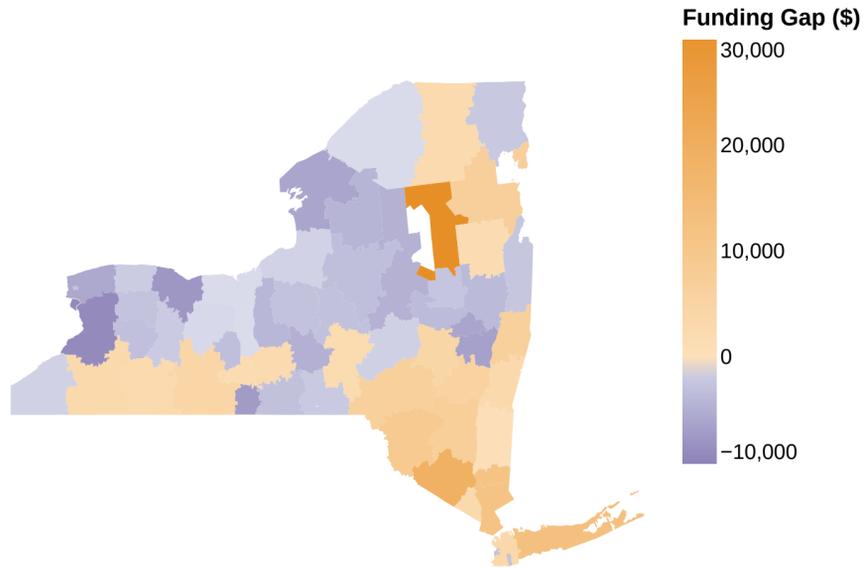# Investigating New York State School Districts' Characteristics, Achievements, and Investments

Alexandrea Harriott

This visualization project offers a multifaceted look at the characteristics of New York State school districts, using data to uncover patterns in funding sources, per-pupil expenditure, graduation rates, and racial diversity. Through a series of charts and maps, explore how these dimensions vary across geography and time, and how they relate to one another. This work aims to deepen understanding of the structural and demographic context in which districts operate to provide a foundation for informed dialogue and future policy design.

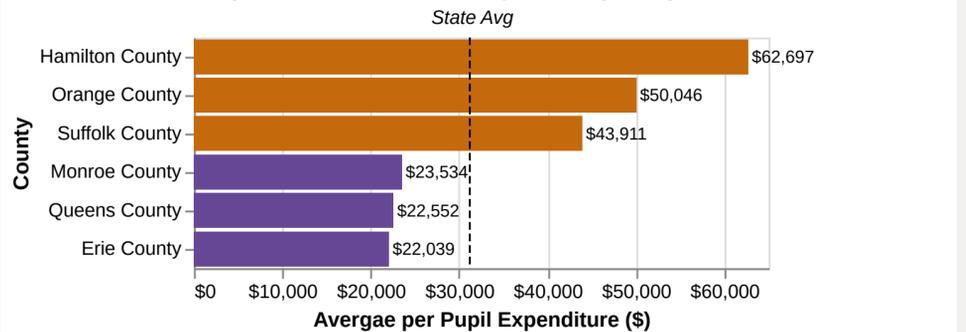## New York State Funding Equity Gaps by County in AY 2021-22

The choropleth chart above uses color to highlight how school districts diverge from the statewide average per-pupil expenditure of approximately $30,000. The funding gap can be seen as the distance from the average.

- **Orange districts** spend **above average**, with some exceeding $60,000 per student.
- **Purple districts** fall **below average**, with many spending less than $20,000 per student.

The geographic clustering of colors reveals regional funding patterns, shaped by local wealth, tax bases, and possibly state aid. These spending differences have direct implications for the resources available to students, like staffing, programming, facilities, and support services.

