



**Massachusetts Bay
Transportation Authority**

Safety Data Analysis Report

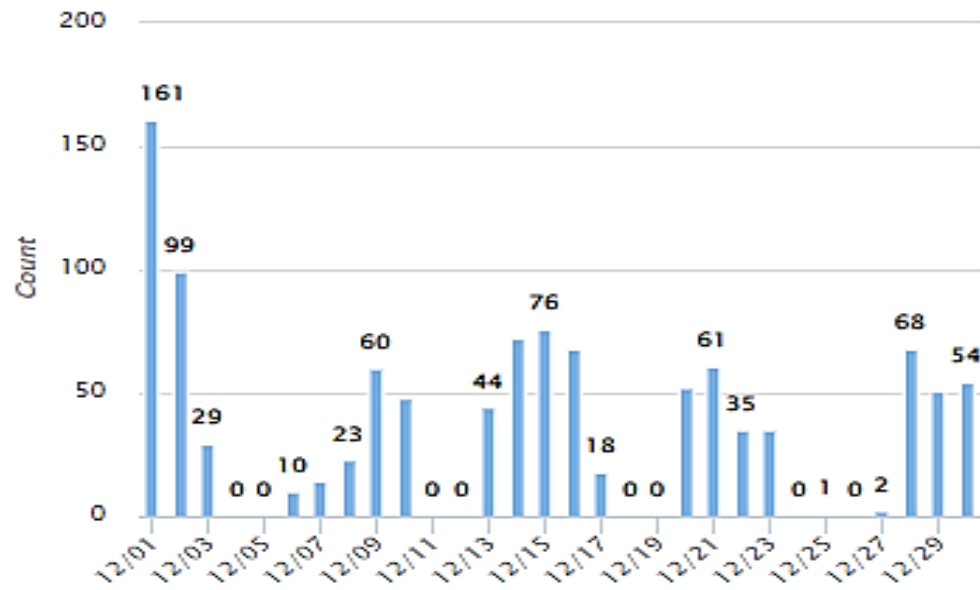
December

Matthew DeDonato
Deputy Director Safety Oversight and Planning

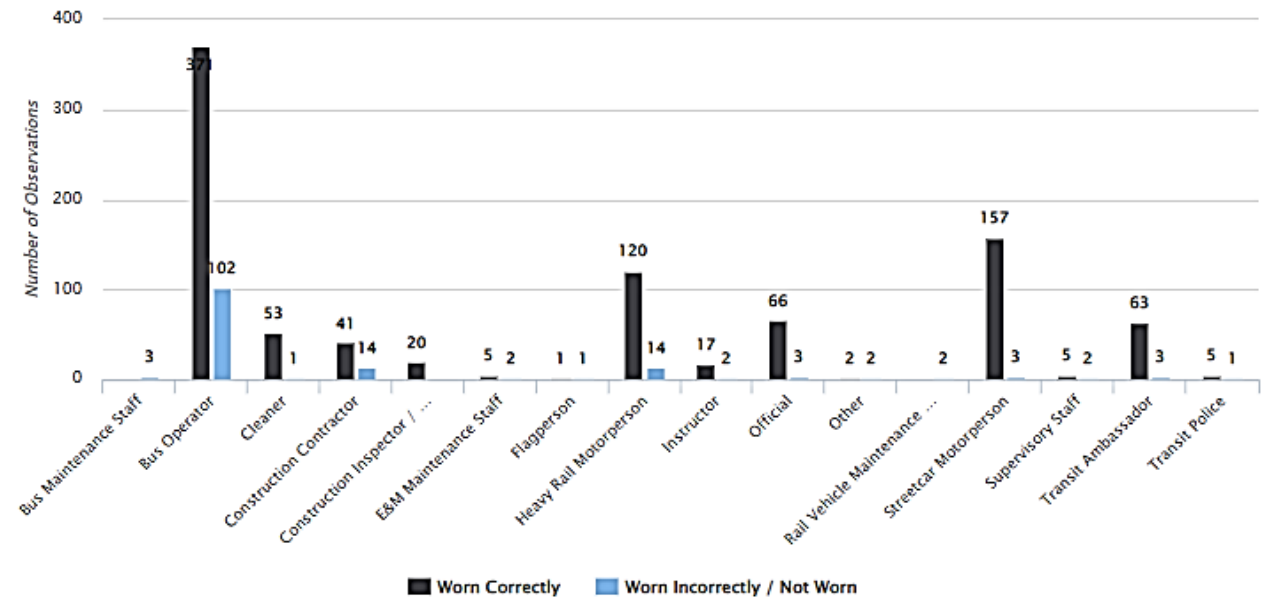
COVID-19

Face Covering Observations

TOTAL OBSERVATIONS BY DAY



TOTAL FACE COVERING USE BY JOB CLASSIFICATION



In December, there were 1,081 observations with approximately 85.66% compliant, 12.67% not in compliance, and 1.67% 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 (43.76%), Streetcar Motorperson (14.80%), and Heavy Rail Motorperson (12.40%).



BUS

SAFETY PERFORMANCE INDICATORS

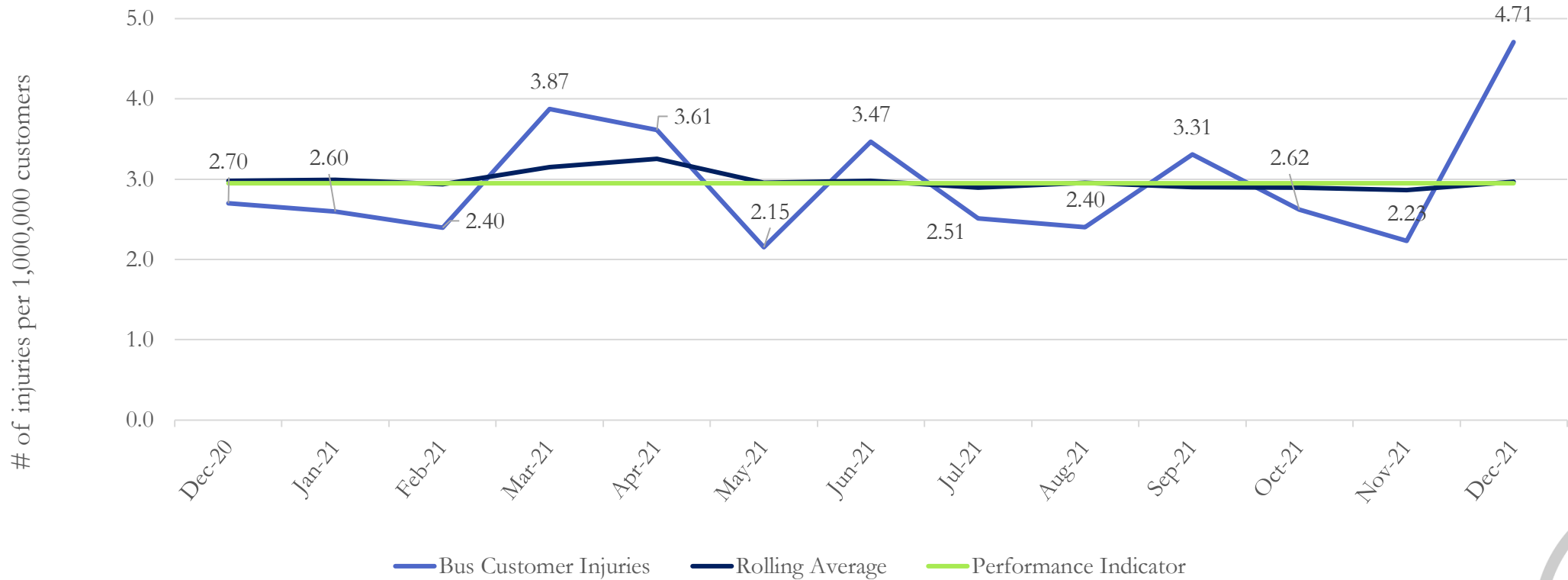
Bus - Safety Performance Indicators															
Bus	Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 YTD
Customer Injuries - Rate per million passenger trips	2.95	2.58	2.37	3.83	3.56	2.14	3.44	2.51	2.40	3.31	2.62	2.23	4.71	2.95	2.99
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
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
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
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
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
Reportable Smoke/Fire Incidents	1	0	0	1	0	3	0	3	2	1	1	3	2	15	16
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

In December 2021, bus ridership was at approximately 70% of the 2019 ridership.



