

MTA Daily Ridership Final Graduation Project



ررواد مصر المقايمية



Team 3 [CLS CAI3_DAT2_G6]

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Project Overview

Largest transit network in North America

Data from March 2020–2025

Focus: COVID-19 recovery analysis & YoY trends



Dataset Overview

MTA Daily Ridership dataset (deprecated 2025)

Modes: Subway, Bus, LIRR, MNR, AAR, SIR, Bridges & Tunnels

Metrics: Ridership, Recovery %, Date



Data Preparation & Modeling

Unpivoted dataset into clean fact model

Star schema: Fact_Riders, Calendar, Rider Type

Data cleaning & type enforcement



Key Measures (DAX)

Estimated Ridership

Avg Recovery

Pre-Pandemic Ridership

Recovery Rate

YoY % Change



Dashboard Insights

2020 drop due to pandemic

Strong recovery in Subway & Bus

Seasonal peaks May–Oct

Consistent YoY improvement (2023–2024)



Tools & Tech

Power BI Desktop

Power Query (M)

DAX

Excel Staging



MTA Rider-Ship Dashboard

Access-A-Ride

First Rider Type

13bn

Pre-Pandemic Ridership

8bn

Estimated Ridership

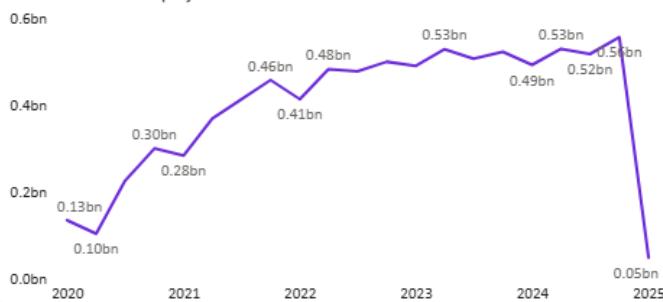
64%

Recovery Rate

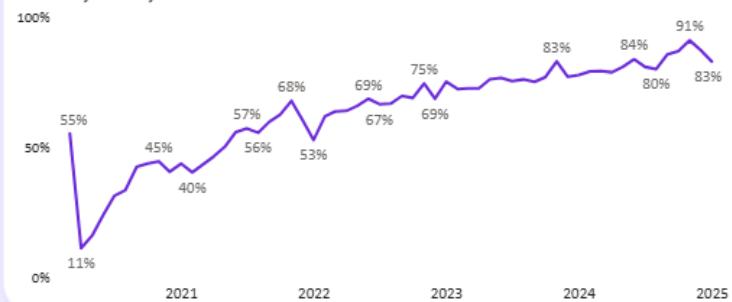
31%

YoY %

Estimated Ridership by Year and Quarter



Recovery Rate by Year and Month

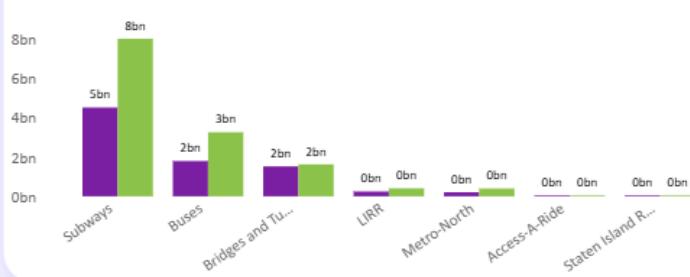


Estimated Ridership by Month



Estimated Ridership and Pre-Pandemic Ridership by Rider Type

■ Estimated Ridership ■ Pre-Pandemic Ridership



Year

- 2020
- 2021
- 2022
- 2023
- 2024
- 2025

Rider Type

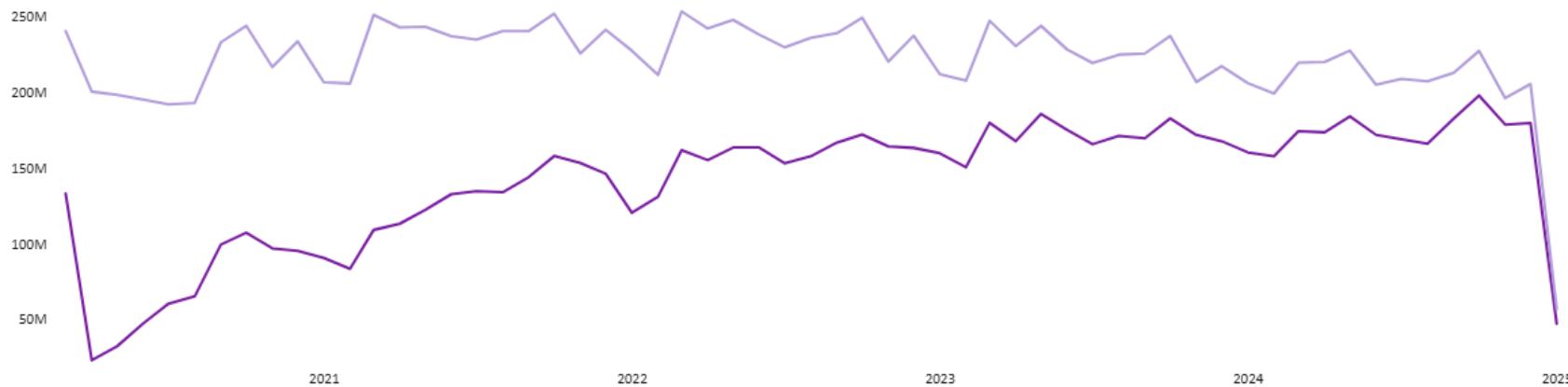
- Access-A-Ride
- Bridges and Tunnels
- Buses
- LIRR
- Metro-North
- Staten Island Railway
- Subways



MTA Rider-Ship Dashboard

Estimated and Pre-Pandemic Ridership by Year

Estimated Ridership Pre-Pandemic Ridership



Formatted Date	Rider Type	Estimated Ridership	Pre-Pandemic Ridership
04/03/2020	Subways	5,498,809	5554353
05/03/2020	Subways	5,496,453	5551973
03/03/2020	Subways	5,481,103	5592962
02/03/2020	Subways	5,329,915	5551995
06/03/2020	Subways	5,189,447	5580051
09/03/2020	Subways	4,973,513	5588217
10/03/2020	Subways	4,867,818	5595193
11/03/2020	Subways	4,697,122	5591812
12/12/2024	Subways	4,527,892	5326932
30/10/2024	Subways	4,417,951	5737599
29/10/2024	Subways	4,378,791	5761567
Total		8,335,916,322	13105613144

- Rider Type**
- Access-A-Ride
 - Bridges and Tunnels
 - Buses
 - LIRR
 - Metro-North
 - Staten Island Railway
 - Subways