

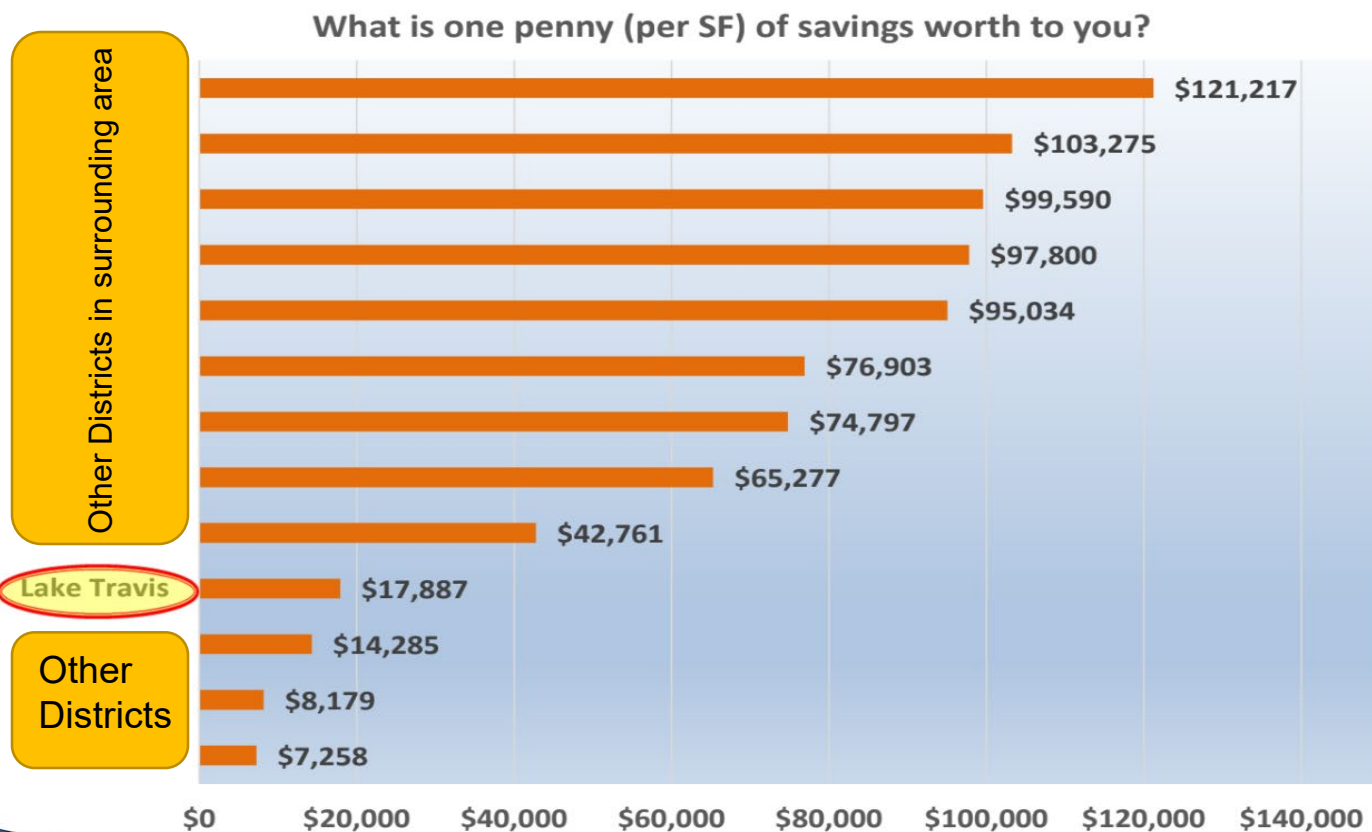


Energy Efficiency Report

2020 - 2021

*Facilities and Energy
Management Report*

2020-21 BENCHMARK, AUSTIN ENERGY DATA

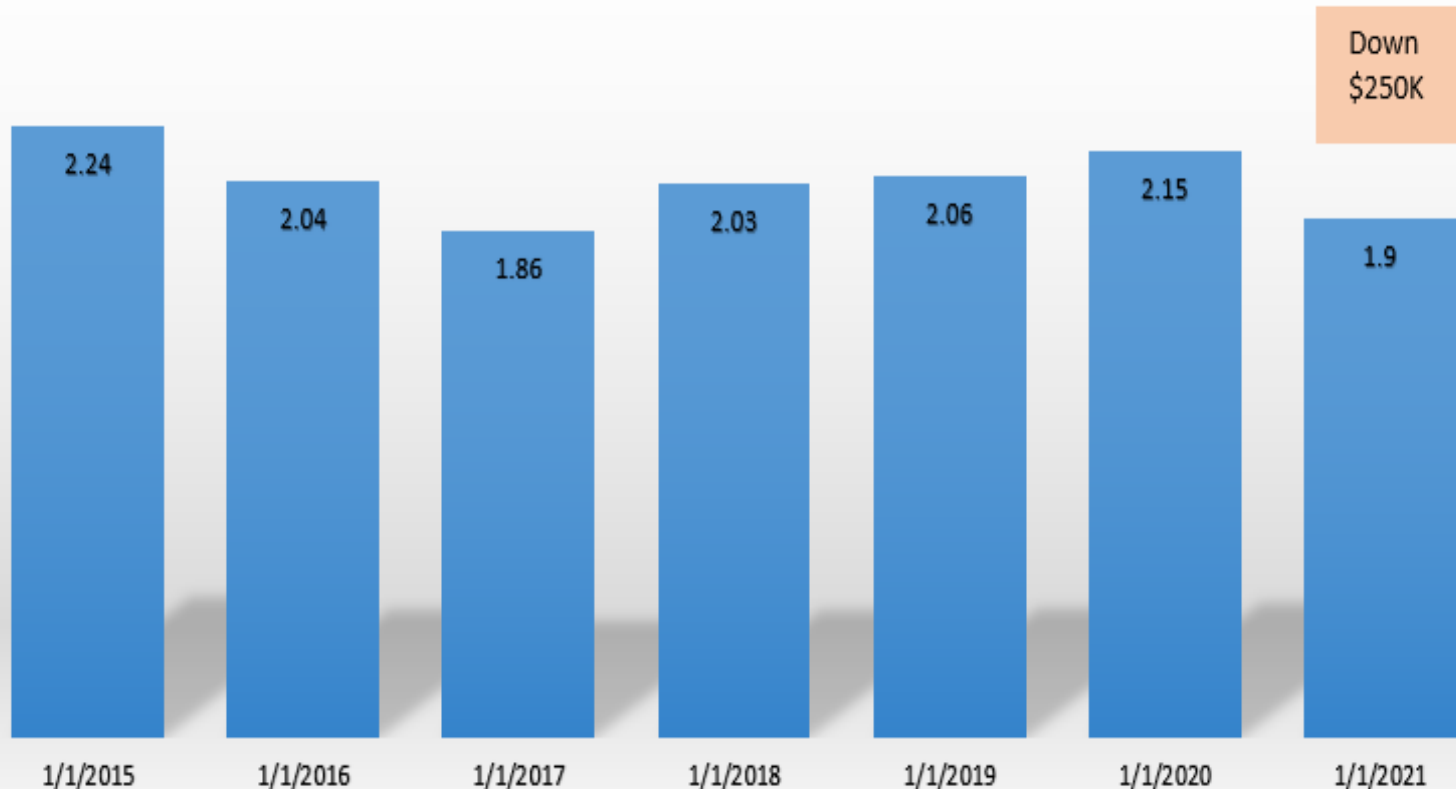


Electricity Expense

Total District pasted 7 years

Teachers, Staff, Admin have been a great help with all of this! Thank you!

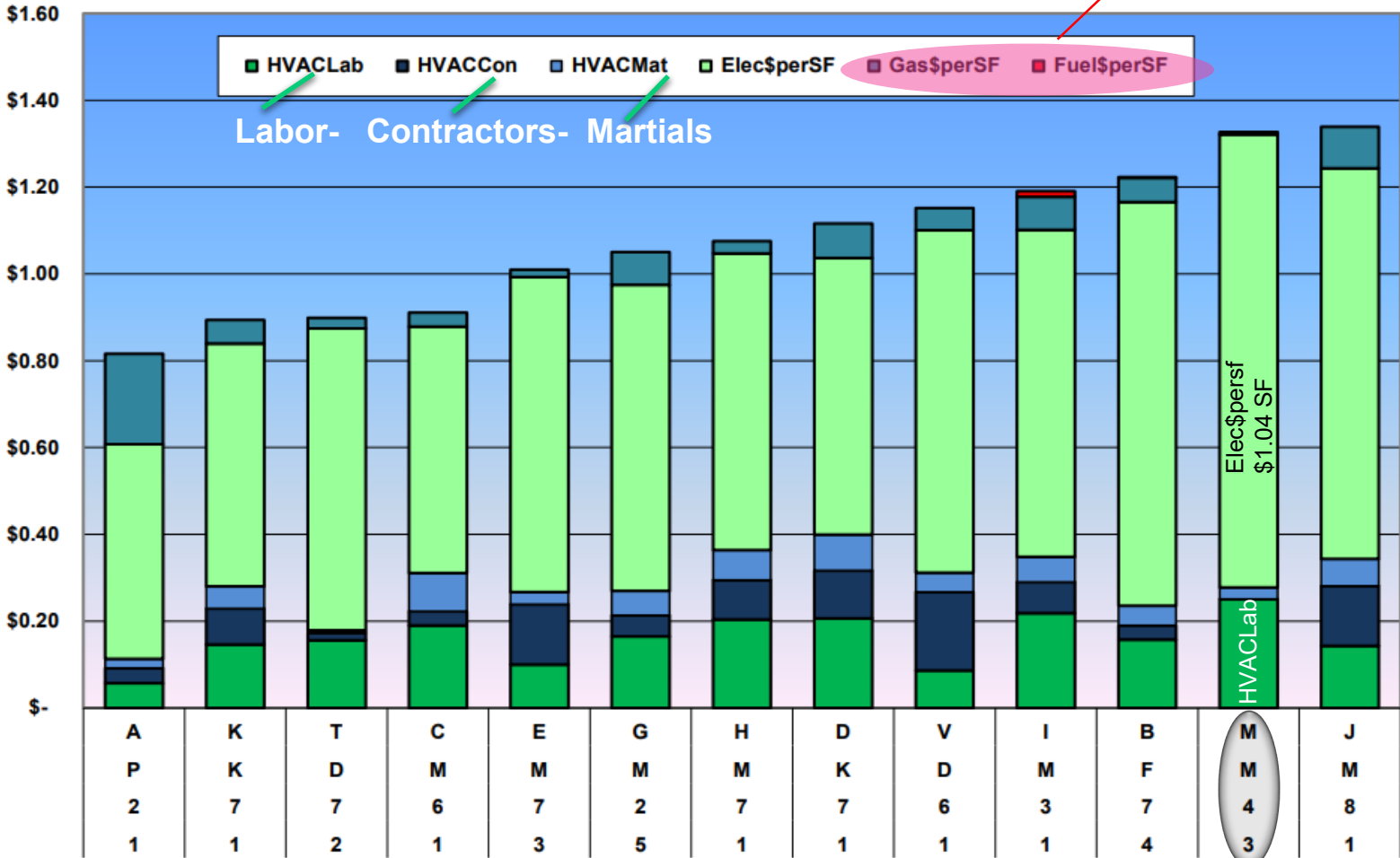
Lake Travis ISD
Total Electricity Expenses (\$M)



The 2021 electricity expenses are down by \$250,000. The graph reflects the sum total of PEC and Austin Energy bills. We utilized several methods to control costs including adjusting the scheduling of times and temperatures, responding to short-term weather conditions, maximizing holiday and Summer schedules, and turning off units when buildings are unoccupied. With rising energy costs, our Energy Management Team continue to look for opportunities to offset those costs.

