



DENTON
INDEPENDENT
SCHOOL DISTRICT

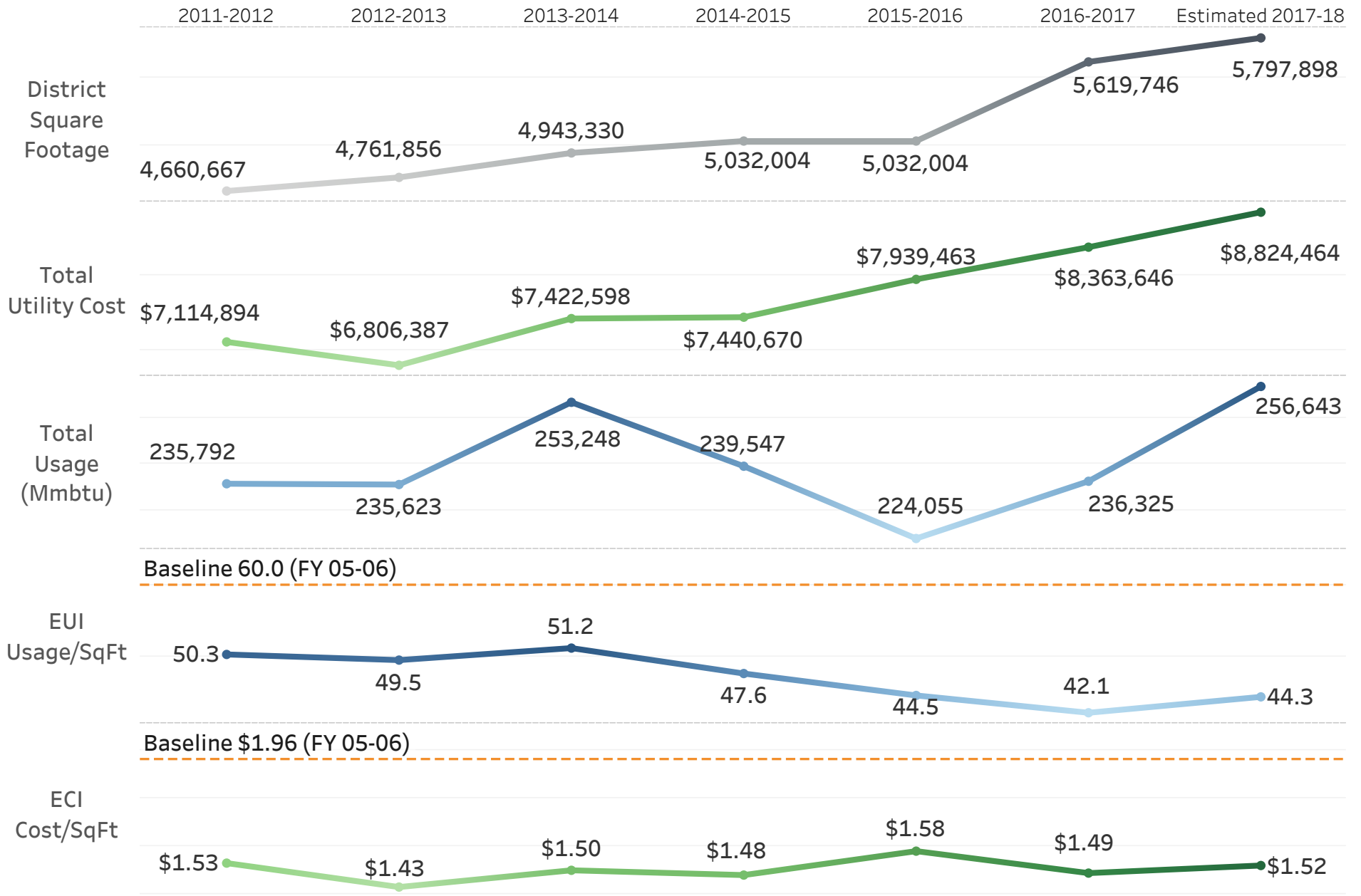
Utility Management Report Mid-Year Audit FY July - December 2017

Energy Audit Team

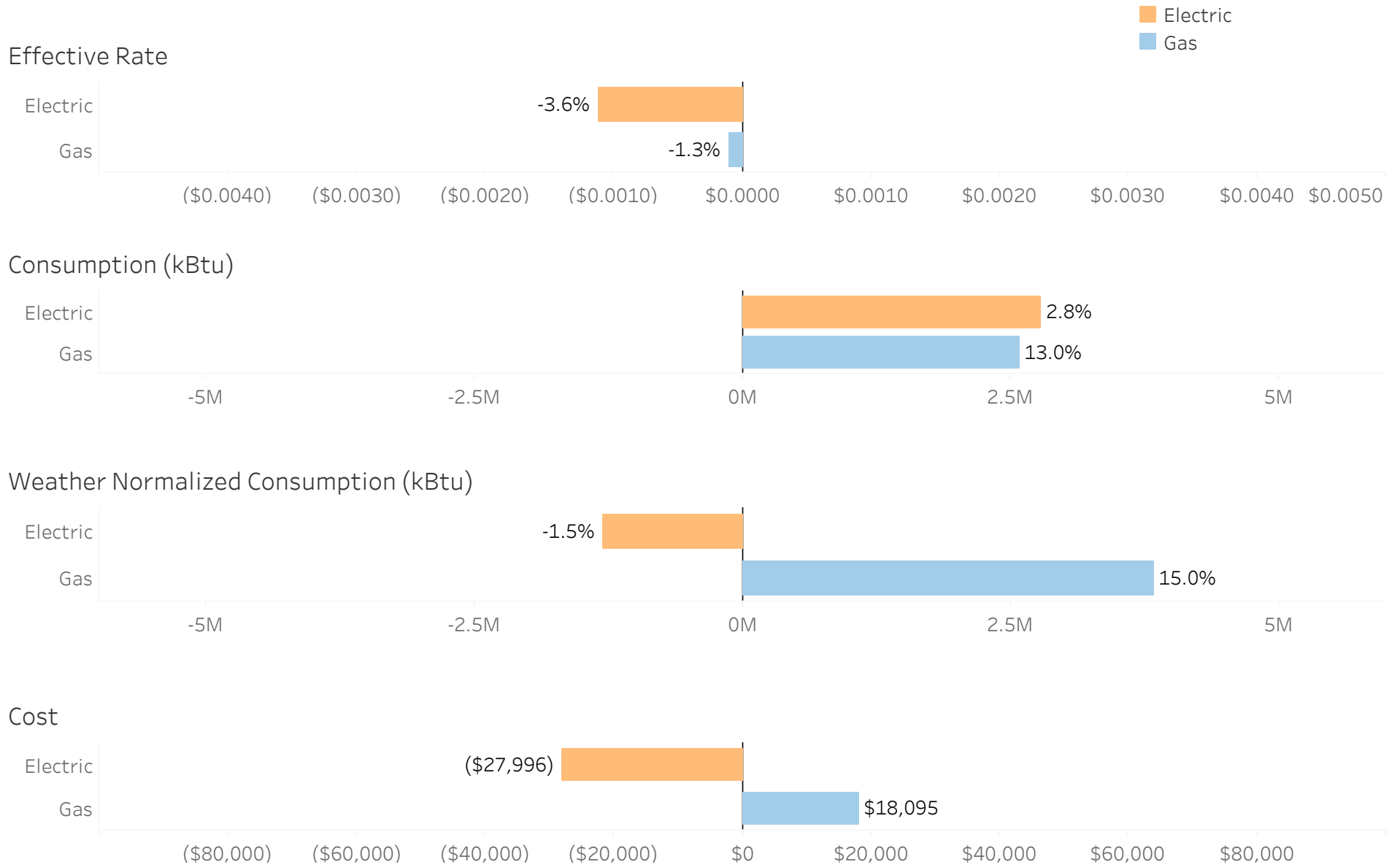
Paul Andress - Executive Director of Operations - DISD
Debbie Monschke, Assistant Superintendent - DISD
Angela Alfonso - Utility Specialist - DISD
Arnoldo Villarreal, Project Manager - TD
Orland Hilliard, CEM, Account Manager - TD
Bob Wilken, CEM, Executive Account Manager - TD
Brandon Hoke, EIT, Engineering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



