

**Massachusetts Bay
Transportation Authority**

Safety Data Analysis Report

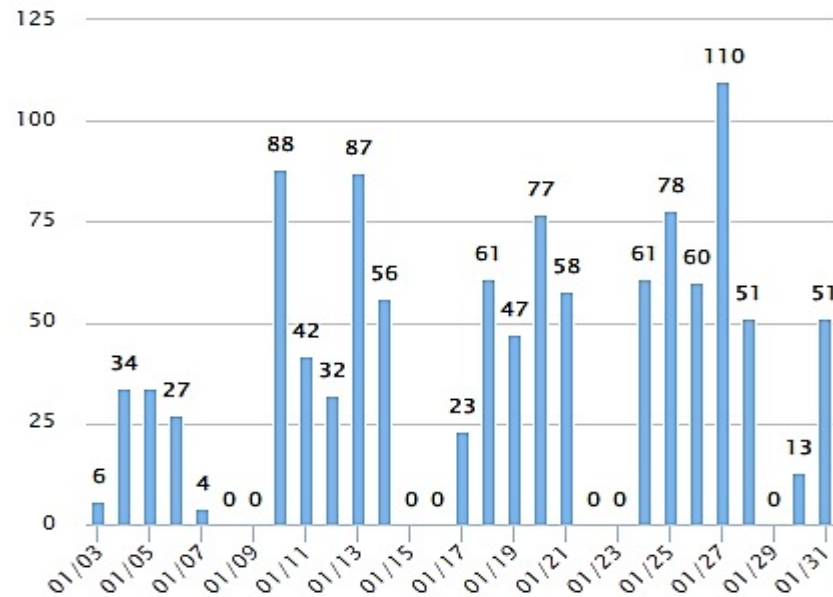
January 2022

Matthew DeDonato
Deputy Director Safety Oversight and Planning

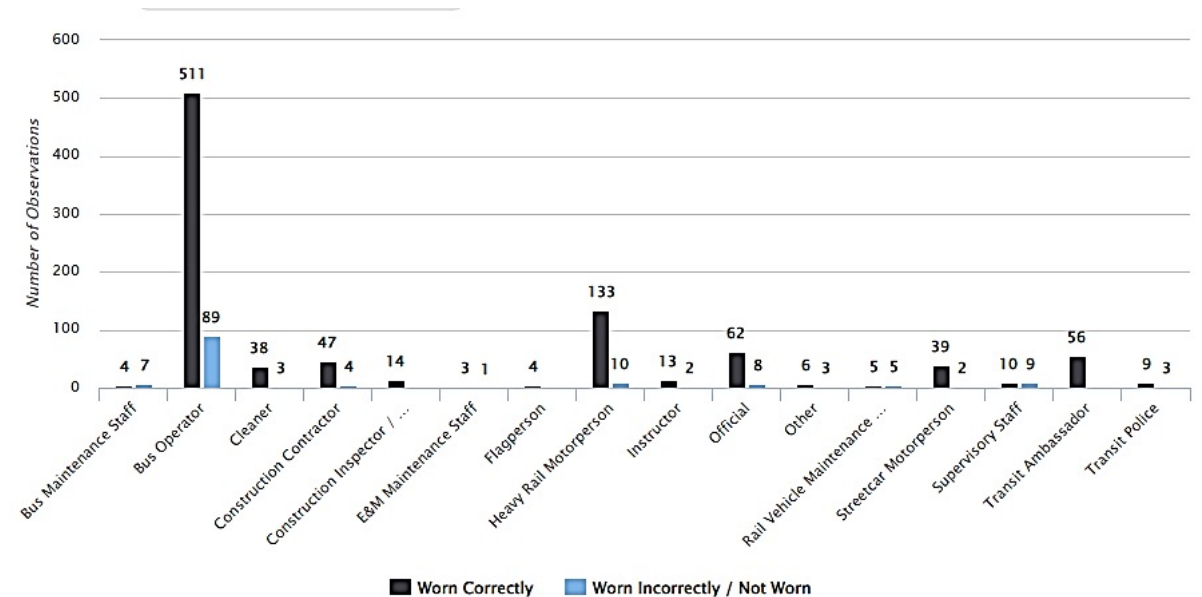
COVID-19

Face Covering Observations

TOTAL OBSERVATIONS BY DAY



TOTAL FACE COVERING USE BY JOB CLASSIFICATION



In January, there were 1,100 observations with approximately 86.73% compliant, 11.73% not in compliance, and 1.55% in possession of a face covering but not wearing it appropriately or in accordance with the policy.

