



**Massachusetts Bay
Transportation Authority**

Safety Data Analysis Report

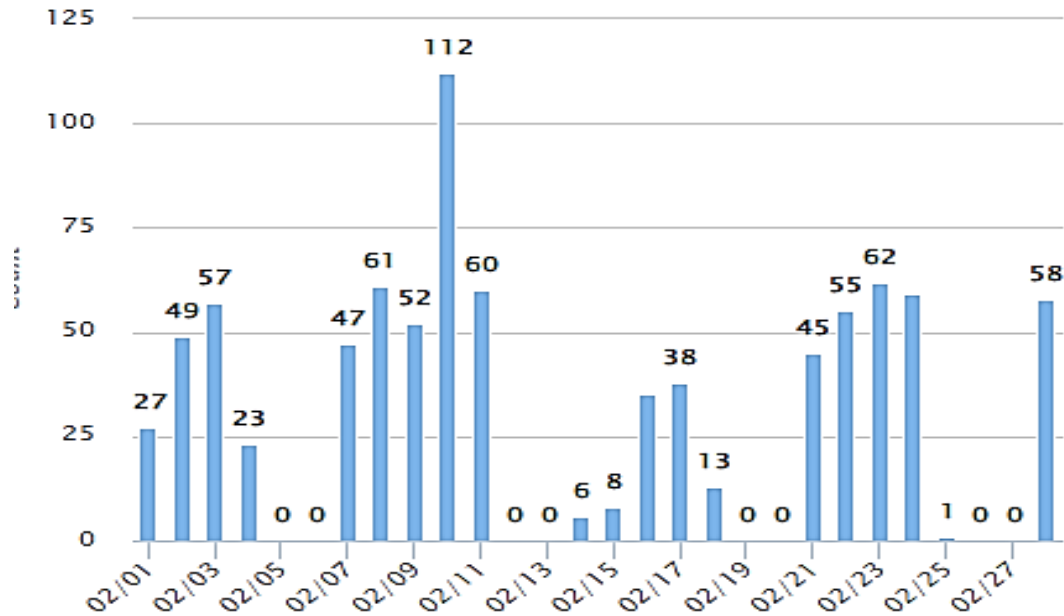
February 2022

Matthew DeDonato
Deputy Director Safety Oversight and Planning

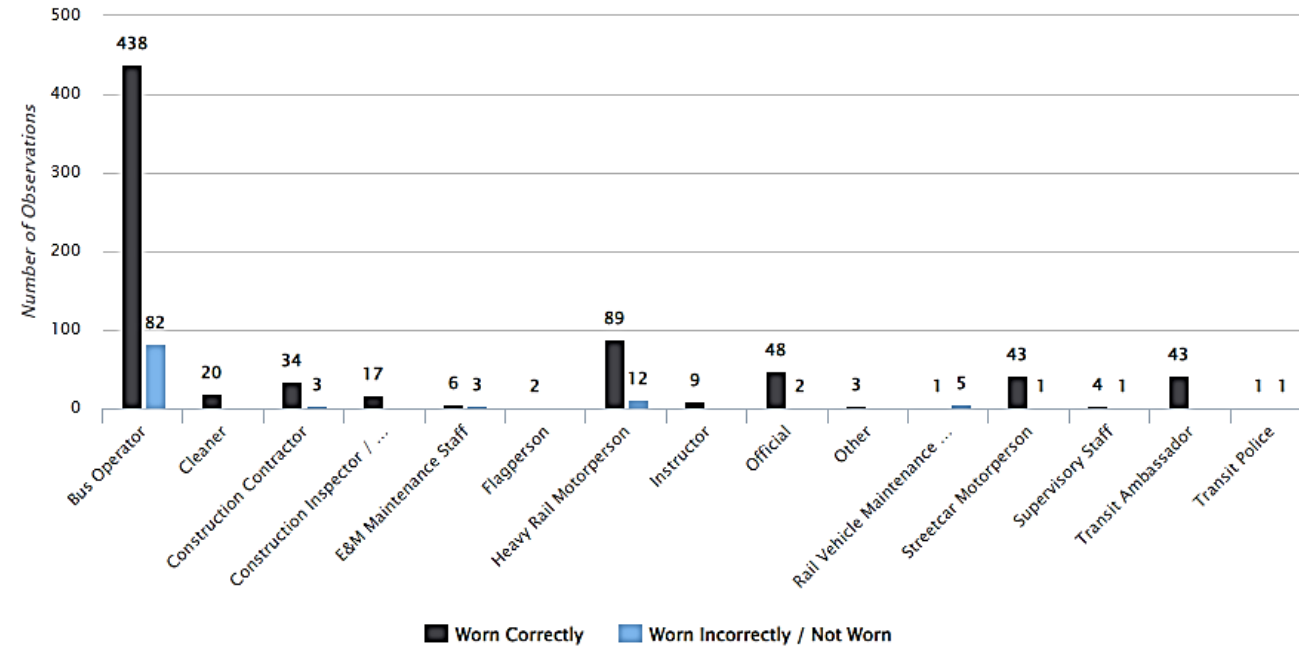
COVID-19

Face Covering Observations

TOTAL OBSERVATIONS BY DAY



TOTAL FACE COVERING USE BY JOB CLASSIFICATION



In February, there were 868 observations with approximately 87.33% compliant, 11.64% not in compliance, and 1.04% 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 (59.91%), Heavy Rail Motorperson (11.64%), and Officials (5.76%).

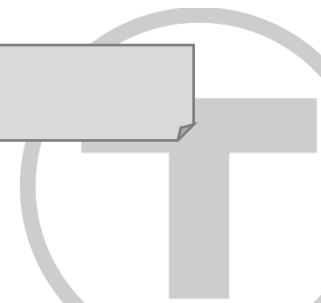


BUS

SAFETY PERFORMANCE INDICATORS

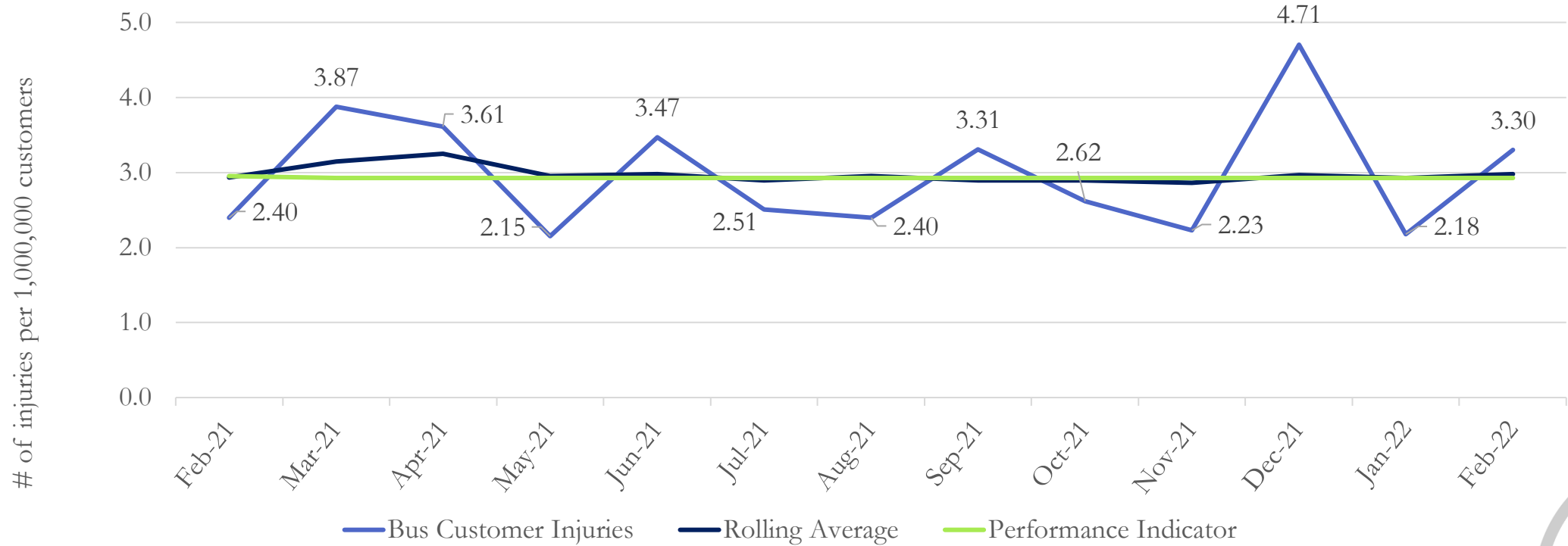
Bus - Safety Performance Indicators																			
Bus	2021 Monthly Target	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 Total	2022 Monthly Target	Jan-22	Feb-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	2.95	2.37	3.83	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	3.30	2.93	2.76
Collisions - Rate per million revenue miles	85.63	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	79.83	57.42	77.07
with Vehicle - Rate per million revenue miles	N/A	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	61.50	44.18	60.53
with Object - Rate per million revenue miles	N/A	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	14.78	9.73	13.17
with Person - Rate per million revenue miles	N/A	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	1.77	1.51	1.12
with T Vehicle - Rate per million revenue miles	N/A	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	1.77	2.00	2.24
Reportable Smoke/Fire Incidents	1	0	1	0	3	0	3	2	1	1	3	2	15	16	1	1	0	15	1
Mean Miles between Mechanical Failures	18,000	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	25,000	18,531	22,047	25,000	20,138

In February 2022, bus ridership was at approximately 64% of the 2019 ridership.