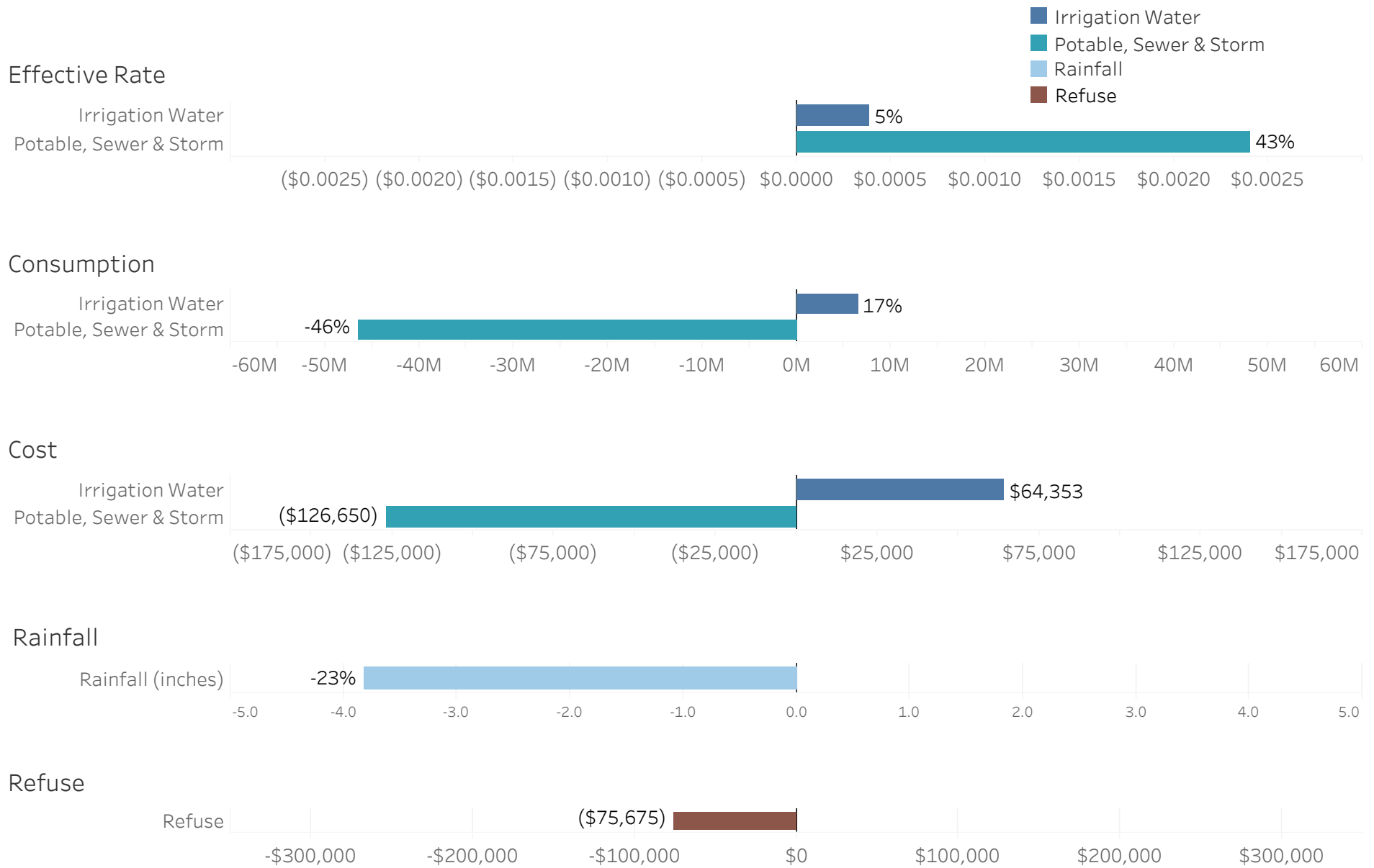
Utility Performance Trends



Energy Performance Change Compared To Last Year



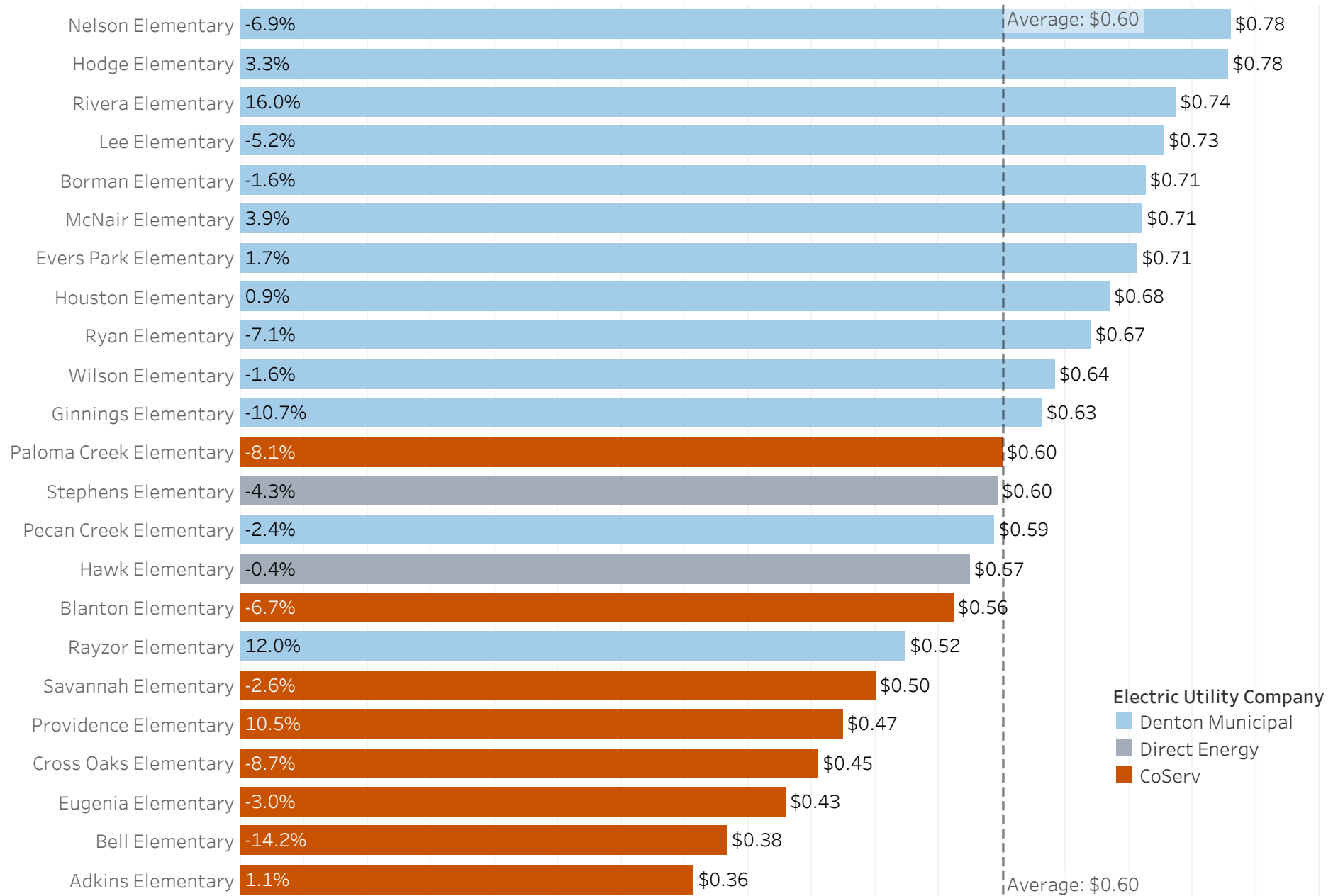
Water and Refuse Performance Change Compared To Last Year



