

MTA Daily
Ridership



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**THE METROPOLITAN
TRANSPORTATION AUTHORITY
(MTA) OPERATES THE LARGEST
TRANSPORTATION NETWORK IN
NORTH AMERICA, SERVING NEW
YORK AND PARTS OF CONNECTICUT**



Service

- •Subways
- • Buses
- • Long Island Rail Road (LIRR)
- •Metro-North Railroad (MNR)
- • Access-A-Ride
- •Bridges & Tunnels
- •Staten Island

- • This dataset provides daily ridership and traffic estimates for various transportation modes, including subways, buses, railroads, and bridges.
- • It compares post-COVID-19 ridership to pre-pandemic levels.
- • Encourages informed decision-making for transportation planning.





Dataset Overview

- Total Rows: 1706

- Total Columns: 15

- Key Attributes:

- Date, Total Estimated Ridership, % of Comparable Pre-Pandemic Day.

- Includes ridership data for subways, buses, railroads, and more.

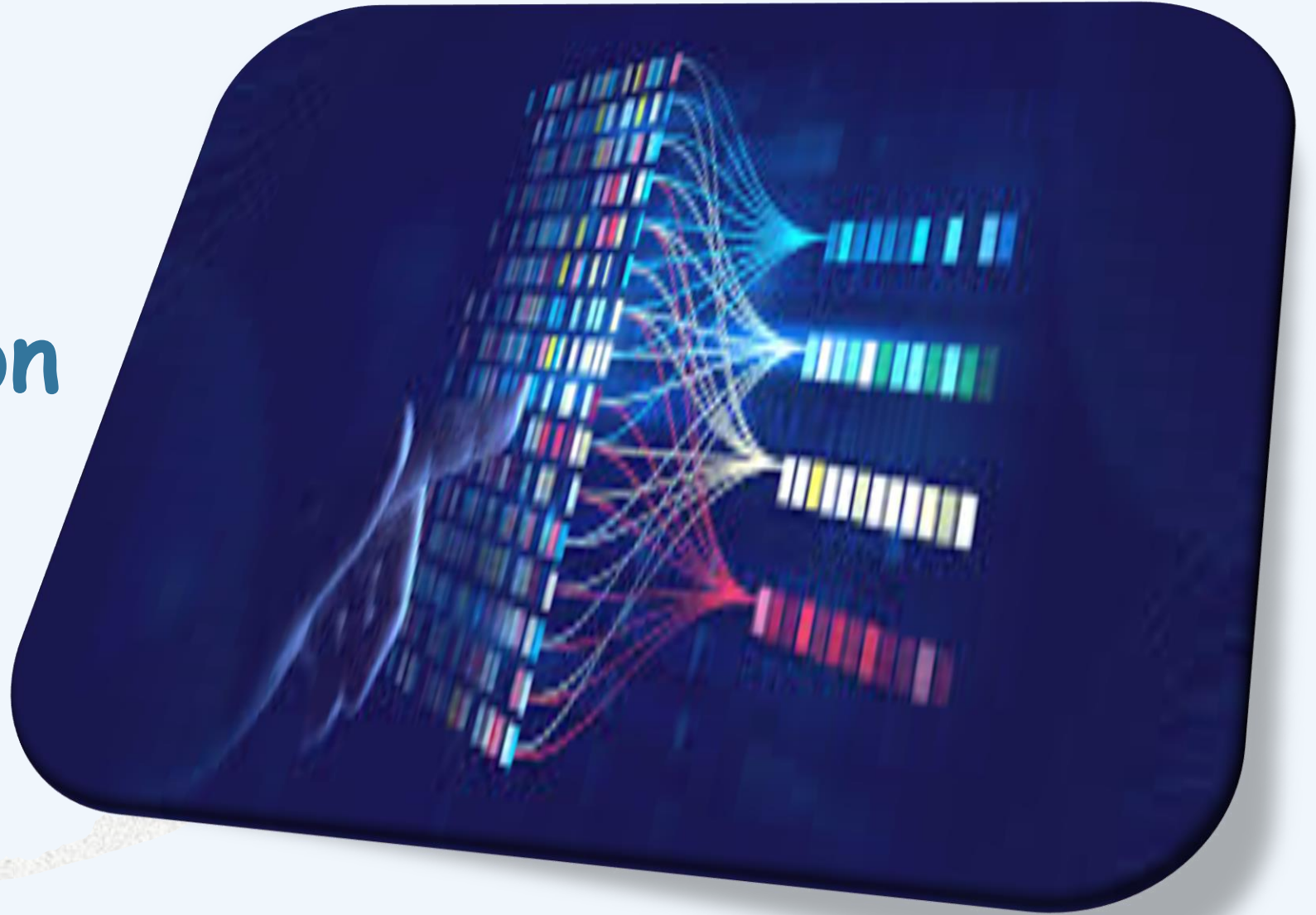
- Provides comparisons to pre-pandemic ridership levels.

Types of columns

- The date is from 2020/3/1 to 2024/ 10 /31 and it represent primary key for the table.
- THE ESTIMATED(RIDERSHIP OR SCHEDULED ACCESS A RIDE(AAR) OR TRAFFIC.
- the pre-COVID ridership comparison percentages and it is explained later in the presentation.