BUS

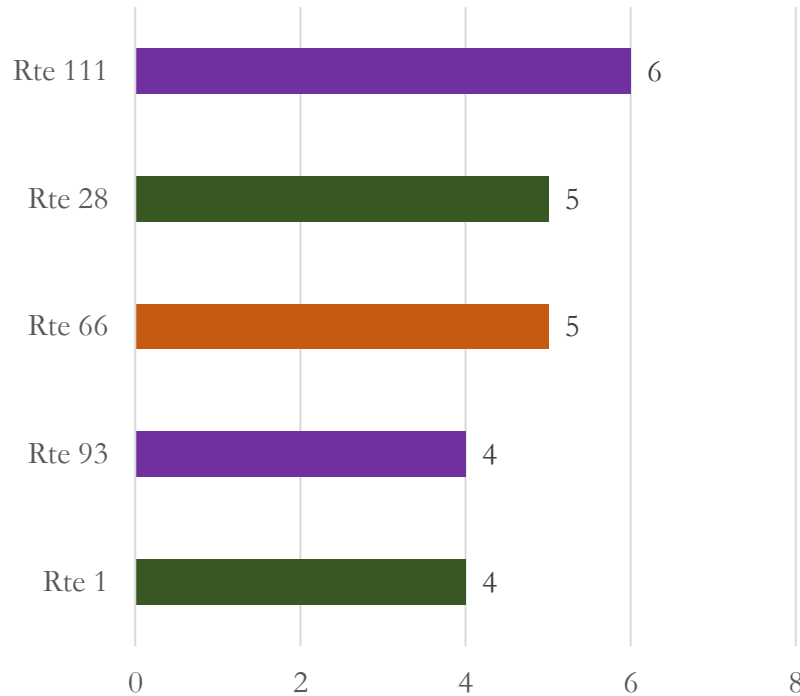
CUSTOMER INJURIES PER 1,000,000 CUSTOMERS, PAST 13 MONTHS



BUS

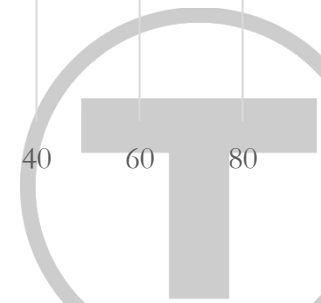
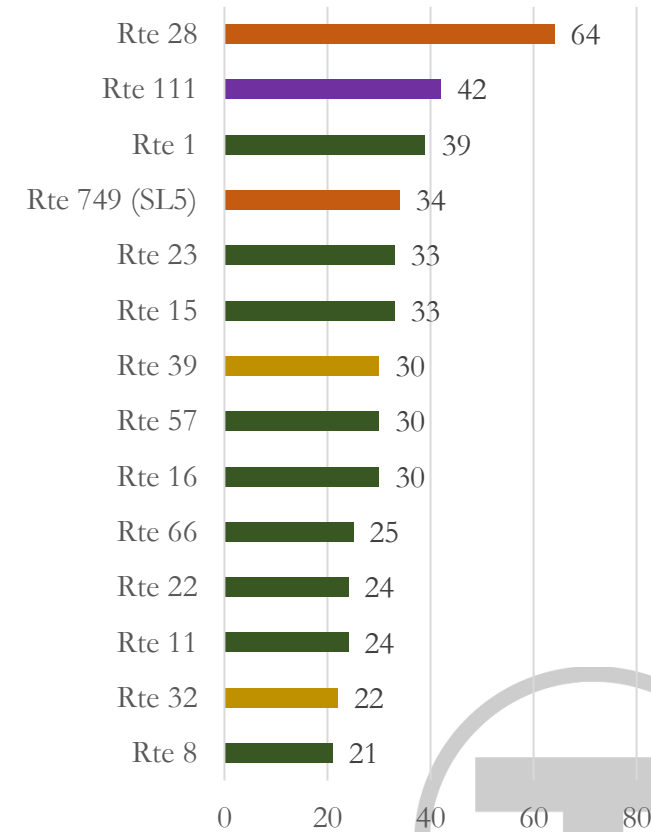
Collision Breakdown

