



CY 2019 Energy Report

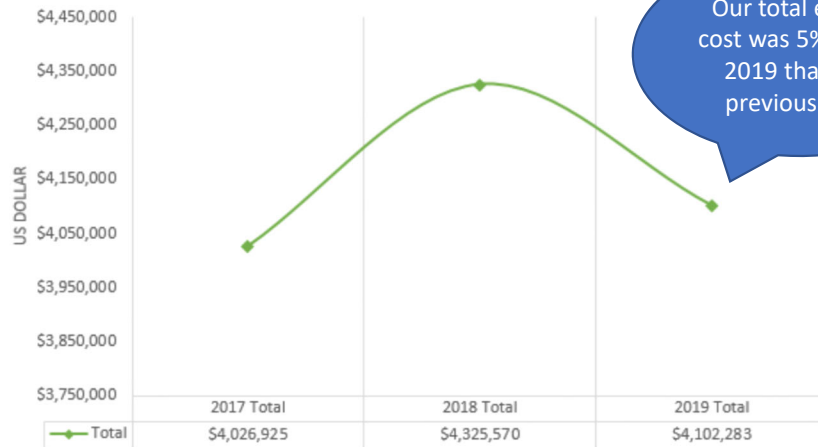
January 2019 – December 2019

Kim Melander, Energy Manager

5/18/2020

One Team. One Mission. One Rock Hill.

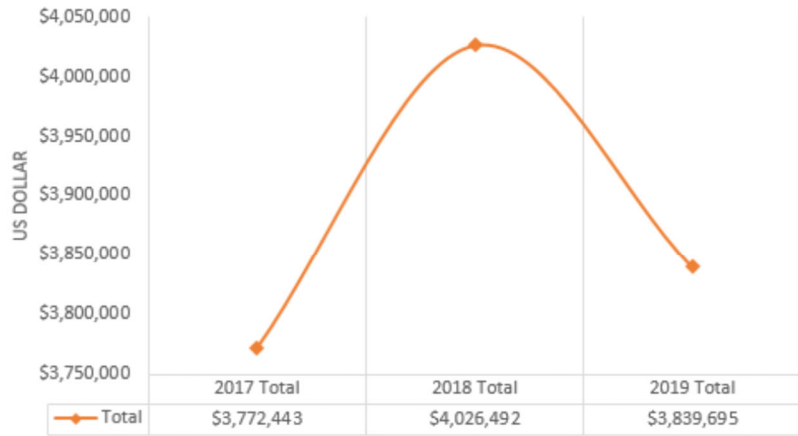
RHSD TOTAL ENERGY COST



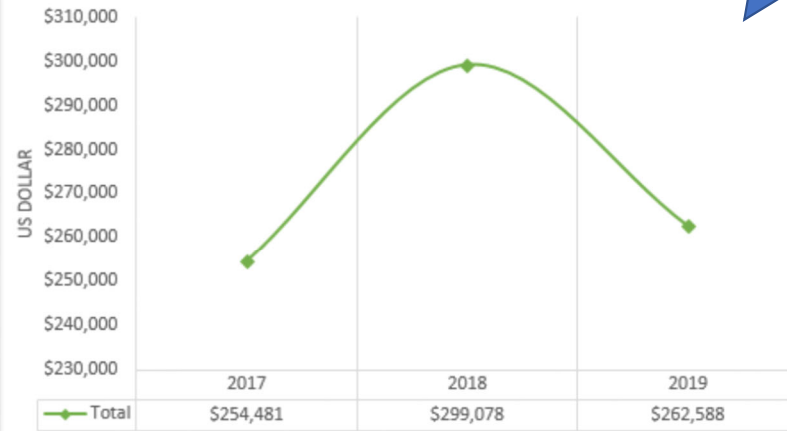
Our total energy cost was 5% less in 2019 than the previous year.

Our total cost for electricity was 4.6% less in 2019 than the previous year.