Date	1 ² ₃ Subways: Total Estimated Ridership	1 ² ₃ Subways: % of Comparable Pre-Pandemic Day	1 ² ₃ Buses: Total Estimated Ridership	1 ² ₃ Buses: % of Comparable Pre-Pandemic Day
Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%
3/1/2020	2212965	97	984908	
3/2/2020	5329915	96	2209066	
3/3/2020	5481103	98	2228608	
3/4/2020	5498809	99	2177165	
3/5/2020	5496453	99	2244515	
3/6/2020	5189447	93	2066743	
3/7/2020	2814637	92	1249085	
3/8/2020	2120656	93	957163	
3/9/2020	4973513	89	2124770	
3/10/2020	4867818	87	2111989	
3/11/2020	4697122	84	2112967	
3/12/2020	4149505	75	1938424	
3/13/2020	3484996	63	1715737	
3/14/2020	1670665	54	993287	
3/15/2020	1157711	51	711555	
3/16/2020	2178555	39	1237309	
3/17/2020	1788786	32	1094949	
3/18/2020	1625280	29	1059502	
3/19/2020	1422112	26	933602	
3/20/2020	1309125	24	868602	
3/21/2020	619618	20	411491	
3/22/2020	408723	18	73517	
3/23/2020	709499	13	59321	
3/24/2020	741587	13	60334	
3/25/2020	690032	12	51769	
3/26/2020	680360	12	49970	
3/27/2020	656817	12	45514	

Transformation



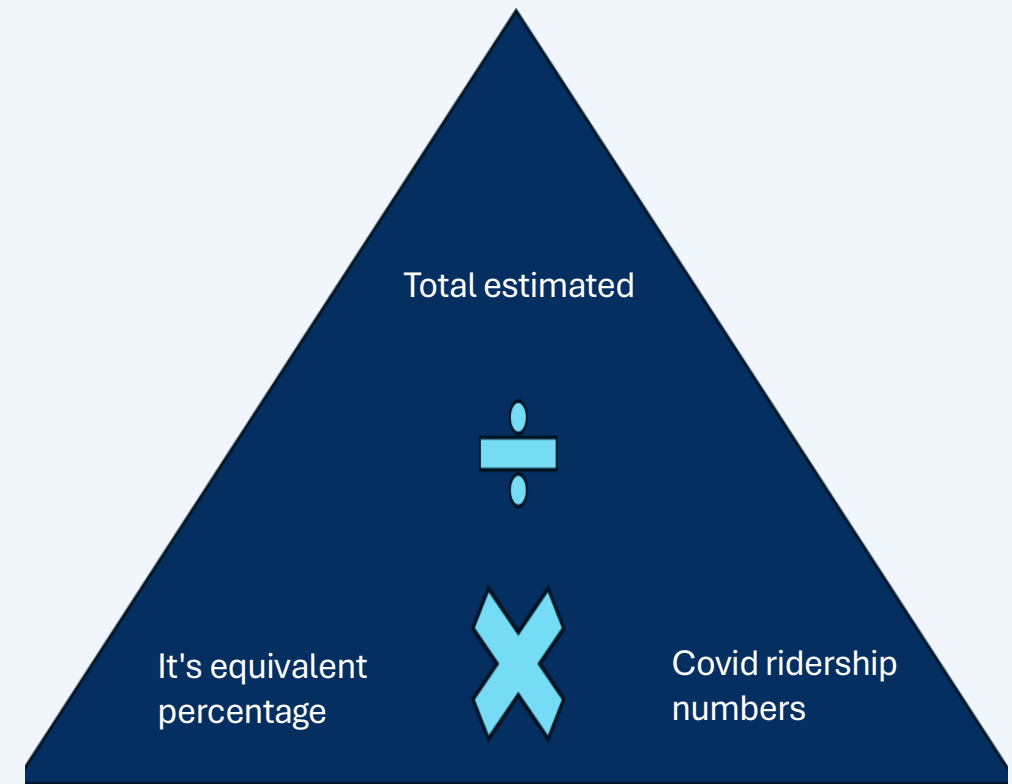


Date

	Year	1 ² ₃ Quarter	A ^B _C Month Name	A ^B _C Season	A ^B _C intervals	1 ² ₃ Day	A ^B _C Day Name
	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%
1	2020	1	March	Spring	From 1 to 10	1	Sunday
2	2020	1	March	Spring	From 1 to 10	2	Monday
3	2020	1	March	Spring	From 1 to 10	3	Tuesday
4	2020	1	March	Spring	From 1 to 10	4	Wednesday
5	2020	1	March	Spring	From 1 to 10	5	Thursday
6	2020	1	March	Spring	From 1 to 10	6	Friday
7	2020	1	March	Spring	From 1 to 10	7	Saturday
8	2020	1	March	Spring	From 1 to 10	8	Sunday
9	2020	1	March	Spring	From 1 to 10	9	Monday
10	2020	1	March	Spring	From 1 to 10	10	Tuesday
11	2020	1	March	Spring	From 11 to 20	11	Wednesday
12	2020	1	March	Spring	From 11 to 20	12	Thursday
13	2020	1	March	Spring	From 11 to 20	13	Friday
14	2020	1	March	Spring	From 11 to 20	14	Saturday
15	2020	1	March	Spring	From 11 to 20	15	Sunday
16	2020	1	March	Spring	From 11 to 20	16	Monday
17	2020	1	March	Spring	From 11 to 20	17	Tuesday

HOW THE PERCENTAGE COLUMNS CALCULATED ?