The most commonly observed groups during this period were Bus Operators (54.55%), Heavy Rail Motorperson (13.00%), and Officials (6.36%).

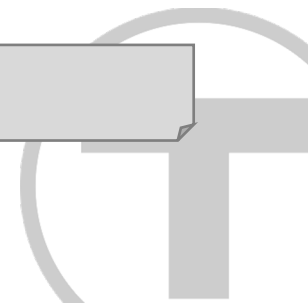


BUS

SAFETY PERFORMANCE INDICATORS

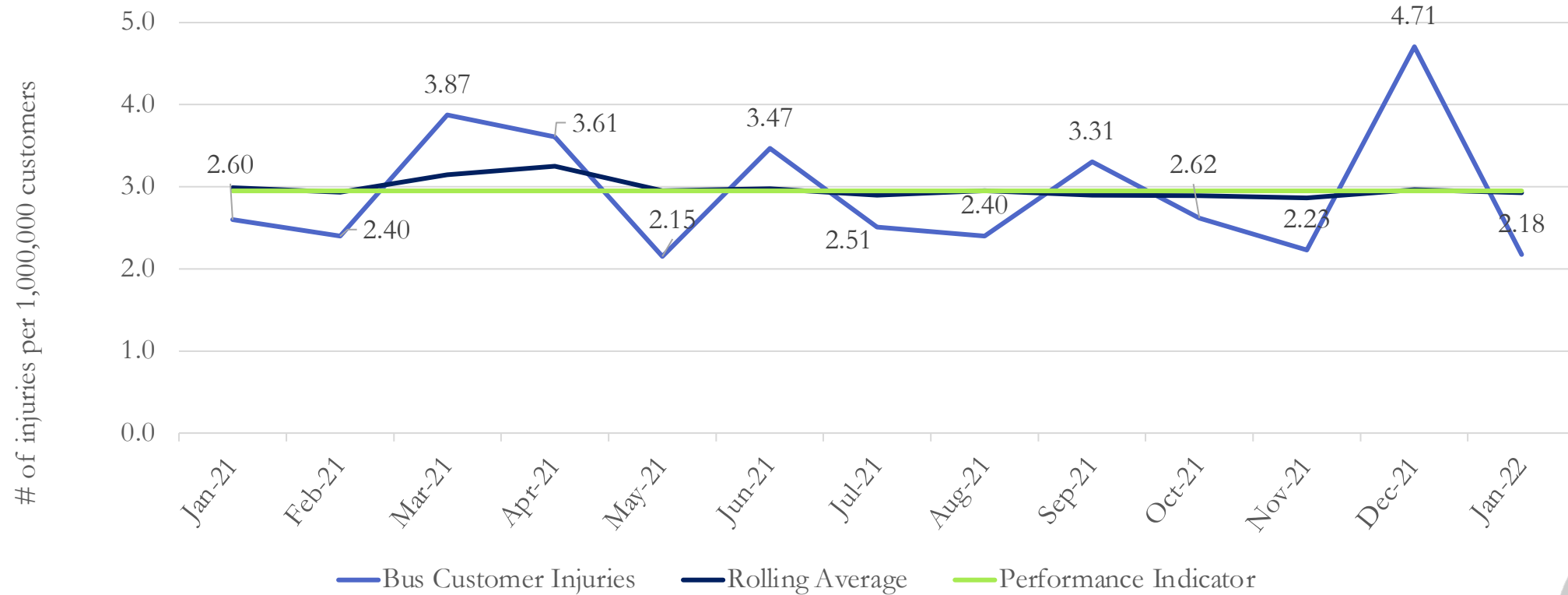
Bus - Safety Performance Indicators																			
Bus	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	2.95	2.58	2.37	3.83	3.56	2.14	3.44	2.51	2.40	3.31	2.62	2.23	4.71	2.95	2.99	2.93	2.18	2.93	2.18
Collisions - Rate per million revenue miles	85.63	47.49	53.28	49.22	54.78	61.90	64.39	57.64	59.18	73.02	60.37	58.27	64.44	85.63	58.60	57.42	74.58	57.42	74.58
with Vehicle - Rate per million revenue miles	N/A	32.65	43.05	31.97	44.10	47.72	49.06	43.60	46.29	59.16	48.00	47.53	48.59	N/A	45.08	44.18	59.66	44.18	59.66
with Object - Rate per million revenue miles	N/A	11.38	5.92	14.21	6.50	10.39	10.73	11.53	8.59	9.59	9.40	9.71	11.25	N/A	9.93	9.73	11.72	9.73	11.72
with Person - Rate per million revenue miles	N/A	0.49	1.08	1.01	1.39	2.83	1.53	0.50	3.34	1.07	2.47	1.02	1.53	N/A	1.54	1.51	0.53	1.51	0.53
with T Vehicle - Rate per million revenue miles	N/A	2.97	3.23	2.03	2.79	0.94	3.07	2.00	0.95	3.20	0.49	0.00	3.07	N/A	2.04	2.00	2.66	2.00	2.66
Reportable Smoke/Fire Incidents	1	0	0	1	0	3	0	3	2	1	1	3	2	15	16	1	1	15	1
Mean Miles between Mechanical Failures	18,000	30,160	24,817	32,886	29,916	34,707	32,075	32,018	23,284	29,301	26,073	22,281	31,775	18,000	28,638	18,000	18,531	18,000	18,531

