

Analysis Report-Lina Blanco

PyCitySchool data sample is taken from fifteen schools, including District and Charter schools.

The analysis highlights data in the following two areas:

- Performance Benchmarks (Math and Reading Grade Scores)
- Budget Allocation

Scores by School Size

school_name	School Type	School Students	School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing	School Size
Bailey High School	District	4976	\$3,124,928.00	628.0	77.048432	81.033963	66.680064	81.933280	54.642283	Large (2000-5000)
Cabrera High School	Charter	1858	\$1,081,356.00	582.0	83.061895	83.975780	94.133477	97.039828	91.334769	Medium (1000-2000)
Figueroa High School	District	2949	\$1,884,411.00	639.0	76.711767	81.158020	65.988471	80.739234	53.204476	Large (2000-5000)
Ford High School	District	2739	\$1,763,916.00	644.0	77.102592	80.746258	68.309602	79.299014	54.289887	Large (2000-5000)
Griffin High School	Charter	1468	\$917,500.00	625.0	83.351499	83.816757	93.392371	97.138965	90.599455	Medium (1000-2000)
Hernandez High School	District	4635	\$3,022,020.00	652.0	77.289752	80.934412	66.752967	80.862999	53.527508	Large (2000-5000)
Holden High School	Charter	427	\$248,087.00	581.0	83.803279	83.814988	92.505855	96.252927	89.227166	Small (<1000)
Huang High School	District	2917	\$1,910,635.00	655.0	76.629414	81.182722	65.683922	81.316421	53.513884	Large (2000-5000)
Johnson High School	District	4761	\$3,094,650.00	650.0	77.072464	80.966394	66.057551	81.222432	53.539172	Large (2000-5000)
Pena High School	Charter	962	\$585,858.00	609.0	83.839917	84.044699	94.594595	95.945946	90.540541	Small (<1000)
Rodriguez High School	District	3999	\$2,547,363.00	637.0	76.842711	80.744686	66.366592	80.220055	52.988247	Large (2000-5000)
Shelton High School	Charter	1761	\$1,056,600.00	600.0	83.359455	83.725724	93.867121	95.854628	89.892107	Medium (1000-2000)
Thomas High School	Charter	1635	\$1,043,130.00	638.0	83.418349	83.848930	93.272171	97.308869	90.948012	Medium (1000-2000)
Wilson High School	Charter	2283	\$1,319,574.00	578.0	83.274201	83.989488	93.867718	96.539641	90.582567	Large (2000-5000)
Wright High School	Charter	1800	\$1,049,400.00	583.0	83.682222	83.955000	93.333333	96.611111	90.333333	Medium (1000-2000)

Performance Benchmarks (Math and Reading Grade Scores):

Below data displays the top 5 Highest and the top Bottom performance schools, taking math and reading scores from educational rated benchmarks standards.

- Data shows Charter schools with a higher average in math and reading scores compared to bottom performers top list all District schools. Average scores are on the

80's scale. Also noted that both math and reading scores are within the same average scales so there is consistency in both subject's grades.

- Charter schools also show a significant higher students' percentage of passing math, passing reading, and both subjects overall (on the 90% scale).
- Bottom Performing District school showed a contrast in both subjects' average and percentage ranges. There is a larger number of students that possible do better in reading that they do in math. The average range is in the mid 70's on the math scores, for reading in the lower 80's average score range. Overall passing is in the low 50%.

Highest-Performing Schools (by % Overall Passing)

school_name	School Type	School Students	School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Cabrera High School	Charter	1858	\$1,081,356.00	582.0	83.061895	83.975780	94.133477	97.039828	91.334769
Thomas High School	Charter	1635	\$1,043,130.00	638.0	83.418349	83.848930	93.272171	97.308869	90.948012
Griffin High School	Charter	1468	\$917,500.00	625.0	83.351499	83.816757	93.392371	97.138965	90.599455
Wilson High School	Charter	2283	\$1,319,574.00	578.0	83.274201	83.989488	93.867718	96.539641	90.582567
Pena High School	Charter	962	\$585,858.00	609.0	83.839917	84.044699	94.594595	95.945946	90.540541

Bottom Performing Schools (By % Overall Passing)

school_name	School Type	School Students	School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
Rodriguez High School	District	3999	\$2,547,363.00	637.0	76.842711	80.744686	66.366592	80.220055	52.988247
Figueroa High School	District	2949	\$1,884,411.00	639.0	76.711767	81.158020	65.988471	80.739234	53.204476
Huang High School	District	2917	\$1,910,635.00	655.0	76.629414	81.182722	65.683922	81.316421	53.513884
Hernandez High School	District	4635	\$3,022,020.00	652.0	77.289752	80.934412	66.752967	80.862999	53.527508
Johnson High School	District	4761	\$3,094,650.00	650.0	77.072464	80.966394	66.057551	81.222432	53.539172

Budget Allocation:

- Spending ranges among both type of schools have a wide-ranging spectrum of total budgets. Charter schools show lower budgets compared to District schools, due to school size diversity.

