

Education Analysis Project

How do education levels differ between rural and urban counties, region, and spending?

Rural-Urban Classification Methodology

Rural-Urban Continuum Code (RUCC)

The USDA differentiates between metropolitan and non-metropolitan counties based on population and commuting data from the US Census, then further divides each group based on population (for metro counties) or proximity to urban centers (for non-metro counties). This constitutes the Rural-Urban Continuum Codes, detailed below. A higher number indicates a county is more rural.

Metro

- 1 Counties in metro areas of 1 million population or more
- 2 Counties in metro areas of 250,000 to 1 million population
- 3 Counties in metro areas of fewer than 250,000 population

Non-metro

- 4 Urban population of 20,000 or more, adjacent to a metro area
- 5 Urban population of 20,000 or more, not adjacent to a metro area
- 6 Urban population of 2,500 to 19,999, adjacent to a metro area
- 7 Urban population of 2,500 to 19,999, not adjacent to a metro area
- 8 Completely rural or less than 2,500 urban population, adjacent to a metro area
- 9 Completely rural or less than 2,500 urban population, not adjacent to a metro area

Disclaimer

Data Aggregation Across Intra-County School Districts

This project compares the levels educational attainment in each county to the amount spent on schools in that county. However, while the USDA provides educational attainment data for each county, financial data is provided for each school district. This means that financial data must be aggregated by county to properly compare to educational attainment at a county level. This has the following implications:

- Total spending is calculated as the sum of total spending for all schools in a county.
- Spending per pupil is calculated from the total number of students enrolled in all schools in a county at the time of data collection, not the total population of the county.
- Financial data is aggregated by county, masking individual variation between school districts within a county.
- Educational attainment levels are found for the total county population, not the population within each school district.

Data Sources

Education Levels by County: <https://www.ers.usda.gov/data-products/county-level-data-sets/county-level-data-sets-download-data/>

School District Finance Data: <https://www.census.gov/data/tables/2021/econ/school-finances/secondary-education-finance.html>

Rural/Urban Classification: <https://www.ers.usda.gov/topics/rural-economy-population/rural-classifications/>

RUCC Code Descriptions: <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/>

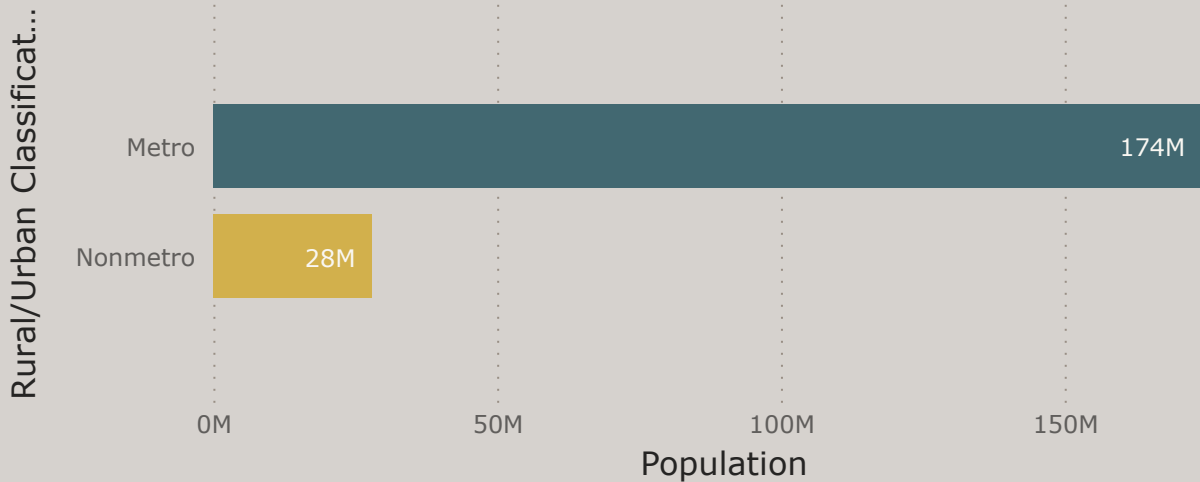
Data was cleaned and formatted in Excel. Preliminary analysis was performed in SQL.

