

PROBLEM STATEMENT

#01 Analyze the correlation between subway ridership and bus ridership changes over the given period.

#02 Compare the rate of decline in ridership across different transport modes.

#03 Investigate why Access-A-Ride showed higher retention of scheduled trips compared to rail services.

#04 Quantify the average daily percentage decrease across all transport modes.

#05 Identify which day showed the steepest drop in overall public transportation usage.

#06 Analyze the resilience of bridge and tunnel traffic compared to public transportation usage.

#07 Determine if Staten Island Railway's ridership pattern differs from other rail services.

#08 Calculate the cumulative loss in ridership across all modes over the period.

#09 Rank transportation modes by consistency of ridership percentage relative to pre pandemic levels.

#10 Assess whether weekday data show different trends compared to weekend data.

#11 Estimate financial impact assuming average fare prices per mode.

#12 Evaluate if Access-A-Ride demand remained stable for medical or essential trips.

#13 Perform time-series forecasting on subway ridership based on early trends.

#14 Assess the gap between subway ridership drop and bus ridership drop.

#15 Explore if bridge traffic could serve as an alternative transport indicator.

#16 Determine which transport mode has the fastest recovery potential post-pandemic.

#17 Analyze interdependencies between the LIRR and Metro-North performance.

#18 Check if weekday ridership patterns remain consistent even as totals decline.

#19 Study if the Access-A-Ride service scaled proportionally with total transport demand decline.

#20 Model the relationship between the start of March and mid-March trends in transport decline.

- #21 Visualize ridership changes across each mode over time.
- #22 Compare pre-pandemic percentages by mode day-by-day.
- #23 Visualize cumulative ridership loss over time.
- #24 Display % changes per mode from March 1 to March 14.
- #25 Stacked Bar Chart of ridership changes by day and mode.
- #26 Pie chart: Share of total transport usage by mode on specific dates.
- #27 Bar chart comparing weekday vs. weekend usage drops.
- #28 Visualize volatility in percentage decline across all modes.
- #29 Plot correlation between bridge traffic and subway usage.
- #30 Visualize the resilience of Access-A-Ride compared to rail services.
- #31 Compare recovery rates (if extrapolated) using trend lines.
- #32 Animated timeline showing daily drop in transport usage.
- #33 Cohort analysis: Group days by week and visualize trends.
- #34 Showcase Staten Island Railway's unique trend line.
- #35 Stacked area chart for total ridership across all modes.
- #36 Distribution of % ridership retention across modes.
- #37 Rank transportation modes by average % drop.
- #38 Usage decline by borough or region.
- #39 Line graph of estimated vs. pre-pandemic average ridership for all modes.
- #40 Comparison of total public transport vs. bridge and tunnel traffic.