- In the case of the Per Student Budget in Charter schools also shows a contrast, with some schools having lower per student budgets compared to District schools. Which counteract the Spending Ranges (Per Student).

School Spending

school_name	School Type	School Students	School Budget	Per Student Budget	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing	Spending Ranges (Per Student)
Bailey High School	District	4976	\$3,124,928.00	628.0	77.048432	81.033963	66.680064	81.933280	54.642283	\$585-630
Cabrera High School	Charter	1858	\$1,081,356.00	582.0	83.061895	83.975780	94.133477	97.039828	91.334769	<\$585
Figueroa High School	District	2949	\$1,884,411.00	639.0	76.711767	81.158020	65.988471	80.739234	53.204476	\$630-645
Ford High School	District	2739	\$1,763,916.00	644.0	77.102592	80.746258	68.309602	79.299014	54.289887	\$630-645
Griffin High School	Charter	1468	\$917,500.00	625.0	83.351499	83.816757	93.392371	97.138965	90.599455	\$585-630
Hernandez High School	District	4635	\$3,022,020.00	652.0	77.289752	80.934412	66.752967	80.862999	53.527508	\$645-680
Holden High School	Charter	427	\$248,087.00	581.0	83.803279	83.814988	92.505855	96.252927	89.227166	<\$585
Huang High School	District	2917	\$1,910,635.00	655.0	76.629414	81.182722	65.683922	81.316421	53.513884	\$645-680
Johnson High School	District	4761	\$3,094,650.00	650.0	77.072464	80.966394	66.057551	81.222432	53.539172	\$645-680
Pena High School	Charter	962	\$585,858.00	609.0	83.839917	84.044699	94.594595	95.945946	90.540541	\$585-630
Rodriguez High School	District	3999	\$2,547,363.00	637.0	76.842711	80.744686	66.366592	80.220055	52.988247	\$630-645
Shelton High School	Charter	1761	\$1,056,600.00	600.0	83.359455	83.725724	93.867121	95.854628	89.892107	\$585-630
Thomas High School	Charter	1635	\$1,043,130.00	638.0	83.418349	83.848930	93.272171	97.308869	90.948012	\$630-645
Wilson High School	Charter	2283	\$1,319,574.00	578.0	83.274201	83.989488	93.867718	96.539641	90.582567	<\$585
Wright High School	Charter	1800	\$1,049,400.00	583.0	83.682222	83.955000	93.333333	96.611111	90.333333	<\$585

Spending Summary

Spending Ranges (Per Student)	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
0	<\$585	83.455399	83.933814	93.460096	90.369459
1	\$585-630	81.899826	83.155286	87.133538	81.418596
2	\$630-645	78.518855	81.624473	73.484209	62.857656
3	\$645-680	76.997210	81.027843	66.164813	53.526855

Conclusions:

- Charter schools demonstrated a higher trend on academic performance reflected on the average scores and passing rates, for both math and reading compared to District schools.

- In contrast, District schools have bigger size population, therefore higher budgets and per student spending. However, the budget allocations do not reflect where the funds are allocated exactly. Assuming this is the academic only budget, a great academic disadvantage proven by a 37% overall passing difference in performance versus Charter school students. A possible budget re-allocation evaluation is needed, that would focus on getting the students on a more academically competitive scale would benefit District Schools.

School Type Comparison

	Average Math Score	Average Reading Score	% Passing Math	% Passing Reading	% Overall Passing
School Type					
Charter	83.473852	83.896421	93.620830	96.586489	90.432244
District	76.956733	80.966636	66.548453	80.799062	53.672208

References:

- Xpert Learning Assistant - NEW! [Bootcamp: DATA-PT-EAST-APRIL-041524-MTTH](#)
- Alexander Booth – Class exercises [Bootcamp: DATA-PT-EAST-APRIL-041524-MTTH](#) Professor.
- <https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.html>
- <https://docs.python.org/3/library/functions.html#type>