



DENTON
INDEPENDENT
SCHOOL DISTRICT

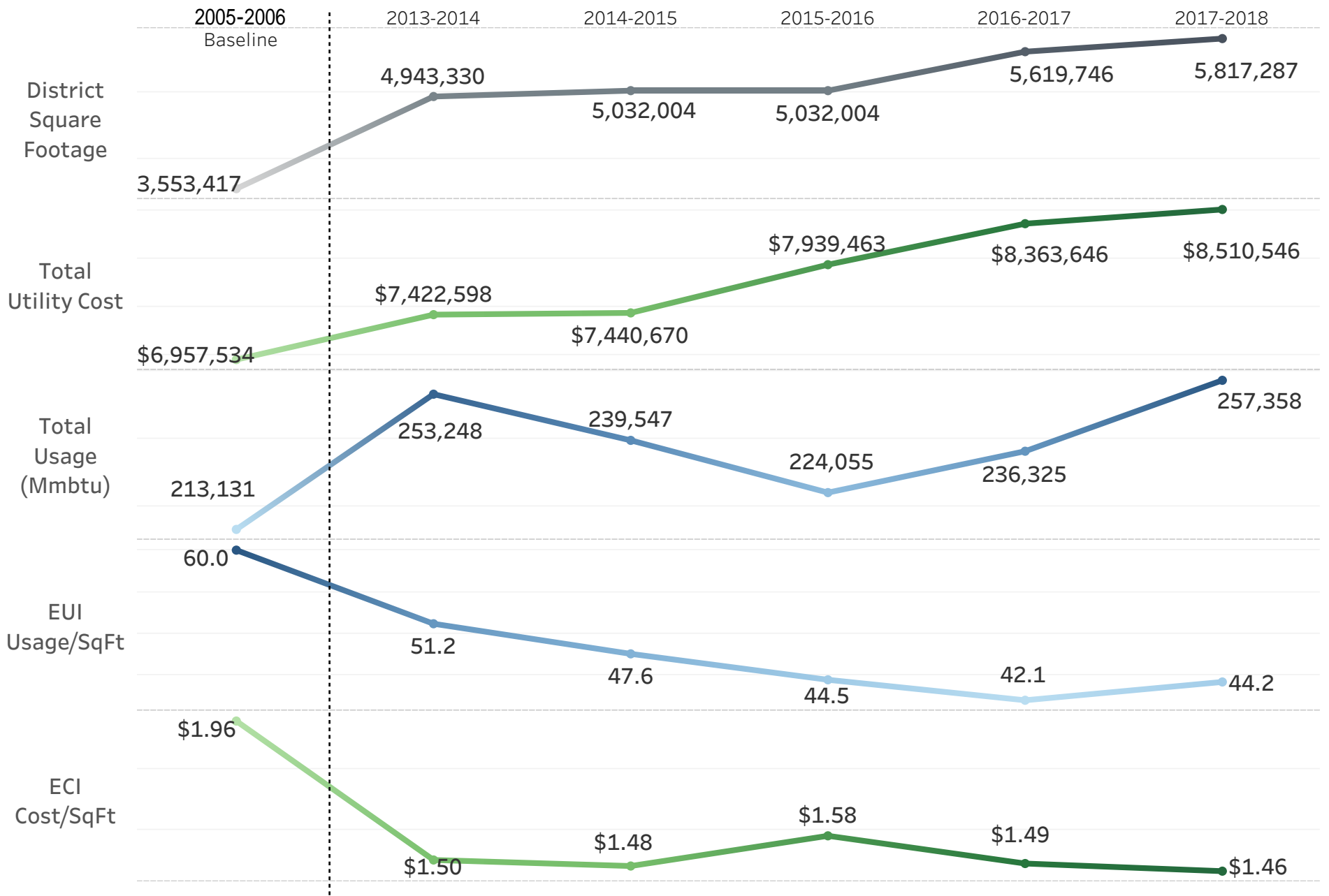
Utility Management Report

FY July 2017 - June 2018

Energy Audit Team

Paul Andress - Executive Director of Operations - DISD
Debbie Monschke, Assistant Superintendent - DISD
Angela Alfonso - Utility Specialist - DISD
Arnoldo Villarreal, Project Manager - TD
Orland Hilliard, CEM, Account Manager - TD
Bob Wilken, CEM, Executive Account Manager - TD
Brandon Hoke, EIT, Engineering - TD