Breakdown of Education Levels in US

201.98M

HS Diploma or Higher (Total)

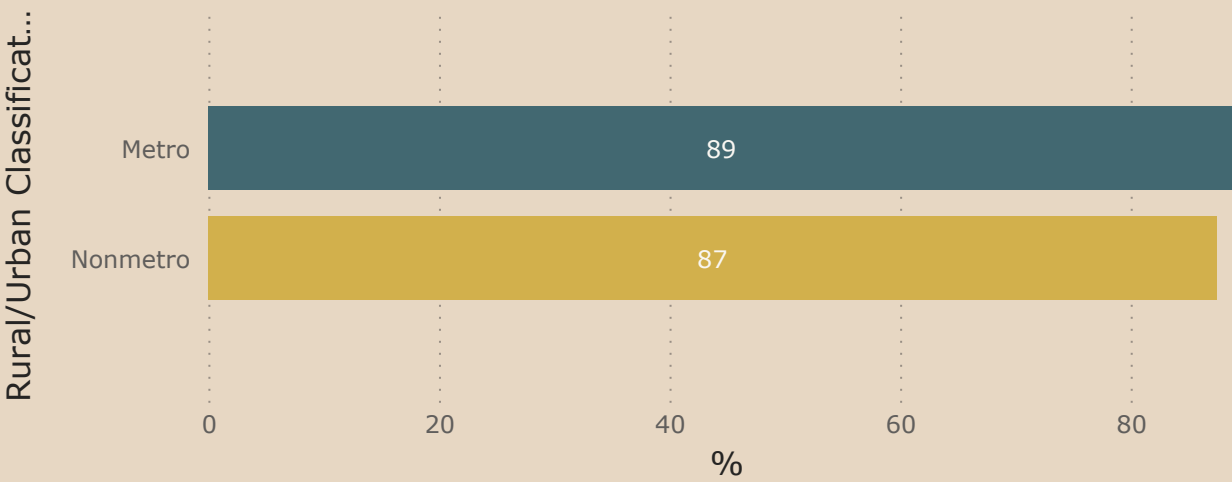
Total with HS Diploma or Higher by Rural/Urban Classification



88.76

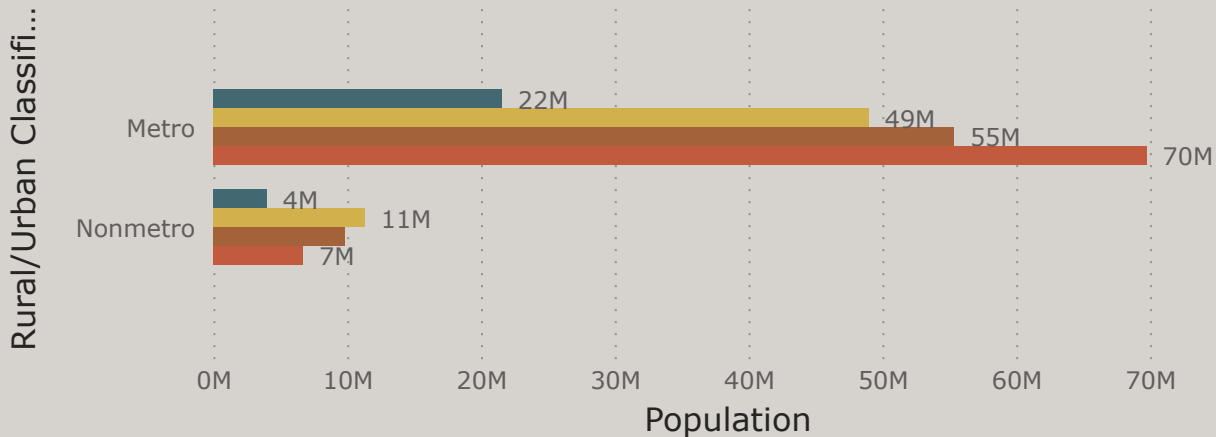
HS Diploma or Higher (Percent)