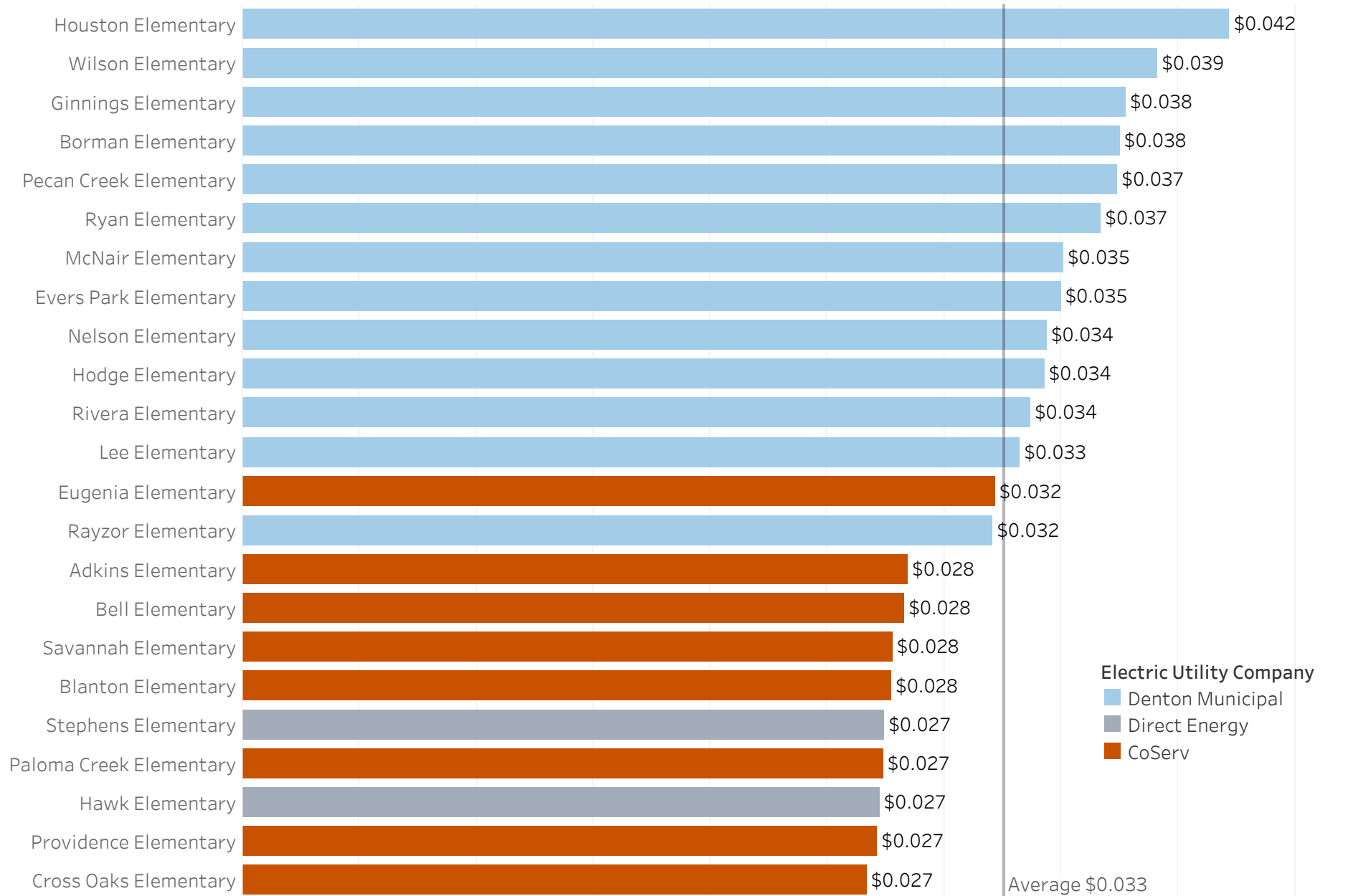
Comparison by Utility

	July 2016 - Dec 2016	July 2017 - Dec 2017	% Change	Cost Change (\$)
Electric	\$3,111,032	\$3,083,036	-1%	(\$27,996)
Gas	\$156,668	\$174,763	12%	\$18,095
Irrigation Water	\$275,252	\$339,604	23%	\$64,353
Potable, Sewer & Storm Water	\$571,328	\$444,679	-22%	(\$126,650)
Refuse	\$427,998	\$352,323	-17.68%	(\$75,675)
Total	\$4,947,180	\$4,786,285	-3%	(\$160,895)

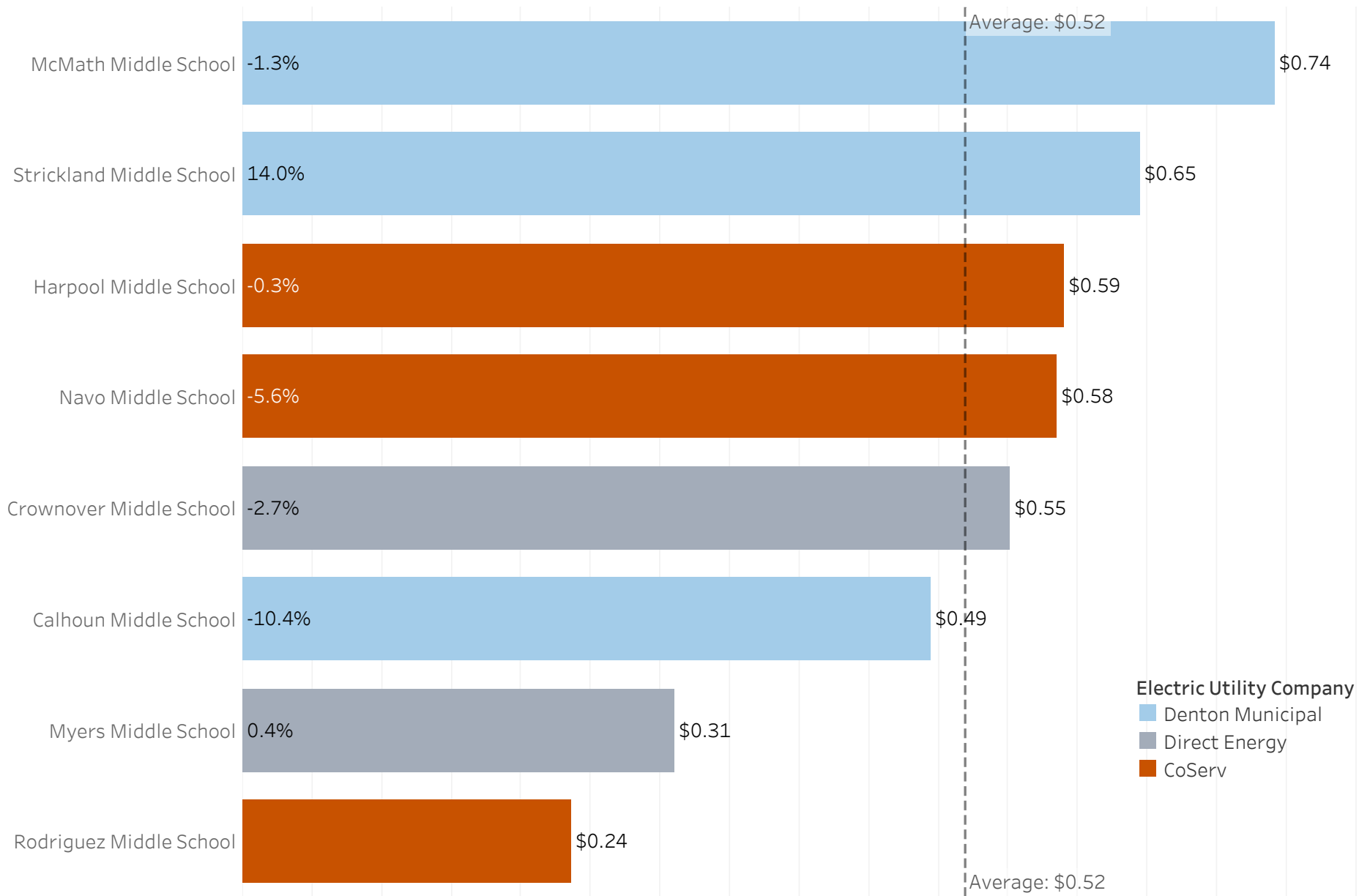
Elementary Schools: Cost per SqFT & Usage Percent Change From Previous Year - Electric & Gas