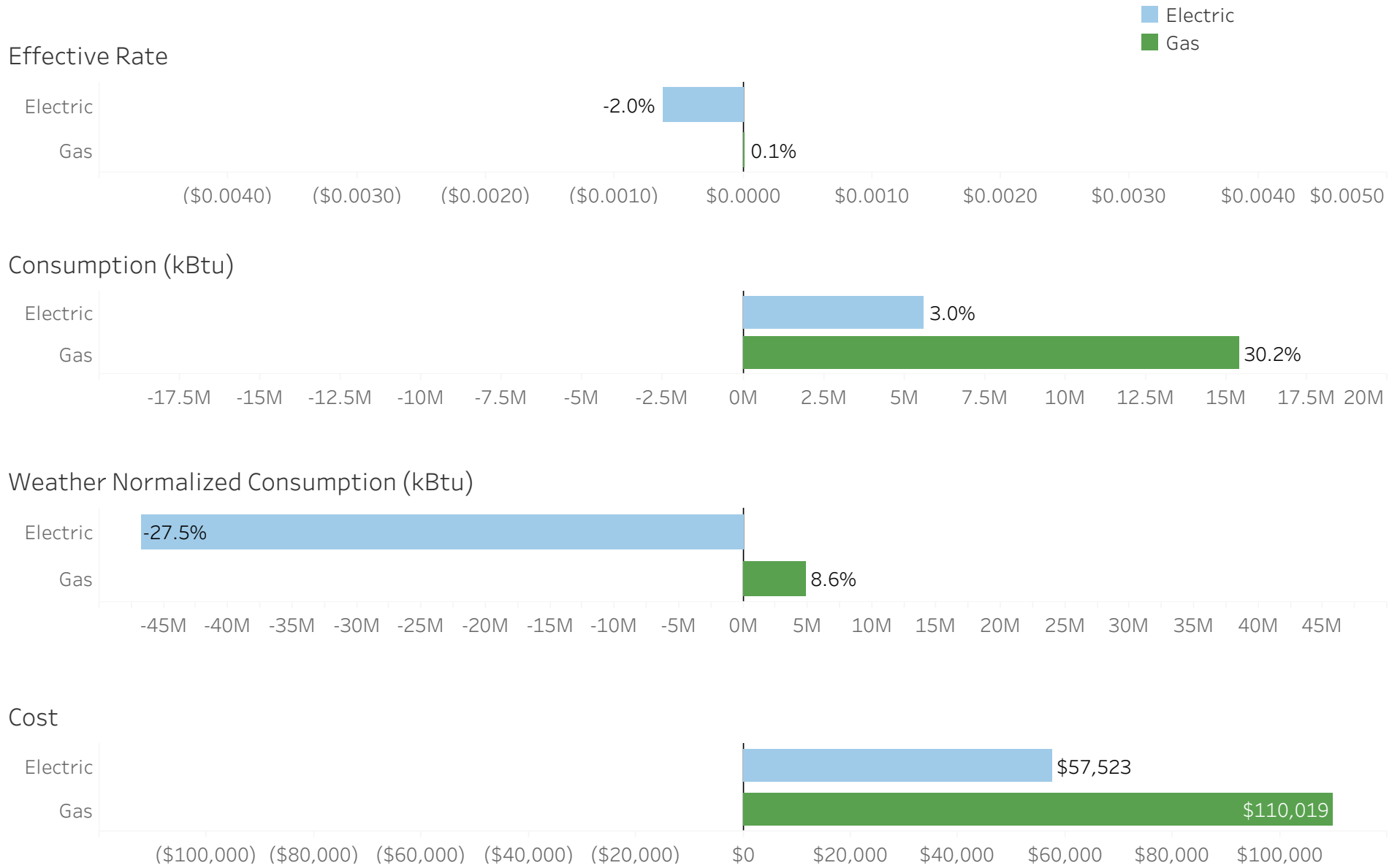
Utility Performance Trends



Comparison by Utility

| | July 2016 - June 2017 | July 2017- June 2018 | % Change | Cost Change (\$) |
|---------------------------------|-----------------------|----------------------|-----------|------------------|
| Electric | \$5,790,302 | \$5,847,825 | 1% | \$57,523 |
| Gas | \$362,257 | \$472,276 | 30% | \$110,019 |