Percent with HS Diploma or Higher by Rural/Urban Classification



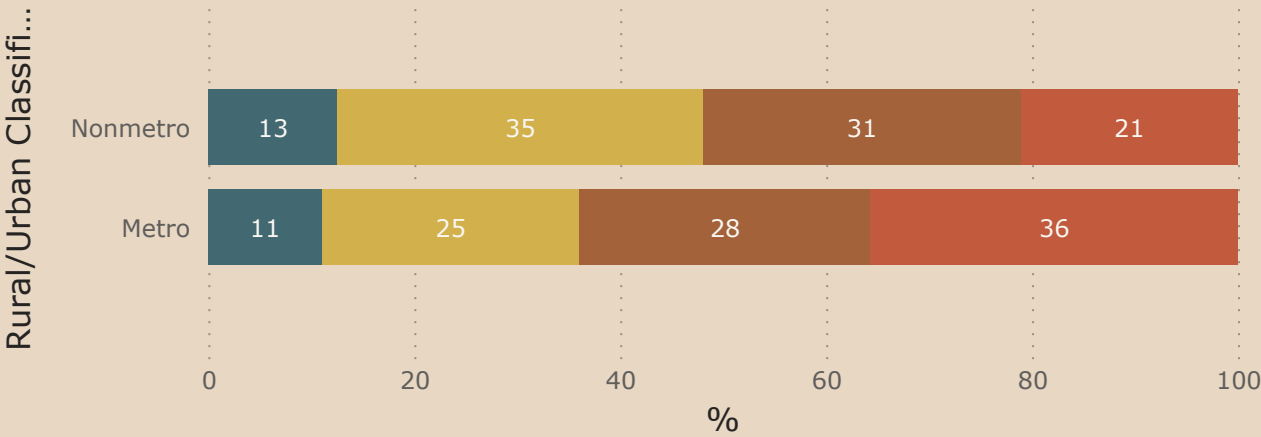
Total of Each Education Level by Rural/Urban Classification

● No HS Diploma (Total) ● HS Diploma Only (Total) ● Some College (Tot... ● Bachelors or ...