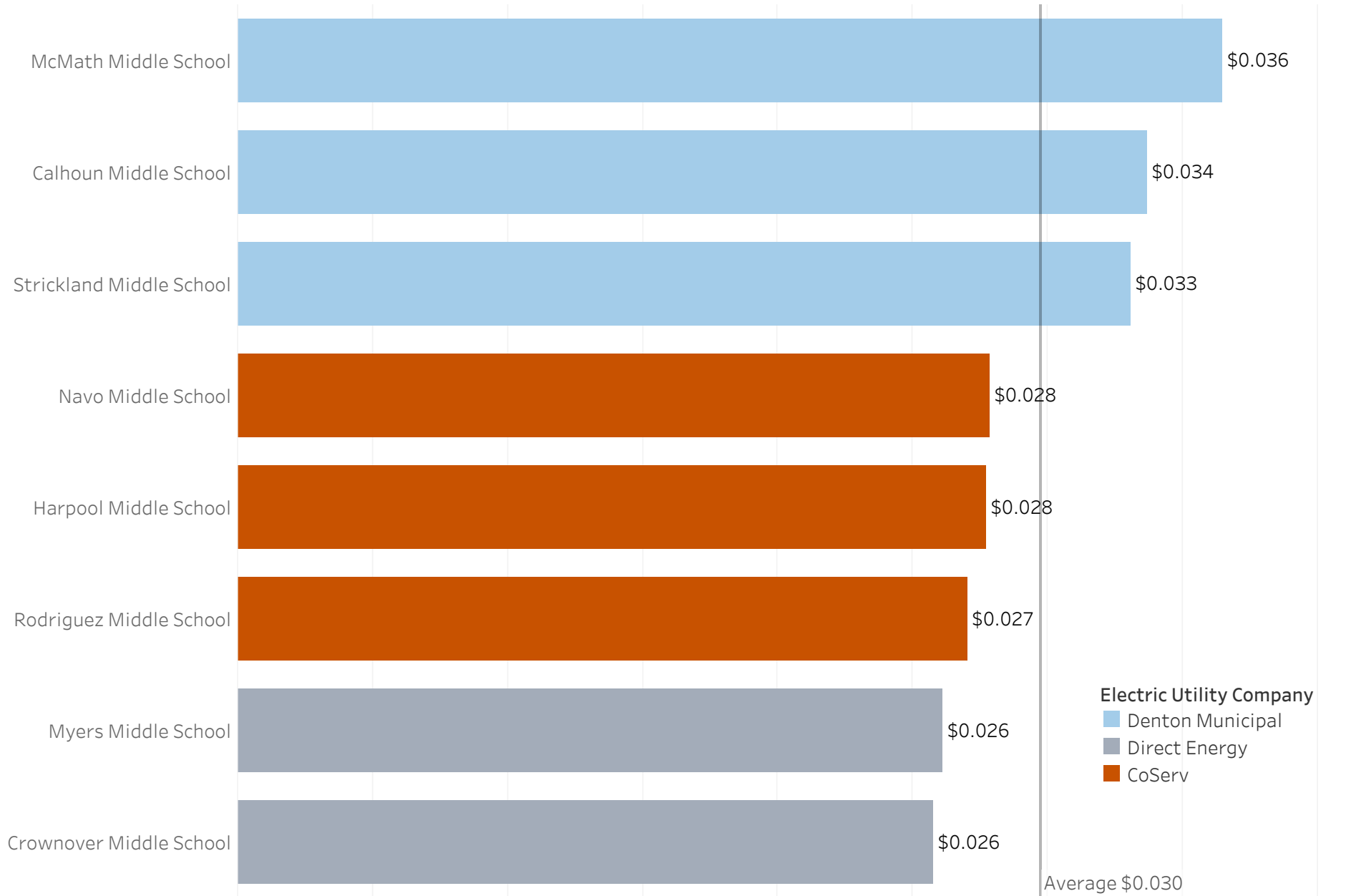
Elementary Schools: Electric Rates in Current FY (\$/kBtu)



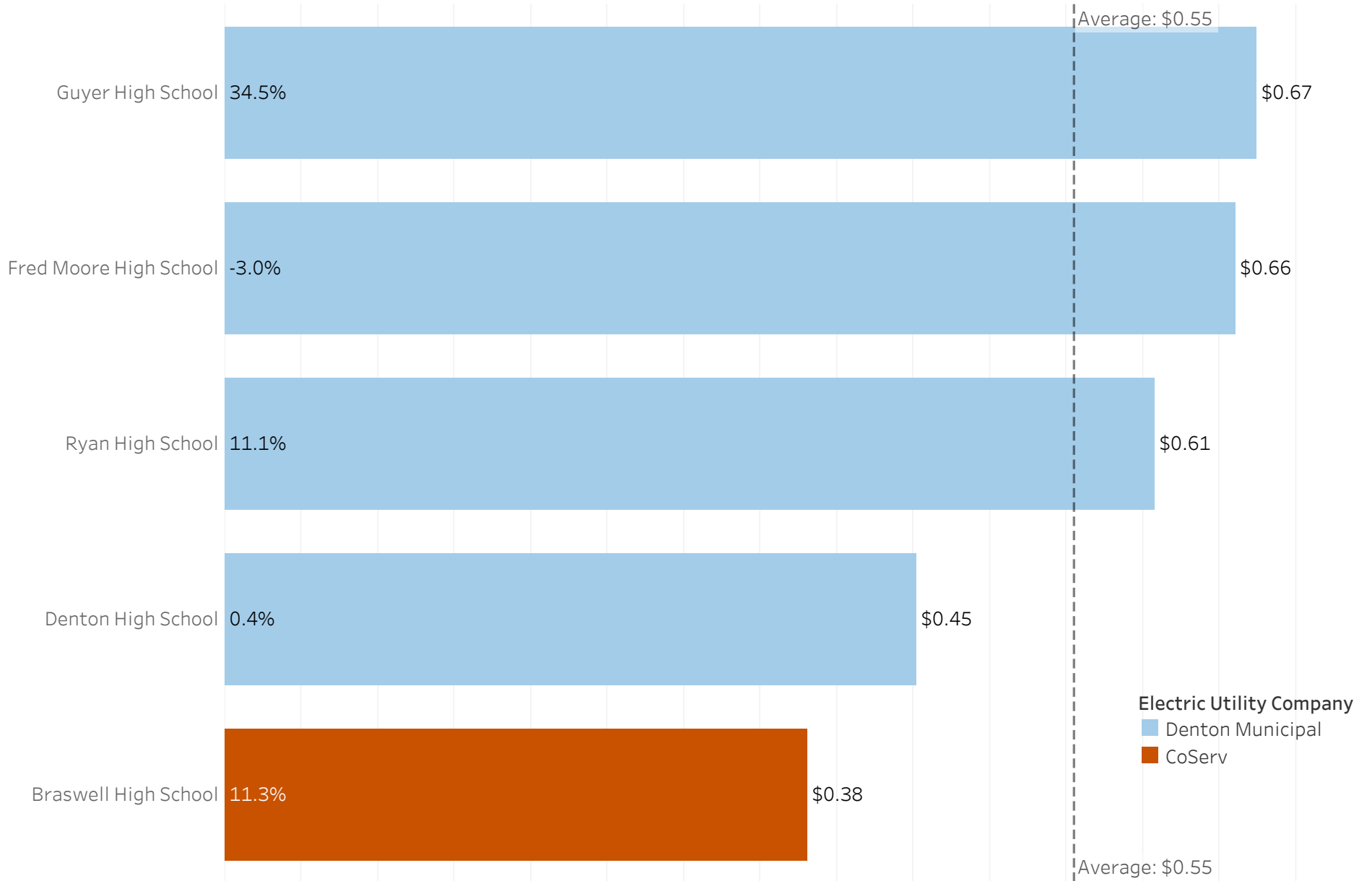
Middle Schools: Cost per SqFT & Usage Percent Change From Previous Year - Electric & Gas