We have a few areas of propane. But no fuel or gas for heating

Temperature Control / Energy Management Costs
Each Element in \$/SF



Labor- Contractors- Martials

Other District in surrounding area

LTISD

Energy Efficiency Metric

EPA Energy Star Scores by Campus

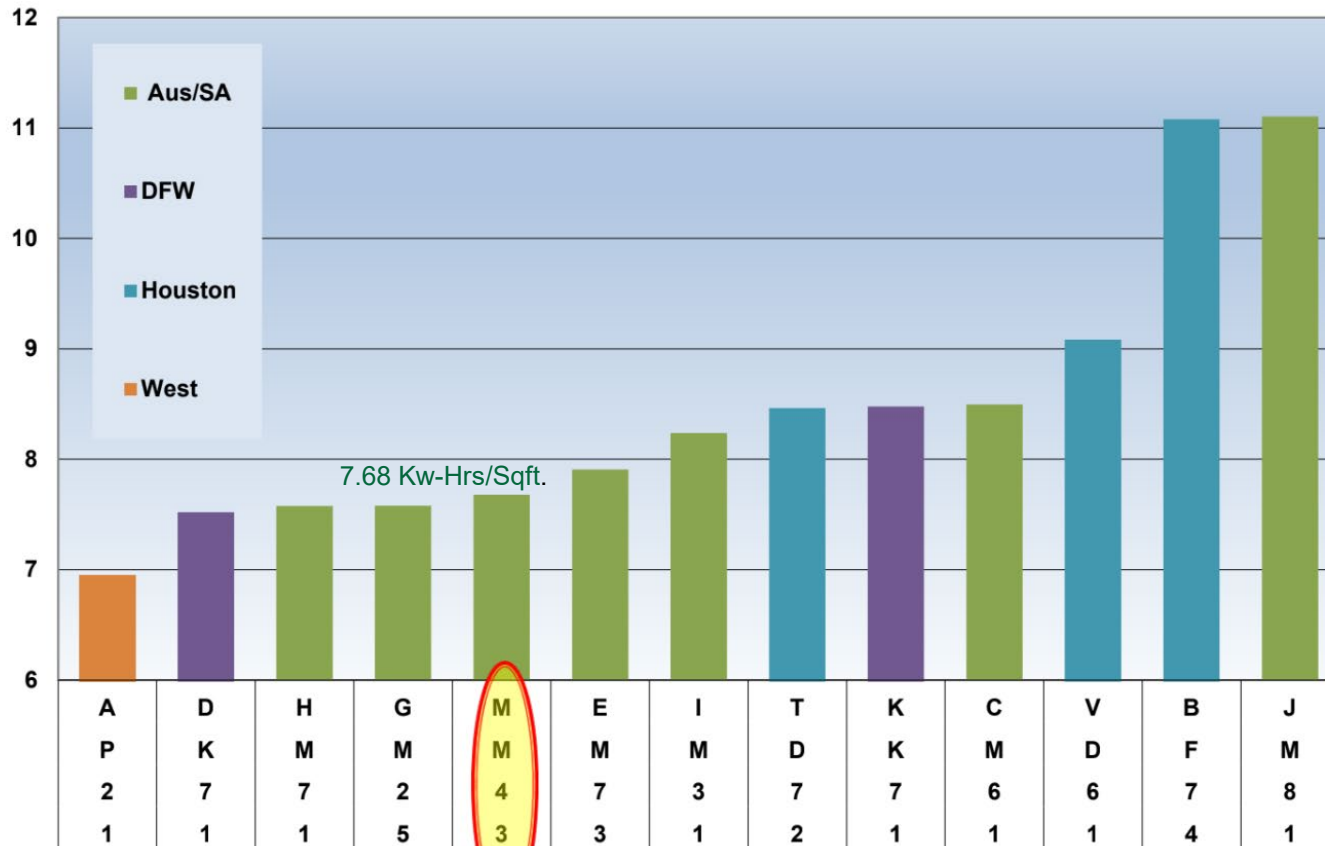
First one 2017 Last one 2021



BENCHMARKING . . . 13 TEXAS DISTRICTS

KW-Hrs/ Sq. FT

District Average Annual Electricity Consumption in Kw-Hrs / Sq. Ft.



Other districts

LTISD

Other District in surrounding area

BENCHMARK . . . LTISD

Opportunity Reported by Benchmark 4Excellence

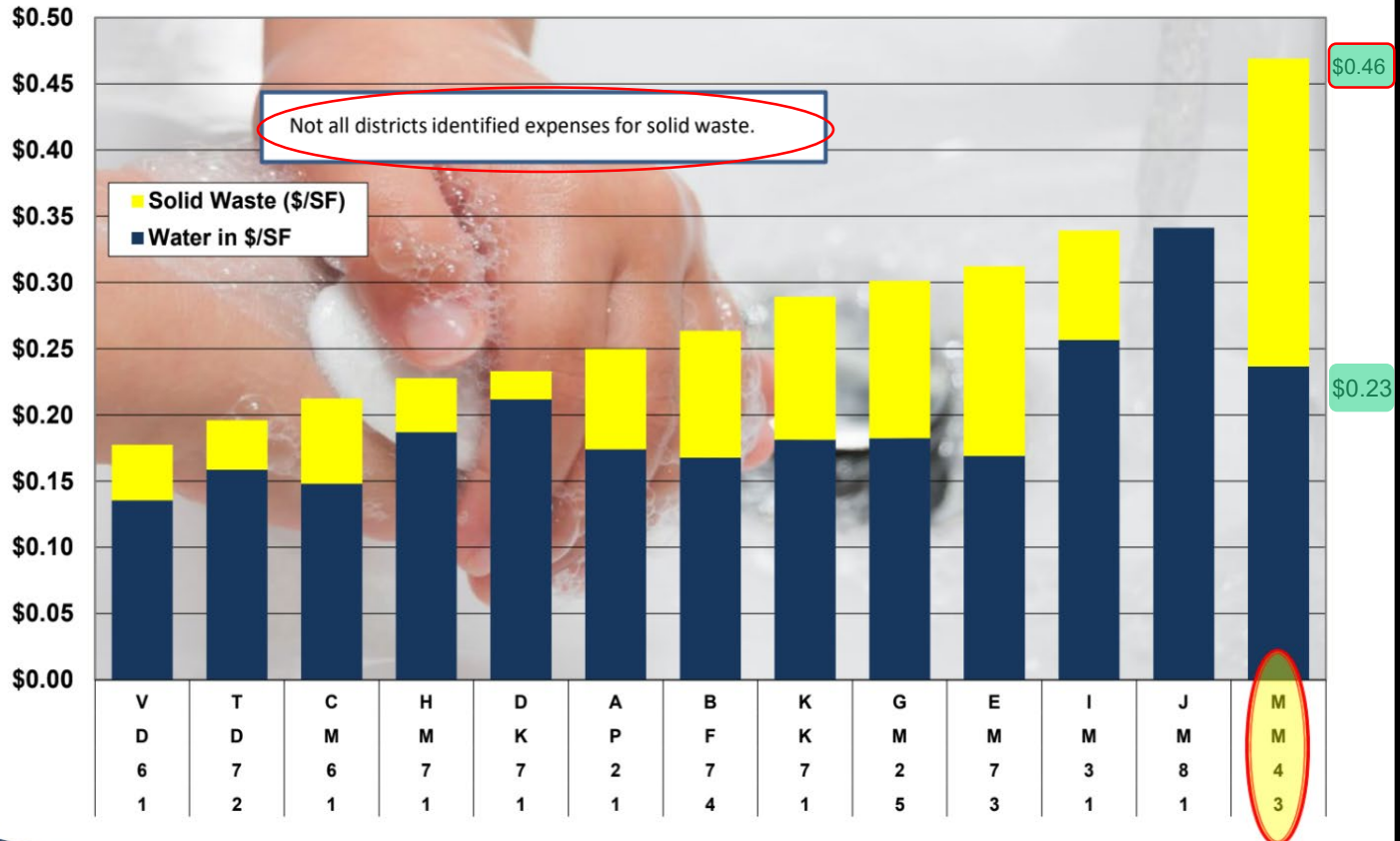
District:	Lake Travis ISD					
	Enrollment	11,347	Square Ft.	1,788,666	Acres	452
Last Updated on 5.4.22			Kw-Hrs:	13,735,365		
	75th %Tile	Median	Your Results	\$ Spent over Median District by Category	\$ Spent Over 75th Percentile by Category	
Operations/Custodial	\$1.17	\$1.79	\$1.96	\$299,308	\$1,408,281	
Gas Cost / SF	\$0.02	\$0.06	\$0.00	-\$107,320	-\$35,773	
Electrical Cost / SF	\$0.57	\$0.71	\$1.04	\$596,952	\$847,366	
Elec. Usage in Kw-Hr / SF	7.58	8.35	7.68	-\$163,103	\$24,095	
Elec Cost / Kw-Hr	\$0.071	\$0.086	\$0.14	\$685,664	\$891,694	
Energy Mgmt. / Sq. Ft.	\$0.90	\$1.10	\$1.33	\$405,222	\$762,955	
Materials Cost / SF	\$0.10	\$0.16	\$0.20	\$62,775	\$170,095	
Bldg. Mtn LCM	\$0.60	\$0.76	\$1.27	\$917,754	\$1,203,941	
Property Insurance	\$0.20	\$0.29	\$0.26	-\$62,242	\$98,738	
Bldg. Mtn. Total	\$0.98	\$1.09	\$1.53	\$784,369	\$981,123	
Waste and Water	\$0.21	\$0.28	\$0.47	\$337,956	\$463,162	
Admin Total	\$0.03	\$0.06	\$0.03	-\$59,146	-\$5,486	
Total Cost / Sq. Ft.	\$3.30	\$4.35	\$5.31	\$1,714,049	\$3,592,148	
Grounds Total/Ac.	\$881	\$1,481	\$1,573	\$41,715	\$312,915	