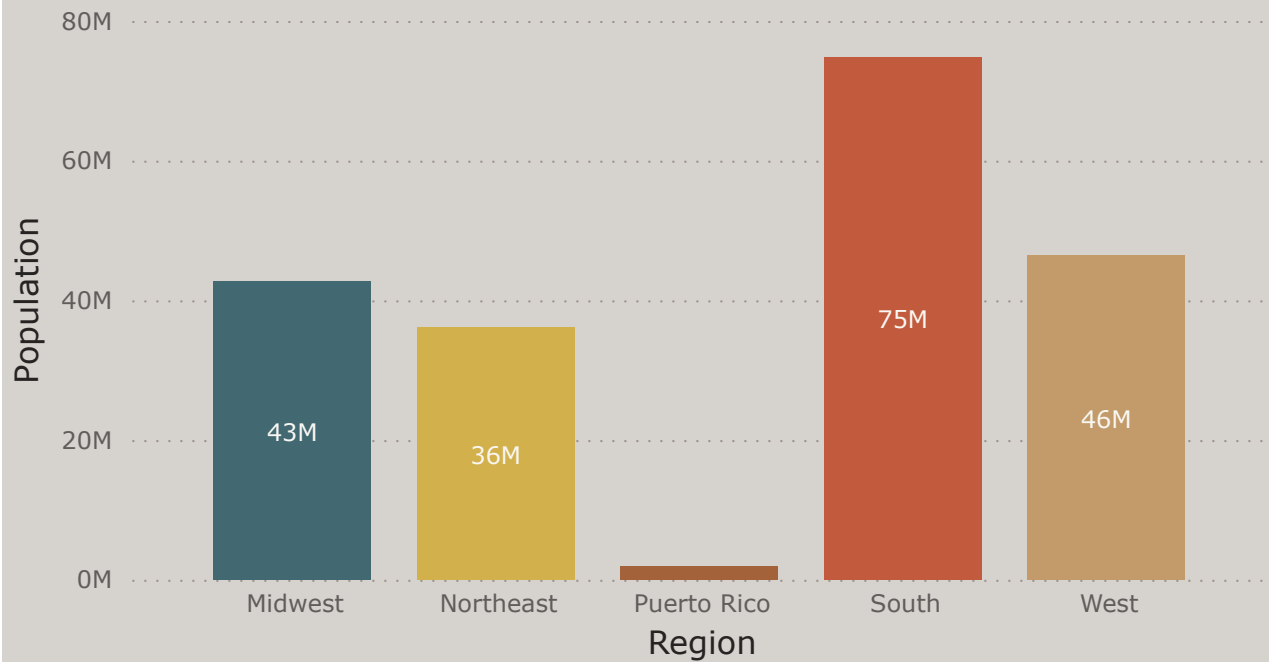


Percent of Each Education Level by Rural/Urban Classification

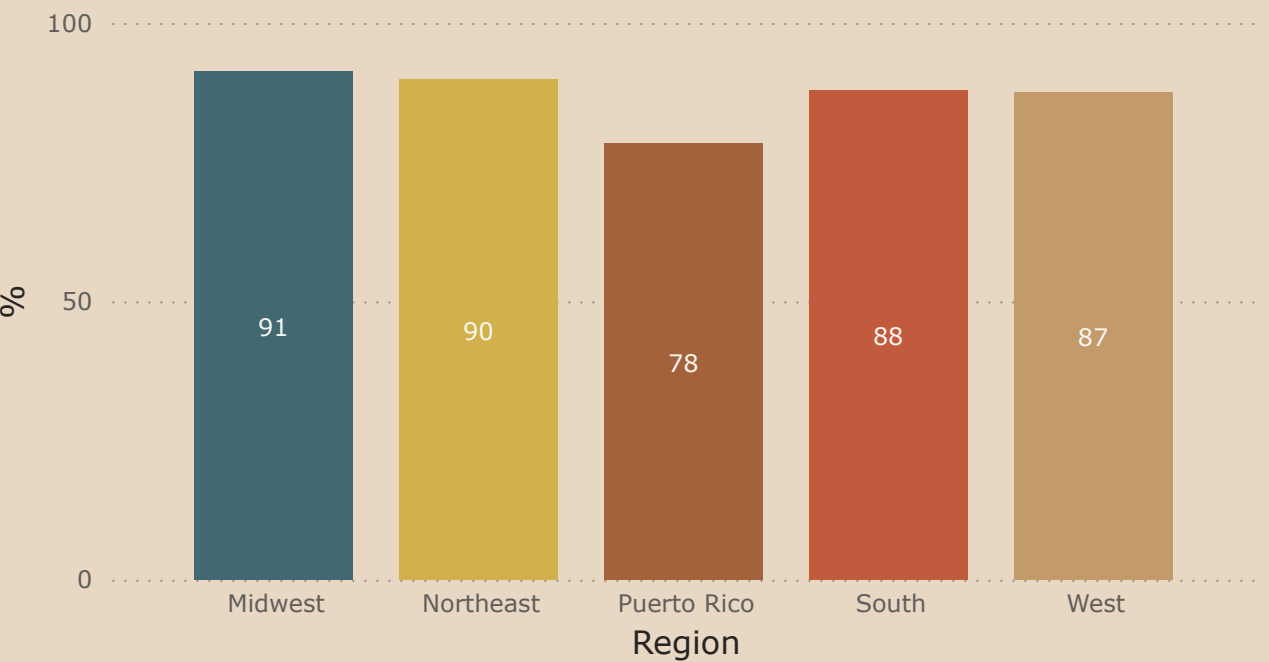
● No HS Diploma (%) ● HS Diploma Only (%) ● Some College (%) ● Bachelors or Higher (%)



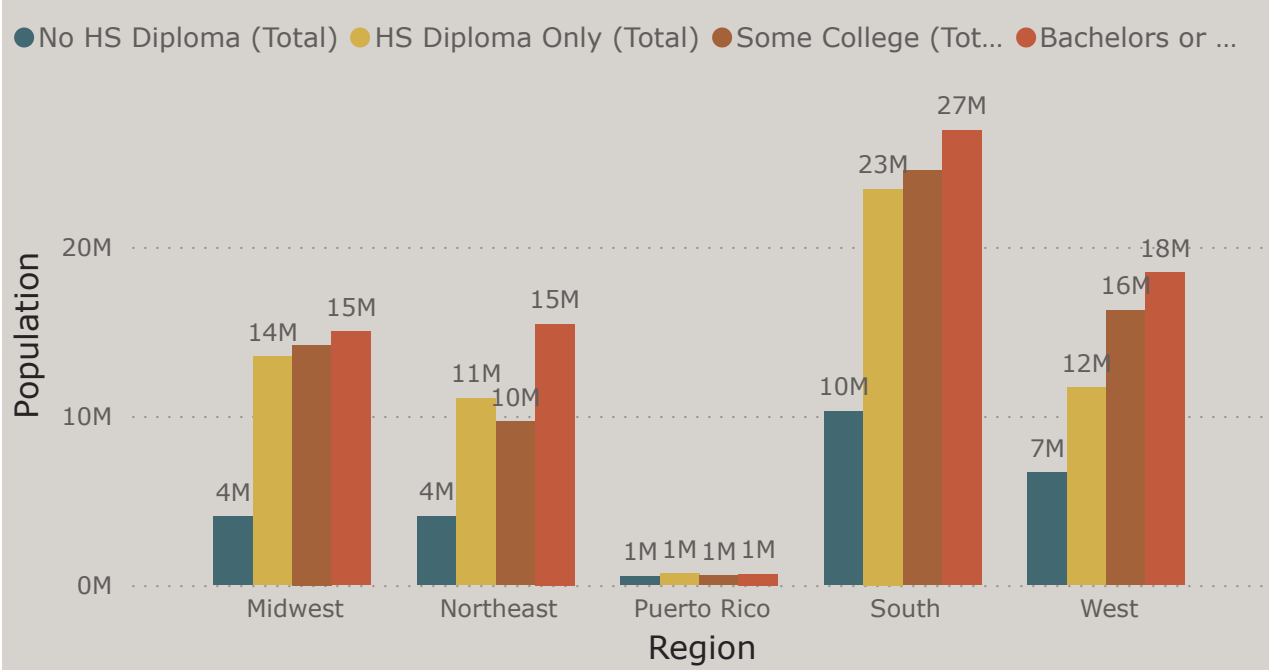
Total with HS Diploma or Higher by Region