In January 2022, bus ridership was at approximately 56% of the 2019 ridership.



BUS

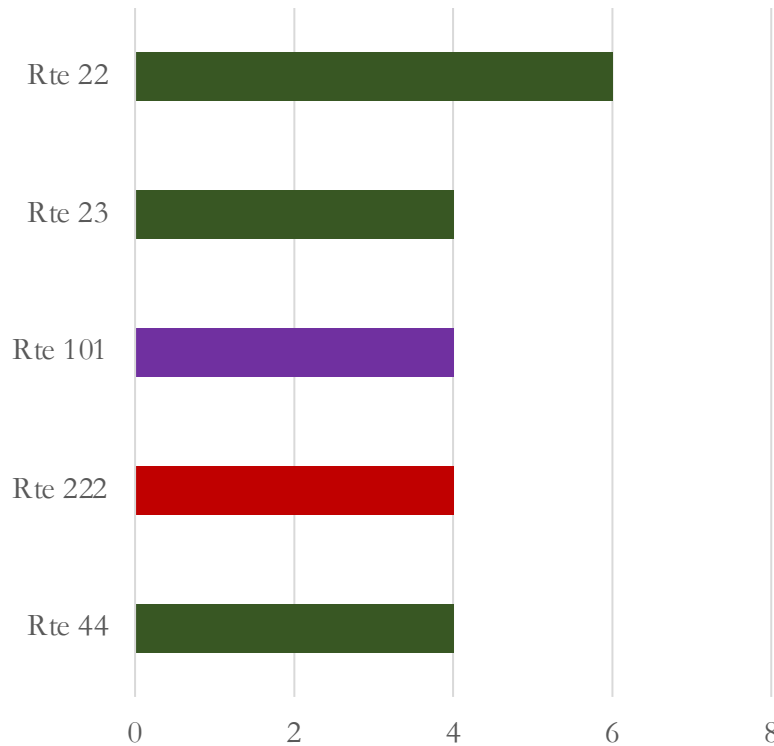
CUSTOMER INJURIES PER 1,000,000 CUSTOMERS, PAST 13 MONTHS