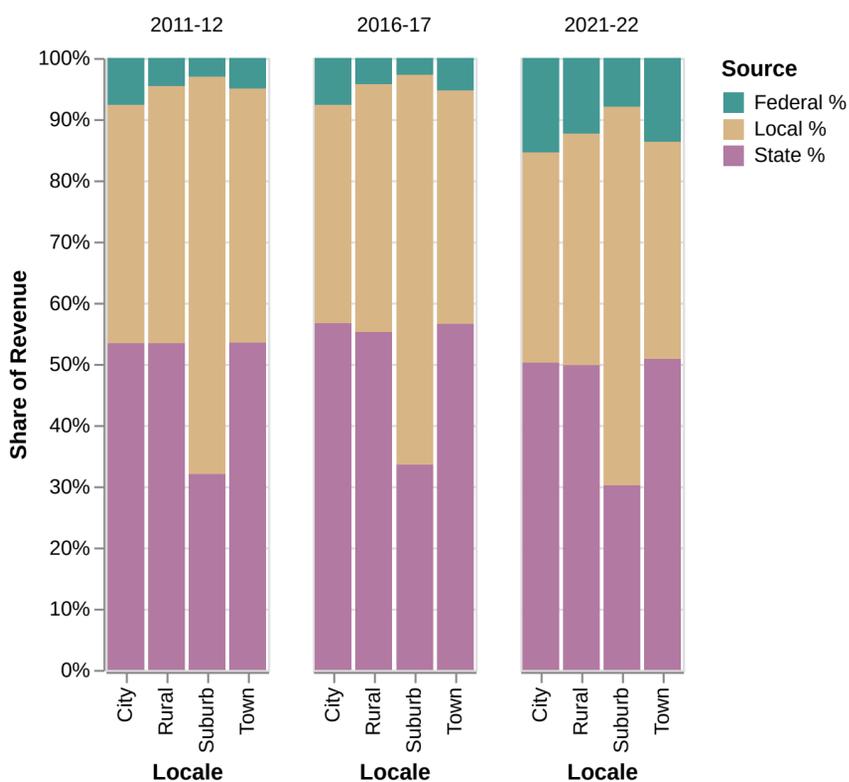## New York State Top & Bottom Counties by Per Pupil Expenditure in AY 2021-22

The bar chart above connects to the map on the left: it spotlights the three highest- and three lowest-spending counties in New York State, based on per-pupil expenditure.

- The **highest-spending county** allocates over **$62,000 per student** on average, more than double the statewide average.
- The **lowest-spending county** allocates just **$22,000 per student** on average, nearly $10,000 below average.

These extremes underscore the wide fiscal range across districts and invite deeper inquiry into how local wealth, funding formulas, and district size contribute to such variation. When viewed alongside graduation rates and demographic data, these figures help contextualize broader patterns of educational opportunity.

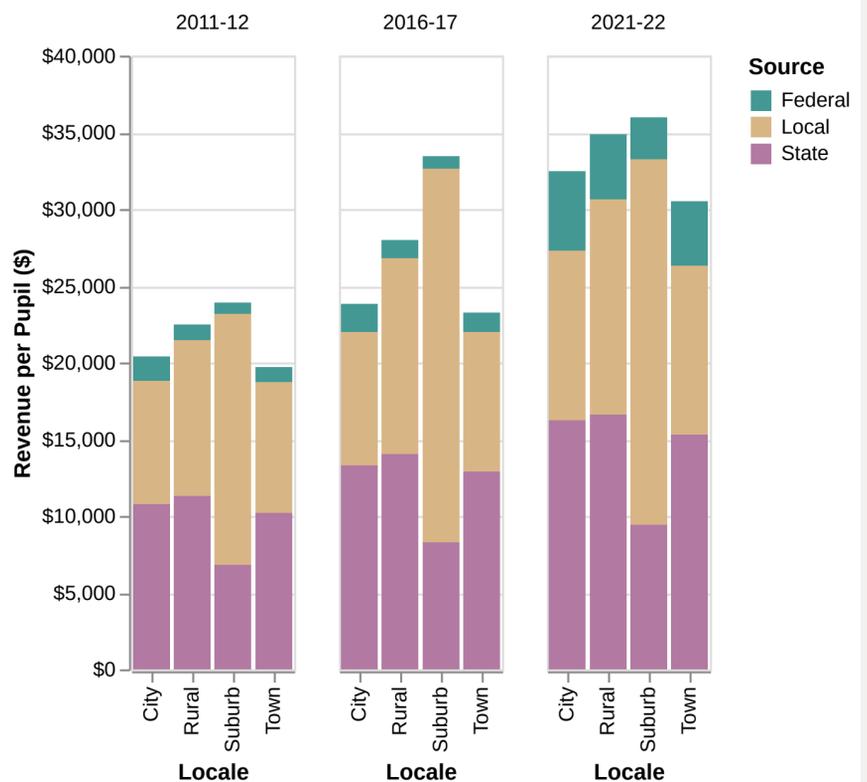## New York State School Districts Average Revenue Composition

This stacked bar chart breaks down the share of school district revenue by source — local, state, and federal — across four district types: City, Rural, Suburb, and Town.

- **Suburban districts** consistently receive **a large share of revenue from local sources**, likely driven by property taxes and local wealth.
- **Federal funding**, while a smaller portion overall, has **grown steadily over time**, especially in City and Rural districts, suggesting increased federal support for higher-need communities.