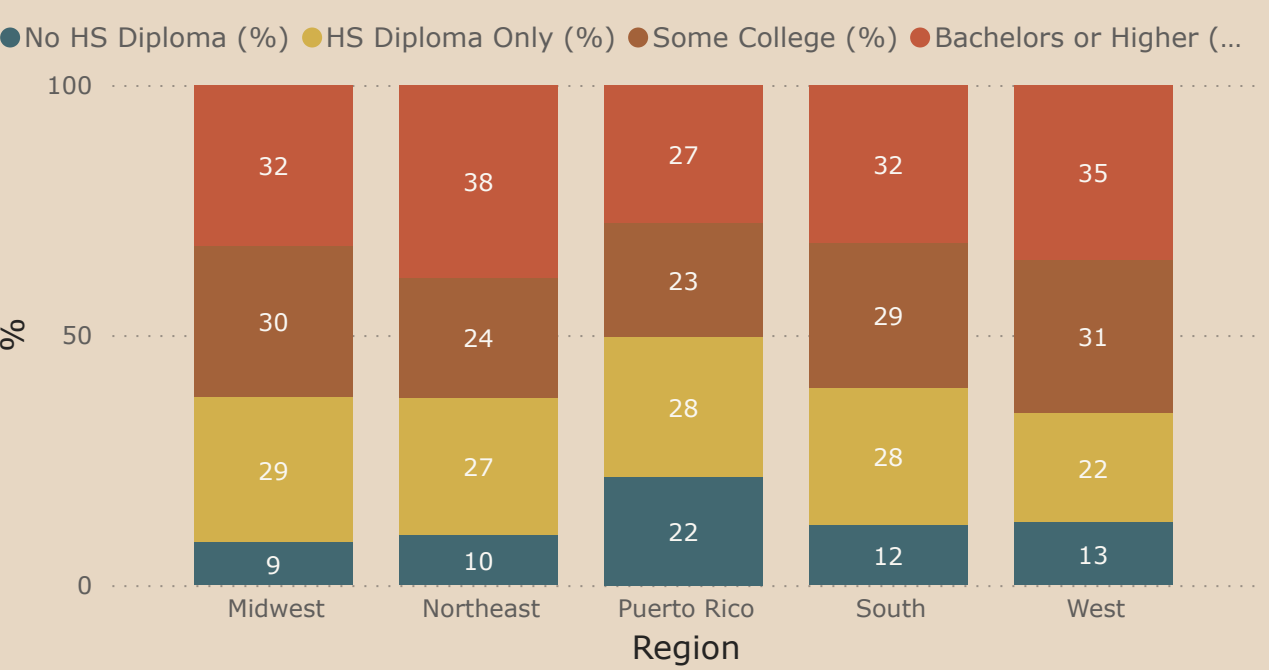
Percent with HS Diploma or Higher by Region