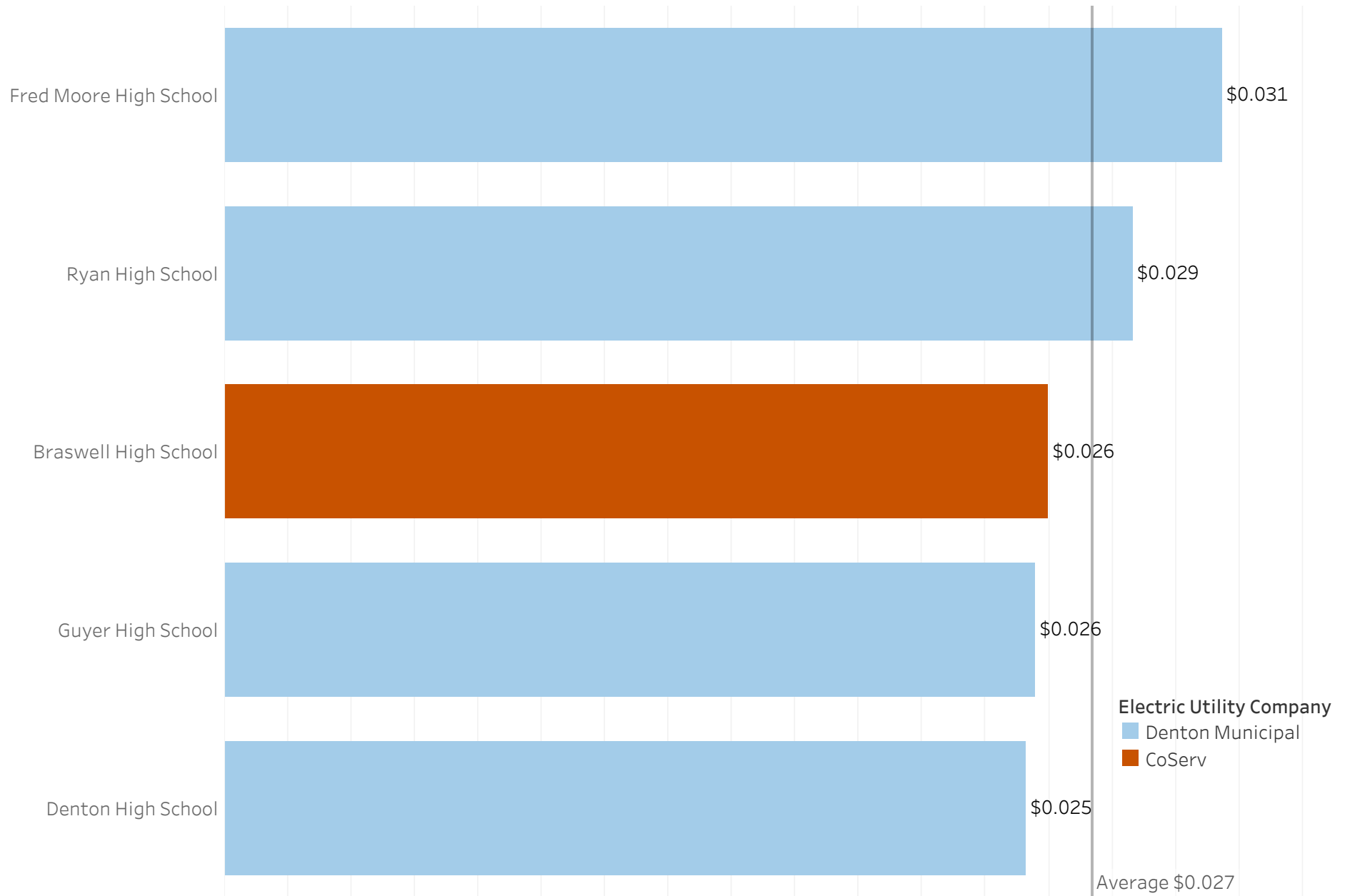
Middle Schools: Electric Rates in Current FY (\$/kBtu)