BUS

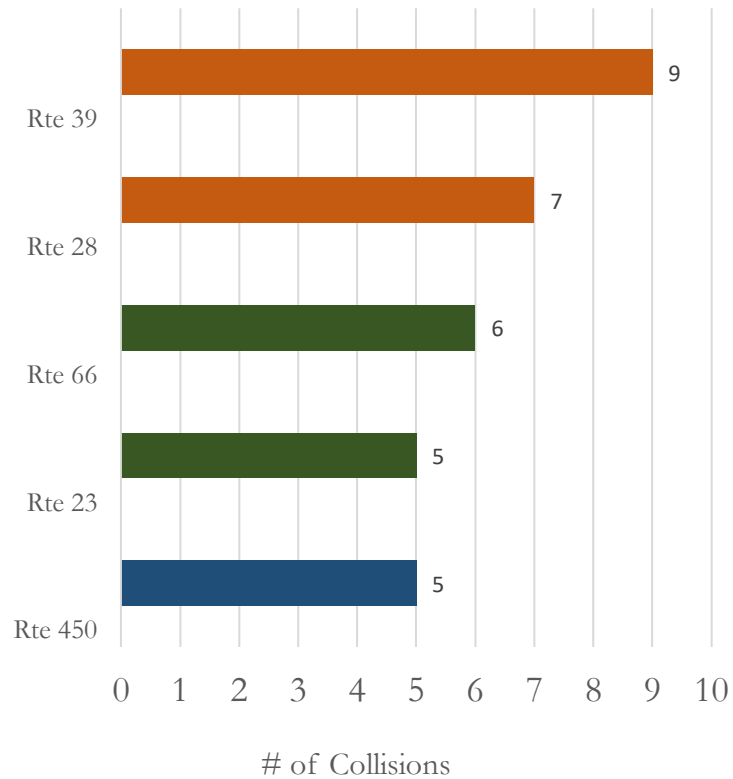
CUSTOMER INJURIES PER 1,000,000 CUSTOMERS, PAST 13 MONTHS



BUS

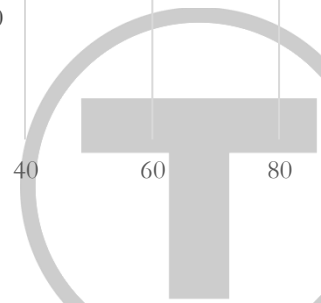
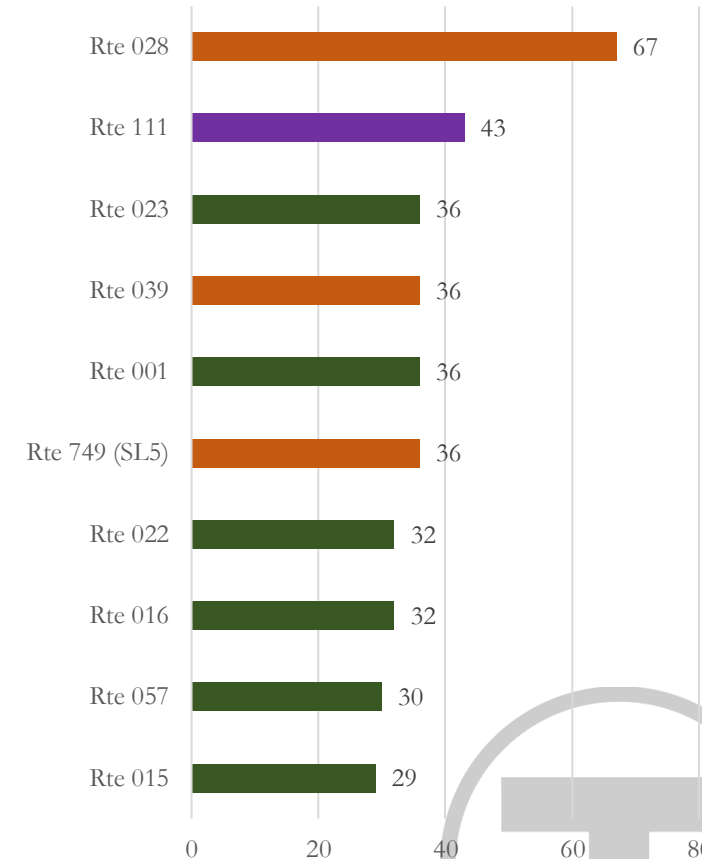
Collision Breakdown