Total of Each Education Level by Region



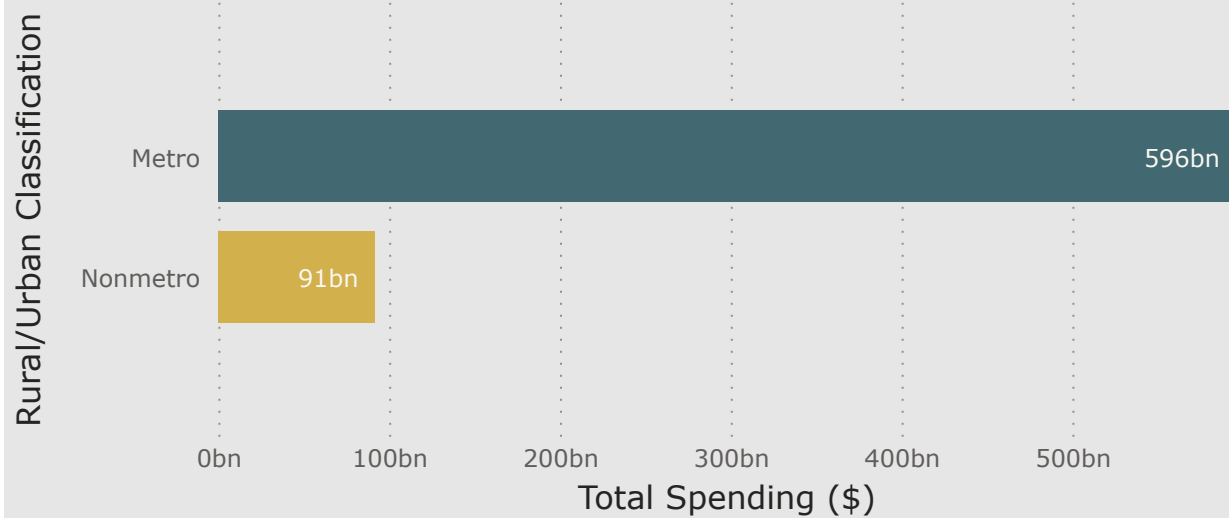
Percent of Each Education Level by Region



687.29bn

Total Spending (\$)

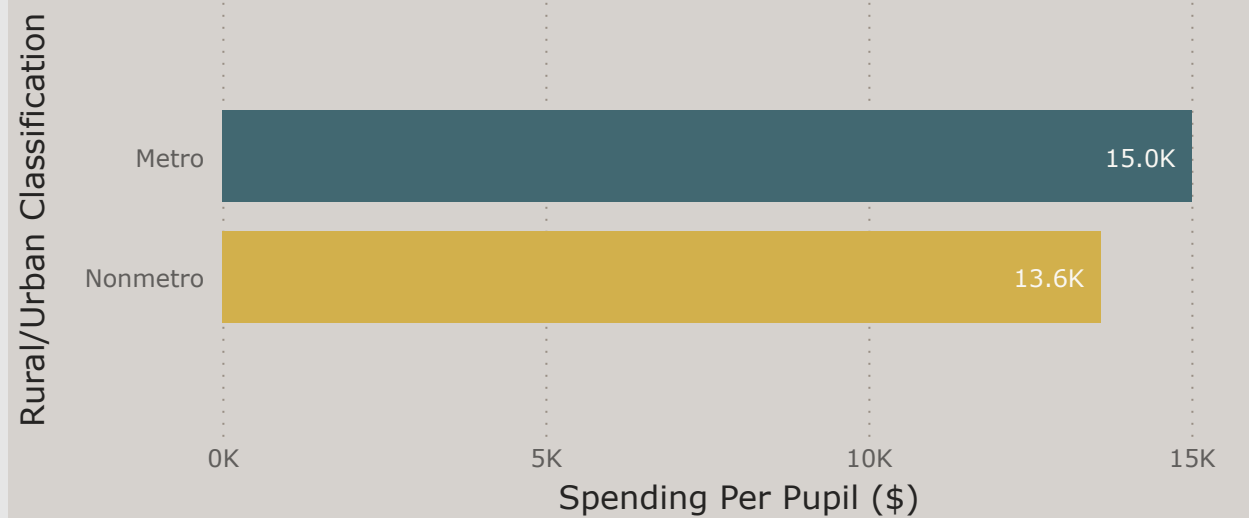
Total Spending by Rural/Urban Classification



