PyCitySchools Analysis Report

Summary of Analysis

The analysis provides a comprehensive overview of school performance across the PyCitySchools district.

Using data from two datasets, schools_complete.csv and students_complete.csv, the analysis calculates key metrics to evaluate academic performance and resource allocation at both the district and school levels.

1. **District Summary**: A high-level snapshot of the total number of schools, students, and district budget, along with the overall average math and reading scores. The analysis also includes the percentage of students passing math, reading, and both subjects.
2. **School Summary**: Detailed performance metrics for each school, including total students, school budget, per-student spending, and average math and reading scores. Each school is also evaluated on its passing rates for math, reading, and overall.
3. **Performance by Spending Range**: Schools are grouped into spending ranges based on per-student budget, and average math and reading scores are calculated for each range. This helps to assess if higher spending correlates with improved academic performance.
4. **Performance by School Size**: Schools are categorized based on size, with comparisons made between small, medium, and large schools in terms of their academic outcomes.
5. **Performance by School Type**: Charter and district schools are compared to determine if school type affects performance, using metrics such as average scores and passing rates.

Conclusions and Comparisons

1. **Spending Per Student and Performance**: The analysis indicates that there is not a consistent positive correlation between higher per-student spending and academic performance. While schools with the lowest spending range (<$585) demonstrate strong passing rates in both math and reading, schools with higher spending do not necessarily show proportionately better outcomes. For example, schools in the $585-630 range often outperform those in the $630-645 range in terms of average scores and passing rates. This suggests that increased spending alone does not guarantee improved academic performance and that other factors, such as school type or size, may also play significant roles.
2. **School Type and Academic Outcomes**: Charter schools consistently outperform district schools in terms of average math and reading scores, as well as passing rates across both subjects. Charter schools tend to have smaller enrollments and lower

per-student spending, yet they achieve higher passing rates, indicating effective resource utilization. This finding suggests that the charter school model, with its focus on flexible curricula and individualized learning, may contribute to better academic outcomes compared to district schools, which typically have larger student populations and higher administrative costs.

These findings highlight key insights for the PyCitySchools district, suggesting that factors beyond budget allocation, such as school type and administrative strategies, may be more impactful in driving student success. This report provides a foundation for further investigation into resource distribution and performance optimization across the district.