	Date	Subways: Total Estimated Ridership	Subways: % of Comparable Pre-Pandemic Day
Valid	100%	Valid	100%
Error	0%	Error	0%
Empty	0%	Empty	0%
1	3/1/2020	2212965	97
2	3/2/2020	5329915	96
3	3/3/2020	5481103	98
4	3/4/2020	5498809	99
5	3/5/2020	5496453	99
6	3/6/2020	5189447	93
7	3/7/2020	2814637	92
8	3/8/2020	2120656	93
9	3/9/2020	4973513	89
10	3/10/2020	4867818	87



123 Subway NewYork	123 Subway NewYork percentage	ABC 123 Subway category	123 Subway NewYork before covid	1
<div>Valid 100%</div> <div>Error 0%</div> <div>Empty 0%</div>	<div>Valid 100%</div> <div>Error 0%</div> <div>Empty 0%</div>	<div>Valid 100%</div> <div>Error 0%</div> <div>Empty 0%</div>	<div>Valid 100%</div> <div>Error 0%</div> <div>Empty 0%</div>	
2212965	97	Medium high	2281407	
5329915	96	Medium high	5551995	
5481103	98	Medium high	5592962	
5498809	99	Medium high	5554353	
5496453	99	Medium high	5551973	
5189447	93	Medium high	5580051	
2814637	92	Medium high	3059388	
2120656	93	Medium high	2280275	
4973513	89	Medium	5588217	
4867818	87	Medium	5595193	
4697122	84	Medium	5591812	
4149505	75	Medium	5532673	
3484996	63	Medium low	5531740	
1670665	54	Medium low	3093824	
1157711	51	Medium low	2270022	
2178555	39	Low	5586038	
1788786	32	Low	5589956	
1625280	29	Low	5604414	
1422112	26	Low	5469662	
1309125	24	Very low	5454688	
619618	20	Very low	3098090	
408723	18	Very low	2270683	

		ABC Month Name	ABC Type of day	ABC Day Name	123 Subway NewYork before covid	123 Long Island Rail Road before covid
	100% 0% 0%	Valid Error Empty	100% 0% 0%	Valid Error Empty	100% 0% 0%	Valid Error Empty
4	2020	August	Weekday	Thursday	5133438	317481
5	2020	August	Weekday	Friday	5135576	314138
6	2020	August	Weekday	Monday	5101072	306450
7	2020	August	Weekday	Tuesday	5076208	314939
8	2020	August	Weekday	Wednesday	5195852	310659
9	2020	August	Weekday	Thursday	5165108	314650
10	2020	August	Weekday	Friday	5214562	317026
11	2020	August	Weekday	Monday	5217940	310221
12	2020	August	Weekday	Tuesday	5072656	309221
13	2020	August	Weekday	Wednesday	5168592	318655
14	2020	August	Weekday	Thursday	5224033	315179
15	2020	August	Weekday	Friday	5138752	316925
16	2020	August	Weekday	Monday	5229380	313104
17	2020	August	Weekday	Tuesday	5178808	318830
18	2020	August	Weekday	Wednesday	5213478	319096
19	2020	August	Weekday	Thursday	5224123	317652
20	2020	August	Weekday	Friday	5142900	317142
21	2020	August	Weekday	Monday	5175052	312488
22	2021	August	Weekday	Monday	5186496	315378
23	2021	August	Weekday	Tuesday	5174588	309872
24	2021	August	Weekday	Wednesday	5161229	309250
25	2021	August	Weekday	Thursday	5161612	315787
26	2021	August	Weekday	Friday	5141722	315995
27	2021	August	Weekday	Monday	5087631	313900
28	2021	August	Weekday	Tuesday	5087904	314215

		A ^B _C Month Name	A ^B _C 123 Type of day	A ^B _C Day Name	1 ² ₃ Subway NewYork before covid	1 ² ₃ Long Island Rail Road before covid
	100% 0% 0%	Valid Error Empty	100% 0% 0%	Valid Error Empty	100% 0% 0%	Valid Error Empty
1	2020	August	Weekend	Saturday	2905062	134561
2	2020	August	Weekend	Sunday	2360240	105179
3	2020	August	Weekend	Saturday	2976025	134610
4	2020	August	Weekend	Sunday	2367832	104489
5	2020	August	Weekend	Saturday	2968238	133731
6	2020	August	Weekend	Sunday	2410657	102959
7	2020	August	Weekend	Saturday	2941740	132689
8	2020	August	Weekend	Sunday	2398429	105253
9	2020	August	Weekend	Saturday	2975642	134432
10	2020	August	Weekend	Sunday	2413100	104993
11	2021	August	Weekend	Sunday	2370691	104810
12	2021	August	Weekend	Saturday	2918784	132474
13	2021	August	Weekend	Sunday	2381938	103502
14	2021	August	Weekend	Saturday	2962452	132744
15	2021	August	Weekend	Sunday	2384367	104261
16	2021	August	Weekend	Saturday	2956948	132442
17	2021	August	Weekend	Sunday	2404000	105877
18	2021	August	Weekend	Saturday	2963275	132669
19	2021	August	Weekend	Sunday	2370451	104291
20	2022	August	Weekend	Saturday	2940559	132922
21	2022	August	Weekend	Sunday	2372786	104599
22	2022	August	Weekend	Saturday	2942559	134061
23	2022	August	Weekend	Sunday	2396861	103814
24	2022	August	Weekend	Saturday	2954525	134100
25	2022	August	Weekend	Sunday	2381503	104530