Top 5 Routes with Highest # of Collisions



Route	Description
39	Forest Hills Station to Back Bay Station
28	Mattapan Station to Ruggles Station
66	Harvard Square to Nubian Station
23	Ashmont Station to Ruggles Station via Washington Street
450	Salem Depot to Haymarket Station

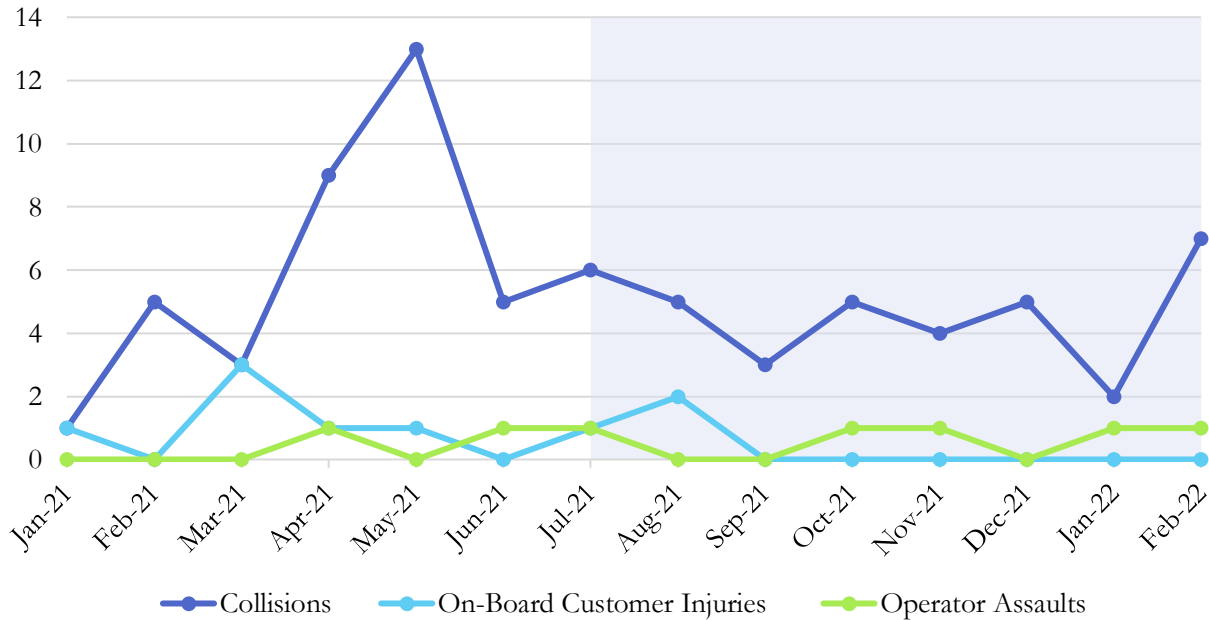
Top 10 Routes with Highest # of Collisions Past 12 Months