RHSD ELECTRICITY COST

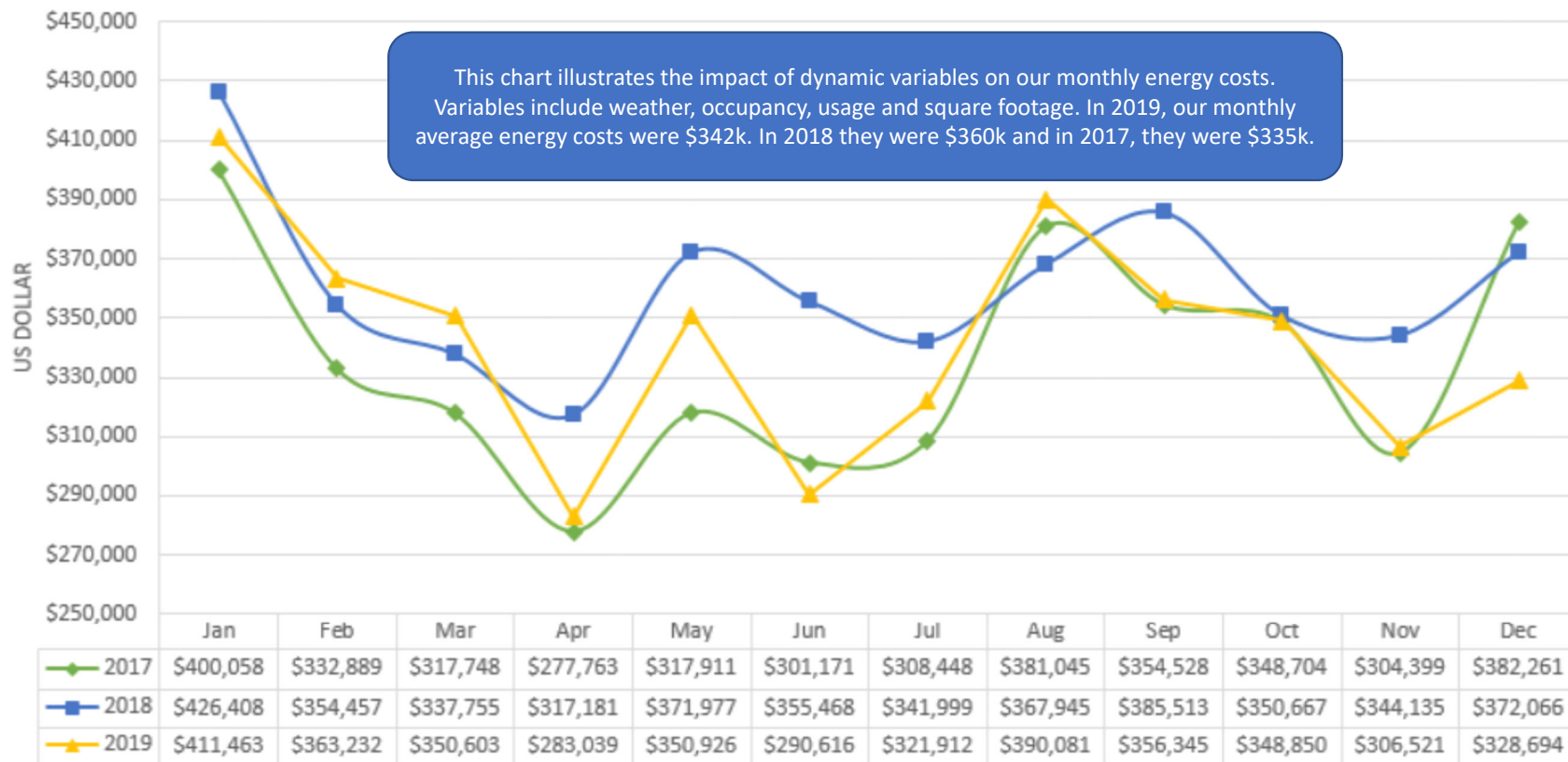


RHSD NATURAL GAS COST



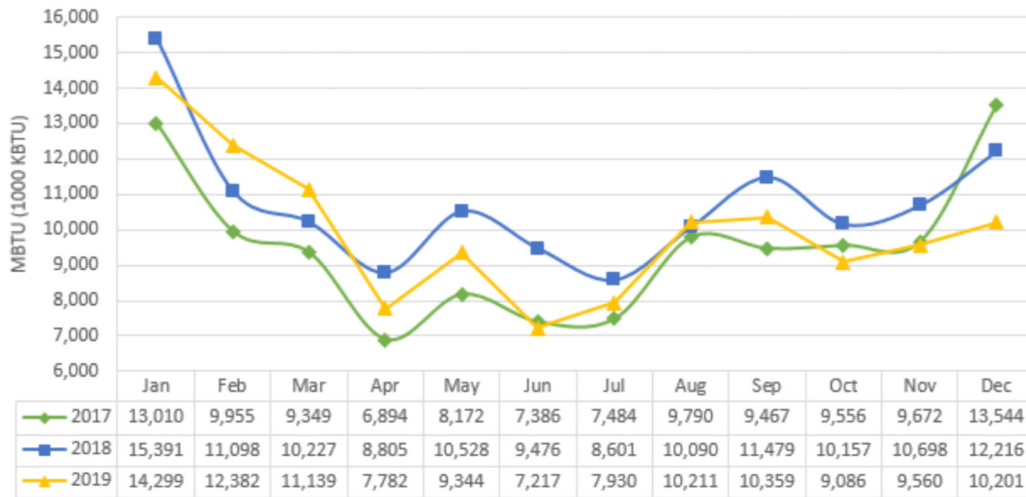
Our total cost for Natural Gas was 12% less in 2019 than the previous year.

RHSD TOTAL ENERGY COST



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RHSD TOTAL ENERGY USAGE



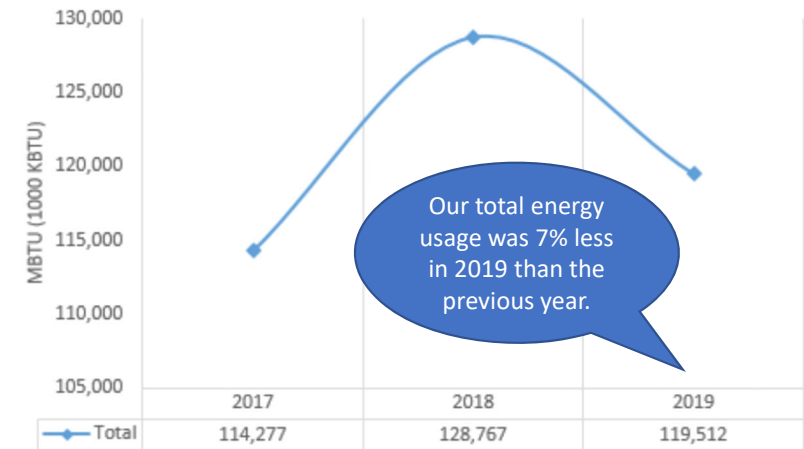
In this chart, we can see how our monthly energy consumption compares to previous years. We can see that we used less energy in 2019 than 2018 for most months. The exception being February and March. In 2018, we experienced 818 HDD (Heating Degree Days) for these two months. In 2019 there were 882. In 2017, we experienced 732 HDD. This data clearly illustrates the effect our weather has on energy consumption and costs.

