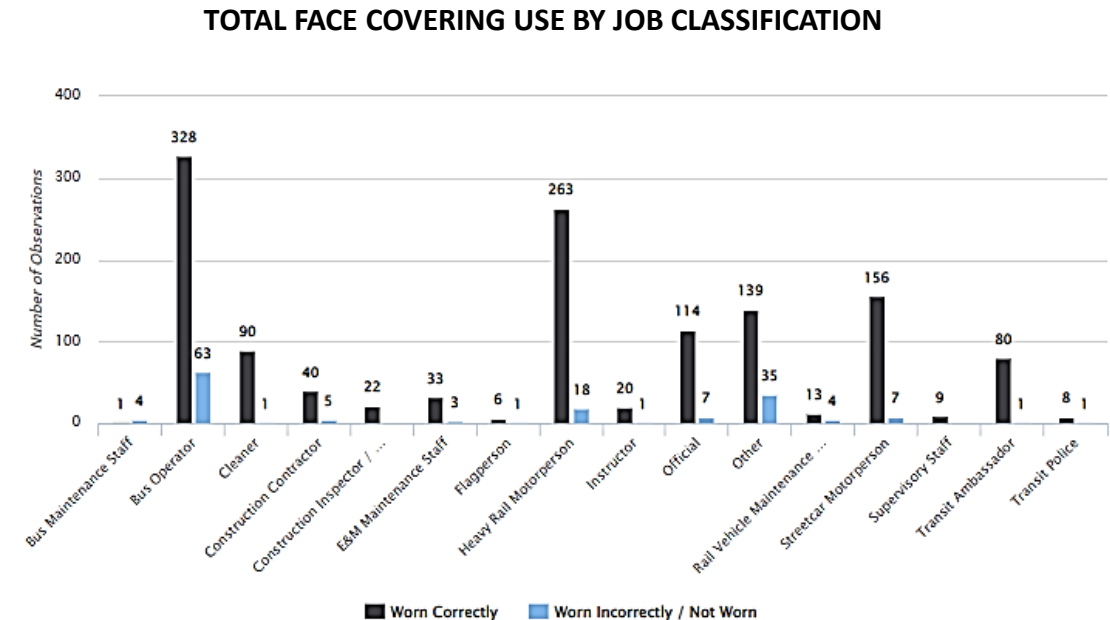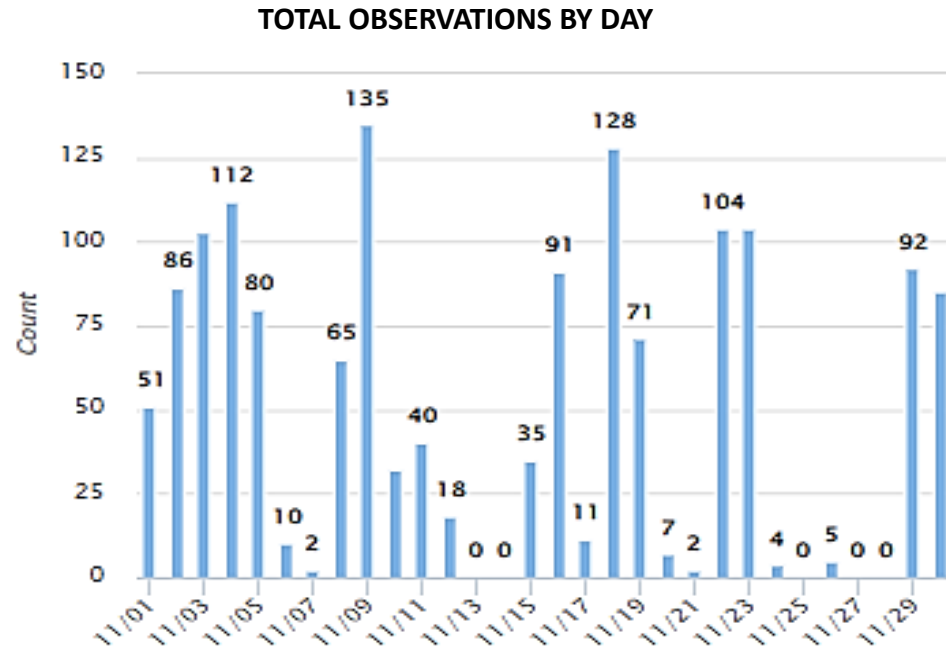**Massachusetts Bay Transportation Authority**

Safety Data Analysis Report
November

COVID-19
Face Covering Observations

TOTAL OBSERVATIONS BY DAY

TOTAL FACE COVERING USE BY JOB CLASSIFICATION

In November, there were 1,483 observations with approximately 89.82% compliant, 8.23% not in compliance, and 1.96% 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 (26.37%), Heavy Rail Motorperson (19.15%), and Other (11.73%).