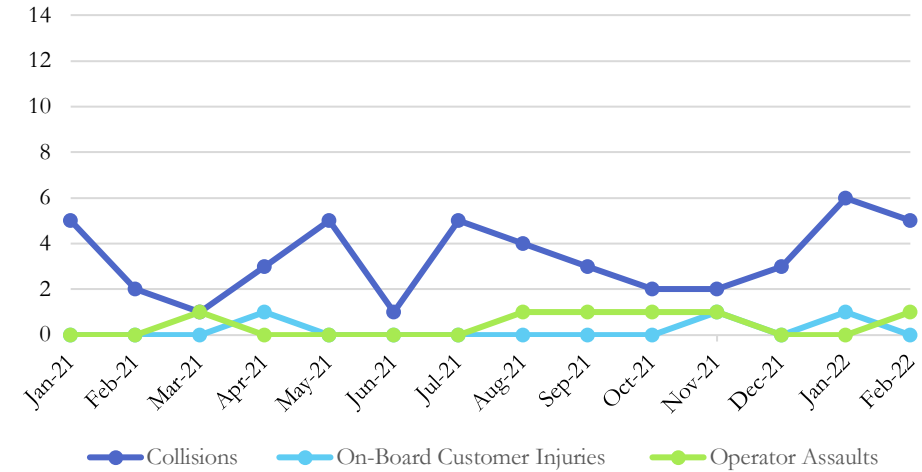
BUS

Free Bus Route Safety Incidents

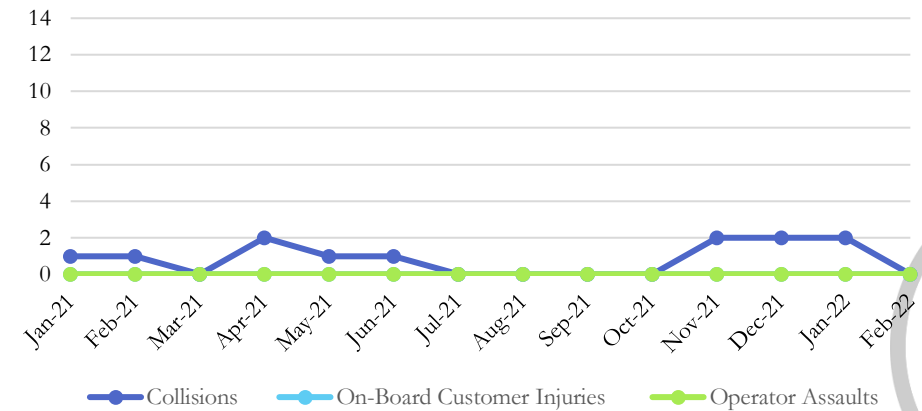
Route 28 Safety Incidents



Route 23 Safety Incidents



Route 29 Safety Incidents



RAIL

SAFETY PERFORMANCE INDICATORS - Heavy Rail

Heavy Rail - Safety Performance Indicators															2022	2022	2022	2022	2022
Heavy Rail	2021 Monthly Target	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	Monthly Target	Jan-22	Feb-22	2022 Target	2022 YTD
Mainline Revenue Train Derailments	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0
Mainline Non-Revenue Train Derailments	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
Mean Miles between Mechanical Failures	47,000	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	33,891	47,500	29,385

Orange Line	2021 Monthly Target	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	Feb-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	2.99	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	1.57	3.25	3.06	2.46
Collisions - Rate per million revenue miles	0.77	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	0.00	2.27	0.00
Reportable Smoke/Fire Incidents	5	2	3	4	6	2	3	1	2	0	3	2	56	29	2	1	5	28	6

Red Line	2021 Monthly Target	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	Feb-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	4.36	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	5.75	3.99	3.01	4.79
Collisions - Rate per million revenue miles	0.48	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	0.00	0.88	0.94
Reportable Smoke/Fire Incidents	5	12	10	6	4	9	2	6	3	5	4	5	63	71	5	6	11	70	17

Blue Line	2021 Monthly Target	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	Feb-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	1.02	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	3.88	0.00	1.05	1.87
Collisions - Rate per million revenue miles	0.21	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	0.00	0.72	3.09
Reportable Smoke/Fire Incidents	1	2	2	0	1	1	1	0	0	0	0	1	6	11	1	0	0	11	0

In February 2022, heavy rail ridership was at approximately 48% of the ridership compared to 2019.



RAIL

SAFETY PERFORMANCE INDICATORS – Light Rail

Light Rail - Safety Performance Indicators																2022	2022	2022	2022
Light Rail	2021 Monthly Target	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	Monthly Target	Jan-22	Feb-22	2022 Target	2022 YTD
Mainline Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Mean Miles between Mechanical Failures	7,000	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	5,311	7,500	6,206
Green Line	2021 Monthly Target	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	Feb-22	2022 Target	2022 YTD
Customer Injuries - Rate per million passenger trips	4.23	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	2.00	3.00	3.48	2.53
Collisions - Rate per million revenue miles	6.65	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	11.32	4.44	8.69
Reportable Smoke/Fire Incidents	4	5	3	1	2	3	0	2	1	0	7	5	45	34	3	3	8	33	11