BUS

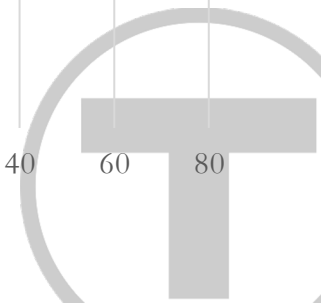
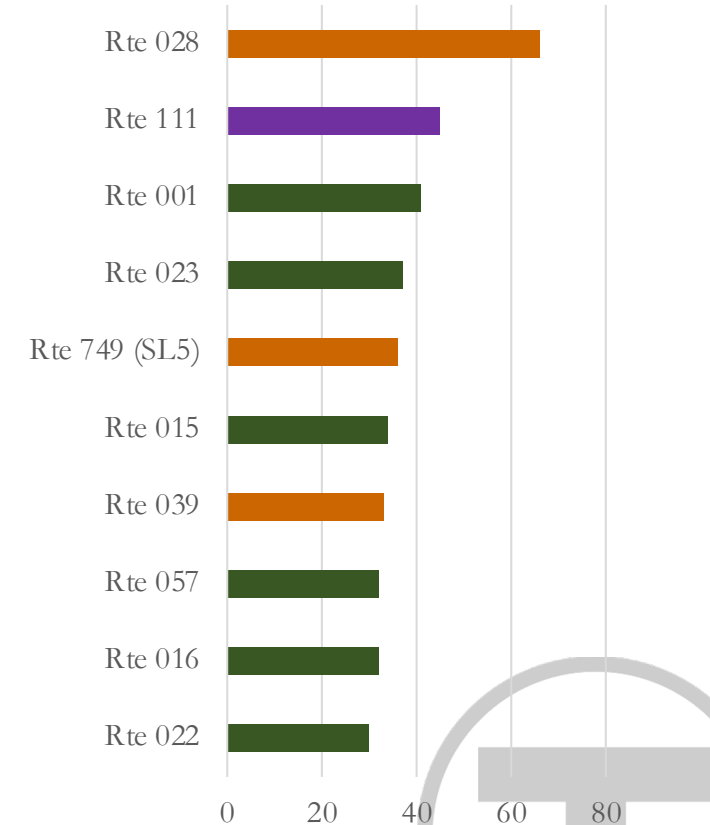
Collision Breakdown

Top 5 Routes with Highest # of Collisions



Route	Description
22	Ashmont Station to Ruggles Station via Talbot Ave
23	Ashmont Station to Ruggles Station via Washington Street
101	Malden Center Station to Sullivan Square Station
222	East Weymouth to Quincy Center Station
44	Jackson Square Station to Ruggles Station

Top 10 Routes with Highest # of Collisions Past 12 Months



RAIL

SAFETY PERFORMANCE INDICATORS - Heavy Rail

Heavy Rail - Safety Performance Indicators																			
Heavy Rail	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Mainline Revenue Train Derailments	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
Mean Miles between Mechanical Failures	47,000	40,324	51,666	76,206	55,634	41,955	47,064	48,344	51,118	40,399	29,975	39,987	42,484	47,000	44,617	47,500	26,193	47,500	26,193

Orange Line	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	2.99	3.97	5.75	3.44	2.61	2.26	3.53	2.78	2.20	1.52	4.95	3.09	2.53	2.99	3.12	3.06	1.58	3.06	1.58
Collisions - Rate per million revenue miles	0.77	1.92	2.09	3.07	5.32	4.28	2.25	0.00	3.54	2.01	2.12	0.00	2.13	0.77	2.32	2.27	0.00	2.27	0.00
Reportable Smoke/Fire Incidents	5	1	2	3	4	6	2	3	1	2	0	3	2	56	29	2	1	28	1
Red Line	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	4.36	5.33	7.78	5.62	4.67	2.08	2.26	2.45	2.33	1.98	1.79	3.55	1.89	4.36	3.05	3.01	6.22	3.01	6.22
Collisions - Rate per million revenue miles	0.48	0.00	2.08	0.00	1.10	0.00	2.14	1.89	0.00	0.00	0.00	2.85	0.91	0.48	0.90	0.88	1.88	0.88	1.88
Reportable Smoke/Fire Incidents	5	5	12	10	6	4	9	2	6	3	5	4	5	63	71	5	6	70	6
Blue Line	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	1.02	0.00	5.42	0.00	0.00	1.23	0.00	0.00	0.00	0.00	2.65	1.07	3.52	1.02	1.07	1.05	4.02	1.05	4.02
Collisions - Rate per million revenue miles	0.21	0.00	3.13	0.00	0.00	3.06	0.00	0.00	2.74	0.00	0.00	0.00	0.00	0.21	0.73	0.72	6.03	0.72	6.03
Reportable Smoke/Fire Incidents	1	3	2	2	0	1	1	1	0	0	0	0	1	6	11	1	0	11	0

In January 2022, heavy rail ridership was at approximately 37% of the ridership compared to 2019.