| Irrigation Water | \$427,004 | \$604,148 | 41% | \$177,144 |
| Potable, Sewer & Storm Water | \$995,740 | \$861,772 | -13% | (\$133,968) |
| Refuse | \$797,095 | \$724,524 | -9.10% | (\$72,570) |
| Total | \$8,372,399 | \$8,510,546 | 2% | \$138,148 |

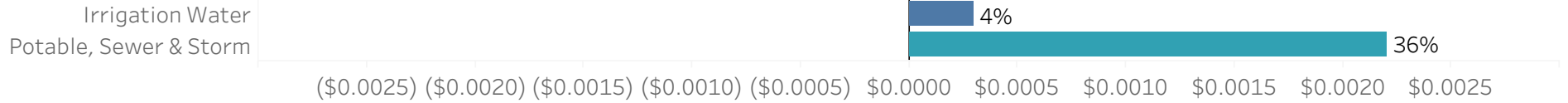
All Schools Energy Performance Change Compared To Last Year



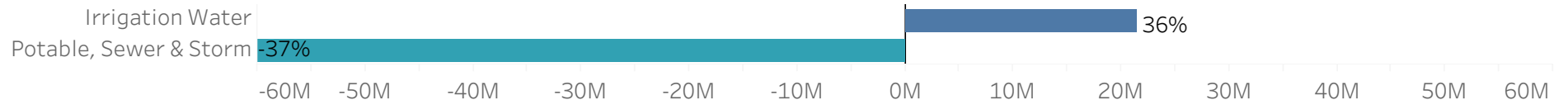
Water and Refuse Performance Change Compared To Last Year