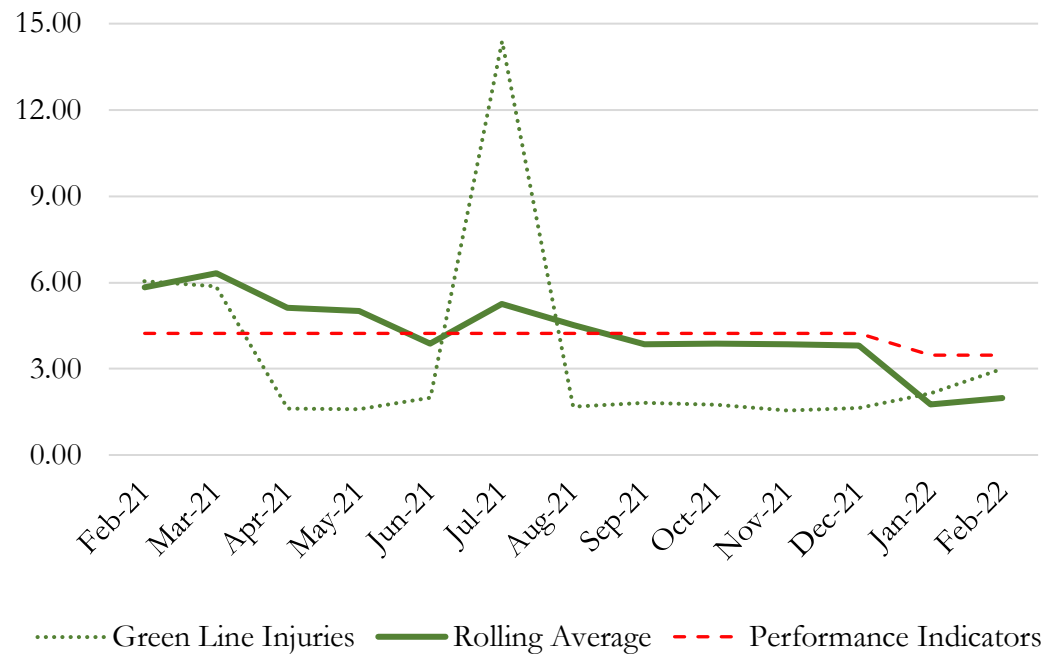
In February 2022, light rail ridership was at approximately 41% of the ridership compared to 2019.