RAIL

SAFETY PERFORMANCE INDICATORS – Light Rail

Light Rail - Safety Performance Indicators																			
Light Rail	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Mainline Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Mean Miles between Mechanical Failures	7,000	9,719	7,830	9,511	12,202	7,814	7,280	5,721	6,077	7,308	7,516	8,393	7,817	7,000	7,780	7,500	7,329	7,500	7,329
Green Line	2021 Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	4.23	6.10	6.04	5.88	1.61	1.60	2.00	14.37	1.60	1.69	1.60	1.55	1.56	4.23	3.53	3.48	2.16	3.48	2.16
Collisions - Rate per million revenue miles	6.65	7.85	4.81	2.28	0.00	5.30	2.48	9.43	4.67	2.19	2.10	4.14	7.98	6.65	4.53	4.44	6.27	4.44	6.27
Reportable Smoke/Fire Incidents	4	5	5	3	1	2	3	0	2	1	0	7	5	45	34	3	3	33	3

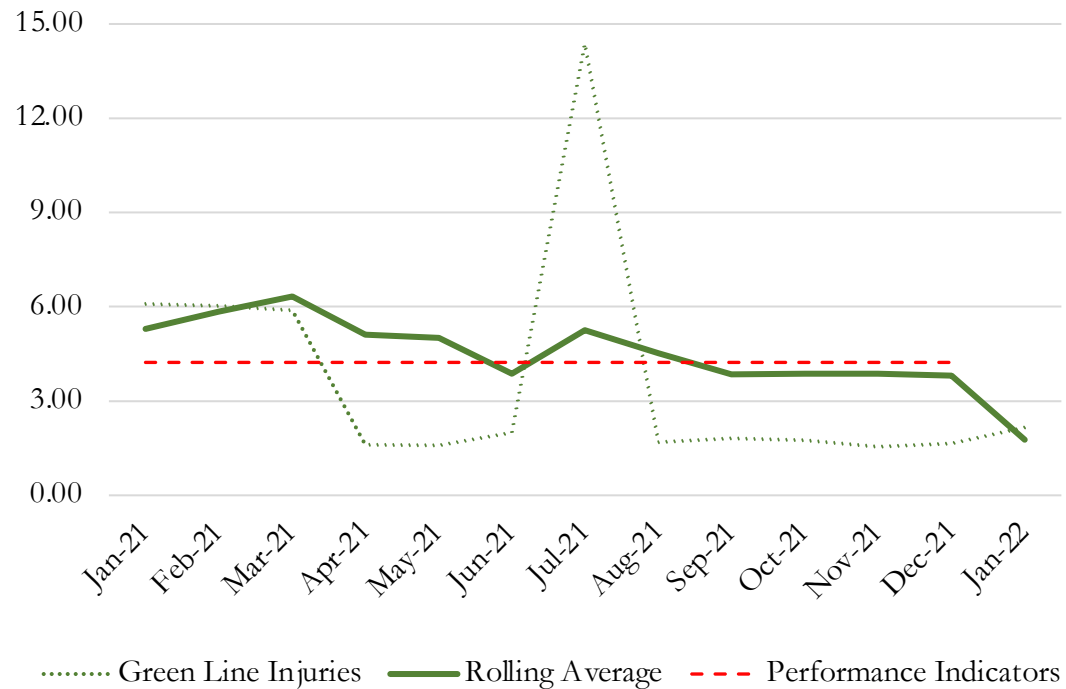
In January 2022, light rail ridership was at approximately 33% of the ridership compared to 2019.