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	2021 Target	2021 YTD
NTD Reportable Injuries - Total[2]	31	15	15	25	20	18	22	23	25	26	20	20	367	229
NTD Reportable Injuries - Rate per million revenue miles	15.50	7.42	8.07	12.69	9.29	8.50	11.24	11.53	11.93	13.86	9.90	10.22	15.50	10.40
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	2.95	2.81
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	85.63	58.08
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	N/A	44.77
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	N/A	9.81
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	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	N/A	1.95
Reportable Smoke/Fire Incidents	1	0	0	1	0	3	0	3	2	1	1	3	15	14
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	18,000	28,383

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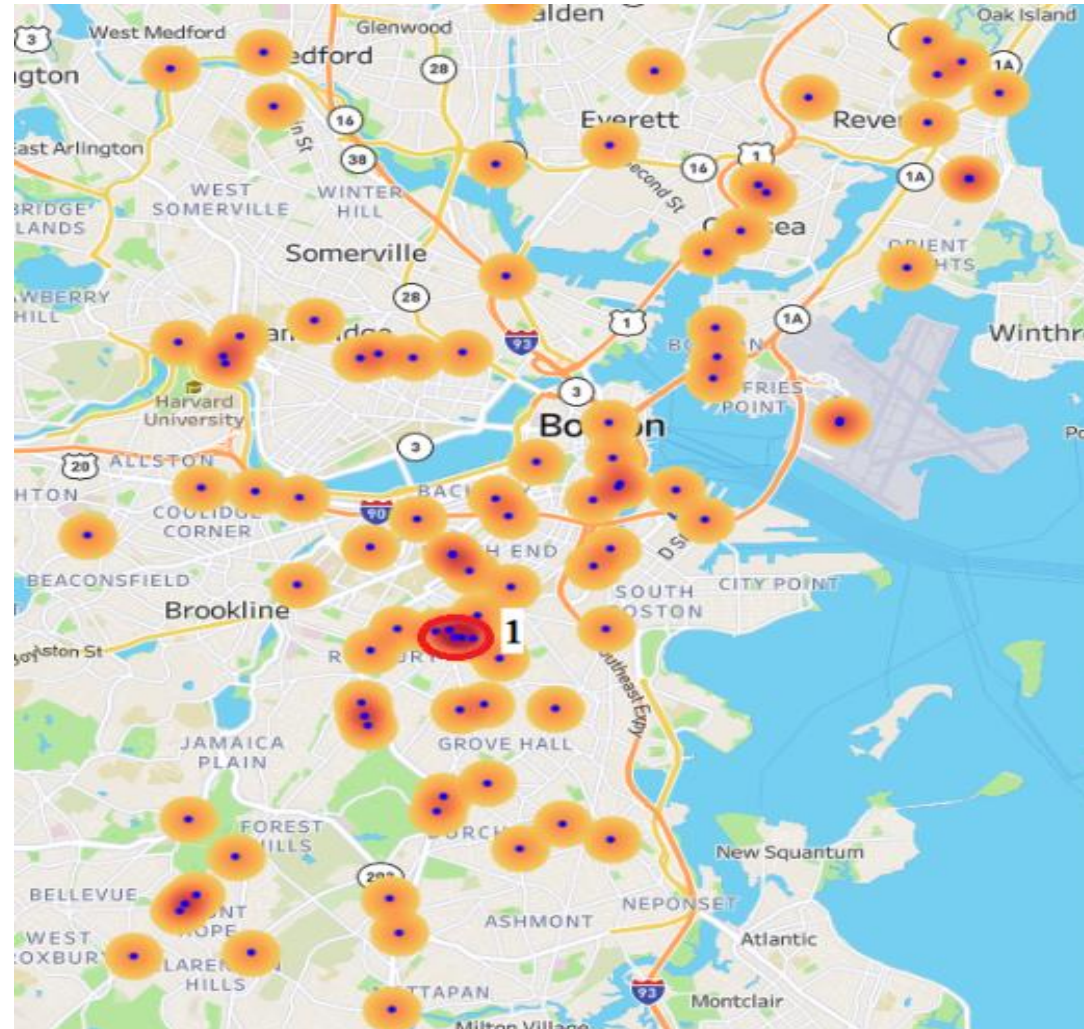
BUS