Total of the 6 highlighted function areas:	\$1,809,424	\$3,922,950
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Sq. Ft. per Student:	158	Insurance:	Sq. Ft. / Operations:	19,764
Reimbursement / Sq. Ft.:	\$0.00	Cost / SF:	Sq. Ft. / Mtn. Emp.:	36,820
Students / Athletic Field:	1,031.55	(In \$ / Sq. Ft.)	Custodial Attrition Rate:	15.60%
Heating Energy Usage:kbtu/SF	0.00	Rep. Cost:	Maint/Grounds Attrition Rate:	29.50%
Heating Fuel Price: \$/mmBtu	\$0.00	(\$ / Sq. Ft.)	F51 Overtime Rate:	2.07%
Purchased Water Usage:(Gal/Sf)	28.13	Avg. Bldg. Age	Custodial Staff Size Change:	0.00%
Water Purch. Price (\$/ 000 Gallons)	\$8.41	% of SF in Portables:	Maint/Grnds Staff Size Change:	0.00%
		NR		
		0.34%		

WATER AND WASTE EXPENSES

Water and Waste Expenses in \$/SF

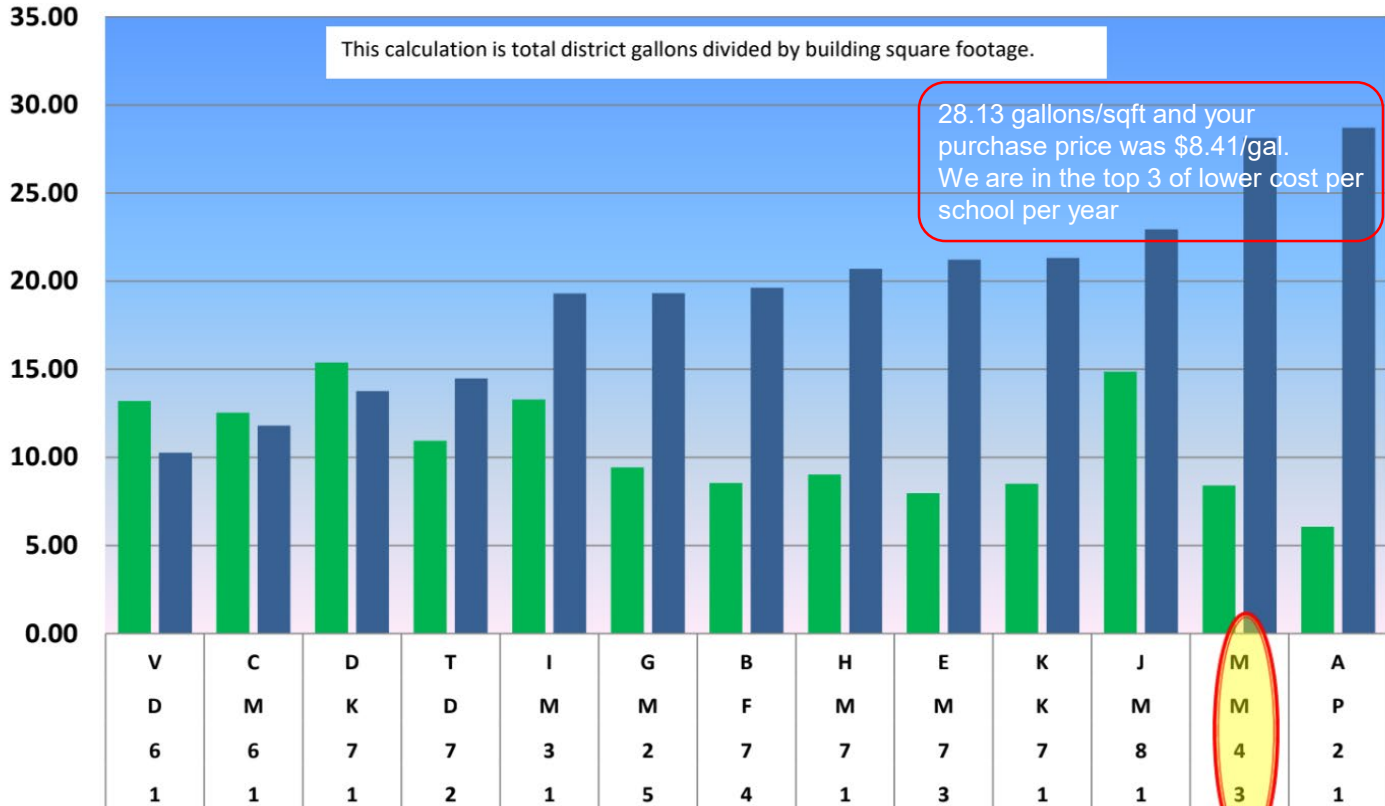


LTISD

WATER

Gallons/ Sqft

Water Use and Purchase Rates



Other districts outside our area

■ \$ / 1,000 Gallons ■ Gal/SF

LTISD

MOVING FORWARD

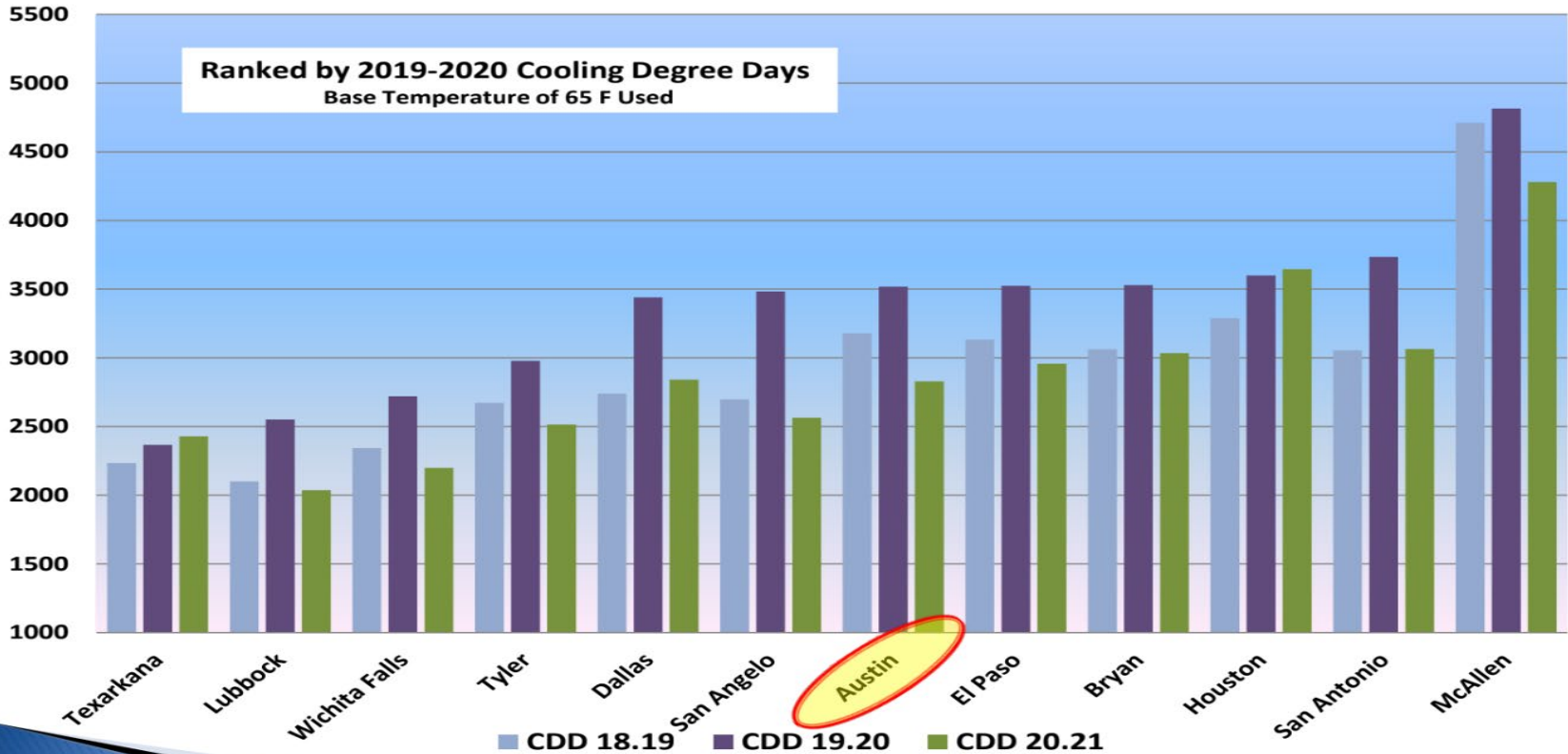
- *Renew Energy Star Certification for every completed campus*
- *Remaining campuses include: Bee Caves Middle School & New Elementary #8*