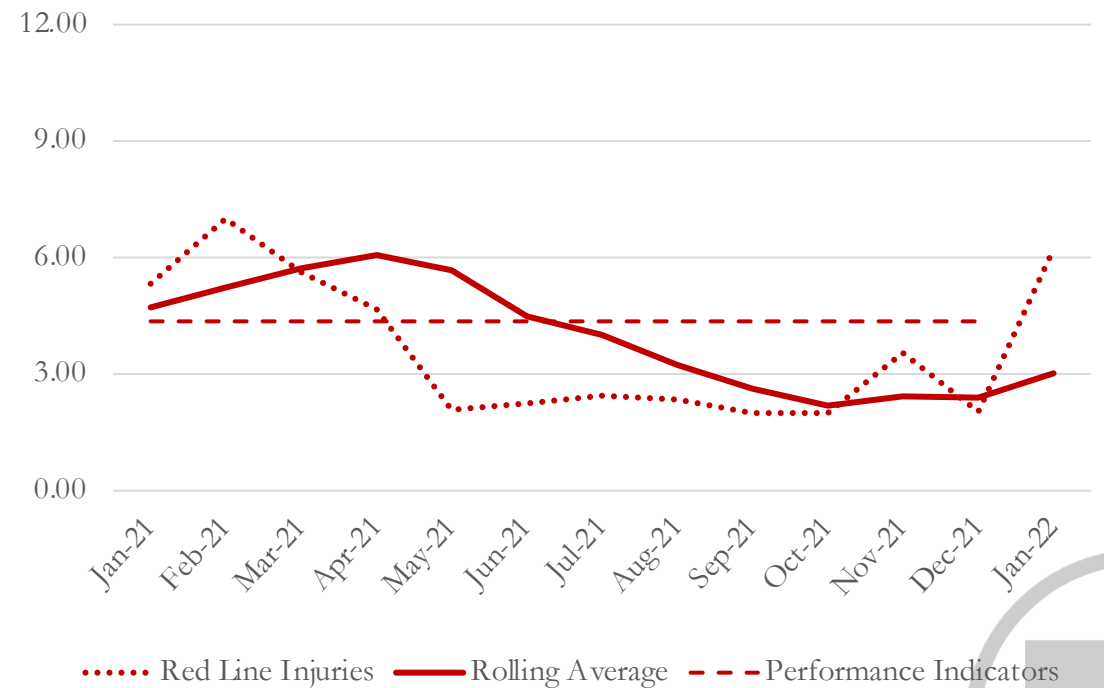
RAIL

CUSTOMER INJURIES per 1,000,000 Customers PAST 13 MONTHS

Green Line Customer Injuries per 1,000,000 Customers



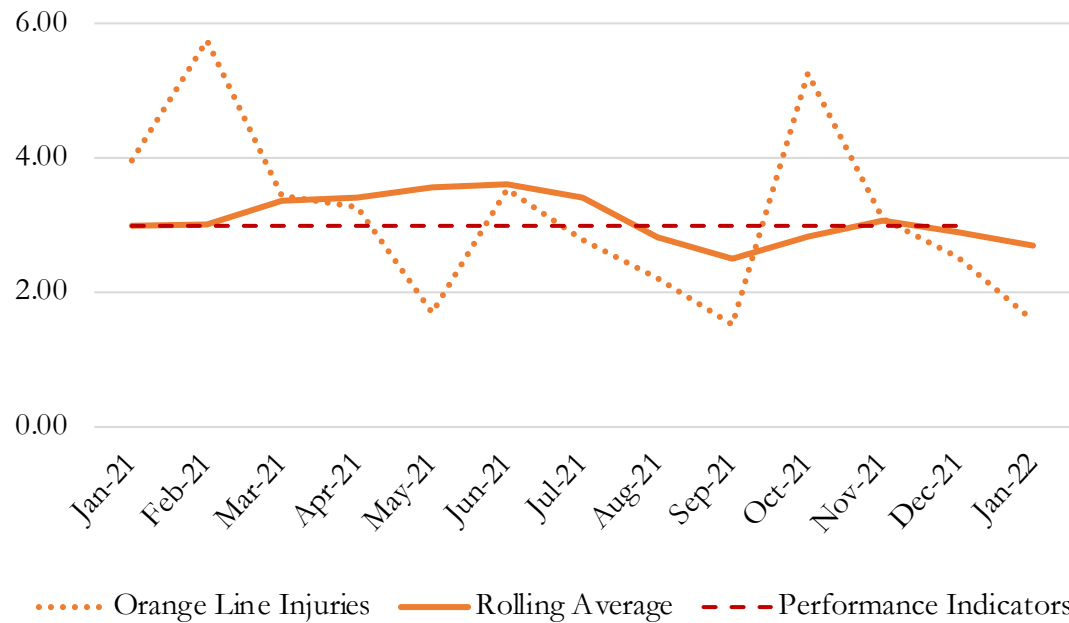
Red Line Customer Injuries per 1,000,000 Customers