MTA_Daily_Ridership 2

MTA_Daily_Ridership

	Date	Year	Quarter	Month Name	Season	Intervals	Day
	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%
1	1/1/2022	2022	1	January	Winter	From 1 to 10	
2	1/2/2022	2022	1	January	Winter	From 1 to 10	
3	1/3/2022	2022					
4	1/4/2022	2022					
5	1/5/2022	2022					
6	1/6/2022	2022					
7	1/7/2022	2022					
8	1/8/2022	2022					
9	1/9/2022	2022					
10	1/10/2022	2022					
11	1/11/2022	2022					
12	1/12/2022	2022					
13	1/13/2022	2022					
14	1/14/2022	2022					
15	1/15/2022	2022					
16	1/16/2022	2022					
17	1/17/2022	2022					
18	1/18/2022	2022	1	January	winter	From 11 to 20	
19	1/19/2022	2022	1	January	Winter	From 11 to 20	
20	1/20/2022	2022	1	January	Winter	From 11 to 20	
21	1/21/2022	2022	1	January	Winter	From 21 to month's end	

Remove Alternate Rows

Specify the pattern of rows to remove and keep.

First row to remove

Number of rows to remove

Number of rows to keep

OK

Cancel



	123 Subway NewYork	123 Subway NewYork percentage	ABC 123 Subway category	123 Buses NewYork	123 Buses NewYork percentage	ABC 123 Buses category
	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%	Valid 100% Error 0% Empty 0%
563	1604381	28	Low	1065601	46	Low
564	1678078	29	Low	1091806	47	Low
565	1686909	29	Low	1097389	47	Low
566	1692368	29	Low	1094592	47	Low
567	1725443	30	Low	1083295	47	Low
568	1136947	35	Low	752437	54	Medium low
569	827605	33	Low	558863	51	Medium low
570	1624139	28	Low	1058256	46	Low
571	1698504	29	Low	1095678	47	Low
572	1735333	30	Low	1119904	48	Low
573	1722364	30	Low	1107707	48	Low
574	1761591	31	Low	1110956	48	Low
575	1120143	35	Low	755197	54	Medium low
576	846179	33	Low	576684	52	Medium low
577	1489240	26	Low	985185	42	Low
578	1661264	29	Low	1057135	46	Low
579	1740820	30	Low	1101663	47	Low
580	1809958	31	Low	1159859	51	Medium low
581	1790612	31	Low	1115793	49	Low
582	1168040	35	Low	777674	56	Medium low
583	852830	35	Low	570608	57	Medium low
584	1678792	29	Low	1102675	49	Low
585	1758454	31	Low	1137217	50	Low
586	1770617	31	Low	1123231	50	Low

Questions

What is the overall trend in total estimated ridership across all MTA services over the given time period?

Which mode of transportation has shown the strongest & weakest percentage recovery compared to its pre-pandemic levels?







