**City School Analysis: Summary of Results**

For this project I analyzed a total of fifteen schools and the academic performance of combined 39,000 students to understand the effect of school budget, size and type on academic performance. From the results, it appears that schools with under 1000 students have higher academic performance than schools with 2000 to 5000 students. The difference is substantial, with the smaller schools having an average overall passing rate which is nearly 18% higher than larger schools (Fig. 5). In addition, school budget per student appears to be inversely correlated with academic performance, in that the average overall passing rate in schools with <$585 per student was a whopping 21% higher than schools with $645-675 per student (Fig. 4). Another notable observation is that charter schools outperformed district schools across the board (Fig. 6).

Based on this analysis, charter schools, smaller schools, and schools with a smaller budget outperformed schools without these attributes. However, our data is limited and does little to explain why these attributes are potentially correlated to higher academic achievement. Besides the obvious limitation that this is a look within only one school district, other information could be helpful. To further investigate, I would like to know more information about the students such as household income and education levels of their guardians. Are highly educated parents more able to navigate the complicated charter school application system and therefore better able to advocate for placement in a desirable charter school? Are wealthier children better able to travel farther distances to attend higher performing charter schools? I would also like to know more about the schools, such as teacher to student ratio, class size, and allocation of funding. Do smaller schools have a higher teacher to student ratio, thus resulting in more individual attention per student and higher grades? Do charter schools have less expenses or do a better job of allocating funds to students? In summary, while this study serves as a good initial investigation, it is little more than a starting point. A more in-depth study would be necessary to understand our school system and make targeted changes to improve education for all students.

**Fig. 1 : District Summary**

| **Number of Schools** | **Number of Students** | **Total Budget** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | 39,170 | $24,649,428.00 | 78.99 | 81.88 | 74.98% | 85.81% | 80.39% |

**Fig. 2: Top Five Schools**

|  | **School Type** | **Number of Students** | **Total School Budget** | **Budget per Student** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Cabrera High School** | Charter | 1,858 | $1,081,356.00 | $582.00 | 83.06 | 83.98 | 94.13% | 97.04% | 95.59% |
| **Thomas High School** | Charter | 1,635 | $1,043,130.00 | $638.00 | 83.42 | 83.85 | 93.27% | 97.31% | 95.29% |
| **Griffin High School** | Charter | 1,468 | $917,500.00 | $625.00 | 83.35 | 83.82 | 93.39% | 97.14% | 95.27% |
| **Pena High School** | Charter | 962 | $585,858.00 | $609.00 | 83.84 | 84.04 | 94.59% | 95.95% | 95.27% |
| **Wilson High School** | Charter | 2,283 | $1,319,574.00 | $578.00 | 83.27 | 83.99 | 93.87% | 96.54% | 95.20% |

**Fig. 3: Bottom Five Schools**

|  | **School Type** | **Number of Students** | **Total School Budget** | **Budget per Student** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Rodriguez High School** | District | 3,999 | $2,547,363.00 | $637.00 | 76.84 | 80.74 | 66.37% | 80.22% | 73.29% |
| **Figueroa High School** | District | 2,949 | $1,884,411.00 | $639.00 | 76.71 | 81.16 | 65.99% | 80.74% | 73.36% |
| **Huang High School** | District | 2,917 | $1,910,635.00 | $655.00 | 76.63 | 81.18 | 65.68% | 81.32% | 73.50% |
| **Johnson High School** | District | 4,761 | $3,094,650.00 | $650.00 | 77.07 | 80.97 | 66.06% | 81.22% | 73.64% |
| **Ford High School** | District | 2,739 | $1,763,916.00 | $644.00 | 77.10 | 80.75 | 68.31% | 79.30% | 73.80% |

**Fig. 4: Academic Performance Compared to Spending Per Student**

| **Spending Ranges (Per Student)** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- |
| **<$585** | 83.46 | 83.93 | 93.46% | 96.61% | 95.04% |
| **$585-615** | 83.60 | 83.89 | 94.23% | 95.90% | 95.07% |
| **$615-645** | 79.08 | 81.89 | 75.67% | 86.11% | 80.89% |
| **$645-675** | 77.00 | 81.03 | 66.16% | 81.13% | 73.65% |

**Fig. 5: Academic Performance Compared to School Size**

| **School Size** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- |
| **Small (<1000)** | 83.82 | 83.93 | 93.55% | 96.10% | 94.82% |
| **Medium (1000-2000)** | 83.37 | 83.86 | 93.60% | 96.79% | 95.20% |
| **Large (2000-5000)** | 77.75 | 81.34 | 69.96% | 82.77% | 76.36% |

**Fig. 6: Academic Performance Compared to School Type**

| **School Type** | **Average Math Score** | **Average Reading Score** | **Math Passing Rate(%)** | **Reading Passing Rate(%)** | **Overall Passing Rate(%)** |
| --- | --- | --- | --- | --- | --- |
| **Charter** | 83.47 | 83.90 | 93.62% | 96.59% | 95.10% |
| **District** | 76.96 | 80.97 | 66.55% | 80.80% | 73.67% |