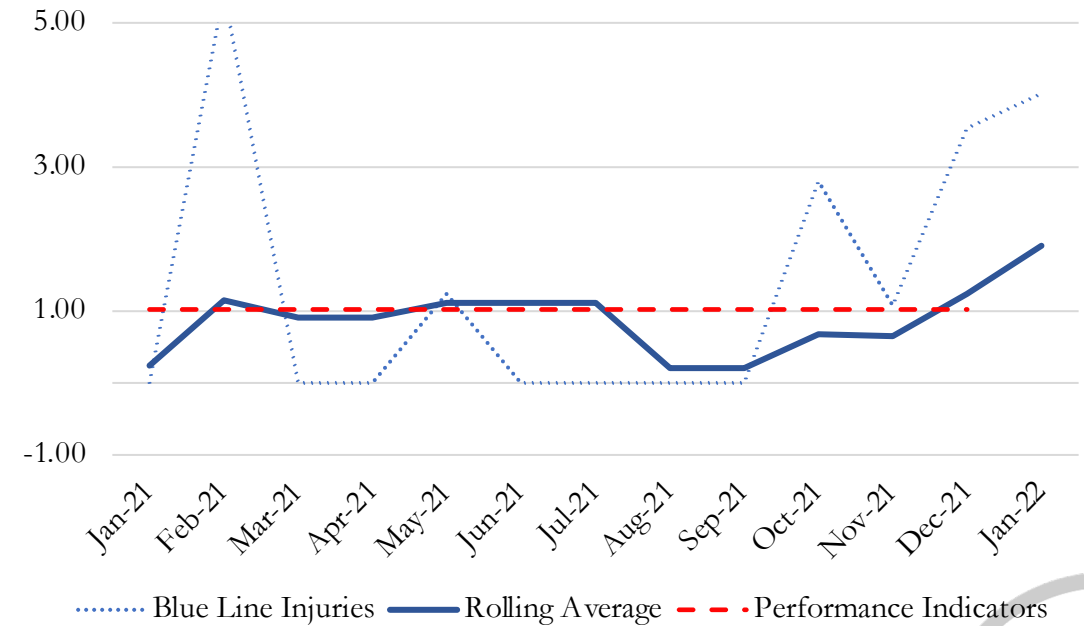
RAIL

CUSTOMER INJURIES per 1,000,000 Customers PAST 13 MONTHS CONT'D

Orange Line Customer Injuries per 1,000,000 Customers



Blue Line Customer Injuries per 1,000,000 Customers



FIRE/SMOKE

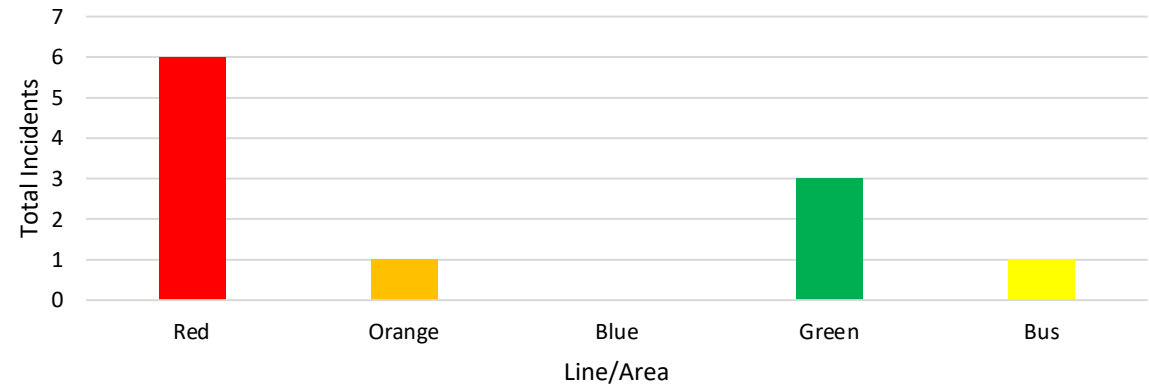
Code 1 Reportable Incidents

- fire/smoke with 1 or more injuries requiring transport
OR
- fire/smoke that requires suppression but not evacuation
OR
- fire/smoke with an evacuation onto the ROW

Code 1 Non-Reportable Incidents

- fire/smoke with **NO** injury transport, suppression or evacuation

TOTAL REPORTABLE INCIDENTS - January 2022



January Total Code 1: Fire/Smoke Incidents		
NTD Criteria	Non-Reportable	Reportable
Rail	18	10
Bus	11	1
January Total Incident	29	11
2021 Total Monthly Avg	17.7	12.8

January Total Reportable Incidents - AREA		
	Jan-22	Jan-21
Red	6	5
Orange	1	1
Blue	0	3
Green	3	5
Bus	1	0
TOTAL	11	14



SAFETY HOTLINE



Below are examples of MBTA Safety Hotline reports received and investigated in January 2022.