Overview

Buses & Subway

Traffic

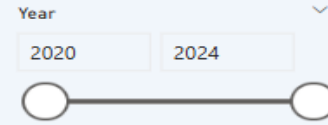
Metro North &
Long RR

keep balance

Best Vehicles

Least Vehicles

6.43bn
Raidership



1.50bn
Traffic

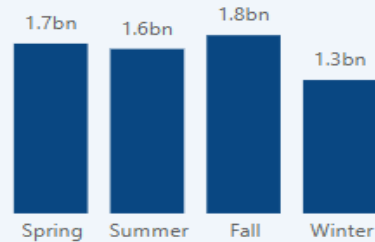
Raidership Recovery percentage



Traffic recovery percentage comparison



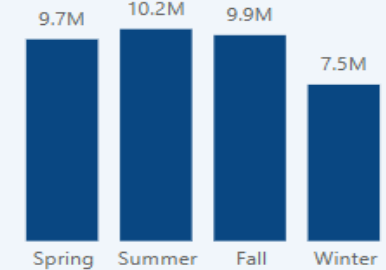
Total Raidership by Season



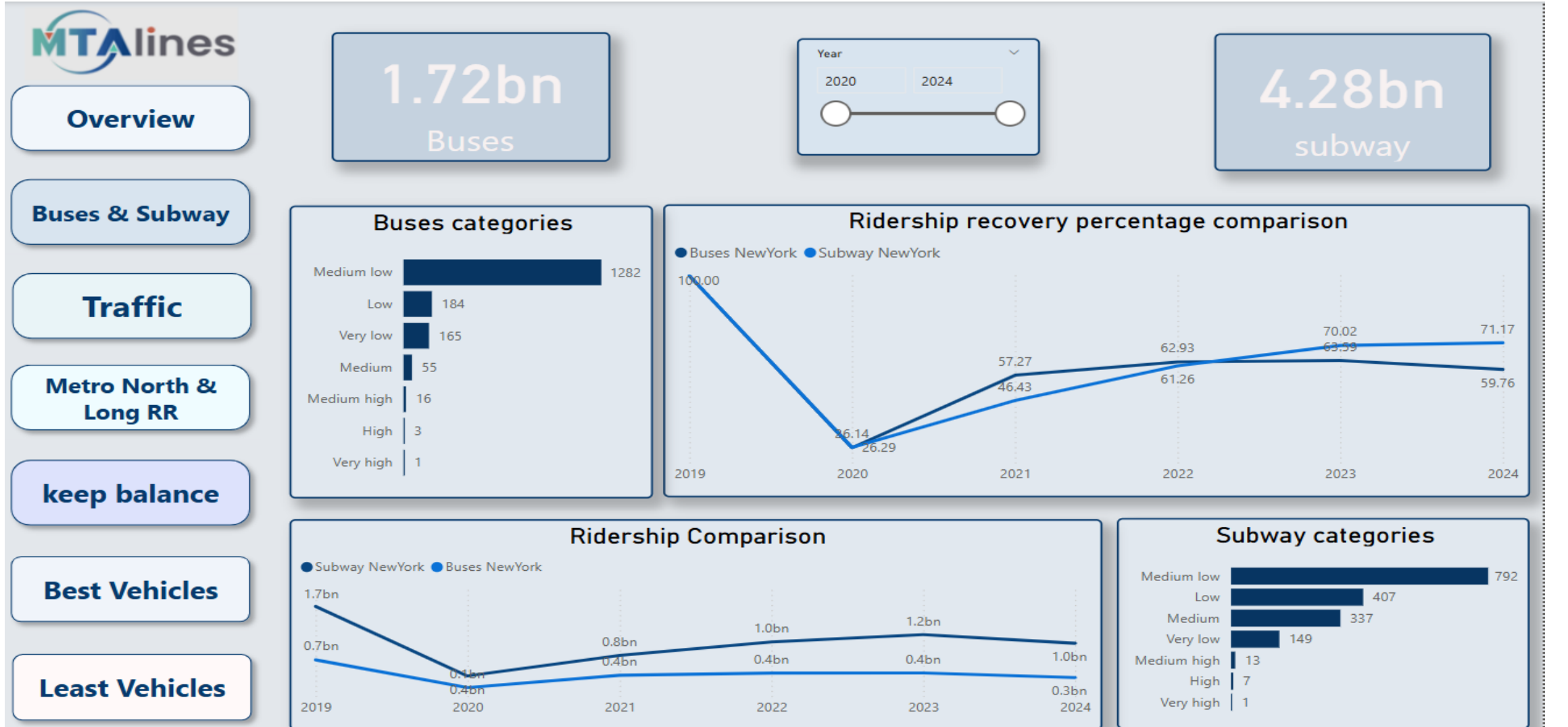
Sum of Total Raidership by Year



AAR by Season



Buses & Subways



Traffic



Overview

Buses & Subway

Traffic

Metro North &
Long RR

keep balance

Best Vehicles

Least Vehicles

1.46bn

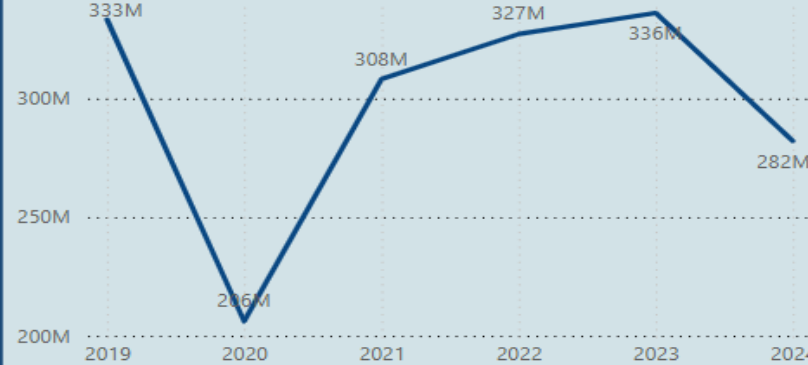
Bridges & Tunnels

Year

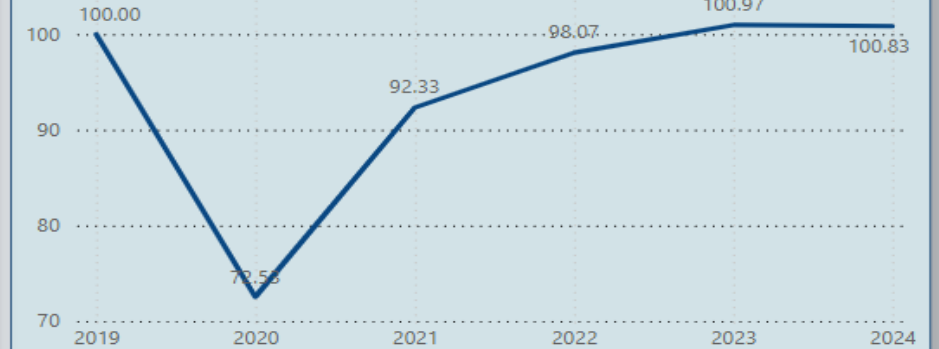
2020

2024

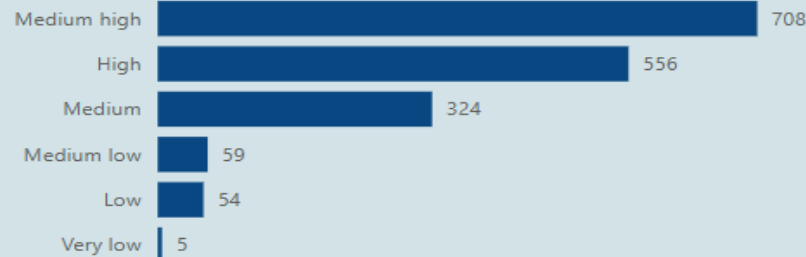
Traffic In Bridges & Tunnels



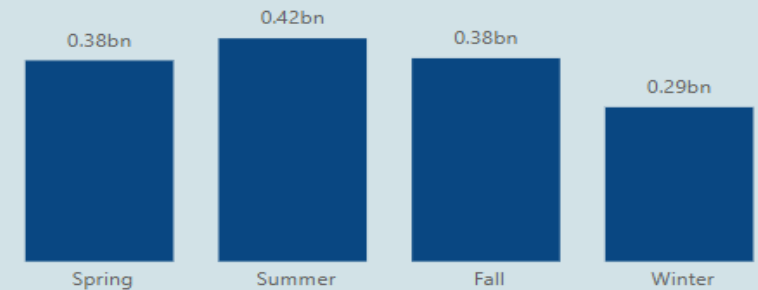