What is a Degree Day?

Degree Days are based on the assumption that when the outside air temperature is 65 deg. F., we do not need heating or cooling to be comfortable. They are the difference between the daily mean, (high temp. + low temp)/2, and 65 deg F.

- If the mean temperature is above 65 deg. F., we subtract the 65 deg. F and the result is "X" Cooling Degree Days (CDD).
- If the mean temperature is below 65 deg. F., we subtract the mean from 65 and the result is "X" Heating Degree Days (HDD).

RHSD TOTAL ENERGY USAGE

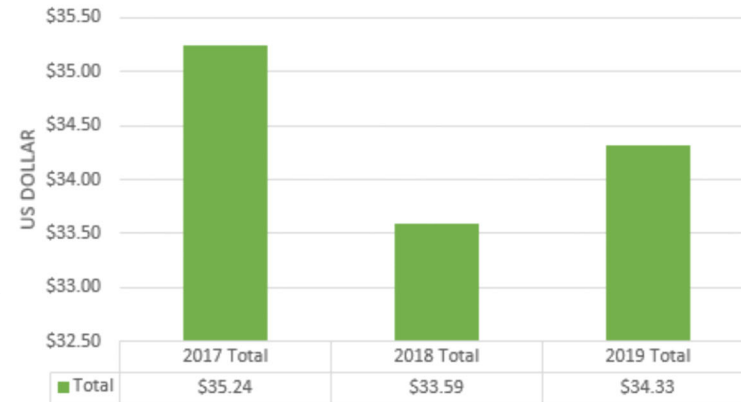


Our total energy usage was 7% less in 2019 than the previous year.

