for a similar type building (Healthcare Outpatient).

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® East Public Health	Annual savings compared to regional benchmark
Lentz Public Health Center	107,474	\$2.32	176.1	-\$235,506.95	-\$179,546.80
Non-LEED®: East Public Health	13,800	\$1.70	57.0		
CBECS: Healthcare Outpatient	11,000	\$2.06	85.3		

Water Consumption

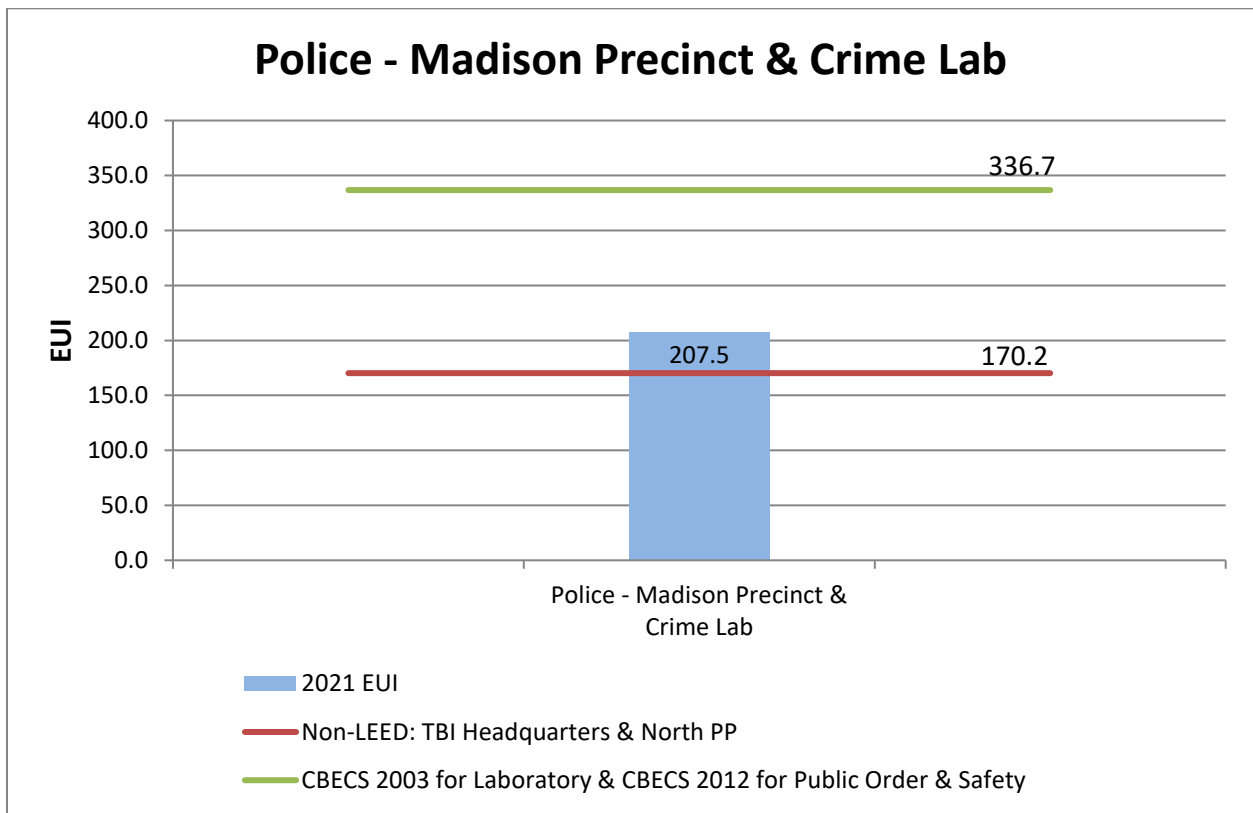
Water consumption at Lentz and a comparison to the non-LEED® East Public Health water usage are shown in the table below.