- Irrigation Water
- Potable, Sewer & Storm
- Rainfall
- Refuse

Effective Rate



Consumption



Cost



Rainfall

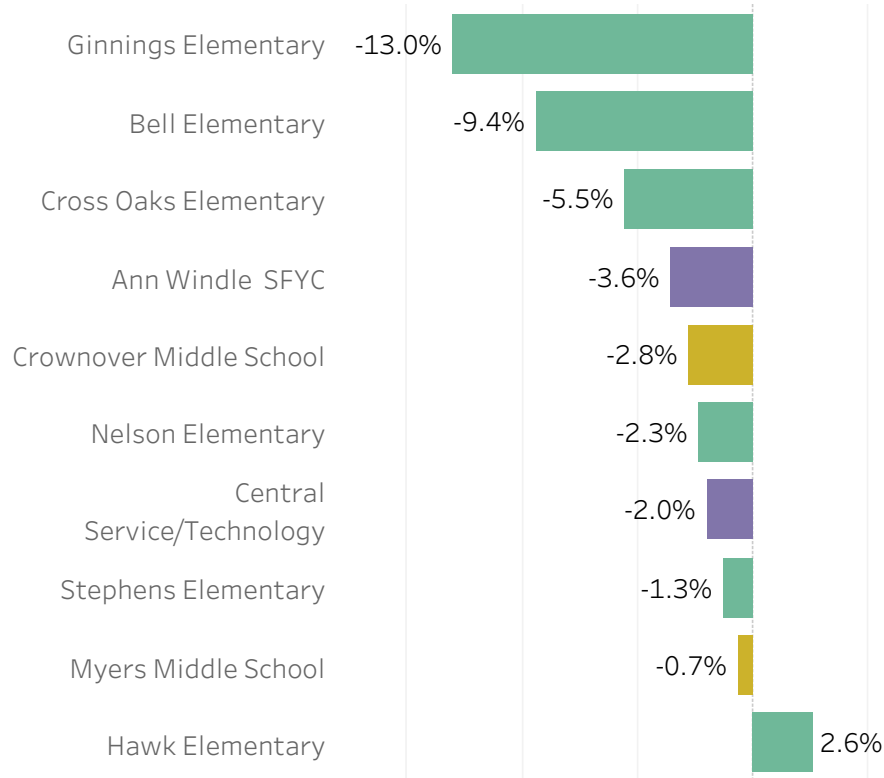


Refuse

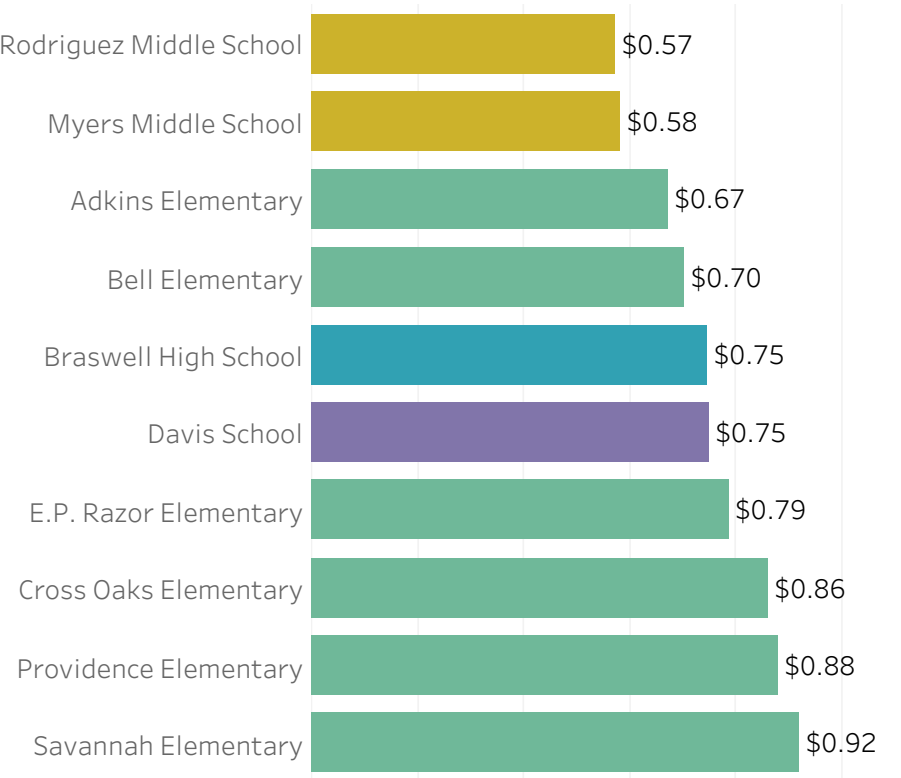


Top Performers