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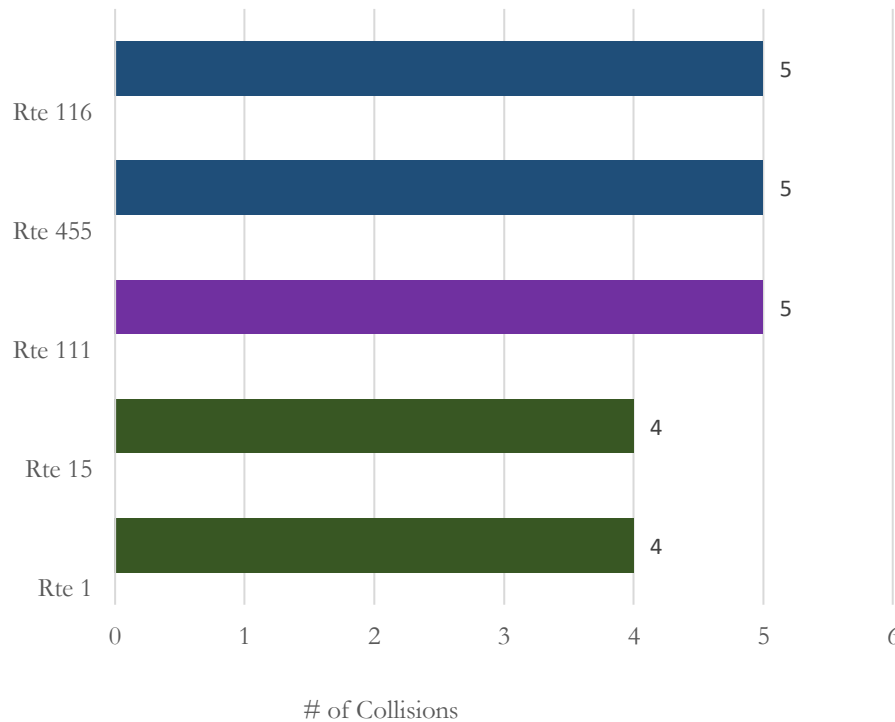## PER 1,000,000 CUSTOMERS, PAST 13 MONTHS

Legend: Bus Customer Injuries — Rolling Average — Performance Indicator
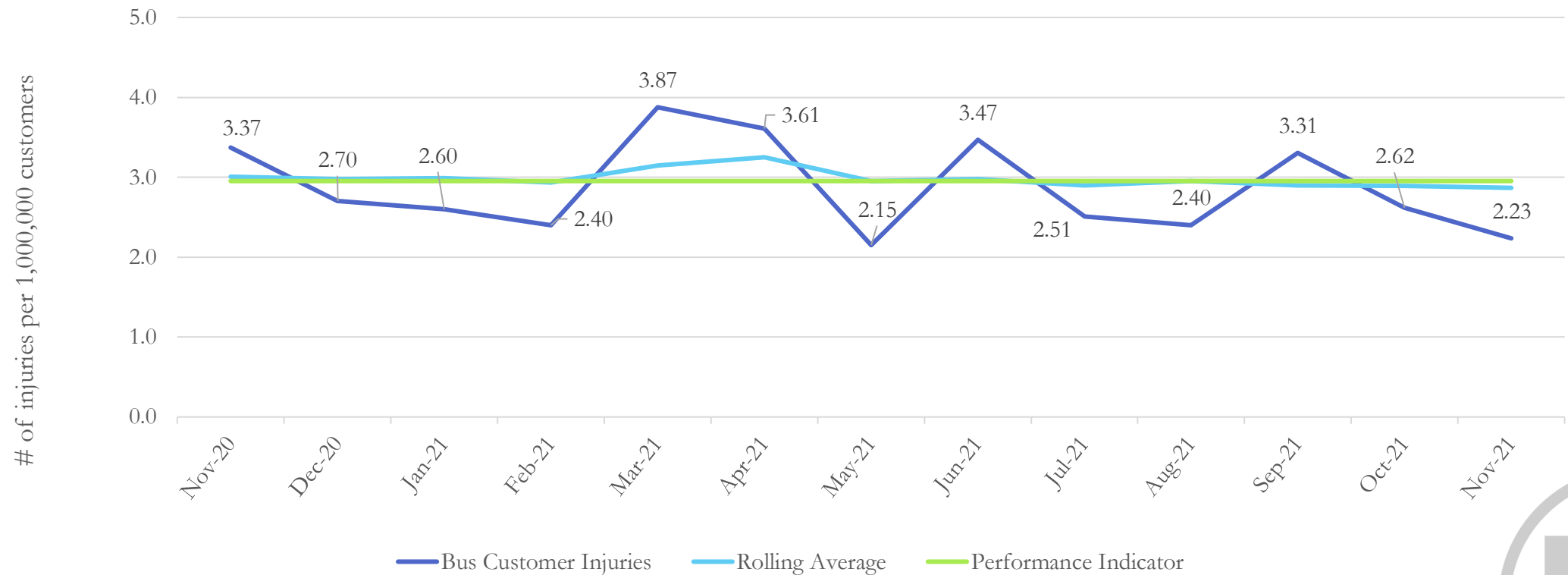
BUS