	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to East Public Health (gallons)
Lentz Public Health Center	107,474	2,354,864.55	21.9	-1,859,705
Non-LEED®: East Public Health	13,800	63,580	4.6	
Total				-1,859,705

Police - Madison Precinct & Crime Lab

Energy Consumption

Energy consumption for Madison Precinct & Crime Lab is compared in the graph below to the non-LEED® TBI Headquarters & North Police Precinct as well as to the regional CBECS benchmark for a similar type building. The Madison building consists of a police station (first floor) and a crime lab (second floor). For the non-LEED® comparison, the data from North Police Precinct was combined with the data from the TBI Headquarters in Nashville. The regional benchmark was calculated by combining the EUI for Public Order & Safety (Southern region) with the national EUI for a laboratory space.



The energy cost for Madison Precinct & Crime Lab is compared in the following table to the non-LEED® TBI Headquarters in Nashville & North Police Precinct composite building as well as to the regional CBECS benchmark for a similar type building (Laboratory combined with Public Order & Safety). Note that Madison Precinct has a community meeting room.

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® North PP & TBI Headquarters	Annual savings compared to regional benchmark
Madison Precinct & Crime Lab	84,420	\$3.02	207.5	-\$69,301.13	\$240,008.29
Non-LEED®: TBI Headquarters in Nashville & North PP	164,000&21,378	\$2.94	170.2		
CBECS: Laboratory & Public Order & Safety			336.7		

- The CBECS tables do not contain the mean square footage or energy cost data for a Laboratory, thus no average building square footage or energy cost per square foot can be provided in the table for a regional benchmark building but the projected cost savings are based on the EUI in the table.

Water Consumption

Water consumption at the Madison Precinct & Crime Lab was compared to the combination building of the non-LEED® TBI Headquarters in Nashville and North Police Precinct in the table below. The water usage of North Police Precinct was adjusted to be from the same square footage as the first floor of Madison, and the water usage of the TBI Headquarters was adjusted to be from the same square footage as the second floor of Madison.

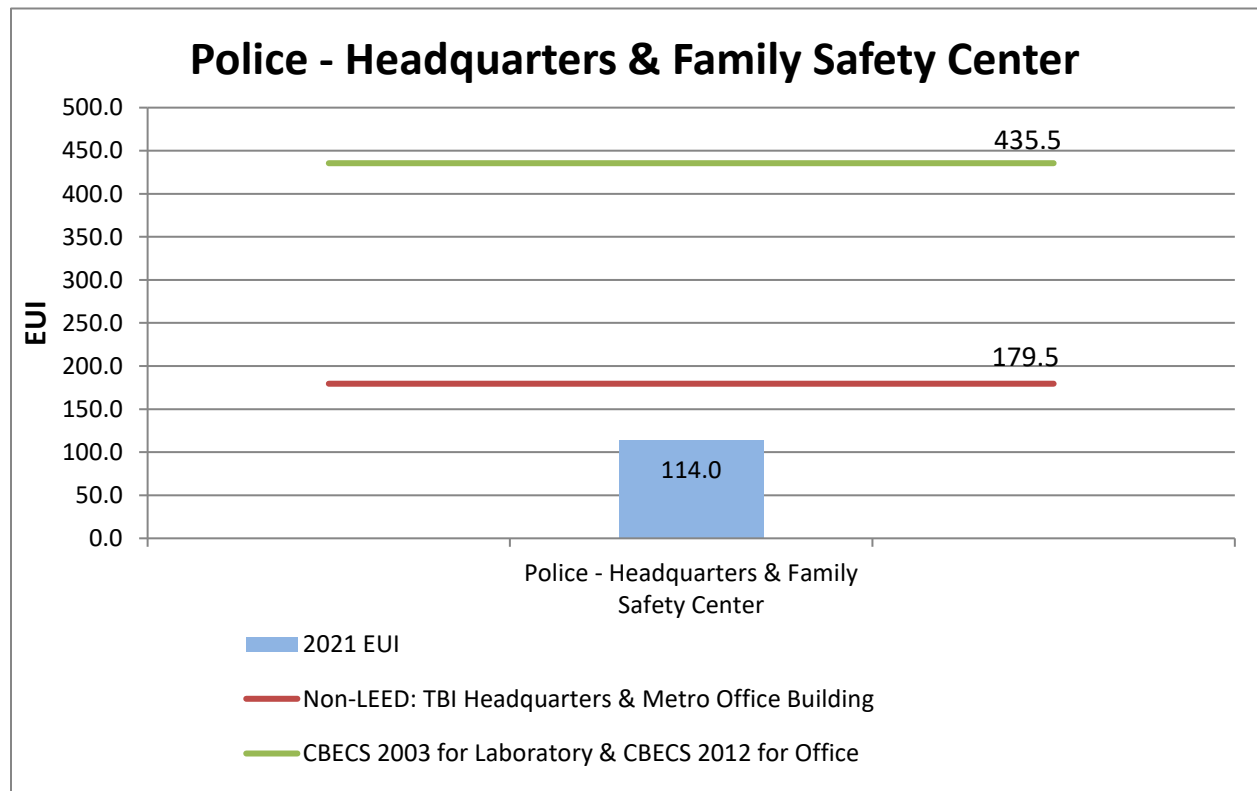
	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to TBI Headquarters in Nashville & North PP (gallons)
Madison Precinct & Crime Lab	84,420	588,716	7.0	548,891
Non-LEED®: TBI Headquarters in Nashville	164,000	3,635,000	22.2	
Non-LEED®: North PP	21,378	111,452	5.2	
Total				548,891