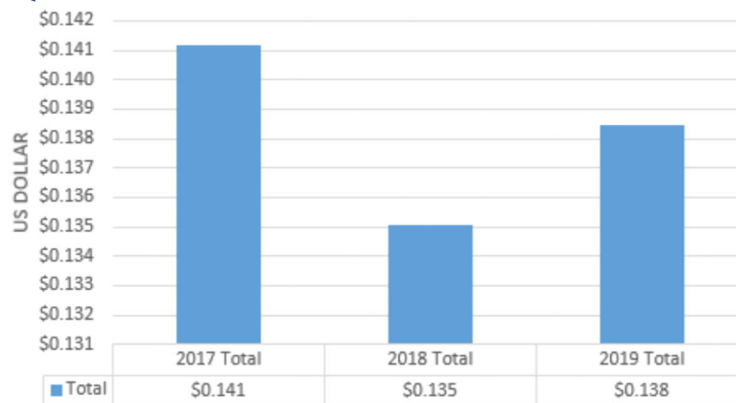
Our total energy cost per unit for electricity and natural gas combined was 2% more in 2019 than the previous year.

Our total electricity cost per kWh was 2% more in 2019 than the previous year.

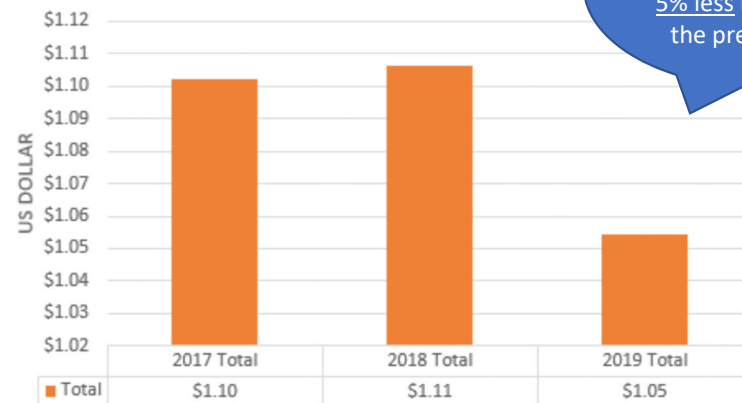
RHSD Cost/Mbtu



RHSD Cost/kWh Electricity



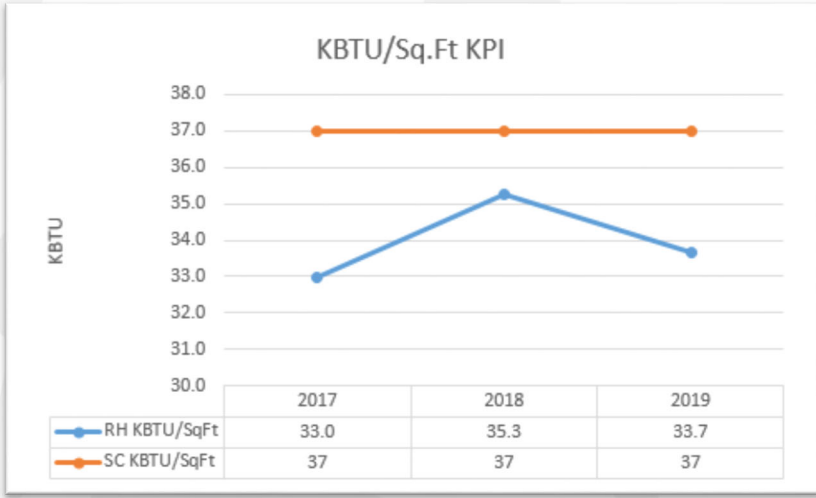
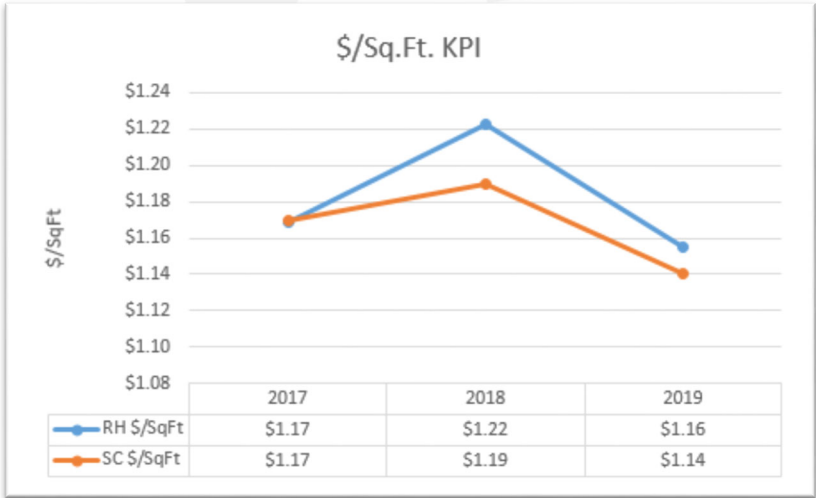
RHSD Cost/Therm NG