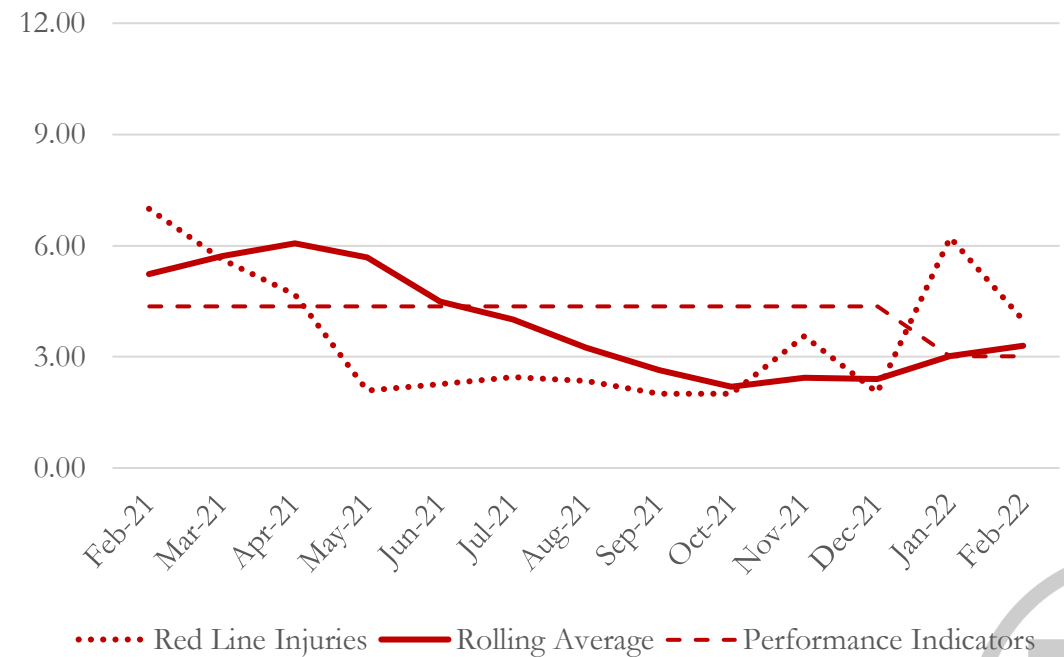
RAIL

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

Green Line Customer Injuries per 1,000,000 Customers



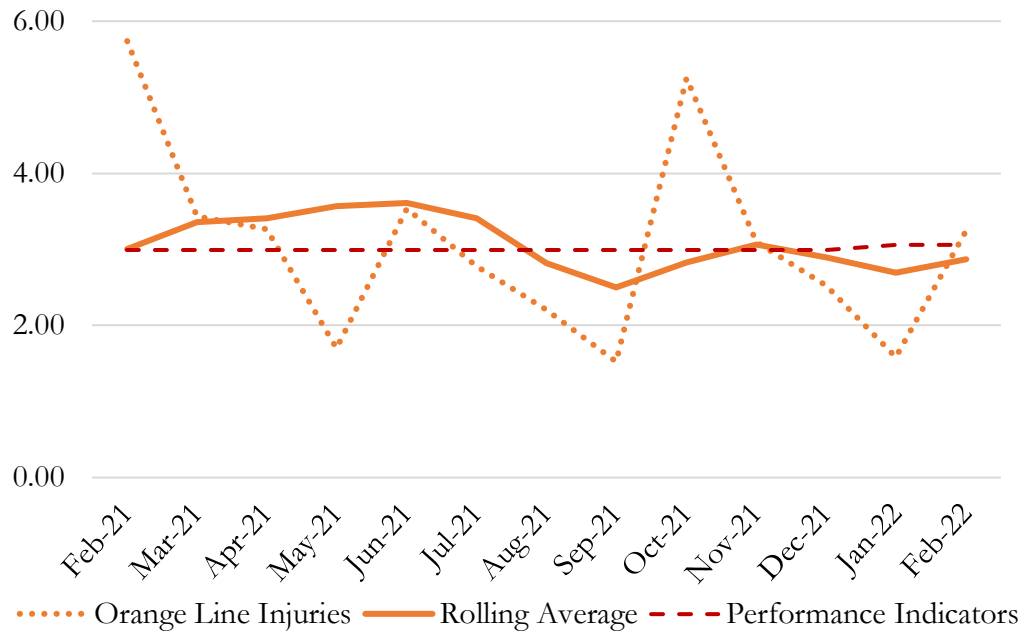
Red Line Customer Injuries per 1,000,000 Customers