- *Replace remaining old HVAC systems with more efficient units*
- *Replace remaining old HVAC wall Controllers*
- *Upgrade classrooms with LED lighting*
- *Upgrade athletic areas with LED lighting*

“Every Dollar Saved through Energy Management is a Dollar Returned to General Funds for More Valuable Educational Purposes.”

Each "Cooling degree day" is when the mean temperature for the day is above 65. Each degree of the mean temperature that is above 65 is one cooling degree day. For example, if the high temperature is 80 degrees and the low temperature is 60 degrees on a particular day, then the mean temperature $([80+60]/2=70)$ of 70 gives you the equivalent of 5 cooling degree days for that day. So the 1500 is actually 1500 Cooling Degree Days, but one calendar day can equal more than one cooling degree day.

https://www.weather.gov/key/climate_heat_cool#:~:text=Degree%20days%20are%20the%20difference,result%20is%20Cooling%20Degree%20Days

Cooling Degree Days in Several Texas Cities



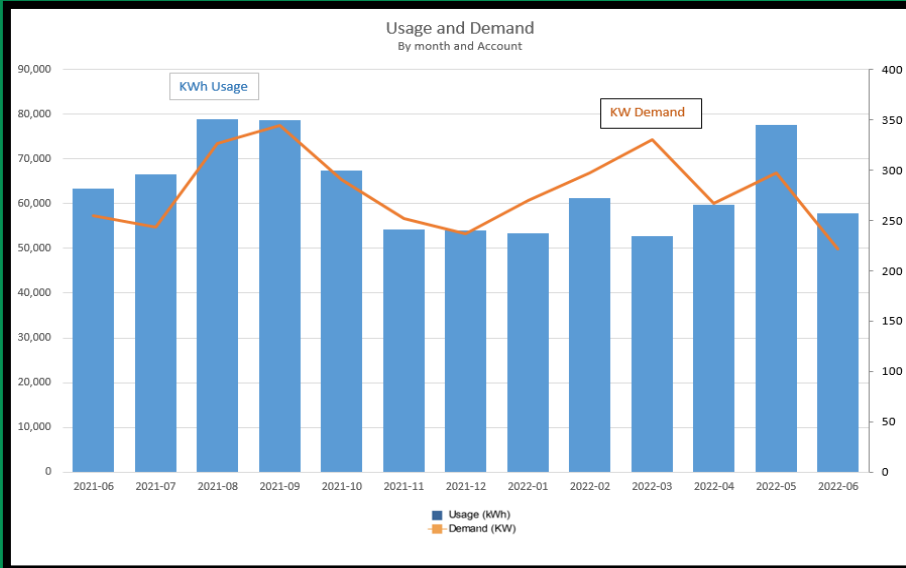
ONE YEAR COMPARISON CAMPUS BY CAMPUS ENERGY CONSUMPTION AND DEMAND 2020-2021 SCHOOL YEAR