The chart reveals how geographic context shapes fiscal structure; suburban districts rely more on local wealth, while other locales depend more heavily on state and federal aid. These patterns have implications for both funding stability and equity.
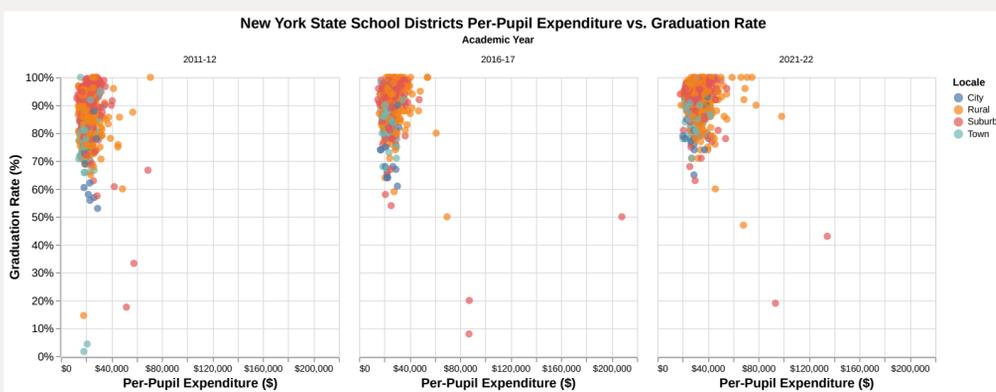
New York State School Districts Average Revenue per Pupil

This stacked bar chart is complementary to the one on the left, tracking revenue per pupil over time by source — local, state, and federal — across four district types: City, Rural, Suburb, and Town.

- Across all locales, **total revenue per student has risen** steadily from 2011–12 to 2021–22.
- **City and Rural districts** show notable increases in state and federal contributions, reflecting targeted **support for higher-need areas**.

The chart not only shows growth in overall investment, but also reveals how the composition of funding varies by geography and the policy targets of the state may shift over time.