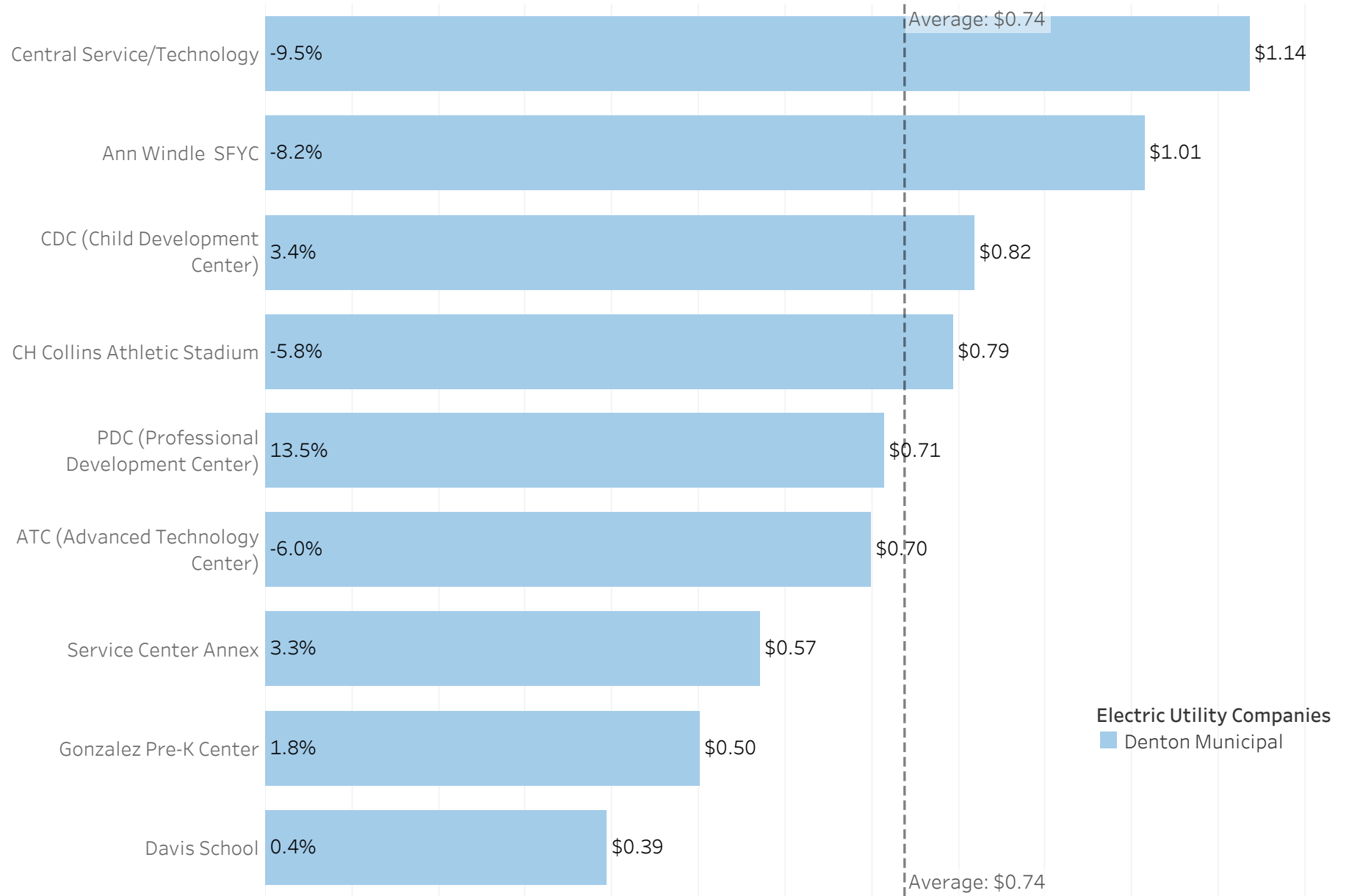
High Schools: Cost per SqFT & Usage Percent Change From Previous Year - Electric & Gas



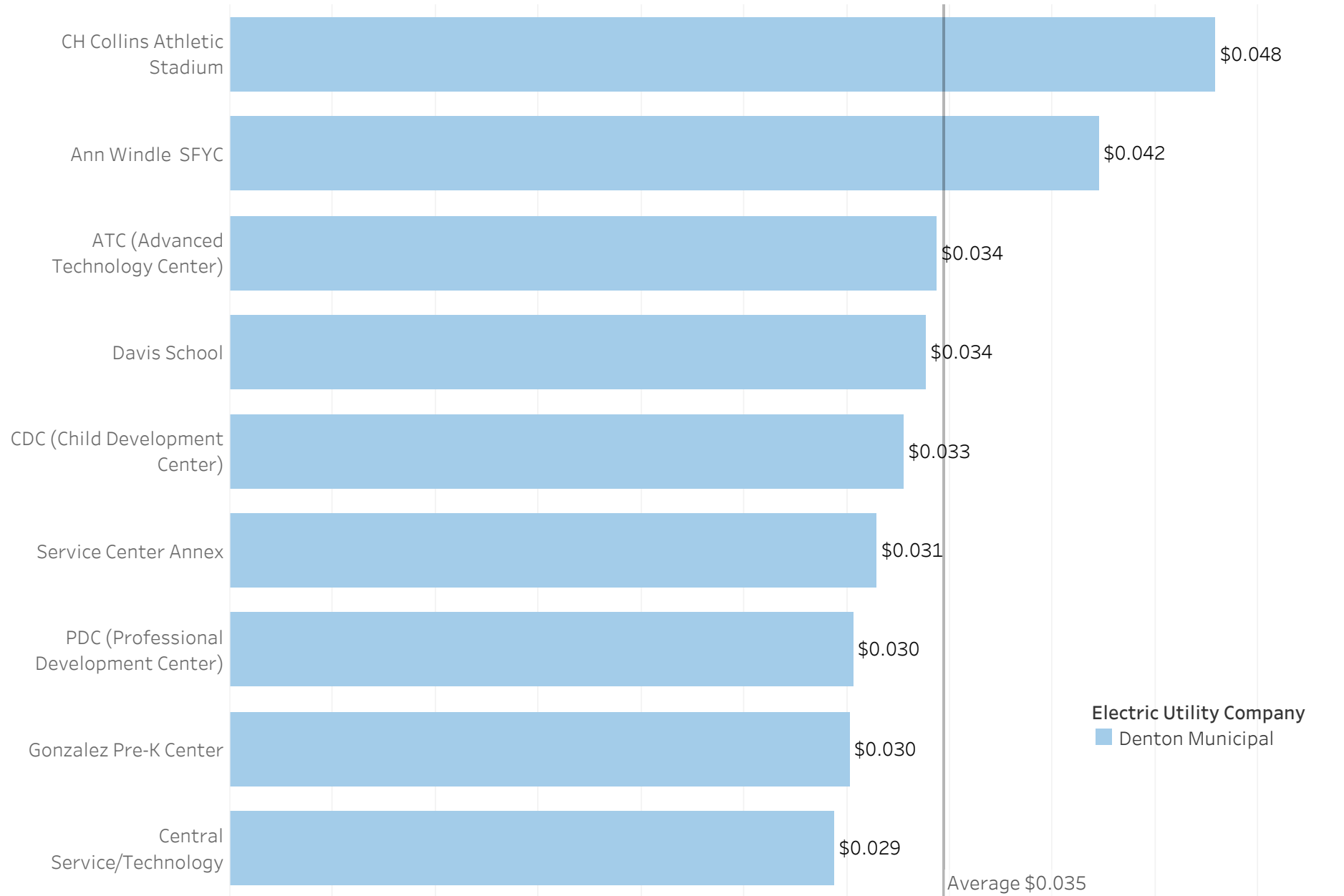
High Schools: Electric Rates in Current FY (\$/kBtu)