% Change in Usage from Previous Year
Electric & Gas



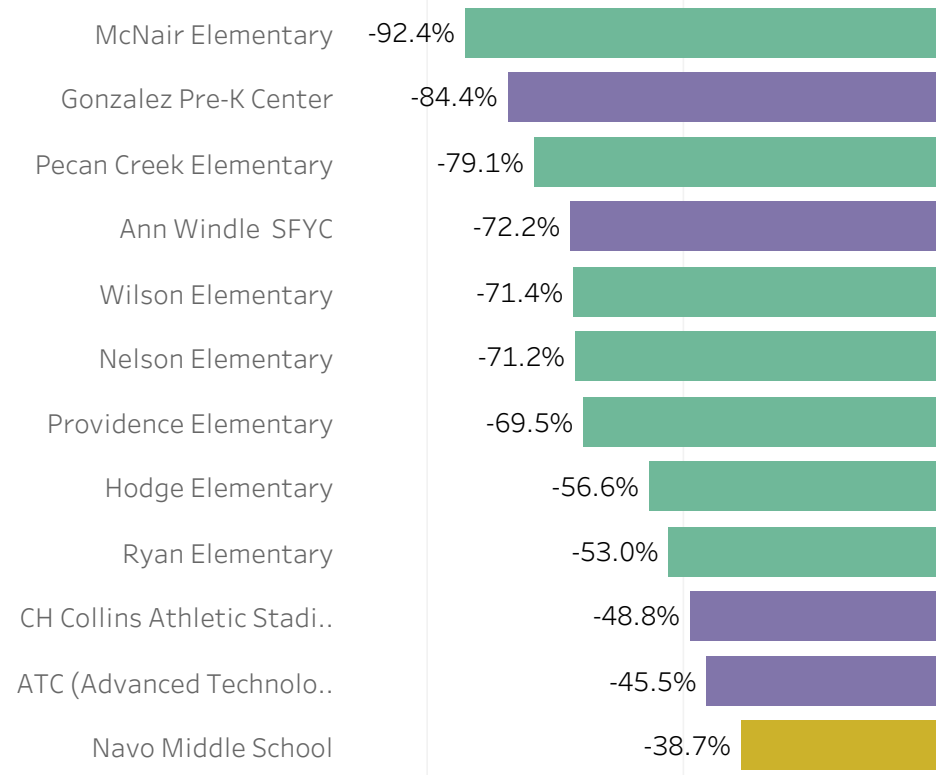
Lowest Cost per SqFt
Electric & Gas



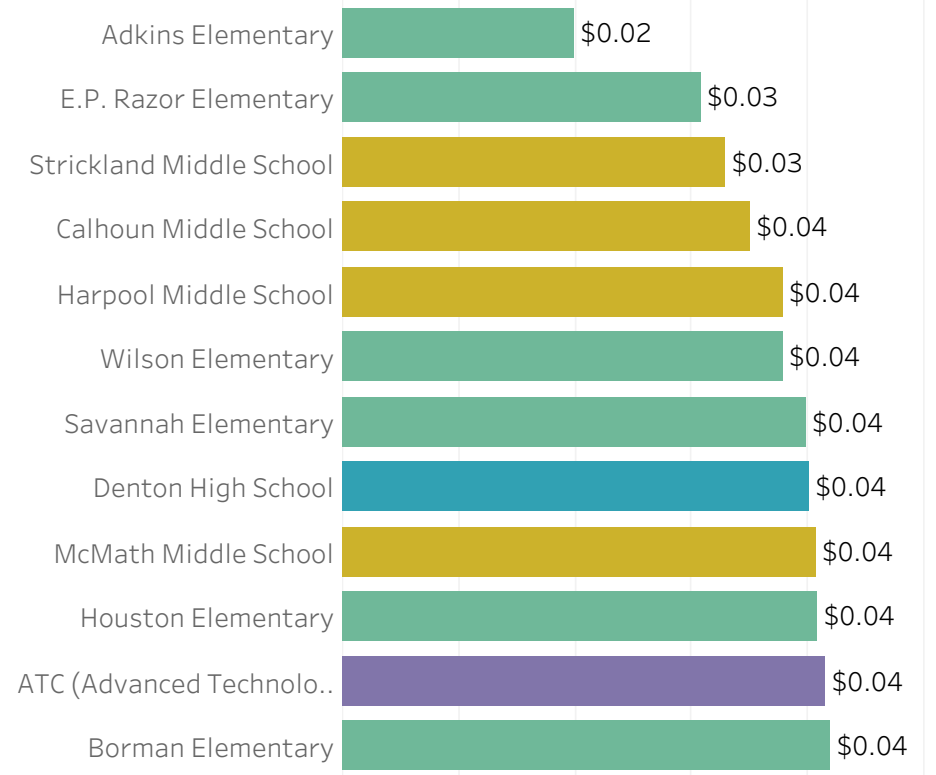
- Auxiliary
- Elementary Schools
- High Schools
- Middle Schools