14.80K

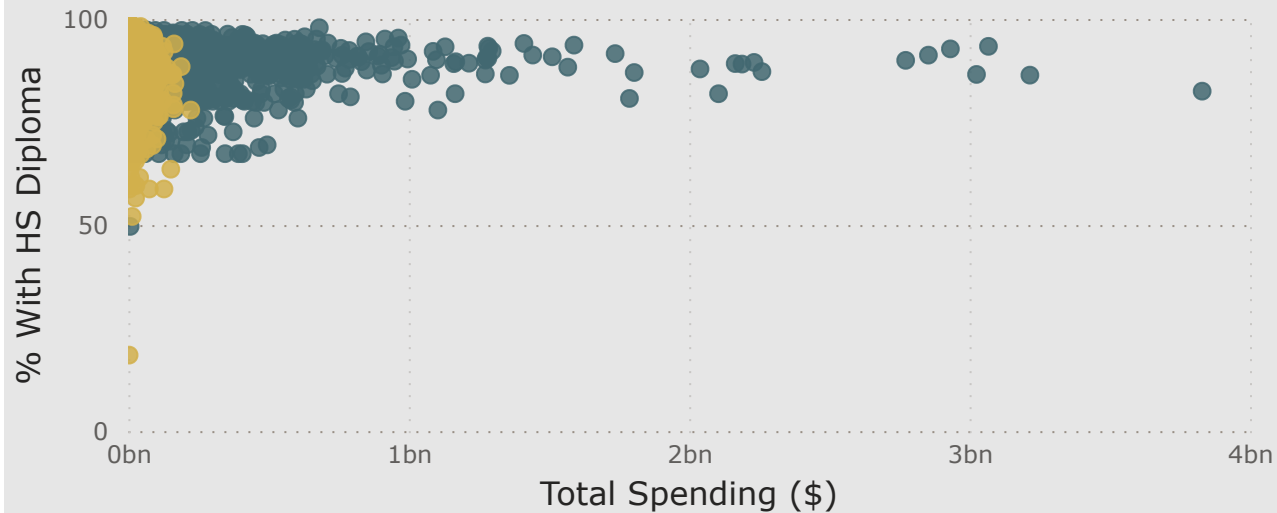
Spending Per Pupil (\$)

Spending Per Pupil by Rural/Urban Classification



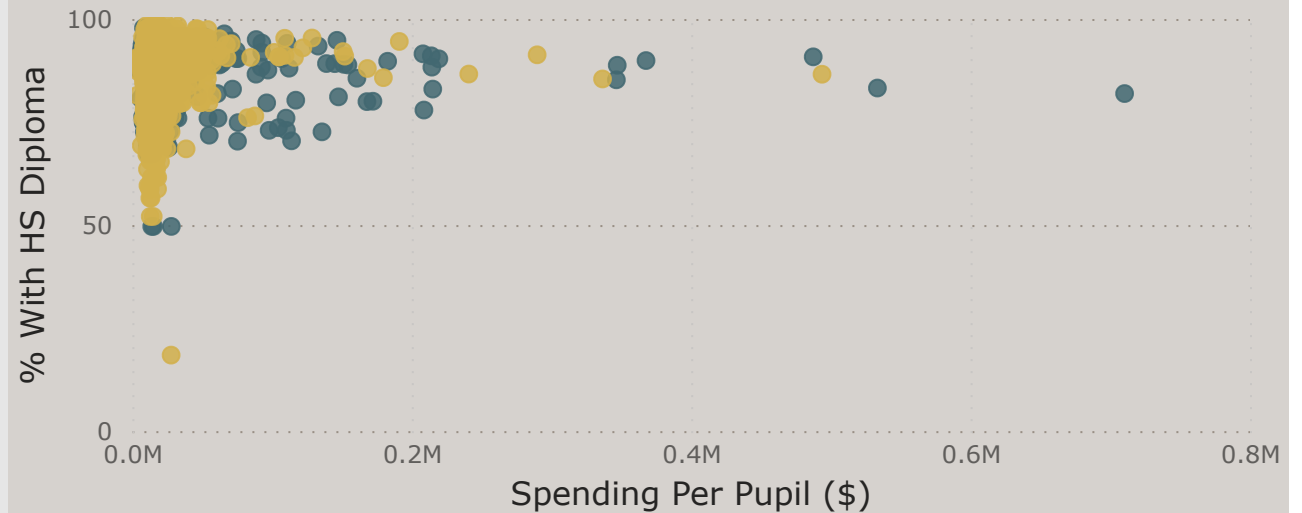
Total Spending vs Percent with HS Diploma or Higher