Top 5 Routes with Highest # of Collisions in December



Route	Description
111	Woodlawn in Chelsea to Haymarket Station
28	Mattapan Station to Ruggles Station
66	Harvard Square to Nubian Station via Allston
93	Sullivan Square Station to Downtown via Bunker Hill Street
1	Harvard Square to Nubian Station via Mass Ave

Top 10 Routes with Highest # of Collisions Past 12 Months



RAIL

SAFETY PERFORMANCE INDICATORS - Heavy Rail

Heavy Rail - Safety Performance Indicators															
Heavy Rail	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 YTD
Mainline Revenue Train Derailments	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
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

Orange Line	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 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
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
Reportable Smoke/Fire Incidents	5	1	2	3	4	6	2	3	1	2	0	3	2	56	29

Red Line	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 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	2.44	4.36	3.11
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
Reportable Smoke/Fire Incidents	5	5	12	10	6	4	9	2	6	3	5	4	5	63	71

Blue Line	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 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	3.54	1.02	1.07
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
Reportable Smoke/Fire Incidents	1	3	2	2	0	1	1	1	0	0	0	0	1	6	11

In December 2021, heavy rail ridership was at approximately 47% of the ridership compared to 2019.



RAIL

SAFETY PERFORMANCE INDICATORS – Light Rail

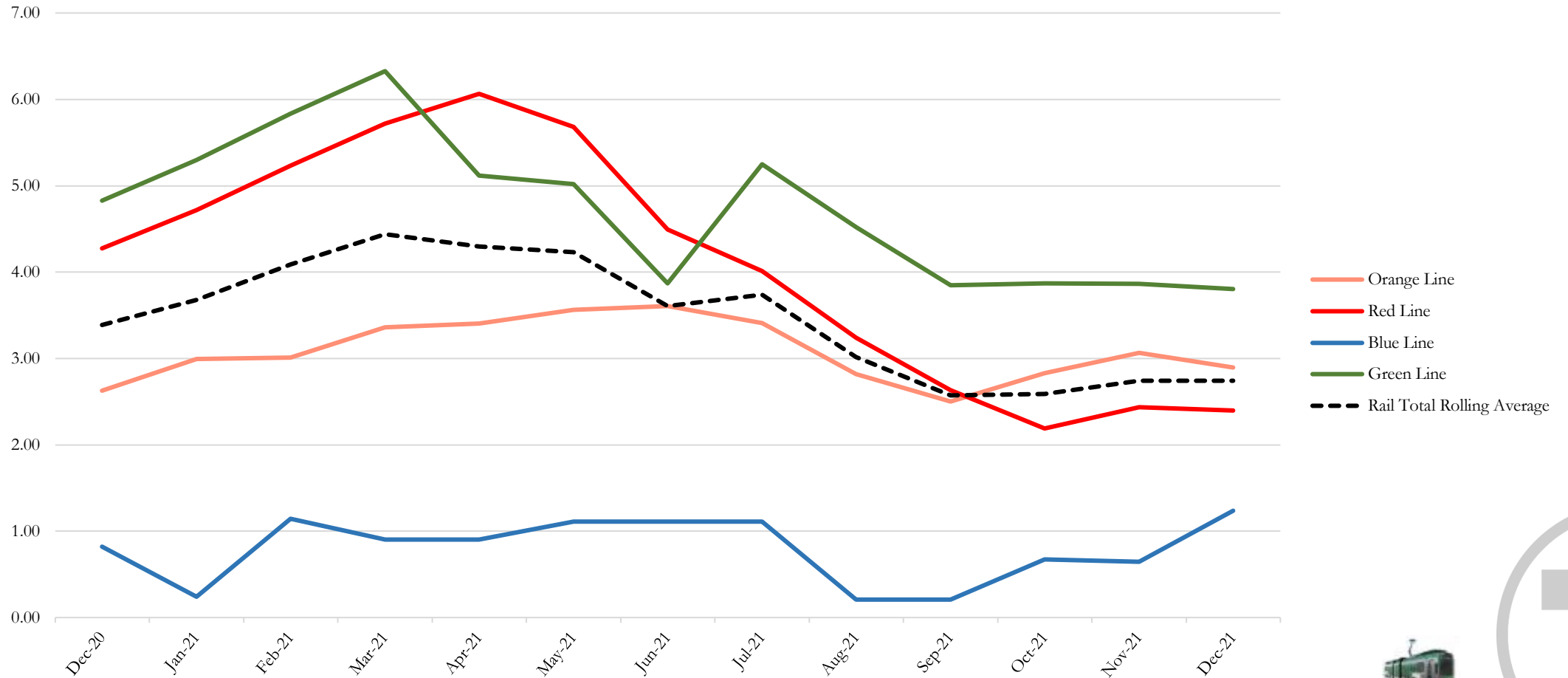
Light Rail - Safety Performance Indicators															
Light Rail	Monthly Target	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	2021 Target	2021 YTD
Mainline Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	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
Green Line	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 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	1.65	4.23	3.54
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
Reportable Smoke/Fire Incidents	4	5	5	3	1	2	3	0	2	1	0	7	5	45	34