Top Performers

% Change in Usage from Previous Year
Potable Water



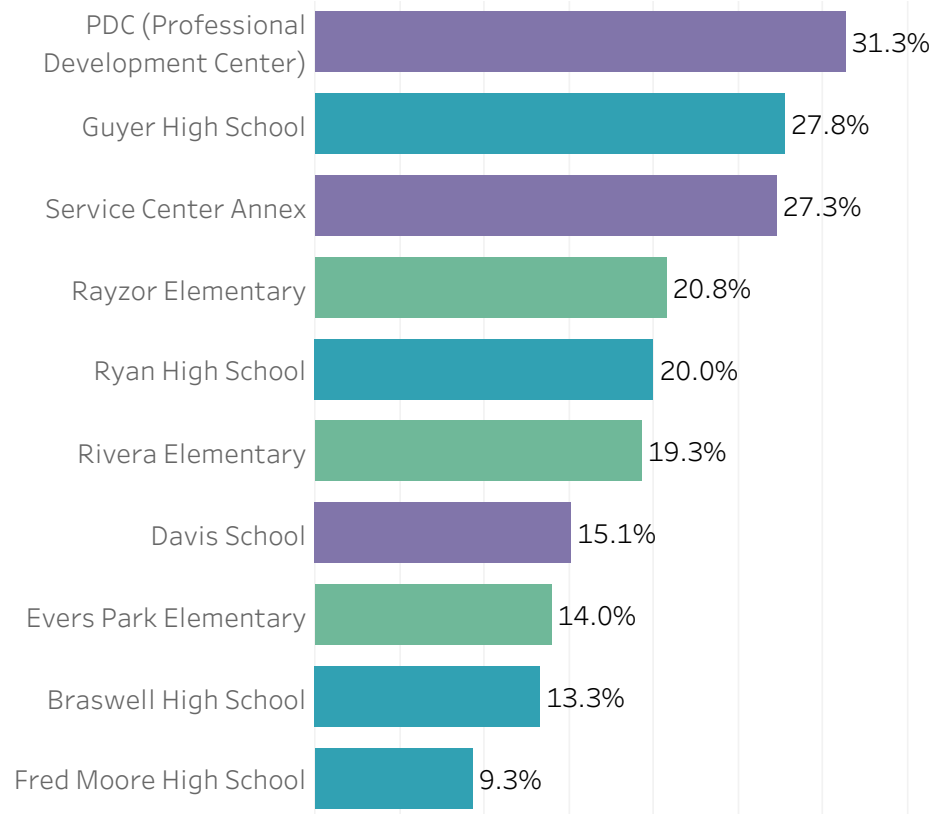
Lowest Cost per SqFt
Potable Water



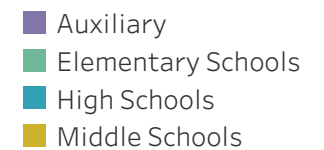
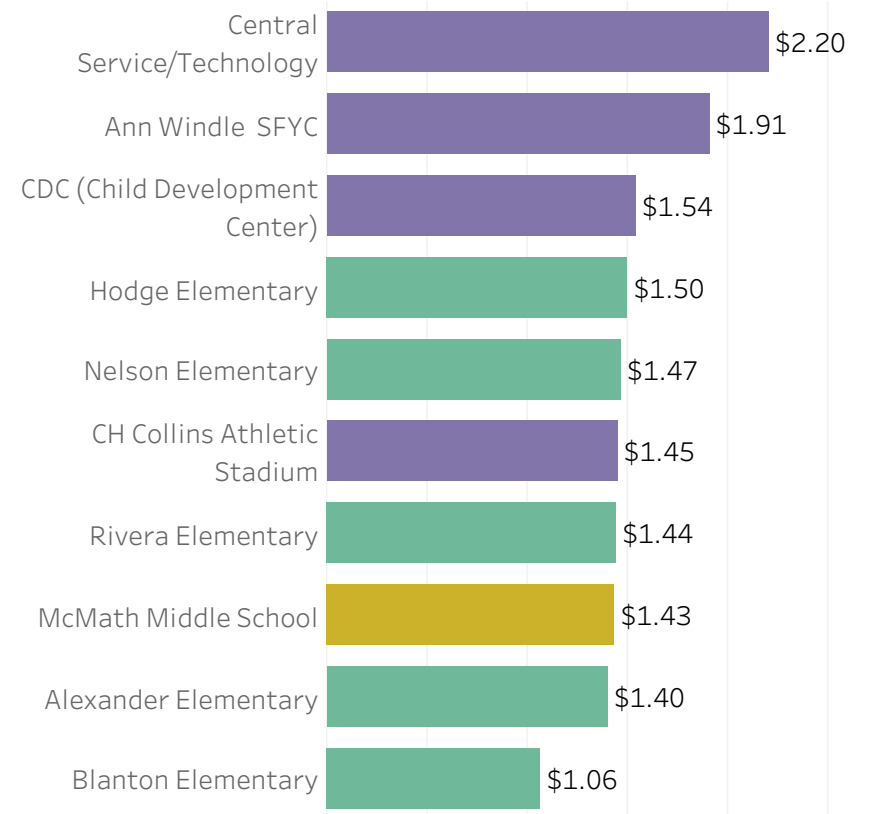
- Auxiliary
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Opportunities