Police – Headquarters & Family Safety Center

Energy Consumption

Energy consumption for the Police Headquarters and Family Safety Center is compared in the graph below to the non-LEED® TBI Headquarters & Metro Office Building as well as to the Southern regional CBECS benchmark for a similar type building. The Metro building consists of a police station (that functions similarly to the TBI Headquarters with a high volume of servers, equipment, and large mechanical systems) and a Family Safety Center that functions like an office building. For the non-LEED® comparison, the data from TBI Headquarters in Nashville was combined with the data from Metro Office Building. The regional benchmark was calculated by combining the EUI for a laboratory space (national) with the EUI for an office (Southern region).

The previously unoccupied shell space in MNPD HQ was occupied starting in October 2020 and therefore the space began being conditioned at this time. The sq. ft. value of this area was added to the building total for 2021.



The energy cost for the Police Headquarters & Family Safety Center is compared in the following table to the non-LEED® TBI Headquarters in Nashville & Metro Office Building composite building as well as to the regional CBECS benchmark for a similar type building (Laboratory combined with Office).

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® North PP & TBI Headquarters	Annual savings compared to regional benchmark
Police – Headquarters & Family Safety Center	170,281	\$1.42	114.0	\$202,760.17	\$995,483.59
Non-LEED®: TBI Headquarters in Nashville & Metro Office Building	164,000&68,383	\$2.81	179.5		
CBECS: Laboratory & Office			435.5		

- The CBECS tables do not contain the mean square footage or energy cost data for a Laboratory, thus no average building square footage or energy cost per square foot can be provided in the table for a regional benchmark building but the projected cost savings are based on the EUI in the table.

Water Consumption

Water consumption at the Metro Police HQ and Family Safety Center was compared to the combination building of the non-LEED® TBI Headquarters in Nashville and Metro Office Building in the table below. The water usage of the TBI Headquarters was adjusted to be from the same square footage as the Metro Police HQ building, and the water usage of Metro Office Building was adjusted to be from the same square footage as the Family Safety Center.