New York State School Districts Per-Pupil Expenditure vs. Graduation Rate

New York State School Districts Per-Pupil Expenditure vs. Graduation Rate by Locale
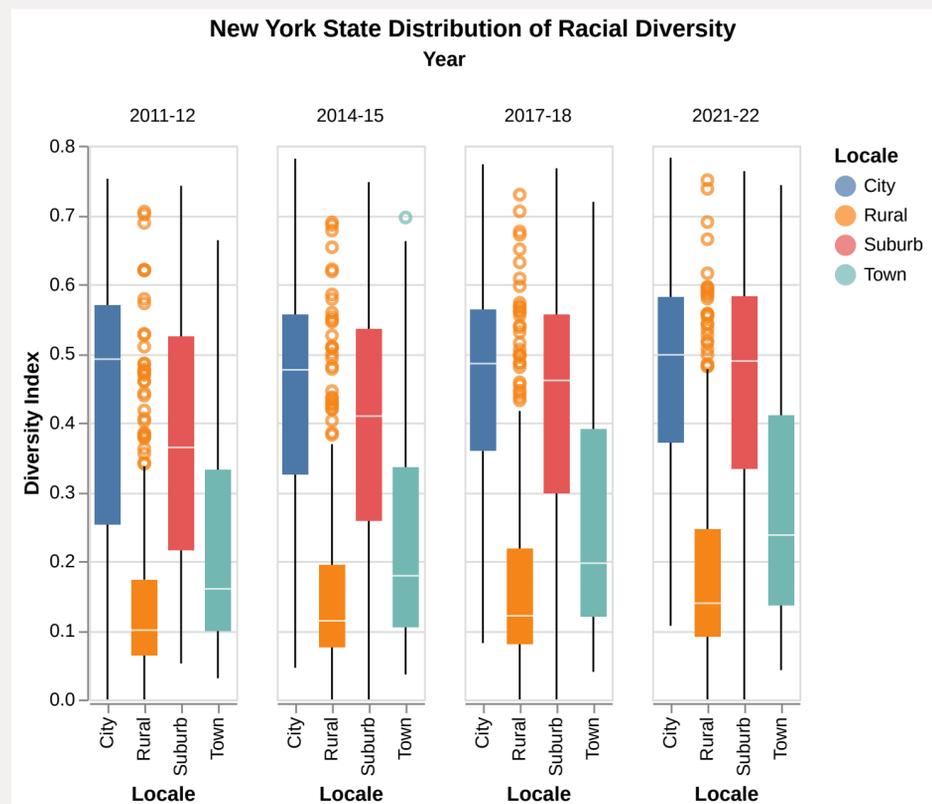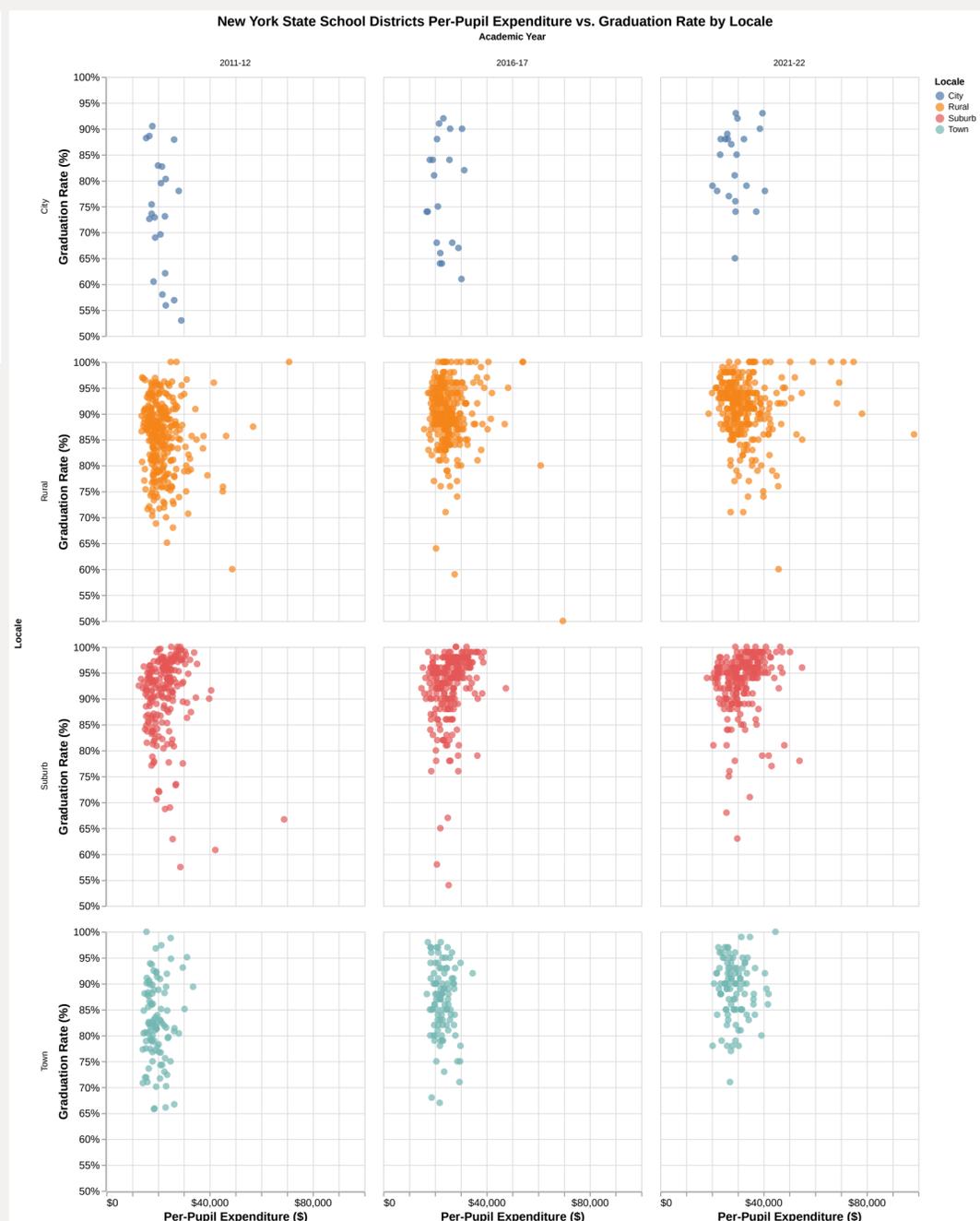

These two scatter plots explore the relationship between **per-pupil expenditure** and **graduation rate** across New York State school districts.

- The **first chart** distinguishes district **locales** — City, Suburb, Town, and Rural — allowing viewers to see how different geographic contexts cluster across the funding-outcome spectrum.
- The **second chart** to the right facets the data by locale, placing each type in its own row to reveal **within-group variation** more clearly.

