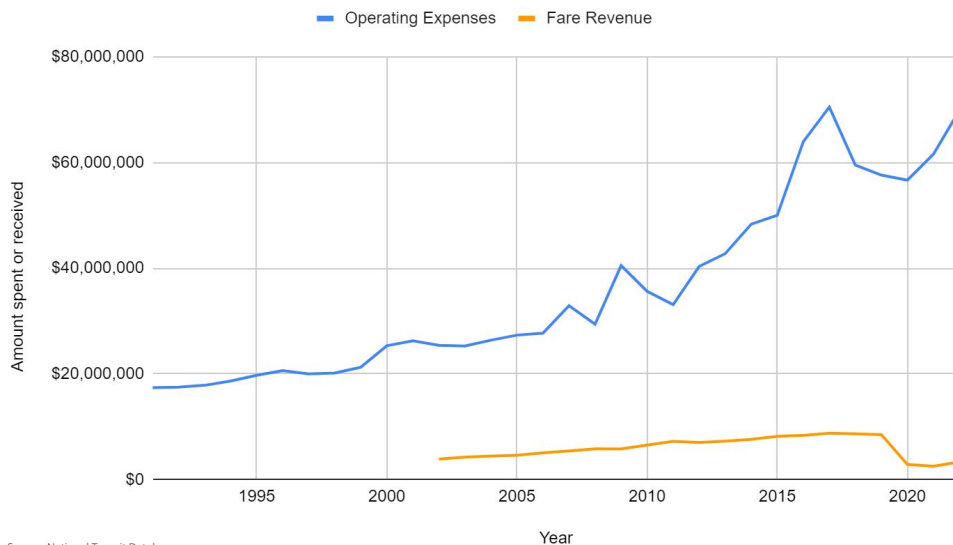


As part of a group project to perform an alternatives analysis for capital improvements to the Staten Island Railway as part of a graduate course I examined existing demographics and level of service. These graphs and maps were made in Google Sheets and QGIS using data from the National Transit Database, 2020 Census, and NYC Department of Buildings.

Existing Conditions

High Operating Costs and Low Revenue

SIRTOA Expenses Versus Fare Revenue 1991 to 2022



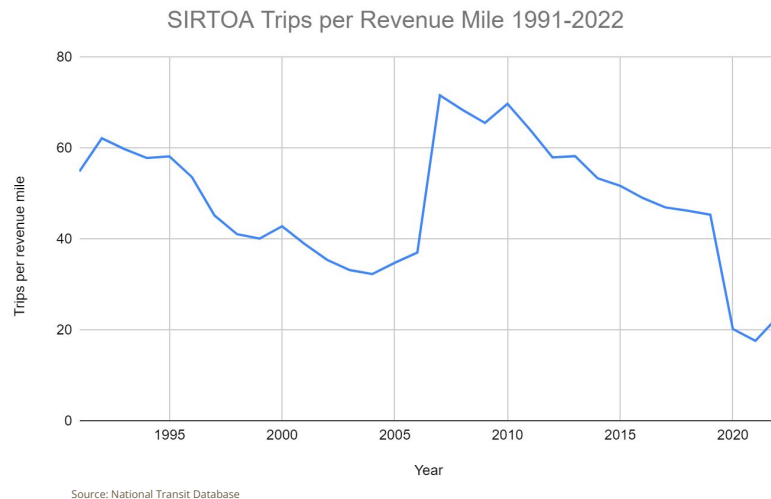
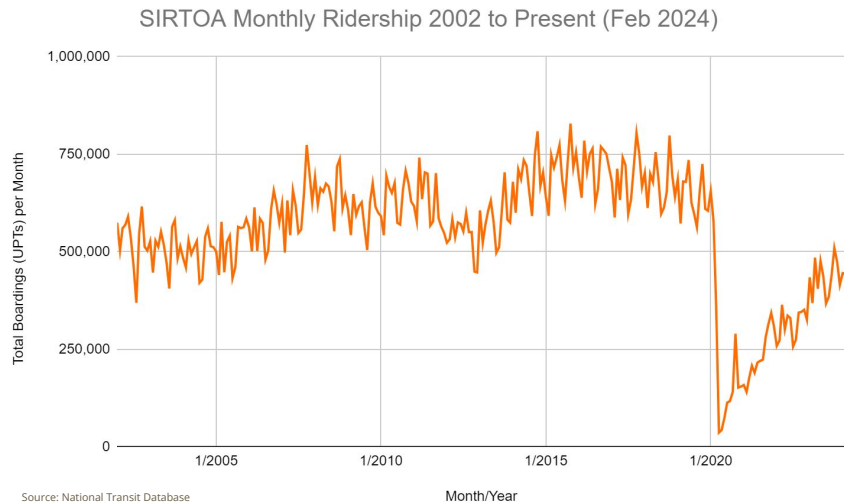
Source: National Transit Database