Highest Usage Increase From Previous Year Electric & Gas



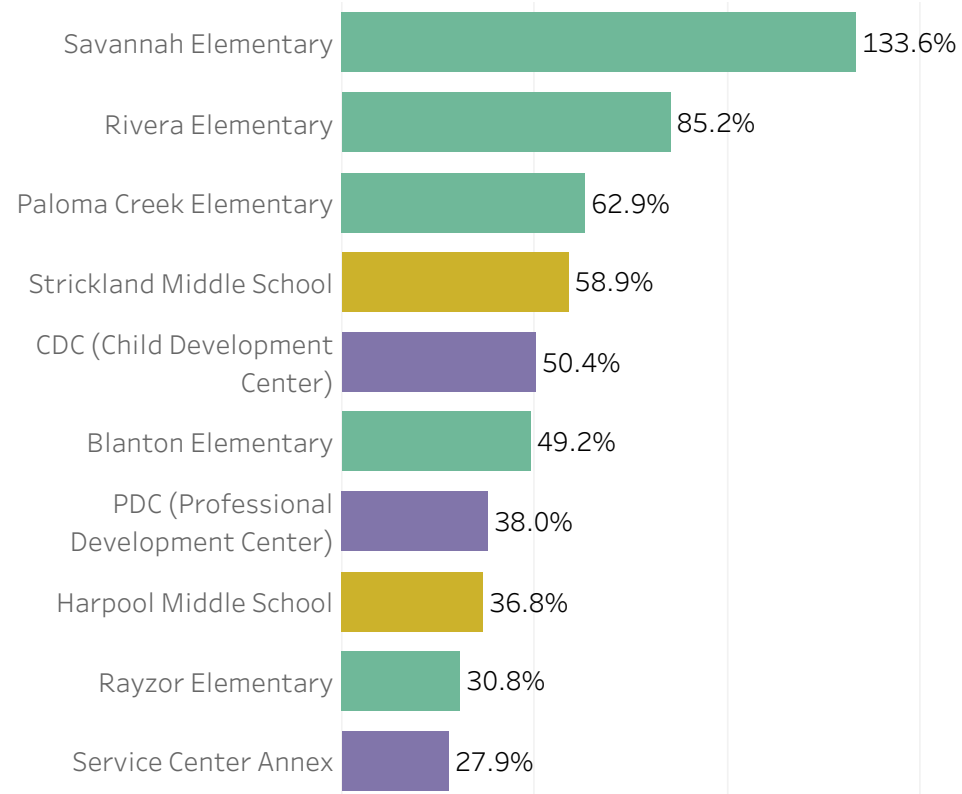
Largest Cost per SqFt Electric & Gas



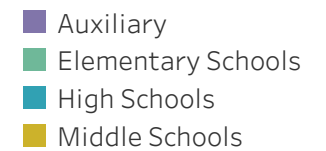
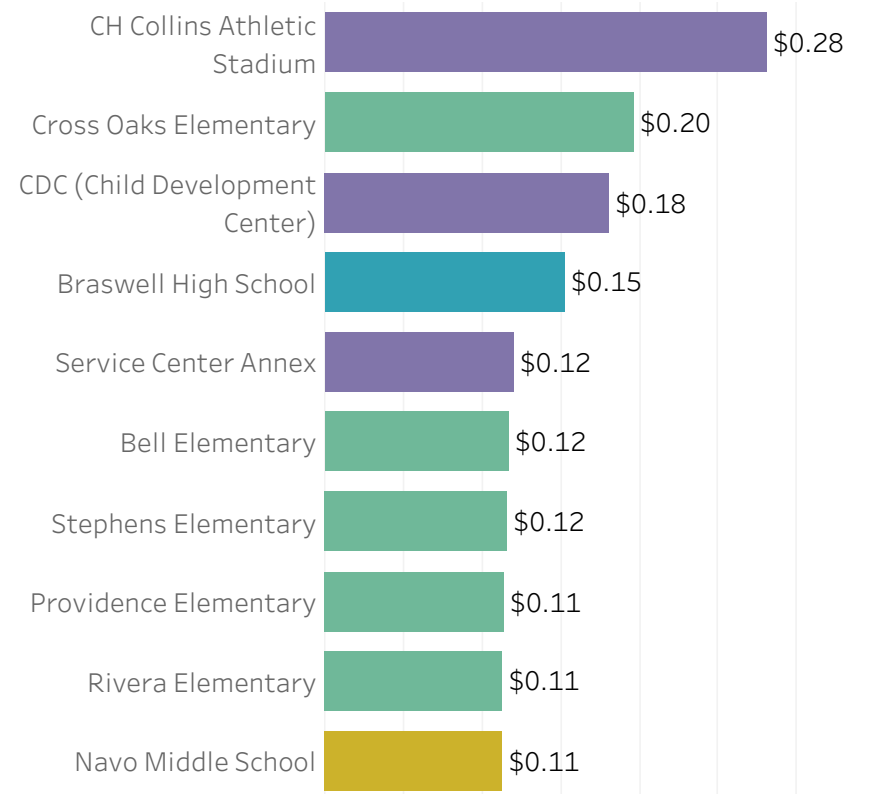
Gas usage was much higher this year; we had a very cold January

Opportunities

Highest Usage Increase From Previous Year Potable Water



Largest Cost per SqFt Potable Water



Energy Efficient Building Impact

| | Rivera Elementary | Evers Park Elementary | Bell Elementary | Adkins Elementary |
|----------------------|-------------------|-----------------------|-----------------|-------------------|
| Cost/SQFT | \$1.44 | \$1.44 | \$0.70 | \$0.67 |
| Usage/SQFT | 58 kBtu | 55 kBtu | 27 kBtu | 25 kBtu |
| July 2017- June 2018 | \$122,028 | \$123,621 | \$62,551 | \$59,475 |
| Total Usage | 4,941,313 kBtu | 4,720,859 kBtu | 2,427,354 kBtu | 2,249,906 kBtu |
| Square Footage | 84,598 | 85,855 | 88,925 | 88,674 |

Cost difference between two school energy models: \$123,559



Equivalent of 2.3 Teacher's Salaries

| | | | | | |
|---|---|-------------------------------|---|-----------------------------------|----------------------------------|
| FY 05/06 Baseline SQFT 3,553,417 | FY 05-06 Baseline ECI (Cost/SQFT) \$1.96 | FY 17/18 SQFT 5,817,287 | Estimated Cost at Baseline ECI \$11,401,882 | FY 17/18C Costs \$8,510,546 | Annual Savings \$2,891,336 |
|---|---|-------------------------------|---|-----------------------------------|----------------------------------|

Recent Accomplishments

1. Lighting Retrofit - Outdoor Building Mounted Lights
2. Ryan High School Chillers and Pumps Retrofit
3. Irrigation Repairs at nearly every school.
4. Evaluating Variable Refrigerant Flow (VRF) for retrofit opportunities.

Looking Ahead

1. 2018 Bond
2. First Solar Panel Project on upcoming school.