Across both views, a consistent pattern emerges: while **per-pupil spending varies by around $30,000, graduation rates remain broadly distributed over time and within each locale**. Even as districts invest more per student, the range of graduation outcomes persists, suggesting that higher spending alone does not guarantee improved results. This visual reinforces the idea that educational outcomes are shaped by more than just funding — including factors like staffing, student demographics, community context, and structural challenges.

The faceted charts are useful for policymakers, as it isolates each locale's internal dynamics. For example, suburban districts show tighter clustering around higher graduation rates, while city or town districts display wider spreads — pointing to different constraints and opportunities. Together, these charts invite deeper inquiry into how resources are used, not just how much is spent.
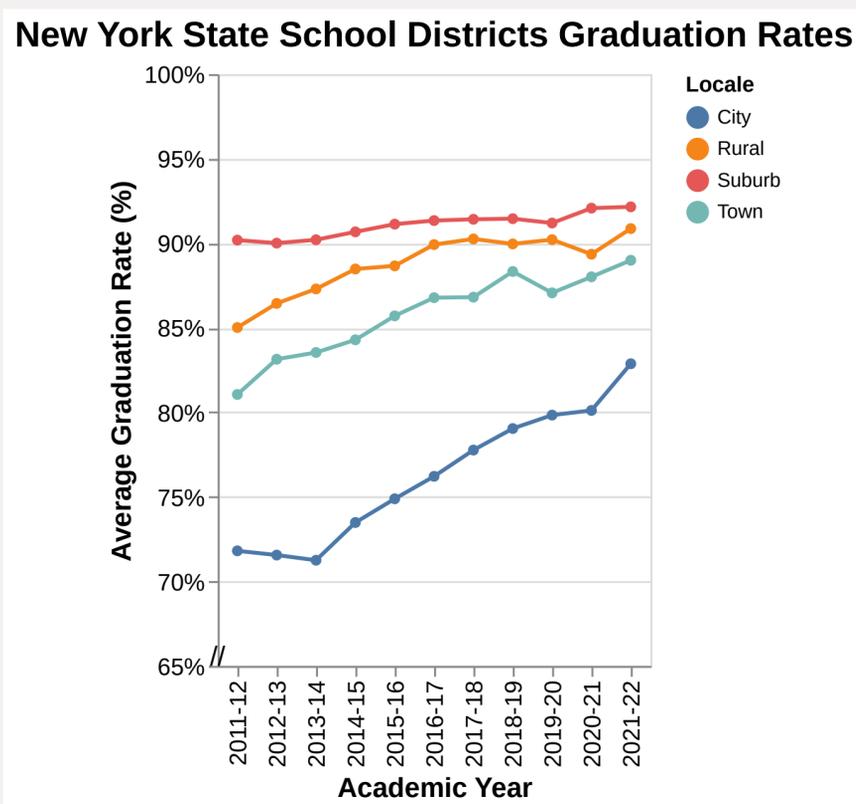
Please note that the field of view for the faceted graphs have been cut down to areas with greater volume of points. Singular districts, as seen in the chart above, are left out in order to examine the majority of school districts more closely.

New York State Distribution of Racial Diversity

New York State School Districts Graduation Rates

This box plot shows the distribution of **racial diversity** across New York State school districts over time. The **Diversity Index** measures the probability that two randomly selected students belong to different racial or ethnic groups, with **higher values indicating greater diversity**.

- **City districts consistently show the highest diversity**, with median index values well above other locales, and a wide spread across districts.
- **Rural districts remain the least diverse**, but there is **upward movement** and many outliers (points above the box) showing high racial diversity.
- **Suburban and Town districts fall in between**, showing moderate diversity and **upward movement**, with the suburb median close to City median by 2021-22.

While overall diversity has increased slightly, the **gap between locales persists**, reflecting broader patterns of residential segregation and demographic concentration. Geography continues to shape student composition, which in turn may influence educational experiences, resource needs, and equity considerations.

This line graph shows average **graduation rates** across New York State school districts over the past **ten academic years** by locale: City, Suburb, Town, and Rural.

- **Suburban districts consistently lead**, maintaining graduation rates near or above 90%, with only modest increases over time.
- **Rural and town districts show steady improvement** over time.
- **City districts**, while starting with the lowest graduation rates, show the **sharpest improvement**, especially after 2014–15, signaling progress in urban education outcomes possibly from policy initiatives.

The graph reveals both **persistent disparities** and **meaningful gains**. While locale remains a strong predictor of graduation outcomes, the overall trajectory is positive across all district types. These trends invite further exploration into the policies, investments, and contextual factors that have contributed to rising graduation rates and where gaps still remain.