- Operating expenses trending upward
- Costs rising post-COVID faster than fare revenue can even recover

Average pre-COVID
farebox recovery rate:
16.43%

Average post-COVID
farebox recovery rate:
4.63%

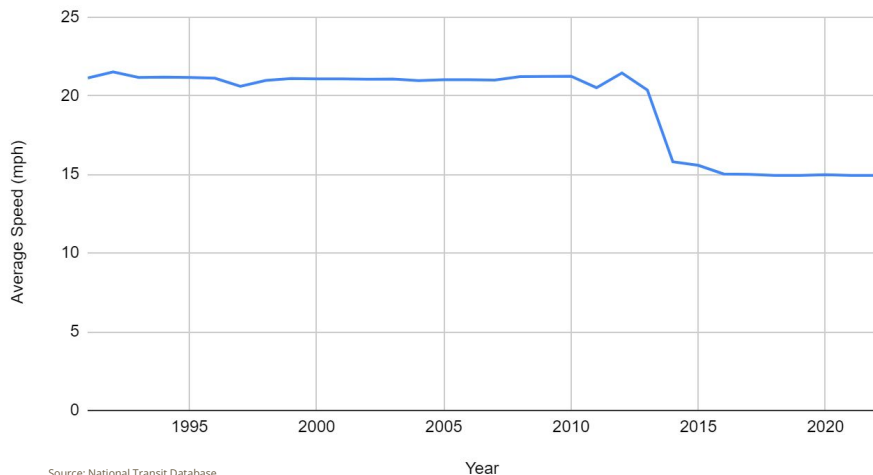
Low Ridership



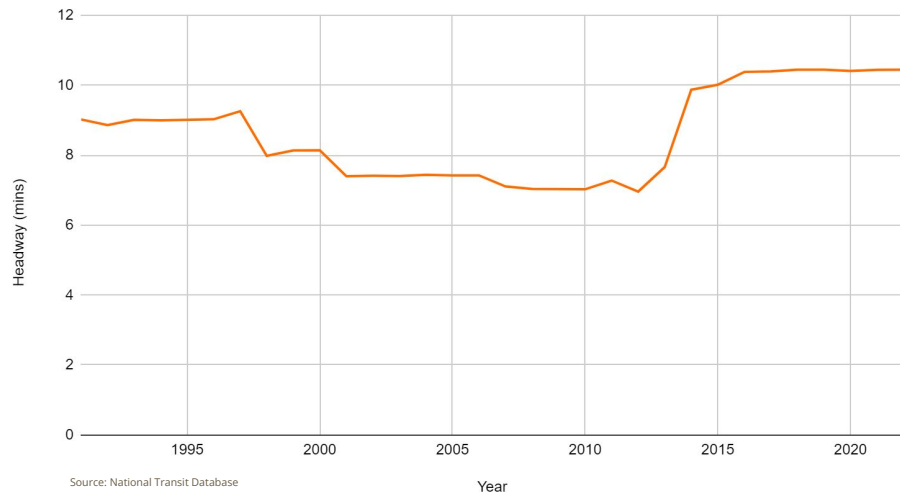
- Trains have been riding less full since before COVID
- Total trips/ridership has yet to recover post pandemic