Metro/Nonmetro ● Metro ● Nonmetro



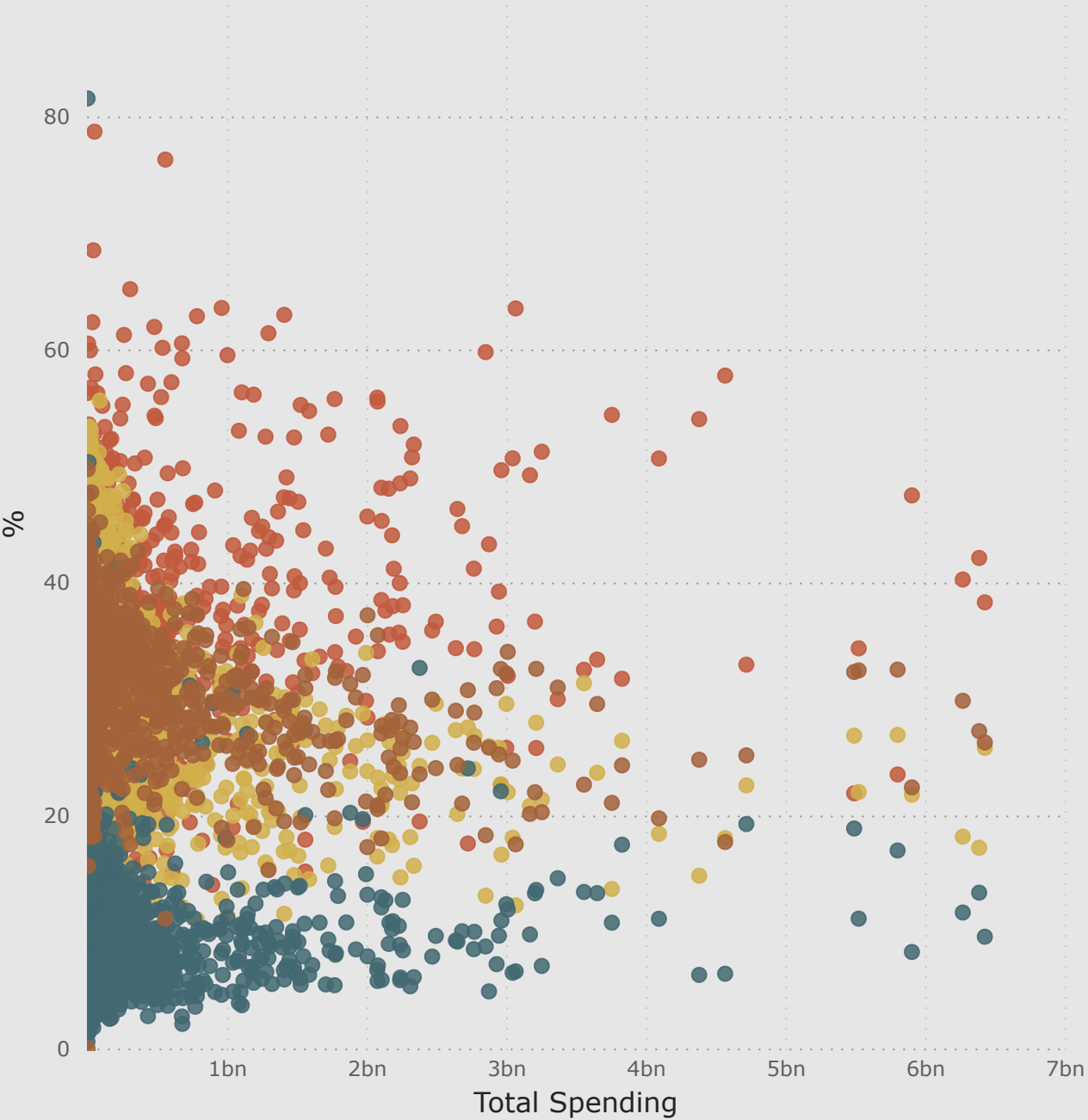
Spending Per Pupil vs Percent with HS Diploma or Higher

Metro/Nonmetro ● Metro ● Nonmetro



Total Spending vs Education Level

Education Level ● % Bachelors or Hi... ● % HS Diplom... ● % No HS Dipl... ● % Some C...



Per Pupil Spending vs Education Level

Education Level ● % Bachelors or Hi... ● % HS Diploma ... ● % No HS Dipl... ● % Some C...