In December 2021, light rail ridership was at approximately 40% of the ridership compared to 2019.



RAIL

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



FIRE/SMOKE

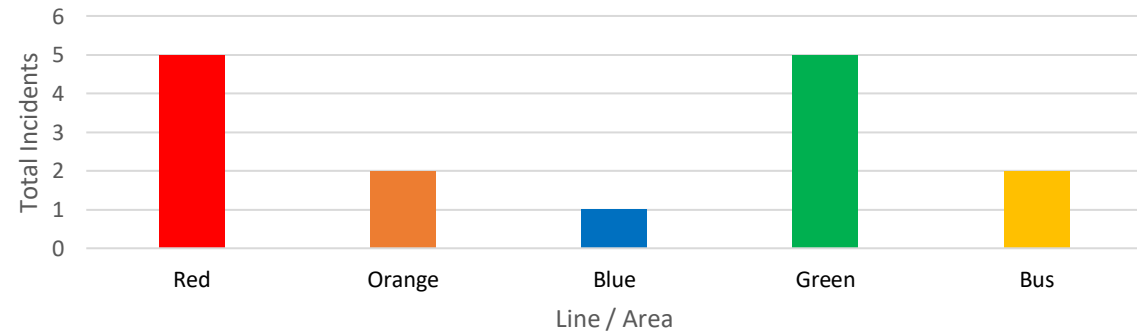
Code 1 Reportable Incidents

- 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 - December 2021



December Total Code 1: Fire/Smoke Incidents		
NTD Criteria	Non-Reportable	Reportable
Rail	14	13
Bus	6	2
December Total Incident	20	15
2020 Total Monthly Avg	15.6	14.9

December Total Reportable Incidents - AREA		
	Dec-21	Dec-20
Red	5	6
Orange	2	4
Blue	1	1
Green	5	9
Bus	2	2
TOTAL	15	22



SAFETY HOTLINE



MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

NOV. 5, 2021
ISSUE: 21-18

SAFETY T FLASH

SAFETY HOTLINE
617-222-SAFE

HAZARD IDENTIFICATION AND REPORTING

DETAIL >

HAZARD IDENTIFICATION

Hazard identification is the process through which we find areas of concern or areas for improvement in our working environment.