YOUR ELECTRIC BILL CONSISTS OF TWO COMPONENTS: DEMAND AND ENERGY CONSUMPTION. DEMAND, OR ELECTRIC LOAD, IS MEASURED IN KILOWATTS (KW). CONSUMPTION IS MEASURED IN KILOWATT-HOURS (KWH). YOUR ELECTRIC BILL IS BASED ON BOTH KILOWATTS AND KILOWATT HOURS. THE CONSUMPTION COMPONENT IS BASED ON THE TOTAL KWH CONSUMED DURING A GIVEN PERIOD, REGARDLESS OF HOW AND WHEN THE ELECTRICITY WAS USED. THE DEMAND COMPONENT OF THE BILL IS BASED ON THE HIGHEST 15 MINUTE DEMAND MEASURED BY THE ELECTRIC METER IN THIS PERIOD.
BUT WHAT IS DEMAND?

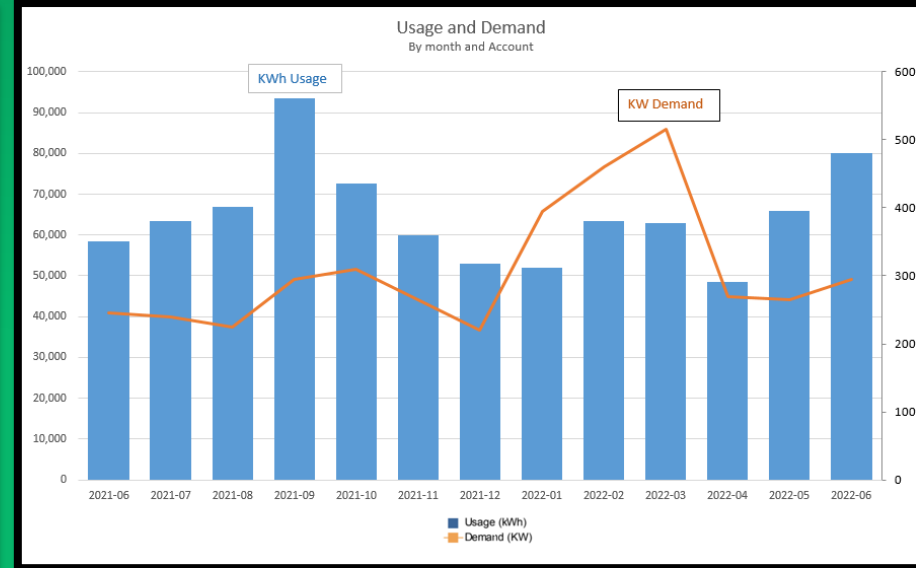
- DEMAND IS THE AVERAGE RATE OF ENERGY CONSUMPTION OVER A 15 MINUTE PERIOD.
- DEMAND MEASURES HOW FAST ENERGY IS BEING CONSUMED (ON AVERAGE) IN A 15 MINUTE INTERVAL.
- DEMAND IS AN AVERAGE NUMBER OF ELECTRICAL LOADS THAT RUN THROUGHOUT EACH 15 MINUTE PERIOD.

OUR DEMAND METERS MEASURE A DEMAND FOR EVERY 15 MINUTE PERIOD IN EACH MONTH. THE METERS RECORD THE HIGHEST 15 MINUTE DEMAND FOR THE MONTH AND RETAIN THIS FIGURE UNTIL THE METER IS RESET BY OUR METER READING EQUIPMENT. EACH METER MAKES OVER 2,800 READINGS PER MONTH. REMEMBER, WE BASE YOUR BILL ON THE HIGHEST 15 MINUTE READING; THEREFORE, WHETHER IT OCCURS ONLY ONCE IN THE MONTH OR 2,800 TIMES, WE CHARGE THE SAME BILLING DEMAND. FOR EXAMPLE, IF YOUR BUSINESS HAS FORTY 150 WATT LIGHT BULBS IN HALLWAYS THAT RAN CONTINUOUSLY, THEIR CONTRIBUTION TO DEMAND WOULD BE: $40 \text{ LAMPS} \times 150 \text{ WATTS} = 6,000 \text{ WATTS} = 6 \text{ KW}$. THEY WOULD CONTRIBUTE 6 KW TO THE DEMAND COMPONENT OF YOUR BILL.