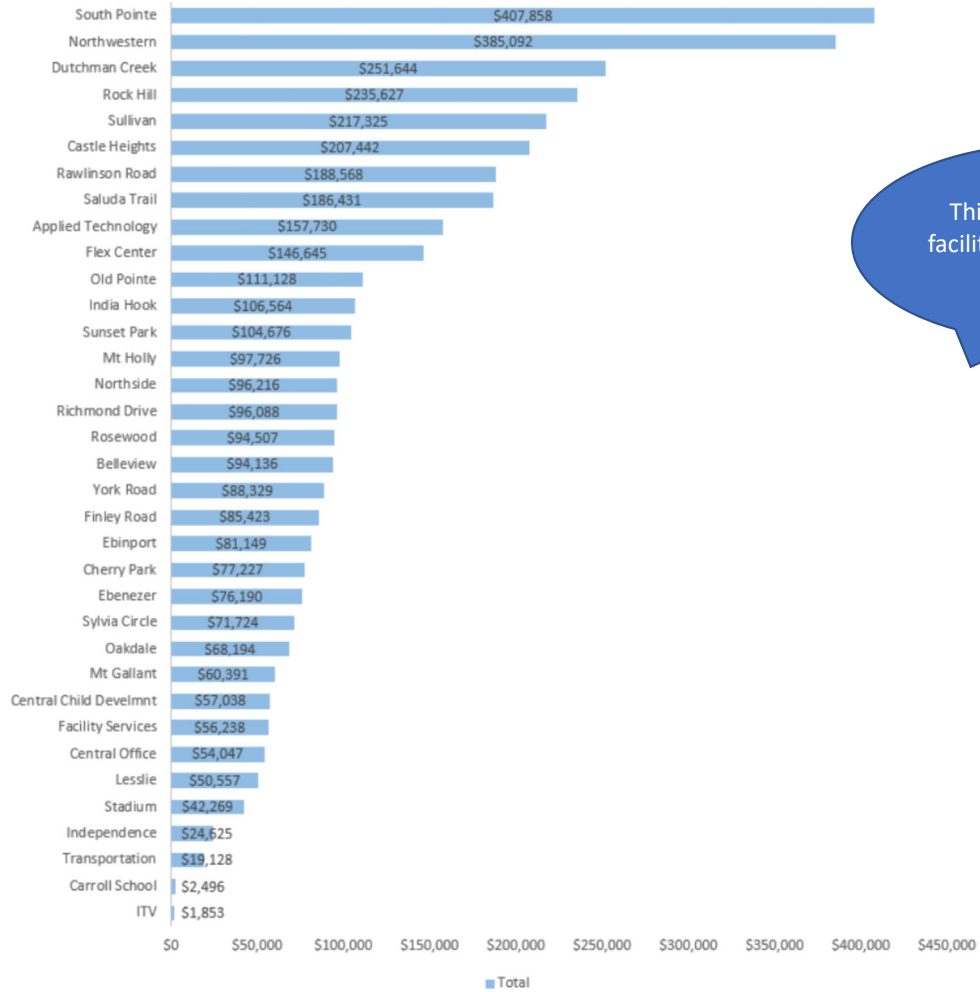
Our total natural gas cost per Therm was 5% less in 2019 than the previous year.