Examples include, but are not limited to:

- Vehicle or Facility Defects
- Unsafe Work Practices
- Noncompliance with Safety Program Requirements

You DO NOT have to be a Safety Department employee to be a skilled hazard identifier.

Every employee is the subject matter expert on their own working environment and job tasks, and all MBTA employees should feel confident identifying and reporting hazards that they may encounter.



APPLICATION > **WHOM IT AFFECTS**



Hazards in the workplace affect every employee in every department at the MBTA. This safety flash provides information on how to properly identify hazards in the workplace and follow the chain of command to report them properly.

YOU are the eyes and ears of MBTA Safety!



HOW TO >

HAZARD REPORTING

GOOD FAITH SAFETY CHALLENGE
Launch a challenge by notifying your supervisor and OCC. You will then have 24 hours to document the challenge and submit documentation to MBTA Safety.

SAFETY HOTLINE
Call 617-222-SAFE (7233) to leave a message describing your safety concern. Please identify the nature and location of the concern, and consider leaving your contact information for MBTA Safety follow-up.

SAFETY NOTIFICATION EMAIL
Email SafetyNotification@mbta.com with your concern. Please provide the nature of the concern, the location, and contact information.

DIRECT REPORT
You can directly report concerns to your supervisor or any MBTA Safety team member.

FORM B
Please mail or deliver your completed Form B to MBTA Safety. You can also fax the completed form to 617-222-5127.

T Safety | Issue 21-18

MBTA Safety Hotline - 617-222-SAFE or x7233

Below are a sampling of MBTA Safety Hotline reports received and investigated in December 2021:

- 12/4 Bus Operator reported issues with TransitMaster on the 3100 series buses: Freeze from time to time and take several minutes to reboot, All call doesn't come through, and the radio sometimes does not work when bus goes into fallback mode.

Pending - Safety is collaborating with CTD, VE, OCC, and Bus Ops to create a pilot testing program using a new method to dispatch messages.

- 12/14 Caller states there is gas odor at Mattapan Station.

Complete - MBTA Safety notified OCC, National Grid, and BFD. BFD and National Grid responded. Safety had followed up with the Official later that day and it was reported the odor had dissipated, generating readings at an acceptable level.



SAFETY INITIATIVES

Notable Safety Initiatives in December 2021

OHS Program Development

In December, the OHS Team made updates to the Powered Industrial Trucks Program based upon the feedback received from the SMRC in November. The updated program will be sent back to the SMRC for a final vote in January. The OHS Team is working with Engineering and Maintenance to conduct fall hazard and confined space assessments. Additionally, the OHS Team continued to follow up on open DLS related events, including those related to train jumping and lighting at the Charlestown Bus Yard. Following approval of the Powered Industrial Trucks Program, the next programs scheduled for review by the SMRC is the Material Handling & Storage Program.

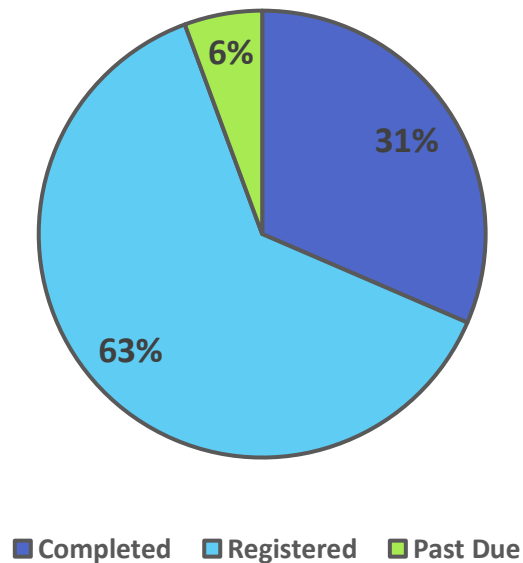


SAFETY INITIATIVES

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.

Overall Course Completion



COURSE COMPLETION BY MONTH, ALL TIME