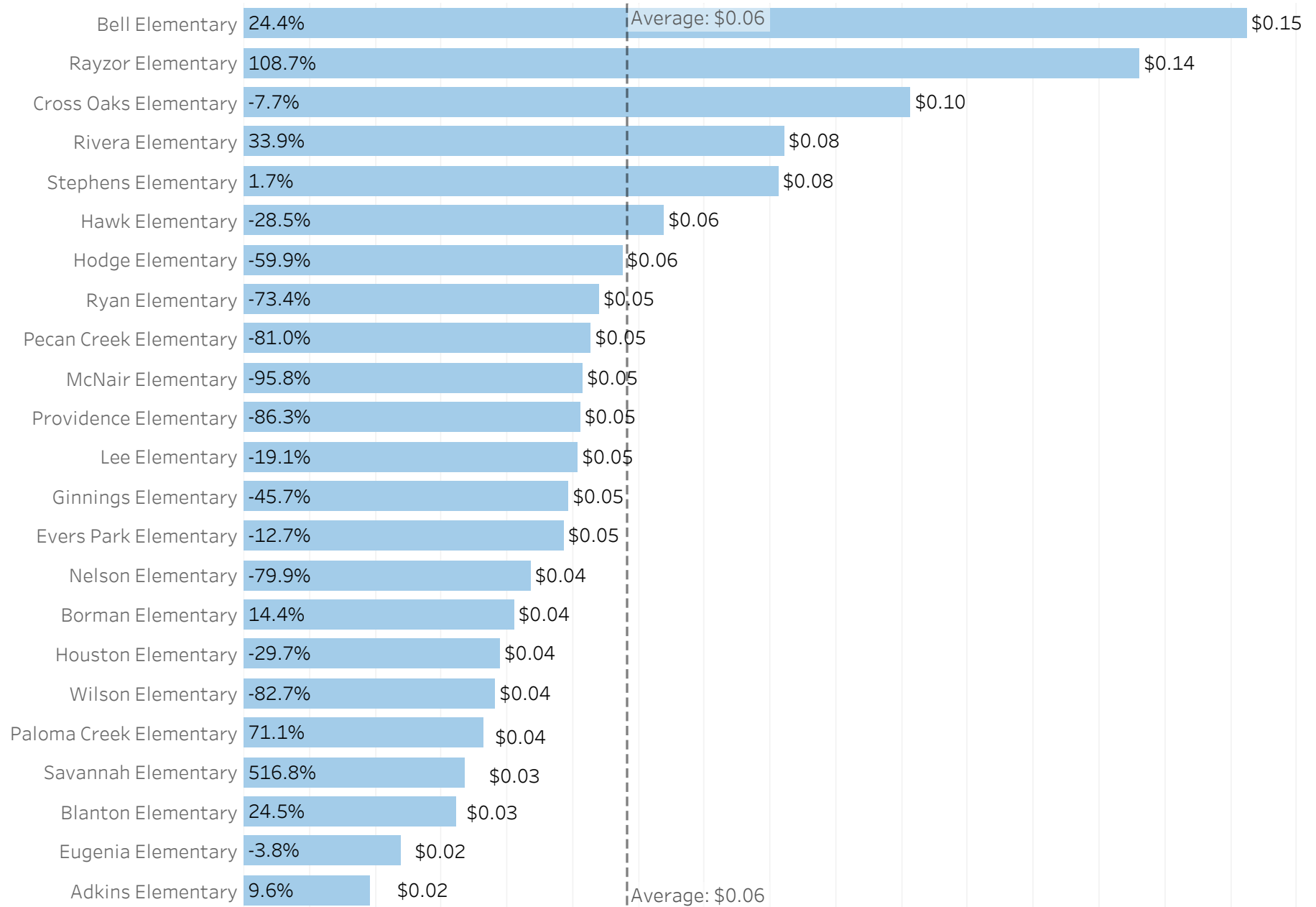
Auxiliary: Cost per SqFT & Usage Percent Change From Previous Year - Electric & Gas



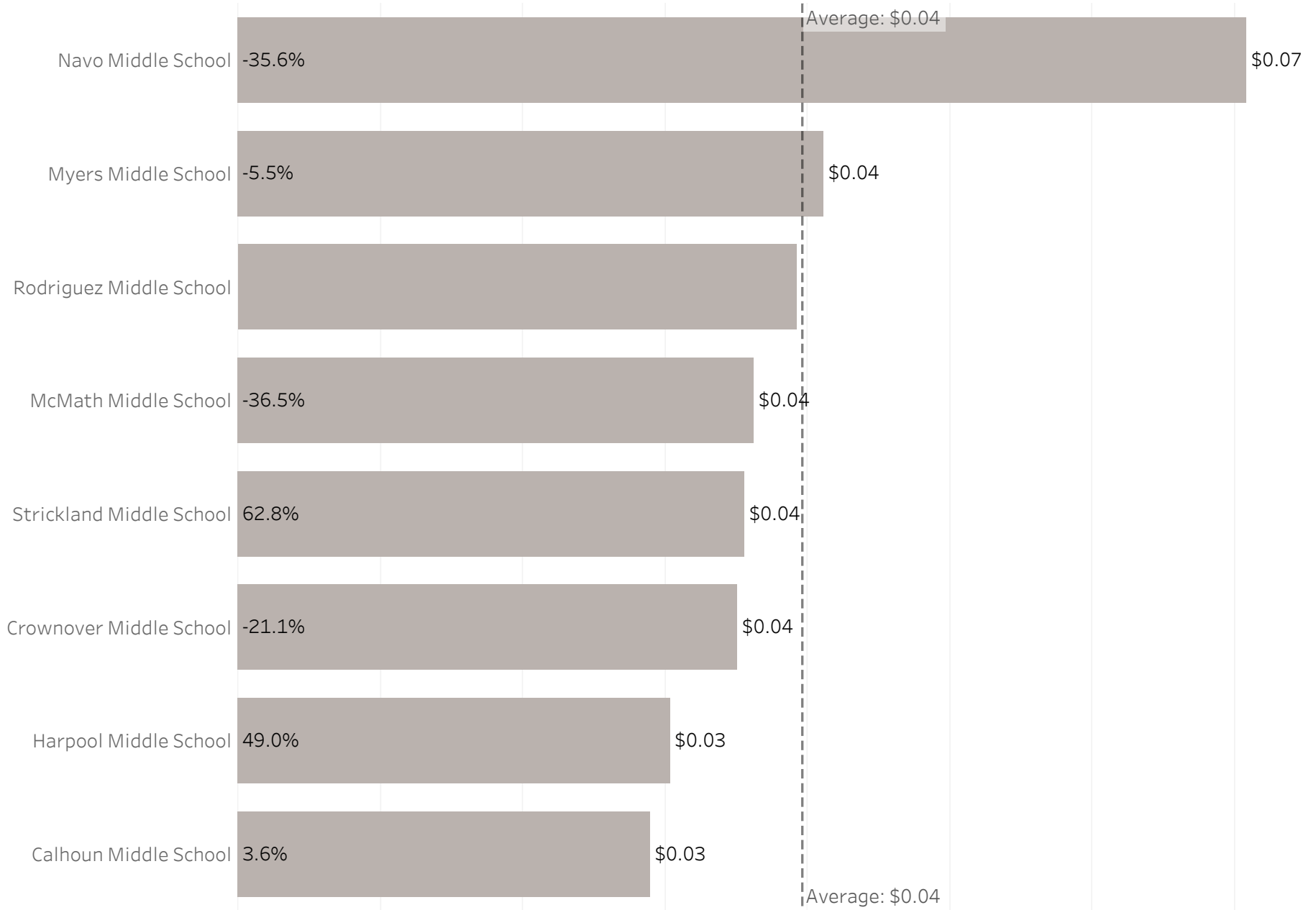
Auxiliary: Electric Rates in Current FY (\$/kBtu)