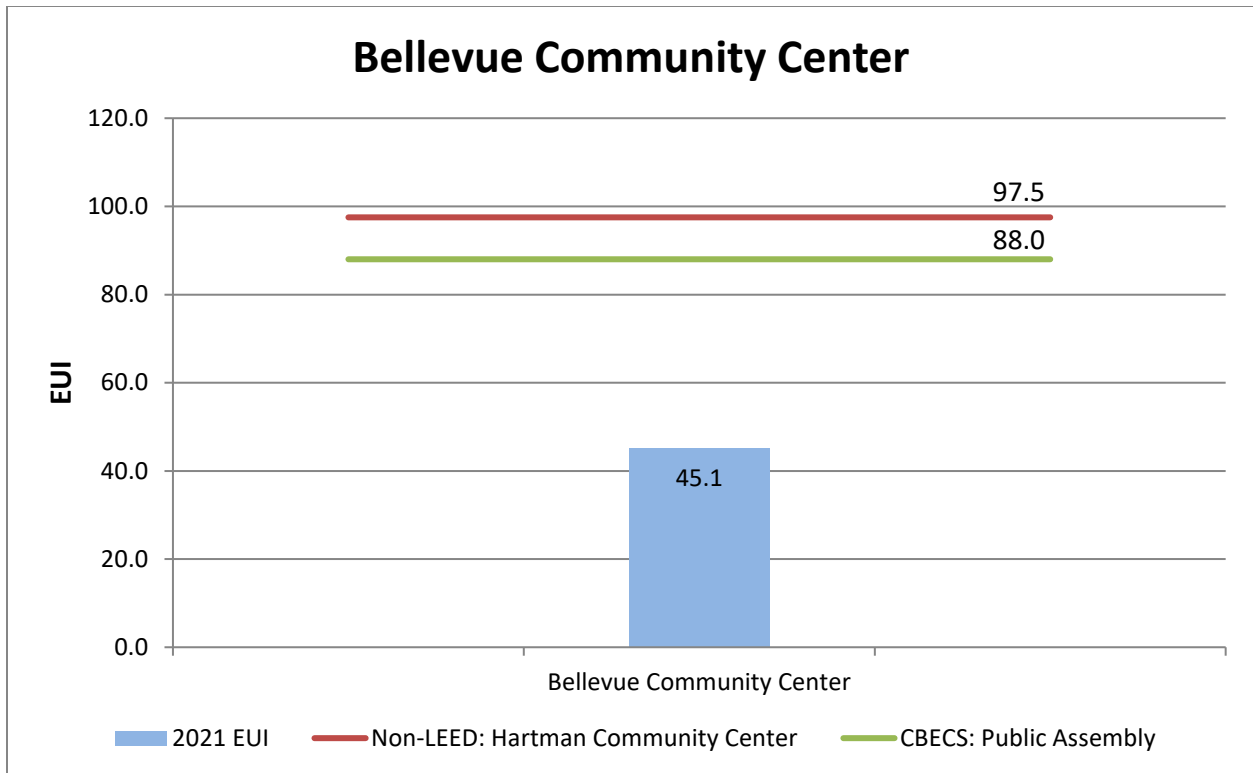
	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to TBI Headquarters in Nashville & North PP (gallons)
Police - Headquarters & Family Safety Center	170,281	2,984,723	17.5	637,971
Non-LEED®: TBI Headquarters in Nashville	164,000	3,635,000	22.2	
Non-LEED®: Metro Office Building	68,383	1,318,505	19.3	
Total				637,971

- During part of 2021, the irrigation at the Metro Police HQ and Family Safety Center had a water leak. The leak was fixed and the approximate gallons lost was not included in the water consumption for this report.

Bellevue Community Center

Energy Consumption

Energy consumption for the Bellevue Community Center is compared in the graph below to the non-LEED® Hartman Community Center as well as to the Southern regional CBECS benchmark for a Public Assembly type building.



The energy cost for Bellevue Community Center is compared in the following table to the non-LEED® Hartman Community Center in Nashville as well as to the regional CBECS benchmark for a similar type building.

	Building sf	Energy Cost /sf	EUI	Annual savings compared to non-LEED® Hartman Community Center	Annual savings compared to regional benchmark
Bellevue Community Center	47,868	\$0.69	45.1	\$91,520.77	\$74,905.72
Non-LEED®: Hartman Community Center	34,435	\$1.44	97.5		
CBECS: Public Assembly	18,200	\$1.83	88.0		

Water Consumption

Water consumption at Bellevue Community Center was compared to the non-LEED® Hartman Community Center in Nashville in the table below.