Our cost per square foot was 6% less than our 2018 figure and 1.7% more than the SC State Public School average for 2019. The SC State figure dropped by 5% from 2018 to 2019.

Our EUI (Energy Usage Intensity) for 2019 was 4.5% less than 2018 and 9% less than the SC State Public School average for 2019.

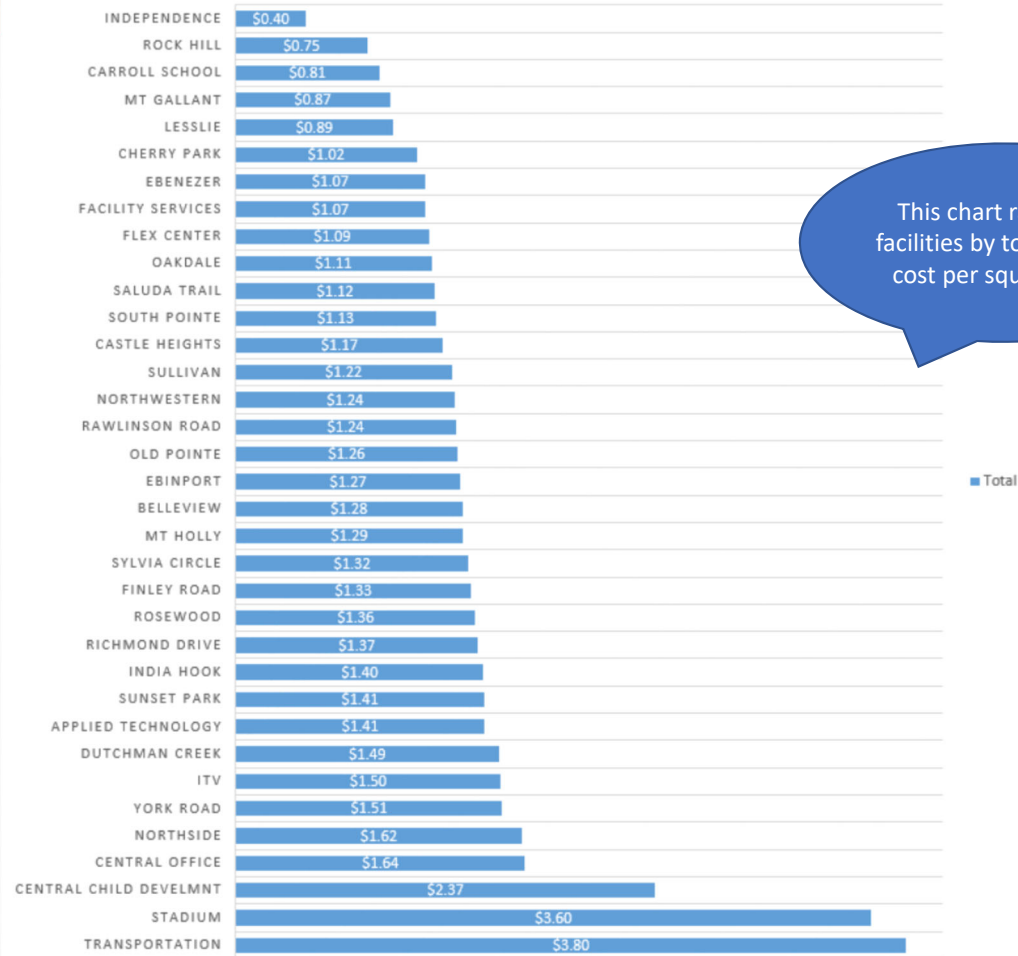


CY 2019 TOTAL ENERGY COST



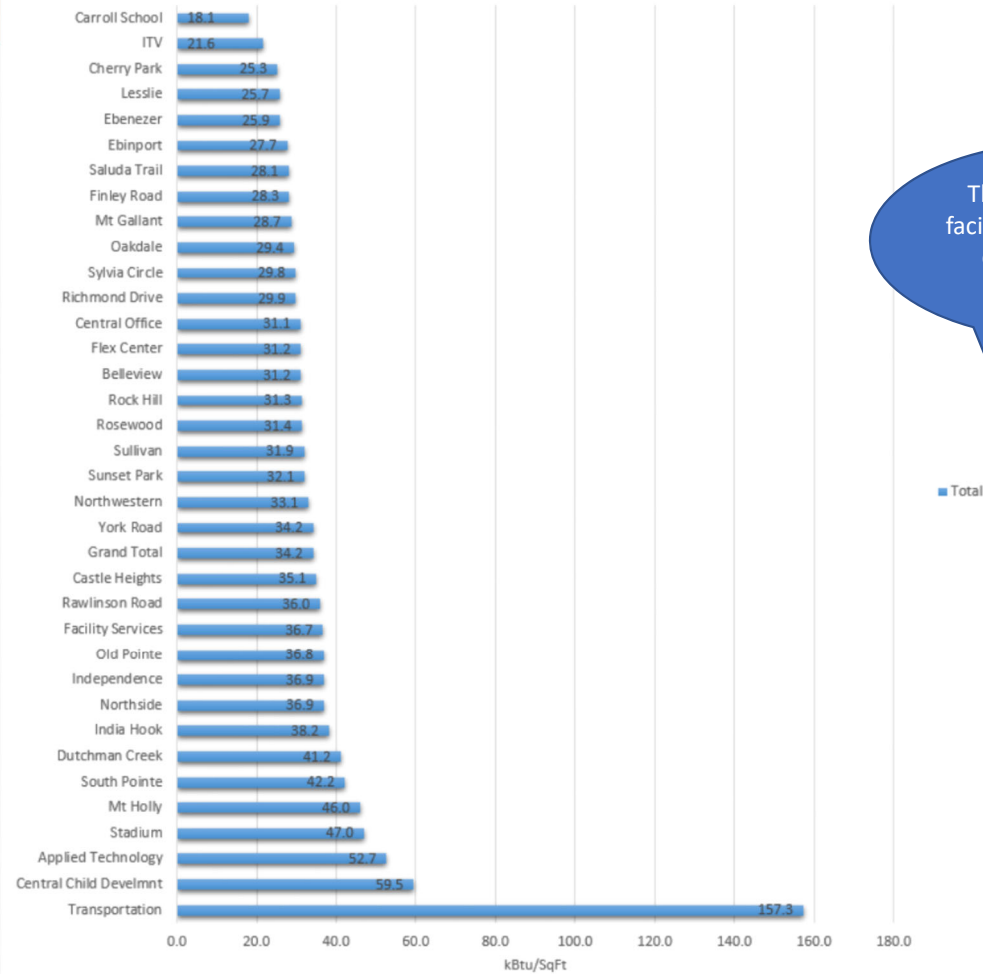
This chart ranks our facilities by total energy cost.

CY 2019 TOTAL ENERGY COST/SQ. FT.



This chart ranks our facilities by total energy cost per square foot.

CY 2019 Total kBtu/SqFt



This chart ranks our facilities by total energy consumption per square foot.

Projects & Program Update

- Our Energy Star certification program is still on hold. DOE changes, RHSD utility accounting software and synchronization problems are preventing us from submitting applications. We are still working on correcting this and advancing this program.
- We completed several important capital upgrade and maintenance replacement projects:
 - Completed District wide upgrade of EMS/BAS software, central controllers and 3rd party (School Dude) scheduling software.
 - Replaced 2 Rooftop AHU's at Central Child Development.
 - Replaced obsolete HVAC control systems for Admin, Library/Media, F-Gym areas at Rock Hill HS and Northwestern HS.
 - Integration of all new HVAC control systems/buildings furnished under last bond program.
 - Gym lighting fixture replacements and controls installation at Rock Hill HS, Northwestern HS and South Pointe HS. Lights and controls replaced in Auxiliary Gym and Weight room at South Pointe HS. All Metal Halide were replaced with LED.
 - Replaced lighting fixtures at Sullivan MS in the Gym. These were Metal Halide that were replaced with LED.
 - Replaced Gallery lighting fixtures at Saluda Trail MS. The existing fixtures had been retrofitted with compact fluorescent about 6 years ago which were not providing enough light. The new LED fixtures provided more light while using less energy.