

# District School Standardized Test Scores (Performance Analysis)

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# Presentation Overview

- › Background
- › Data Analysis
- › Results
- › Observations



# Background

- › The purpose of this analysis is to inform decision makers on the effectiveness of the schools within the district
- › A school's measure of effectiveness is defined by student performance on standardized tests
- › The analysis uses the most recent data on test scores collected across the entire district
- › Observations are made on the results of the analysis in discovering what factors contribute to a schools performance



# Data Analysis Overview

- › Methodology: Test scores from math and reading from all students in grades 9 through 12 were examined with respect to various factors including:
  - School size: Number of students)
  - Spending: Dollars per student
  - Type: District or Charter
- › Approach: 9 Steps
  - Step 1: District Summary
  - Step 2: School Summary
  - Step 3: Top Performing Schools
  - Step 4: Bottom Performing Schools
  - Step 5: Math Scores by Grade
  - Step 6: Reading Scores by Grade
  - Step 7: Scores by School Spending
  - Step 8: Scores by Schools Size
  - Step 9: Scores by School Type
- › Data Analysis Software Tools/Resources:
  - Python 3.6
  - Panda scientific computing package of Python
  - Jupyter for visualization and code creation.



# District Summary

	Total Schools	Total_Students	Total Budget	Average Math Score	Average Reading Score	%Passing Math	% Passing Reading	% Overall Passing Rate
Summary	15	39170	\$24,649,428.00	78.9854	81.8778	84.7281	96.1986	90.4634

There are 15 total schools in the district with over 39,170 students



	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Huang High School	District	2917	\$1,910,635.00	\$655.00	76.6294	81.1827	77.7168	94.4806	86.0987
Figueroa High School	District	2949	\$1,884,411.00	\$639.00	76.7118	81.158	77.1787	94.5405	85.8596
Shelton High School	Charter	1761	\$1,056,600.00	\$600.00	83.3595	83.7257	100	100	100
Hernandez High School	District	4635	\$3,022,020.00	\$652.00	77.2898	80.9344	77.7346	94.6063	86.1704
Griffin High School	Charter	1468	\$917,500.00	\$625.00	83.3515	83.8168	100	100	100
Wilson High School	Charter	2283	\$1,319,574.00	\$578.00	83.2742	83.9895	100	100	100
Cabrera High School	Charter	1858	\$1,081,356.00	\$582.00	83.0619	83.9758	100	100	100
Bailey High School	District	4976	\$3,124,928.00	\$628.00	77.0484	81.034	77.914	94.5539	86.2339
Holden High School	Charter	427	\$248,087.00	\$581.00	83.8033	83.815	100	100	100
Pena High School	Charter	962	\$585,858.00	\$609.00	83.8399	84.0447	100	100	100
Wright High School	Charter	1800	\$1,049,400.00	\$583.00	83.6822	83.955	100	100	100
Rodriguez High School	District	3999	\$2,547,363.00	\$637.00	76.8427	80.7447	77.9445	94.6237	86.2841

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Johnson High School	District	4761	\$3,094,650.00	\$650.00	77.0725	80.9664	77.9668	94.476	86.2214
Ford High School	District	2739	\$1,763,916.00	\$644.00	77.1026	80.7463	78.2037	93.8664	86.035
Thomas High School	Charter	1635	\$1,043,130.00	\$638.00	83.4183	83.8489	100	100	100

# School Summary



# Top Performing Schools

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Shelton High School	Charter	1761	\$1,056,600.00	\$600.00	83.3595	83.7257	100	100	100
Griffin High School	Charter	1468	\$917,500.00	\$625.00	83.3515	83.8168	100	100	100
Wilson High School	Charter	2283	\$1,319,574.00	\$578.00	83.2742	83.9895	100	100	100
Cabrera High School	Charter	1858	\$1,081,356.00	\$582.00	83.0619	83.9758	100	100	100
Holden High School	Charter	427	\$248,087.00	\$581.00	83.8033	83.815	100	100	100
Pena High School	Charter	962	\$585,858.00	\$609.00	83.8399	84.0447	100	100	100
Wright High School	Charter	1800	\$1,049,400.00	\$583.00	83.6822	83.955	100	100	100
Thomas High School	Charter	1635	\$1,043,130.00	\$638.00	83.4183	83.8489	100	100	100

Top Performing Schools determined by % Overall Passing.  
% Overall Passing is the average of % Passing Math and % Passing Reading.

