MTA Ridership Analysis Report

by

Peter Isaac Alechenu

Overview

This analysis provides insights into the ridership trends of the Metropolitan Transport Authority (MTA), the largest public transportation system in North America, responsible for public transport in New York. The analysis spans the years 2020 to 2024 and was conducted using Power BI. The dataset was cleaned, analyzed, and visualized using DAX functions to derive concise insights. Line graphs and card visualizations were employed to illustrate ridership trends across various transportation modes.

Visualization

The visualizations in Power BI present the total ridership across different transportation modes and highlight the percentage changes in ridership pre-pandemic.

Key Findings

The total estimated ridership figures for each mode of transport from 2020 to 2024 are as follows:

Subway: 4 billion

Bus: 2 billion

Bridges and Tunnels Traffic: 1 billion

Long Island Rail Road (LIRR): 232 million

Metro-North: 196 million

Access-A-Ride Scheduled Trips: 37 million

Staten Island Railway: 8 million

Analysis of Average Ridership Percentage Pre-Pandemic

1. Access-A-Ride:

Low Point: April (78%)

High Point: October (92%)

November: 83% (drop)

2. Bridges and Tunnels:

Low Point: April (85%)

High Point: October (98%)

November-December: Flatline at 95%

3. Bus Rides:

Flatline: January–March (58%)

High Point: November (63%)

Low Point: April (48%)

4. Long Island Rail Road (LIRR):

Low Point: April (50%)

High Point: November (67%)

December: 55% (drop)

5. Metro-North:

Low Point: April (43%)

High Point: October (58%)

Drop: November-December, with December at 49%

6. Subway:

Low Point: April (49%)

High Point: October (60%)

November-December: Decline to 56% in December

7. Staten Island Railway:

Flatline: January–March (39%)

Low Point: April (30%)

High Point: November (48%)

December: Decline to 36%

Conclusion and Recommendations

The analysis indicates significant fluctuations in ridership across all transportation modes, particularly during April, which coincides with the peak of the COVID-19 pandemic. Recovery trends were observed across most modes of transport by October, followed by slight declines towards the end of the year.

Recommendations:

1. Enhance Pandemic Resilience: Develop strategies to maintain essential ridership during crises, such as improved health and safety measures and targeted communication.

2. Focus on Recovery Trends: Leverage the recovery momentum observed in October to enhance ridership through marketing and service reliability.

3. Analyze December Drops: Investigate the factors causing declines in December ridership and address potential seasonal or operational issues.

4. Improve Accessibility: Strengthen services like Access-A-Ride to maintain consistent ridership throughout the year.