	Building sf	Water Consumption (gallons)	Water usage/sf	Water savings compared to Hartman Community Center (gallons)
Bellevue Community Center	47,868	1,618,131.70	33.8	-1,052,484
Non-LEED®: Hartman Community Center	34,435	406,912	11.8	
Total				-1,052,484

- Bellevue Community's water consumption includes domestic water use for only the Community Center and also includes irrigation for the entire facility for both the Community Center and Ice Center. Irrigation is needed to ensure the health of the new landscape plants and trees survive through the first years of being planted.
- The comparison facility Hartman Community Center does not have irrigation.

Solar Production

The rooftop solar panels on twelve Department of General Services' buildings produced 853,433 kWh during 2021, resulting in a combination of cost savings and rebates of \$110,387. Fire Stations #19, #32, #37, the Police Headquarters & Family Safety Center, and Bellevue Community Center use the solar energy behind the meter, thus the generated electricity is used on site resulting in lower electricity bills. The percentage of solar generation consumed to offset total electricity consumption for these facilities are as follows: 15.6% of the electricity consumed by Fire Station #19, 28.6% of the electricity consumed by Fire Station #32, 27.4% of the electricity consumed by Fire Station #37, 12.8% of the electricity consumed by the Police Headquarters & Family Safety Center, and 38.9% of the electricity consumed by Bellevue Community Center. The value of this electricity, estimated for the facilities with behind-the-meter solar, is shown in the following table:

Rooftop solar facility	Size of Array (kW)	2021 Production (kWh)	Solar Generation Revenue
Howard Office Building	29.89	27,987	\$6,214.65
Fire - Station #3	8.64	11,665	\$2,534.10
Fire - Station #11	10.50	13,213	\$2,563.71
Fire - Station #19	33.80	42,111	\$4,884.29
Fire - Station #21	7.92	5,652	\$1,093.52
Fire - Station #30	18.00	23,164	\$4,493.63
Fire - Station #31	8.64	8,496	\$1,898.93
Fire - Station #32	50.40	69,410	\$8,776.52
Fire - Station #33	7.92	9,793	\$2,187.22
Fire - Station #37	50.40	70,526	\$8,740.60
Police Headquarters & Family Safety Center	302.40	371,016	\$35,355.77
Bellevue Community Center	150.28	200,400	\$31,643.91
Total	678.79	853,433	\$110,386.86

Appendix 1: Square Footage of Buildings

This list includes the Department of General Services LEED® facilities and their non-LEED® comparisons:

High Performance Building	Square Footage
Fire Stations	
Fire - Station #3	17,469
Fire - Station #11	15,587
Fire - Station #19	20,142
Fire - Station #20	13,573
Fire - Station #21	19,116
Fire - Station #30	14,435
Fire - Station #31	17,311
Fire - Station #32	17,693
Fire - Station #33	15,533
Fire - Station #35	11,586
Fire - Station #37	19,305
Non-LEED®: Fire - Station #39	9,595
Police Precincts	
Police - Midtown Hills Precinct	21,846
Police - West Precinct	25,698
Non-LEED®: North Police Precinct	21,378
Office Buildings	
Lindsley Hall	34,198
Howard Office Building	139,027
Non-LEED®: Metro Office Building	68,383
Schools	
MAC - Douglass Head Start	26,625
Highland Heights – KIPP Academy	92,459
Non-LEED®: Hickman Elementary	71,466
Libraries	
Library - Bellevue Branch	24,912
Southeast Davidson Library & Community Center	80,600
Non-LEED®: Green Hills Library	25,540
Lentz Public Health Center	
Lentz Public Health Center	107,474
Non-LEED®: East Public Health	13,800
Police - Madison Precinct & Crime Lab	
Police - Madison Precinct & Crime Lab	84,420
Non-LEED®: TBI Headquarters/North Police Precinct	164,000/21,378

Police Headquarters & Family Safety Center	
Police Headquarters & Family Safety Center	170,281
Non-LEED®: TBI Headquarters/Metro Office Building	164,000/68,383
Bellevue Community Center	
Bellevue Community Center	47,868
Non-LEED®: Hartman Community Center	34,435