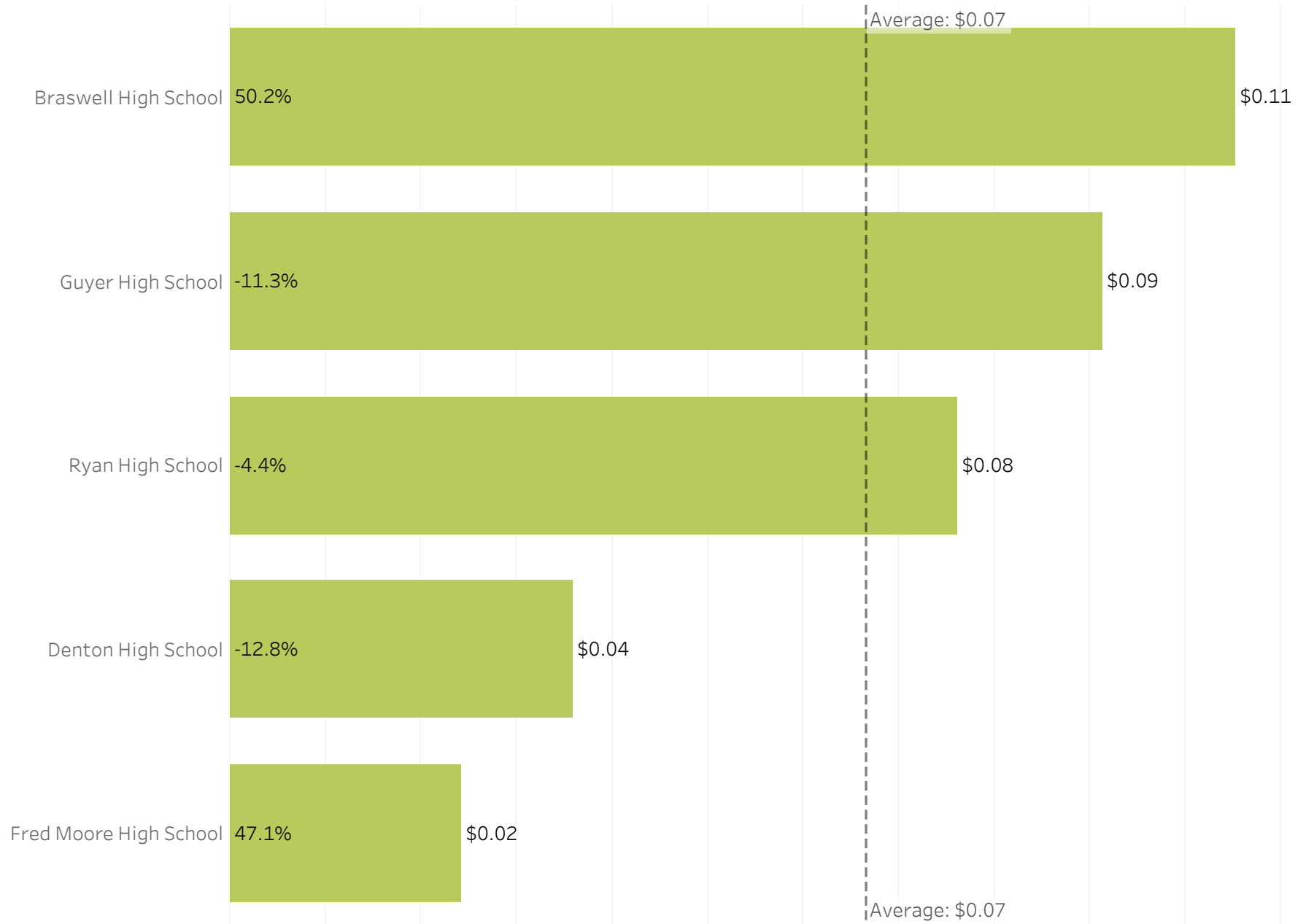
Elementary Schools: Cost per SqFT & Usage Percent Change From Previous Year - Water



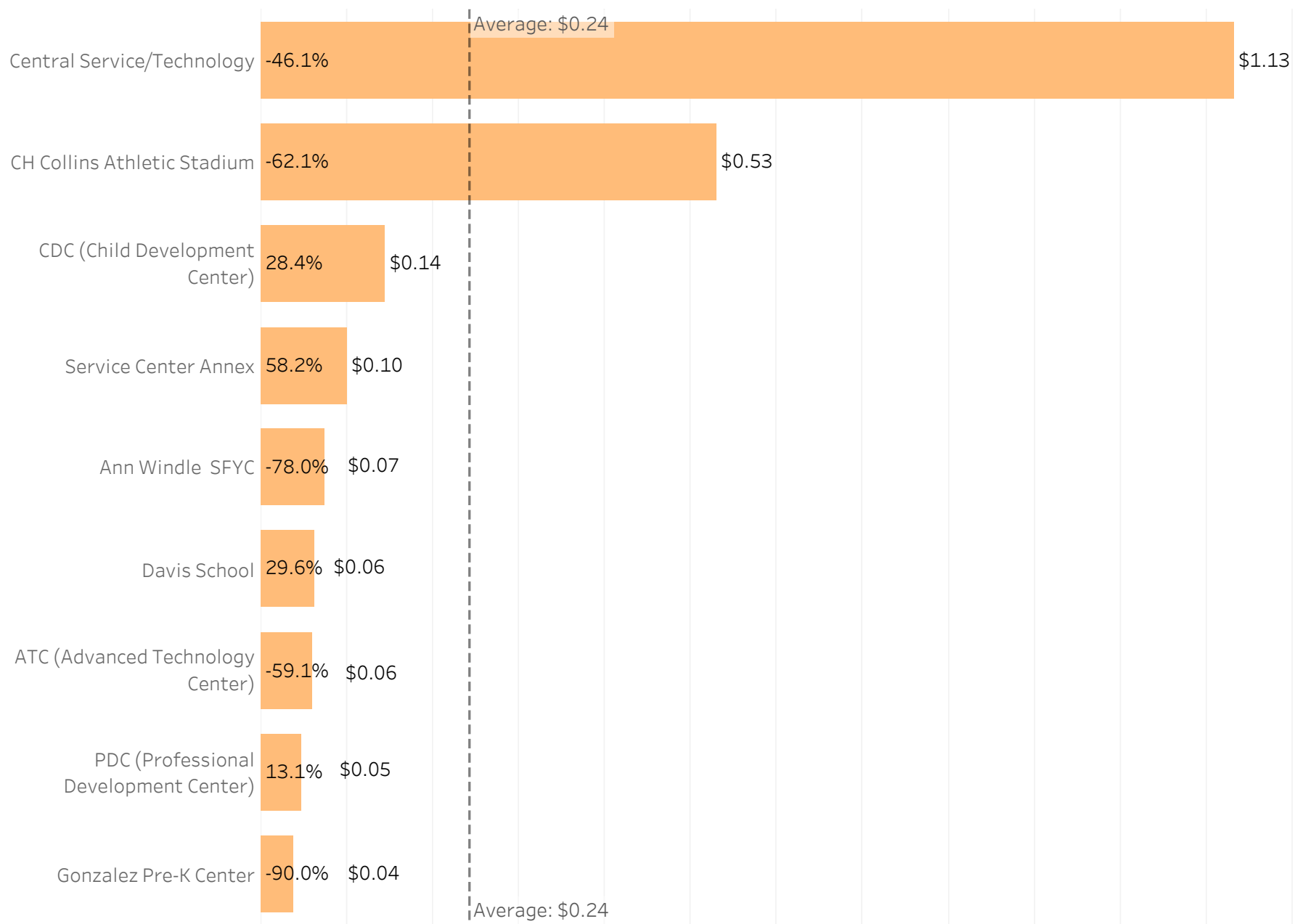
Middle Schools: Cost per SqFT & Usage Percent Change From Previous Year - Water



High Schools: Cost per SqFT & Usage Percent Change From Previous Year - Water



Auxiliary: Cost per SqFT & Usage Percent Change From Previous Year - Water



Recent Accomplishments

1. Braswell potable water issue found where it filled the irrigation tank, approximately \$15,000. Problem has been corrected.
2. Energy evaluation performed at Ann Windle
 - A. Windows noted to be single pane throughout.
 - a. Using Department of Energy calculation shows that by converting from single pane to double pane with low E glass we would see approximately \$1400 annually in energy savings.
3. Minor gas leaks found through utility analysis and fixed at 3 schools.
(Providence, Newton, Ryan ES)
4. Completed smart irrigation controls, beginning the process of making repairs to irrigation systems.
5. Denton Municipal Utilities is now splitting accounts of billing between domestic water and irrigation.

Looking Ahead

1. Evaluating new energy efficient VRF HVAC technology for existing building retrofits.
(Replacing old rooftop units and possibly chilled water systems)
2. RFP is being published for LED lighting fixtures replacement on older schools. Work to be completed this summer.
3. Ryan High School chillers are being replaced with new energy efficient variable flow chillers this summer.
4. Request an electric utility rate change at Nelson Elementary.
5. Evaluate use of Energy Print Online as a way to get data faster and detect potential problems earlier.