Declining Level of Service

SIRTOA Average Speed of Revenue Vehicles 1991-2022



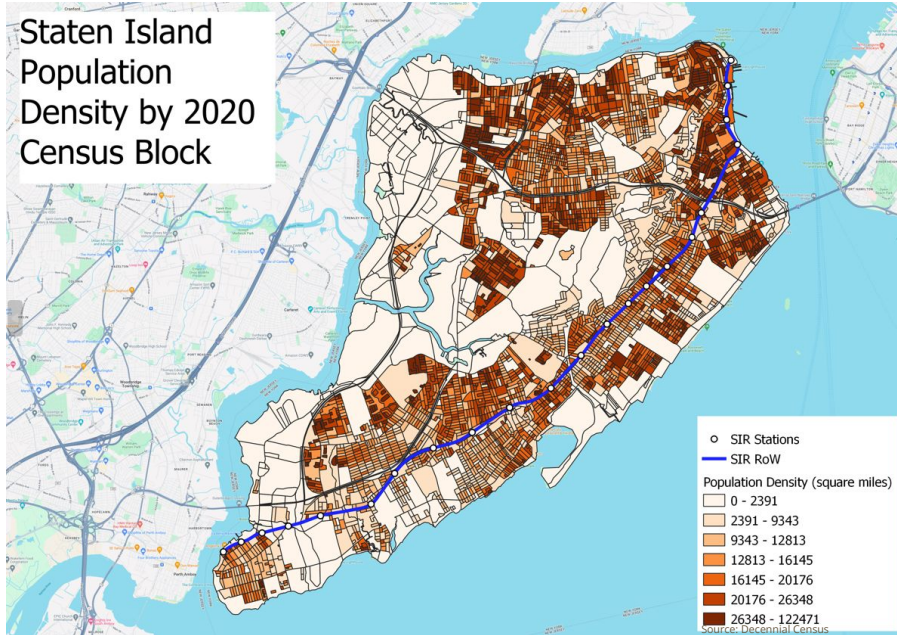
SIRTOA Recorded Minimum Headway 1991-2022



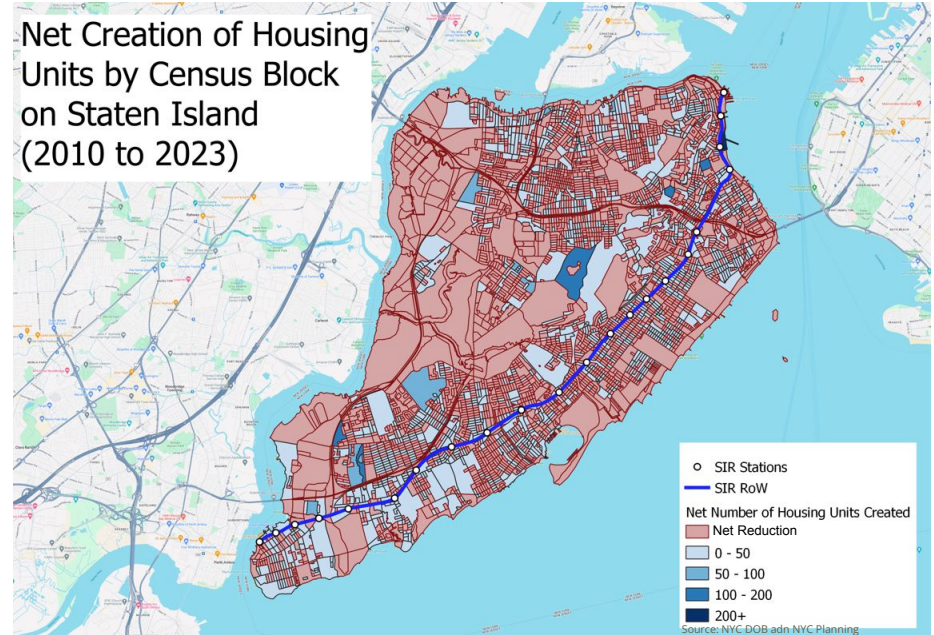
- Declines in speed and increases in headway predating COVID despite increases in maximum number of vehicles in service

Profile of Staten Island

Staten Island
Population
Density by 2020
Census Block



Net Creation of Housing
Units by Census Block
on Staten Island
(2010 to 2023)



- Does not serve dense areas along the North Shore
- Density tapers along the South Shore
- Little change in housing creation