Traffic recovery percentage comparson



Traffic category



Total traffic by Season



Metro North & Long island



Overview

Buses & Subway

Traffic

Metro North &
Long RR

keep balance

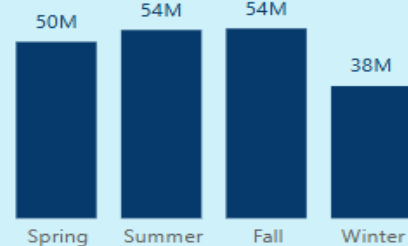
Best Vehicles

Least Vehicles

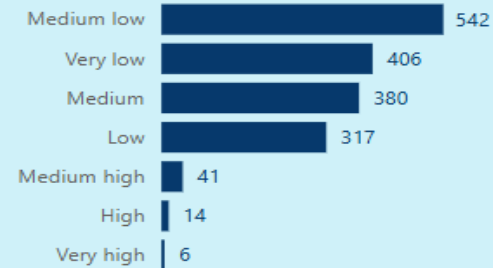
196M

Metro North

Metro North Raidership by Season



Metro North categories



Year

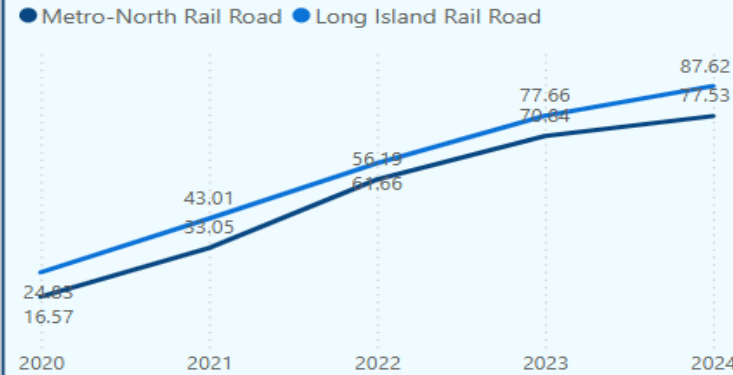
2020

2024

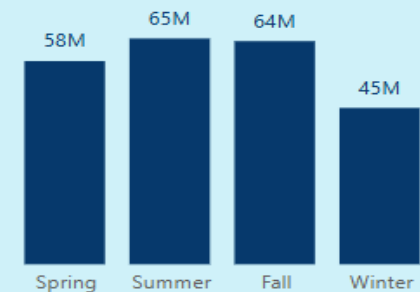
232M

Long Island

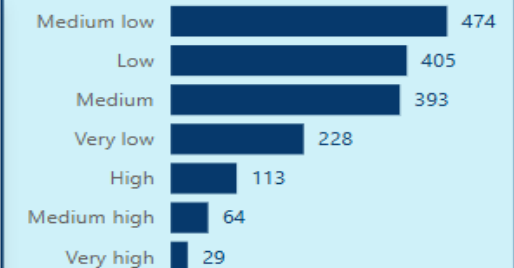
Ridership recovery percentage comparison



LIRR traffic by Season



LIRR categories



Ridership Comparison





Overview

Buses & Subway

Traffic

Metro North & Long RR

keep balance

Best Vehicles

Least Vehicles

93.38

Average Percentage in Traffic

Year, Month Nam...