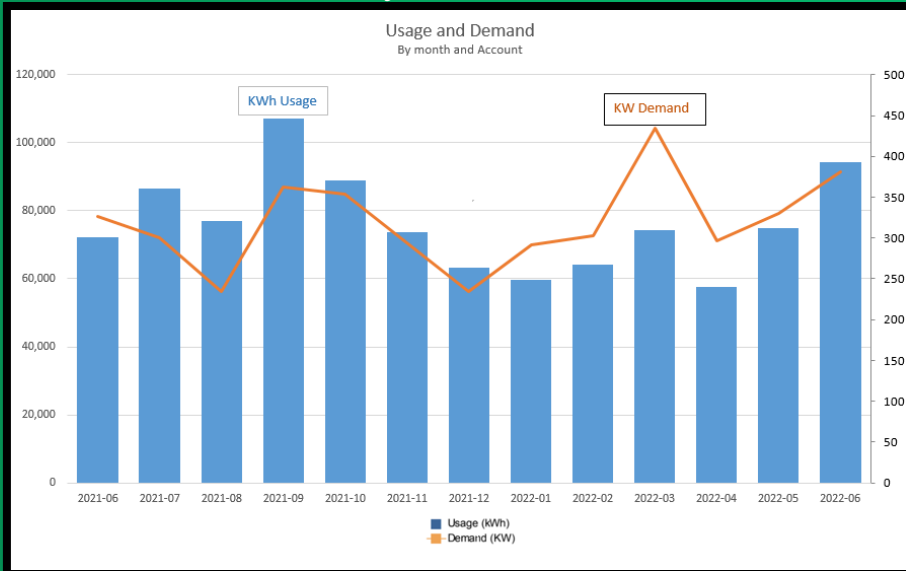
Bee Caves Elementary



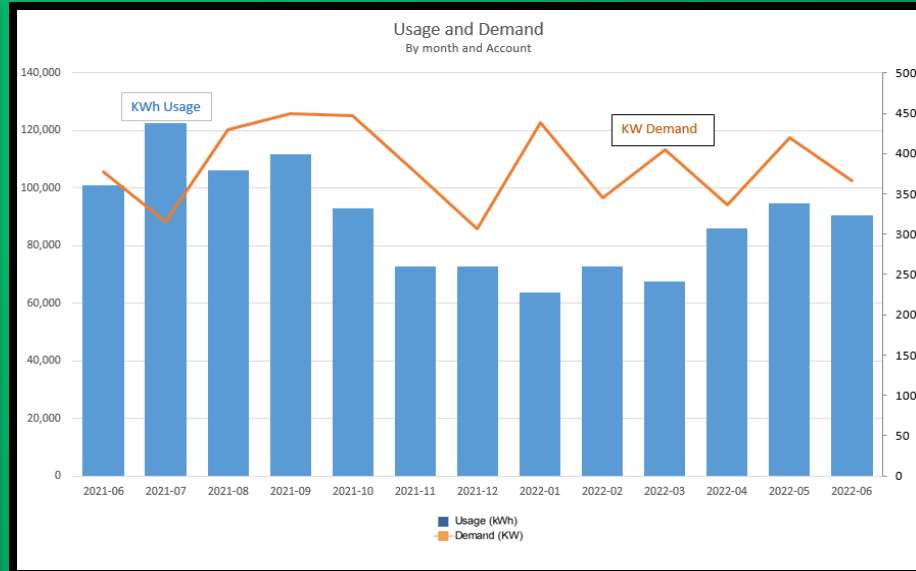
Lakeway Elementary



Lake Point Elementary



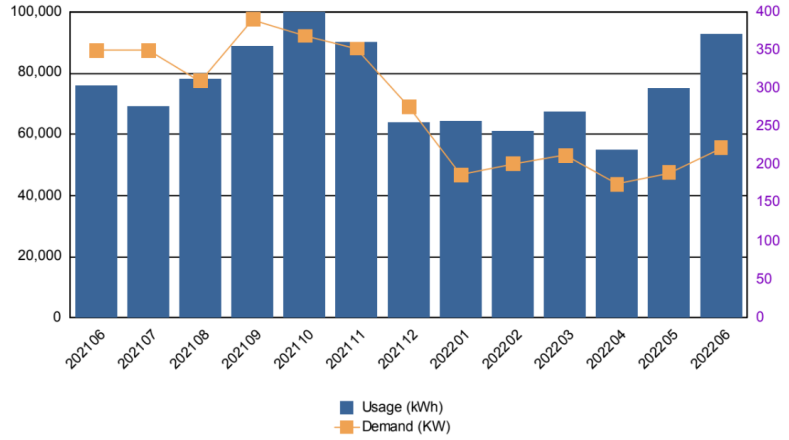
Lake Travis Elementary



District usage in Blue
Peak Demand in Orange

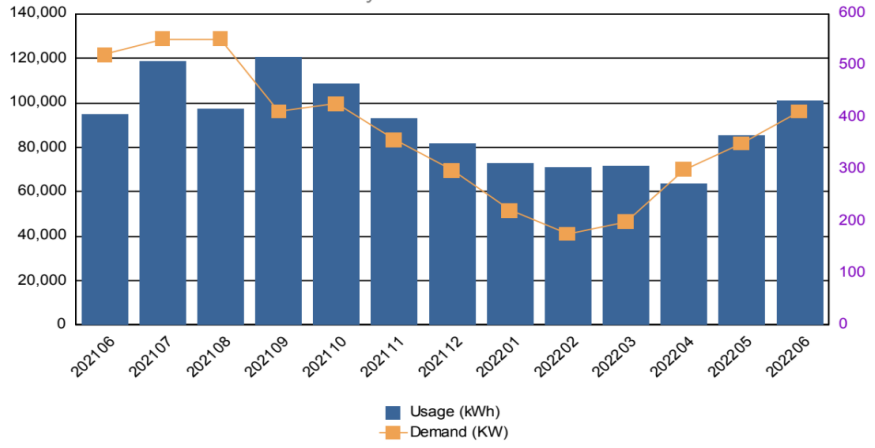
West Cypress Elementary

Usage and Demand
By Month and Account



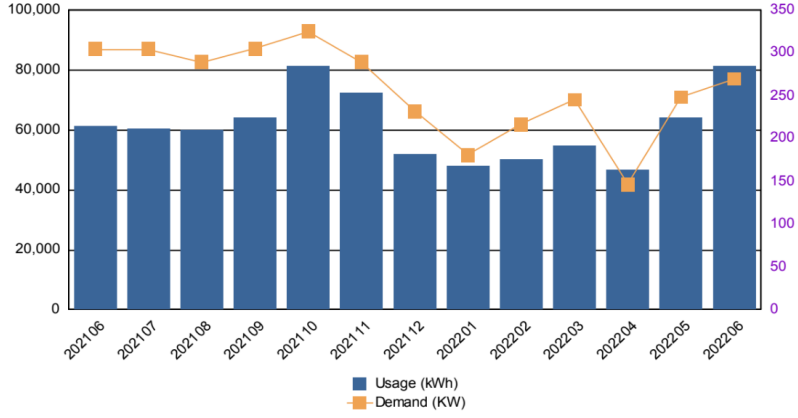
Serene Hills Elementary

Usage and Demand
By Month and Account