Note all the top performing schools are the school type Charter



# Top 5 Performing Schools

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Pena High School	Charter	962	\$585,858.00	\$609.00	83.8399	84.0447	100	100	100
Holden High School	Charter	427	\$248,087.00	\$581.00	83.8033	83.815	100	100	100
Wright High School	Charter	1800	\$1,049,400.00	\$583.00	83.6822	83.955	100	100	100
Thomas High School	Charter	1635	\$1,043,130.00	\$638.00	83.4183	83.8489	100	100	100
Shelton High School	Charter	1761	\$1,056,600.00	\$600.00	83.3595	83.7257	100	100	100

Top 5 of the top Performing Schools determined by individual top scores in both Average Math and Average Reading Scores





# Bottom 5 Performing Schools

	School Type	Total Students	Total School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Figueroa High School	District	2949	\$1,884,411.00	\$639.00	76.7118	81.158	77.1787	94.5405	85.8596
Ford High School	District	2739	\$1,763,916.00	\$644.00	77.1026	80.7463	78.2037	93.8664	86.035
Huang High School	District	2917	\$1,910,635.00	\$655.00	76.6294	81.1827	77.7168	94.4806	86.0987
Hernandez High School	District	4635	\$3,022,020.00	\$652.00	77.2898	80.9344	77.7346	94.6063	86.1704
Johnson High School	District	4761	\$3,094,650.00	\$650.00	77.0725	80.9664	77.9668	94.476	86.2214

The Bottom 5 Performing Schools are determined by % Overall Passing.  
% Overall Passing is the average of % Passing Math and % Passing Reading.

Note all the bottom performing schools are the school type District



# Scores by Grade

## Math

	9th	10th	11th	12th
Huang High School	77.027251	75.908735	76.446602	77.225641
Figueroa High School	76.403037	76.539974	76.884344	77.151369
Shelton High School	83.420755	82.917411	83.383495	83.778976
Hernandez High School	77.438495	77.337408	77.136029	77.186567
Griffin High School	82.044010	84.229064	83.842105	83.356164
Wilson High School	83.085578	83.724422	83.195326	83.035794
Cabrera High School	83.094697	83.154506	82.765560	83.277487
Bailey High School	77.083676	76.996772	77.515588	76.492218
Holden High School	83.787402	83.429825	85.000000	82.855422
Pena High School	83.625455	83.372000	84.328125	84.121547
Wright High School	83.264706	84.010288	83.836782	83.644986
Rodriguez High School	76.859966	76.612500	76.395626	77.690748
Johnson High School	77.187857	76.691117	77.491653	76.863248
Ford High School	77.361345	77.672316	76.918058	76.179963
Thomas High School	83.590022	83.087886	83.498795	83.497041

## Reading

	9th	10th	11th	12th
Huang High School	81.290284	81.512386	81.417476	80.305983
Figueroa High School	81.198598	81.408912	80.640339	81.384863
Shelton High School	84.122642	83.441964	84.373786	82.781671
Hernandez High School	80.866860	80.660147	81.396140	80.857143
Griffin High School	83.369193	83.706897	84.288089	84.013699
Wilson High School	83.939778	84.021452	83.764608	84.317673
Cabrera High School	83.676136	84.253219	83.788382	84.287958
Bailey High School	81.303155	80.907183	80.945643	80.912451
Holden High School	83.677165	83.324561	83.815534	84.698795
Pena High School	83.807273	83.612000	84.335938	84.591160
Wright High School	83.833333	83.812757	84.156322	84.073171
Rodriguez High School	80.993127	80.629808	80.864811	80.376426
Johnson High School	81.260714	80.773431	80.616027	81.227564
Ford High School	80.632653	81.262712	80.403642	80.662338
Thomas High School	83.728850	84.254157	83.585542	83.831361



# Scores by School Spending \$/student

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Extreme (> \$650)	76.9972	81.0278	77.8061	94.5209	86.1635
High (625–650)	79.0792	81.8914	85.2068	96.2641	90.7354
Medium (600–625)	83.5997	83.8852	100	100	100
Low (< \$600)	83.4554	83.9338	100	100	100

Note: Schools with the Lowest School Spending  
have the Highest % Overall Passing



# Scores by School Size

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Large (> 2500)	76.956733	80.966636	77.808454	94.449607	86.12903
Medium (1000 - 2500)	83.357937	83.885280	100.000000	100.000000	100.00000
Low (< 1000)	83.821598	83.929843	100.000000	100.000000	100.00000

Note: Schools with the Highest Number of Students  
have the lowest % Overall Passing



# Scores by School Type

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Charter	83.473852	83.896421	100.000000	100.000000	100.00000
District	76.956733	80.966636	77.808454	94.449607	86.12903

Note: In all scores and student passing percentages, charter schools are higher than district schools



# Observations

- › Trend 1: Charter schools are more effective than district schools based on average student test scores and percent of a students that pass the standardized tests
- › Trend 2: Spending more per student does not lead to improved student performance
- › Trend 3: Larger schools (>2500 students) are less effective than smaller schools based on test scores