✓ ☐ 2020

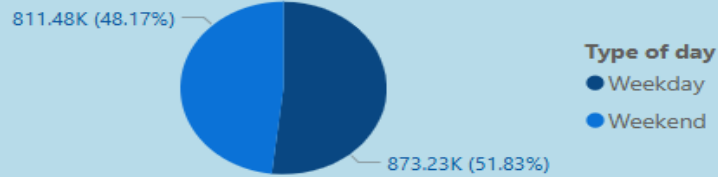
✓ ☐ 2021

✓ ☐ 2022

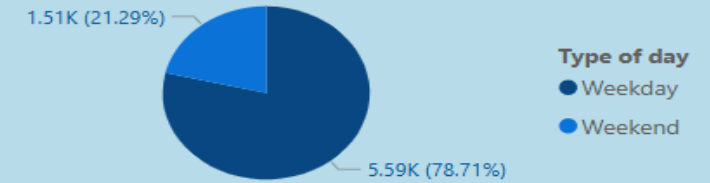
38

Average percentage in Staten Island

Average Traffic in Bridges and Tunnels in Weekdays & Weekend

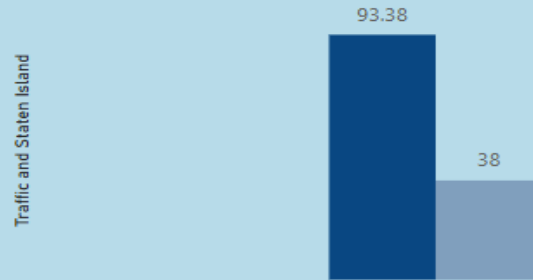


Average Staten Island Railway in Weekdays & Weekend



Traffic in Bridges and Tunnels vs. Staten Island Railway percentage Comparison

● Traffic ● Staten Island



Avg Day	Year	Quarter	Month	Day	Avg AAR percentage	Avg
1	2021	Qtr 1	January	1	44.00	
2	2021	Qtr 1	January	2	72.00	
3	2021	Qtr 1	January	3	72.00	
4	2021	Qtr 1	January	4	73.00	
5	2021	Qtr 1	January	5	76.00	
6	2021	Qtr 1	January	6	81.00	
7	2021	Qtr 1	January	7	76.00	
8	2021	Qtr 1	January	8	76.00	
9	2021	Qtr 1	January	9	83.00	
16					86.17	

Best Vehicles



Overview

855.60K

Average of Traffic

1.01M

Average of Buses

2.51M

Average of Subway

Buses & Subway

Traffic

Metro North & Long RR

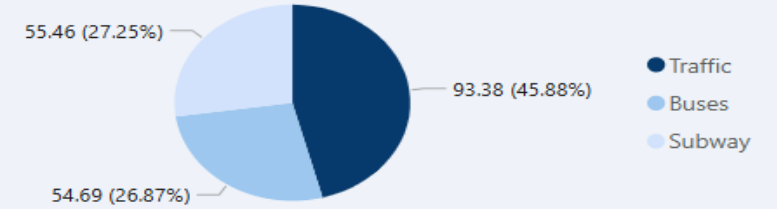
keep balance

Best Vehicles

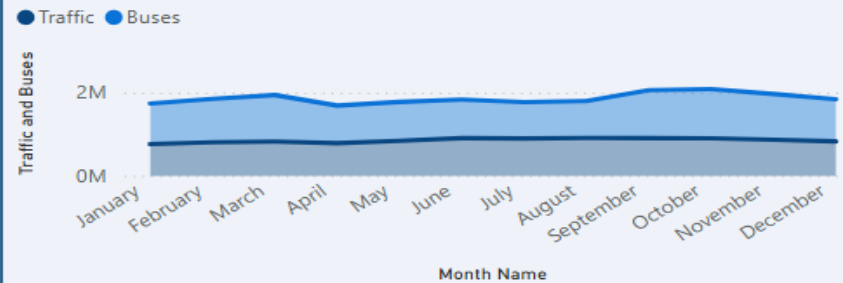
Least Vehicles

Month	Avg of Access-A-Ride	Avg of Buses NewYork	Avg of Long Island
October	24,387	1182687.46	
September	23,578	1154289.09	
March	22,475	1120743.12	
November	21,804	1101097.48	
Total	21,942	1006868.09	

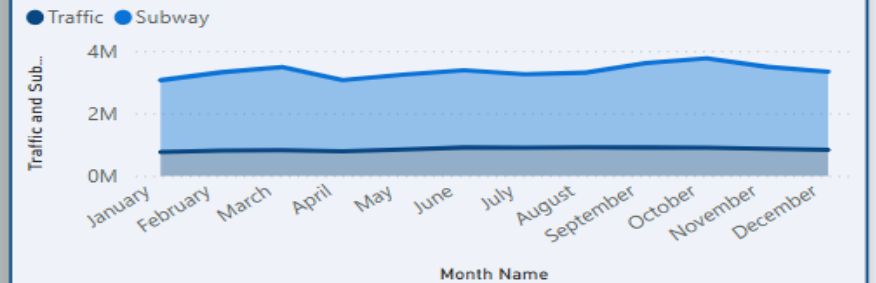
Average percentage of Traffic, Buses NewYork, & Subway NewYork