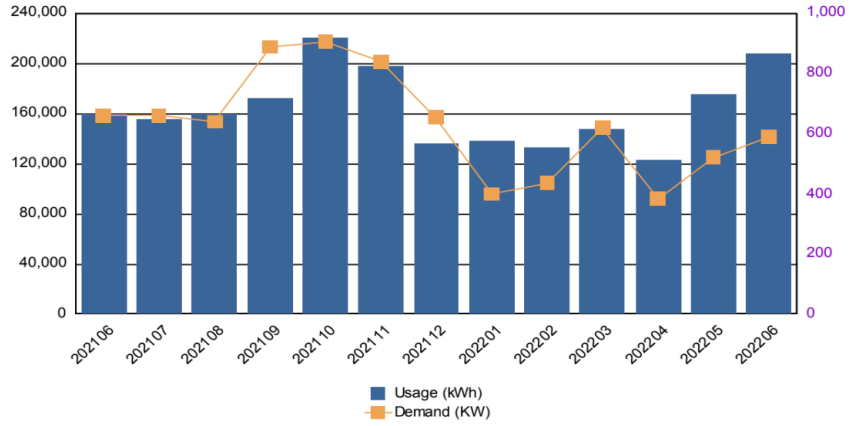
Rough Hollow

Usage and Demand
By Month and Account



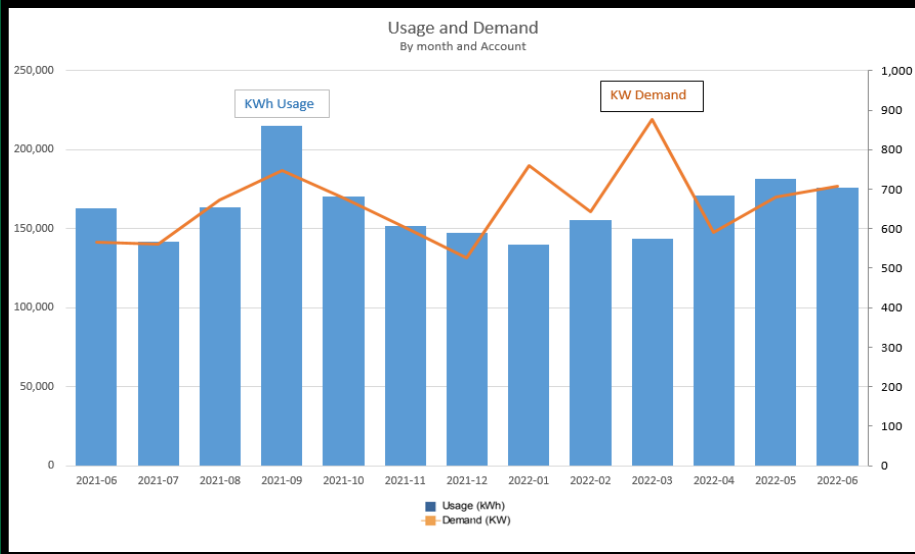
Lake Travis Middle School

Usage and Demand
By Month and Account

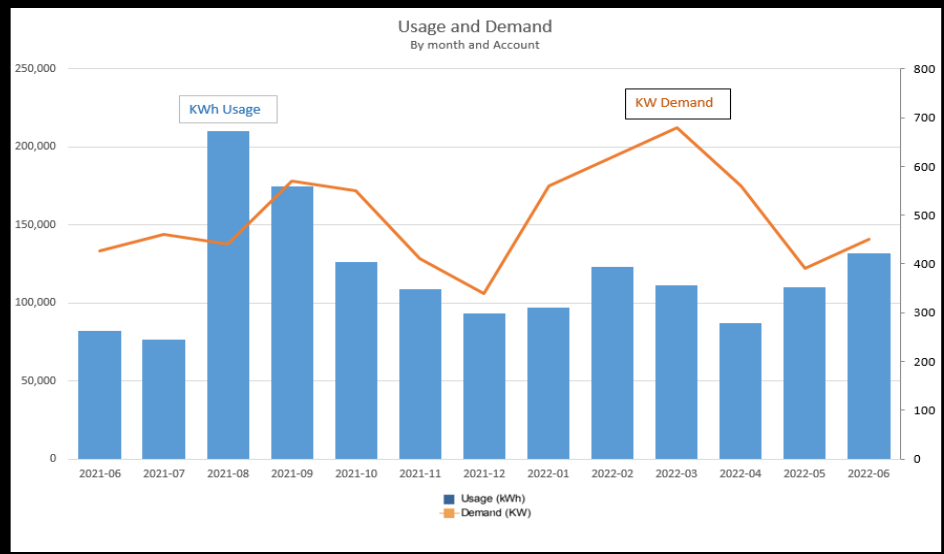


District usage Blue
Peak Demand Orange

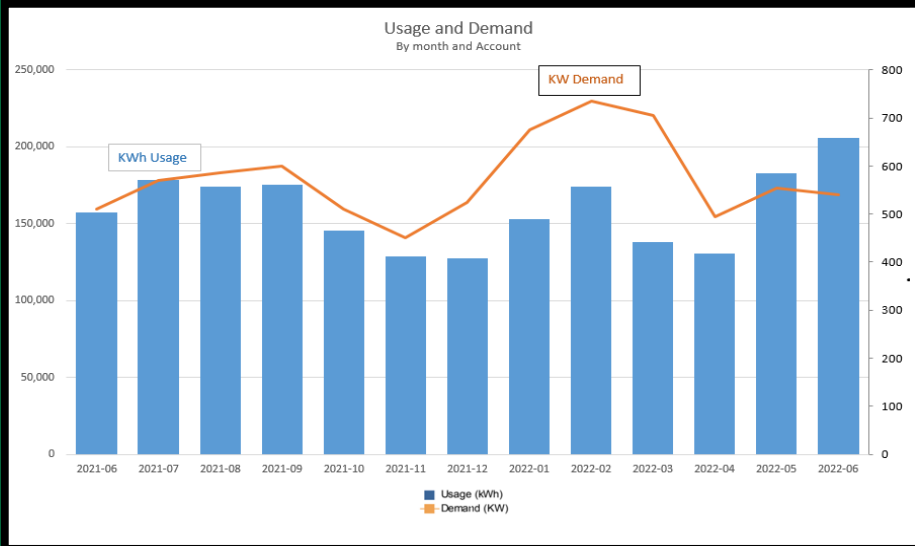
Hudson Middle School



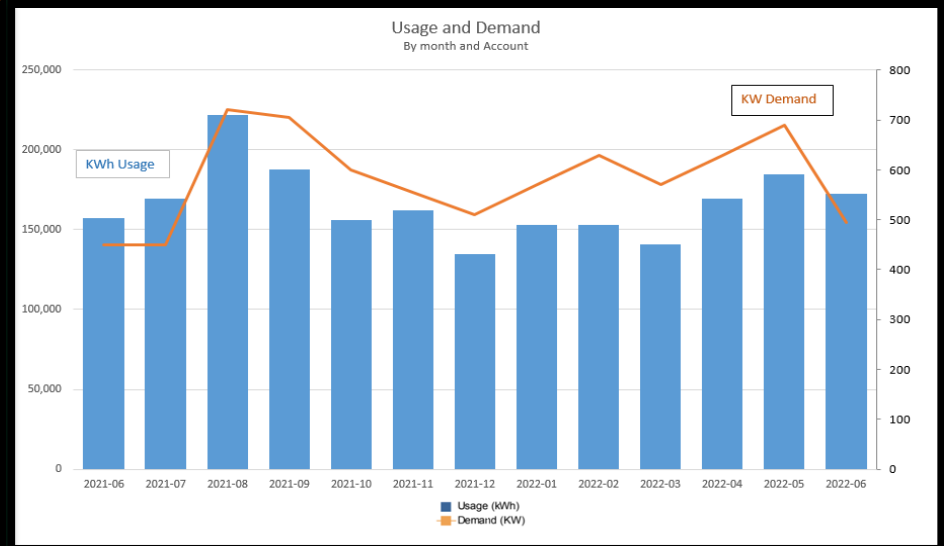
LT High School Annex



LT High School Meter L



LT High School Meter B



District usage Blue
Peak Demand Orange