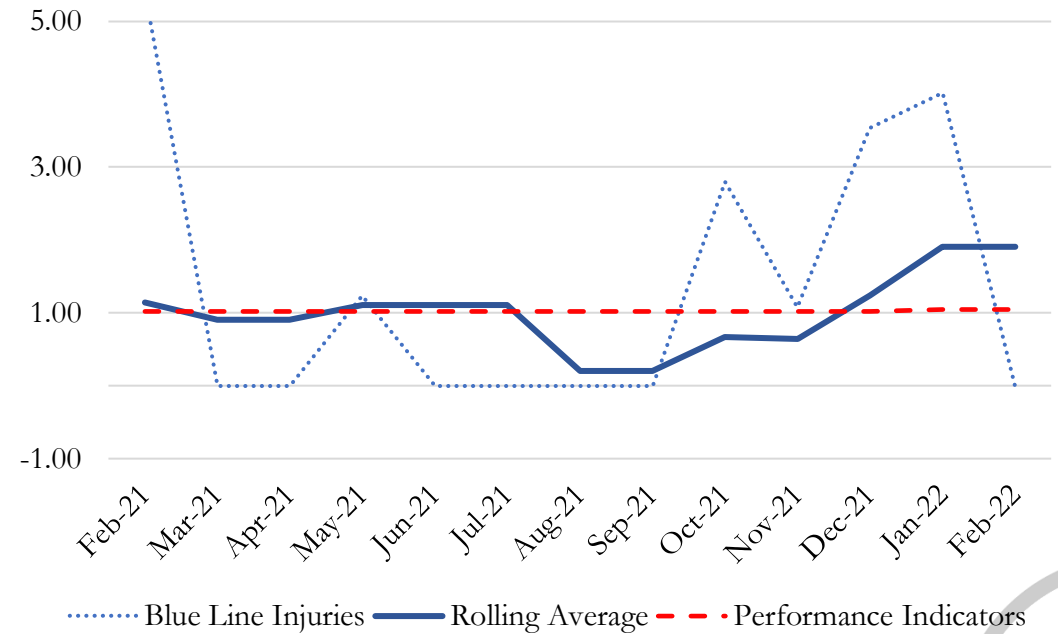
RAIL

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

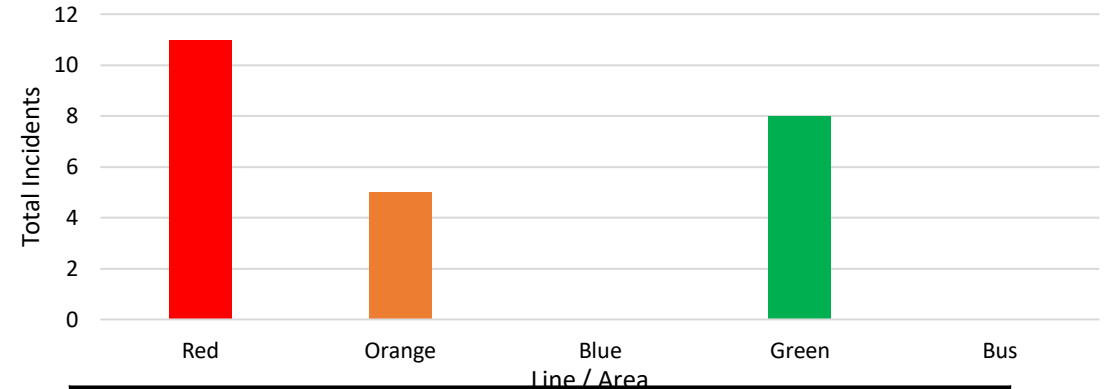
Code 1 Reportable Incidents

- 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 - February 2022



February Total Code 1: Fire/Smoke Incidents		
NTD Criteria	Non-Reportable	Reportable
Rail	16	24
Bus	21	0
February Total Incident	37	24
2021 Total Monthly Avg	17.7	12.8

February Total Reportable Incidents - AREA		
	Feb-22	Feb-21
Red	11	12
Orange	5	2
Blue	0	2
Green	8	4
Bus	0	0
TOTAL	24	20

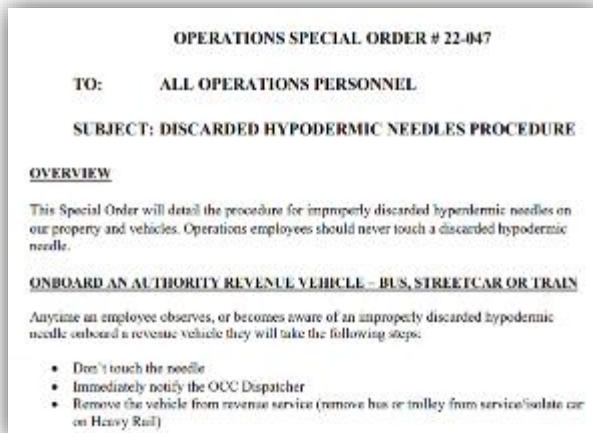
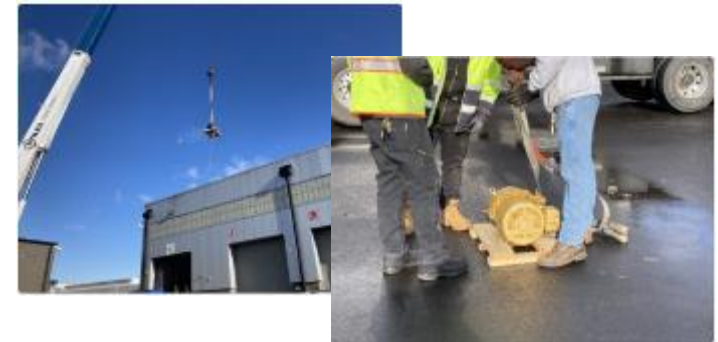


SAFETY HOTLINE



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

- REPORT – Employee reported poor lighting in the new Innerbelt Yard on the Green Line Extension.
Complete - MBTA Safety worked with the project team to ensure that all light towers and poles in the yard area were operational.
- REPORT - Southampton Bus Garage did not have heat due to an issue with the rooftop heating unit being too frozen to operate.
Complete - A replacement heating unit was installed by an outside contractor and it was confirmed that the heating unit was operational the next day.



- REPORT – At Bowdoin Station, two (2) uncapped syringes were found at the entrance. Cones were placed around the syringes and OCC was notified. The caller contacted MCC and requested a Work Order.
Open - Special Order (#22-047, available on TSTOP) was sent to all employees on how to handle needles on properties. OCC/Training is drafting an SOP for OCC dispatchers as well.



SAFETY INITIATIVES

Notable Safety Initiatives in February 2022

SMS Implementation

In February, the Data Analysis, Safety Management Working Group, and SMRC meetings were conducted during which the groups reviewed and discussed progress on open safety recommendations. MBTA Safety also began review of the Transit Safety Plan as part of the 2022 updates. Updates will incorporate required changes as part of the recently passed Bipartisan Infrastructure Bill.

OHS Program Development

In February, the OHS Team prepared the Material Handling & Storage Program for presentation to the SMRC. The team will present the program to the SMRC for a formal vote in March.

2021 Internal Safety Audits

In February, MBTA Safety completed the 2021 Annual Internal Safety Audit Report. Following review and signature by the General Manager, the report was submitted to the DPU on February 25. The team is preparing for the internal audit of MBTA Safety to kick off in March as part of the 2022 Internal Safety Audit schedule.