Average of Traffic in Bridges and Tunnels & Buses NewYork by Month



Average of Traffic in B&T, & Subway NewYork by Month



Least Vehicles



Overview

Buses & Subway

Traffic

Metro North & Long RR

keep balance

Best Vehicles

Least Vehicles

38

Average of Staten Island percentage

Year, Month Name

✓ ☐ 2020

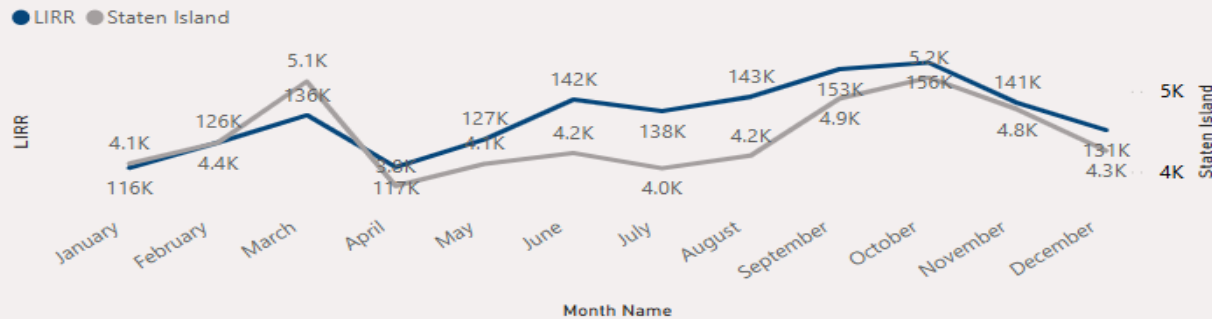
✓ ☐ 2021

✓ ☐ 2022

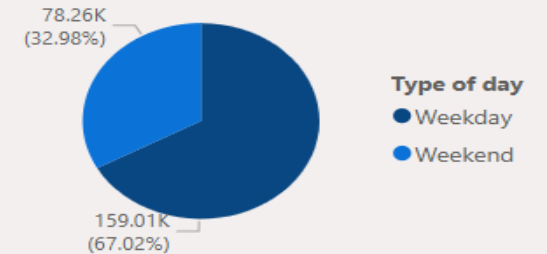
55.46

Average of Subway percentage

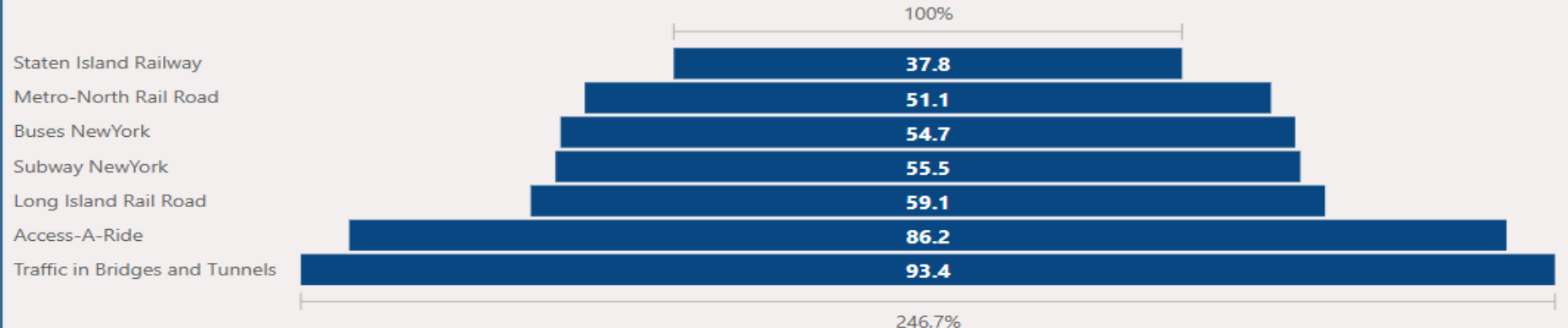
Average of Long Island Rail Road & Staten Island Railway by Month



Average of Long Island Rail Road in Weekdays & Weekend








Average percentage for all services










Insights

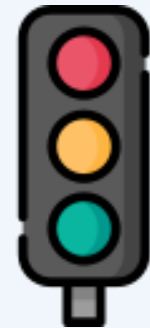
-  All services had a sharp drop in 2020, the Subway bounced back with a stronger and more stable upward curve, especially noticeable in 2023 and 2024.
-  The highest month in total ridership across all years is October.
-  There is a day in November across all years in ridership exceeded 100% of recovery.
-  All ridership services didn't exceed recovery percentage (75%).
-  The highest season in ridership is Fall & the lowest is Winter.



- 🚌 Buses still drop to August 2020 and exceeded subway but after December 2022 subway exceeded buses due to his consistency.
- 🚗 There is a similar pattern between Metro North and Long island are clearly synchronized, suggesting that common external factors influence both services similarly.
- ✅ Most Bus and Subway records fall under the "Medium Low" category and Very few records for either service reached "High" or "Very High".
- 🏆 Buses is the highest total
- 📉 Staten island is the lowest total & recovery.



-  The overall traffic has steadily recovered to pre-pandemic levels, that traffic slightly increased about 3% & AAR about 25%.
-  Traffic in bridges & tunnels are the strongest recovery.
-  Traffic volumes are most concentrated in the “Medium-High” and “High” categories
-  A consistent annual dip in traffic volume is observed every February
-  Summer sees the highest total traffic while winter records the lowest.





Deploy additional **station staff, cleaners, and customer service personnel** during October to manage crowd flow and maintain service quality.



Leverage October's high ridership for **awareness campaigns**, such as promoting safety, new services, or fare programs.



Boost awareness and possibly incentives during January & February to counter the predictable drop. Schedule planned maintenance or cost-saving adjustments in January & February, when traffic naturally dips.



In buses, expanding the routes that see a high demand and improving the number of flights while reducing the waiting time.

Recommendations



**Any
Question**



***Thank
You***