- 1/14/2022 – Caller reported that barriers were obstructing the walking path to the Cabot Bus Lobby, forcing operators to walk into the adjacent busway to access the door.

Complete - The barriers were determined to belong to contractors working in the yard. The contractors removed the barriers. Contractors were instructed not to place materials on or near doors or walkways.



- 1/20/2022 - Sub-contractor called in working at DP 39 in East Somerville. The concern was having to cross the 4 tracks several times per day and having to step over multiple rails every time.

Complete - GLX Safety had the contractor flood it with ballast to eliminate the need to step over rails.



- 1/28/2022 - The new ceiling vents in a Maintenance facility were not operational and preventing proper venting of vehicle exhaust.
Open - Engineering and Maintenance were able to priority the work and get 12 out of 13 fans operational as of 2/16/2022.



SAFETY INITIATIVES

Notable Safety Initiatives in January 2022

OSHA 300A Logs for 2021

The OHS Team, in collaboration with Worker's Compensation, prepared the OSHA 300A injury summary logs for the Authority. These logs summarize all the OSHA recordable and reportable injuries that occurred by area for calendar year 2021. These logs have been disseminated to the areas and must be posted for review from February 1 through April 30.

Utilizing the data collected for the OSHA 300 Logs, the MBTA was able to calculate a 2021 Recordable Injury Incident Rate of 7.4. The Bureau of Labor Statistics average Recordable Injury 2020 Rate for urban transit was 6.1. The 2021 average rate is pending publication.

OSHA's Form 300A (Rev. 01/2004)
Summary of Work-Related Injuries and Illnesses

Year: 2021
 U.S. Department of Labor
Occupational Safety and Health Administration
 Form OSHA 300-10 (12/19/21)

All establishments covered by Part 1904 must complete this Summary page, even if no injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the log. If you had no cases, write "0."

Employers, former employers, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 307 (if applicable). See 29 CFR 1904.25, in OSHA's Recordkeeping rule, for further details on the access procedures for these forms.

Number of Cases			
Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of lost workdays
(C)	(H)	(I)	(J)
0	415	0	39

Number of Days	
Total number of days away from work	Total number of days of job transfer or restriction
(K)	(L)
20,004	0
80	8.1

Injury and Illness Types			
Total number of cases			
(1)	(2)	(3)	(4)
Injury	435	Poisoning	0
Skin Disorder	0	Musculoskeletal	1
Respiratory Condition	2	All Other Illnesses	10

Establishment Information

Your establishment name: Manufacturers Rep Transportation Authority
 Street: 10 Park Plaza
 City: Dorset State: MA Zip: 02114
 Industry description (e.g., Manufacture of motor vehicles)
Wood Mill, Transit Operator
 Standard Industrial Classification (SIC), 4 digits (e.g., 380 3191)
 OR: North American Industry Classification (NAICS), 6 digits (e.g., 38212)
3 8 2 1 2

Employment Information

Annual average number of employees: 6,117
 Total hours worked by all employees last year: 12,200,000

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

[Signature] Chief Safety Officer
 Title: TSA
 Date: 1/20/2022

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.
Public reporting burden for this collection of information is estimated to average 58 minutes per response, including time to review the instructions, search existing data sources, gather the data, review and collect the data, review the collection of information, perform the collection of information, review and approve the collection of information, and send the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OSHA control number. If you have any comments about this collection of information, including suggestions for reducing this burden, contact the Department of Labor, OSHA Office of Statistics, Room 4, Mail, 390 Constitution Ave., NW, Washington, DC 20515. Send cover sheet instructions from the Office.



SAFETY INITIATIVES

SMS Fundamentals Course

Announced in April, the MBTA SMS Fundamentals Course, which is the baseline Safety Management System introduction for the MBTA Workforce has been released to all MBTA employees via the MassDOT LearningHub. The course objectives include defining SMS, reviewing SMS roles and responsibilities, identifying and reporting hazards, and how safety reports are managed. Below are the MBTA wide completion percentages and course completion by month.