COLLISION HEAT MAP

BUS
Collision Breakdown

Top 5 Routes with Highest # of Collisions

Rte 116	5
Rte 455	5
Rte 111	5
Rte 15	4
Rte 1	4

# of Collisions

Route	Description
116	Wonderland Station to Maverick Station via Revere Street
455	Salem Depot to Wonderland Station via Central Square
111	Woodlawn in Chelsea to Haymarket Station
15	Fields Corner Station to Ruggles Station
1	Harvard Square to Nubian Station

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	2021 Target	2021 YTD
NTD Reportable Injuries - Total[2]	18	13	17	17	13	10	15	13	12	13	25	19	221	167
NTD Reportable Injuries - Rate per million revenue miles	9.45	6.60	9.66	9.94	8.06	5.81	8.78	6.67	6.02	7.02	13.12	10.34	9.45	8.34
Mainline Revenue Train Derailments	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	1	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	47,000	44,833

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	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	2.99	3.18
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	0.77	2.34
Reportable Smoke/Fire Incidents	5	1	2	3	4	6	2	3	1	2	0	3	56	27

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	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	4.36	3.17
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	0.48	0.90
Reportable Smoke/Fire Incidents	5	5	12	10	6	4	9	2	6	3	5	4	63	66

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	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	1.02	0.85
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	0.21	0.80
Reportable Smoke/Fire Incidents	1	3	2	2	0	1	1	1	0	0	0	0	6	10

In November 2021, heavy rail ridership was at approximately 50% of the ridership compared to 2019.

RAIL

SAFETY PERFORMANCE INDICATORS – Light Rail

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	2021 Target	2021 YTD
NTD Reportable Injuries - Total[2]	8	5	9	8	2	8	4	29	4	5	5	4	100	83
NTD Reportable Injuries - Rate per million revenue miles	17.25	9.81	21.63	18.27	5.13	21.20	9.93	68.38	9.33	11.67	11.73	10.21	17.25	17.92
Mainline Revenue Train Derailments	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	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	7,000	7,776

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	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	4.23	3.74
Collisions - Rate per million revenue miles	6.65	7.85	4.81	2.28	0.00	5.30	2.48	9.43	4.67	2.33	2.35	5.10	6.65	4.32
Reportable Smoke/Fire Incidents	4	5	5	3	1	2	3	0	2	1	0	7	45	29

[1]In accordance with FTA performance target guidance, trespasser and suicide related fatalities are excluded from fatality counts

[2]In accordance with FTA performance target guidance, security related events (including suicides/attempted suicides) are excluded from the safety events total
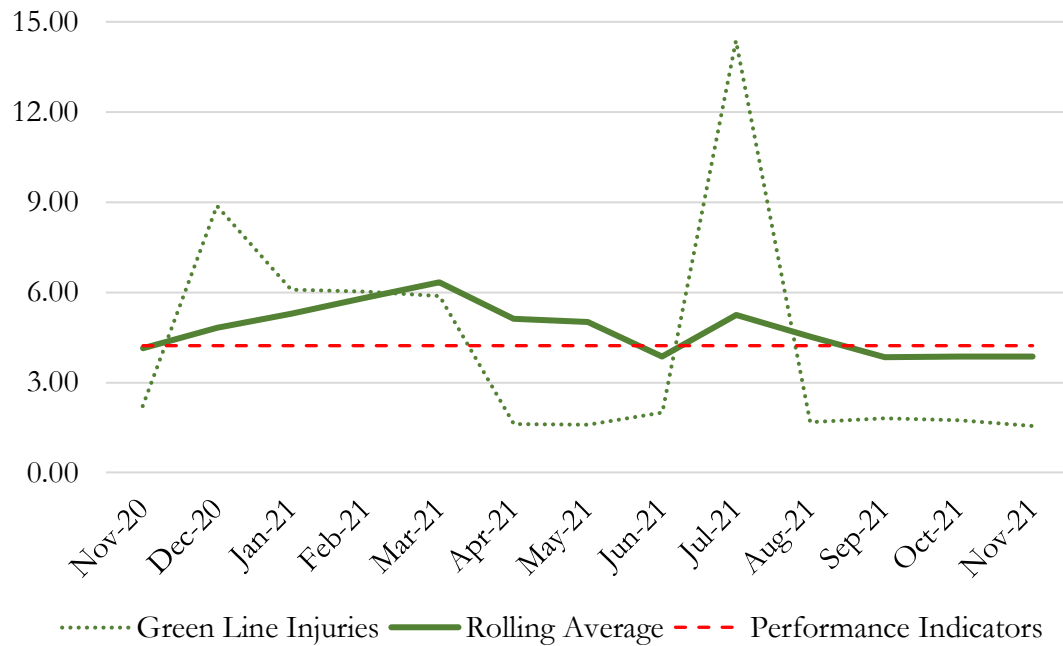
In November 2021, light rail ridership was at approximately 40% of the ridership compared to 2019.
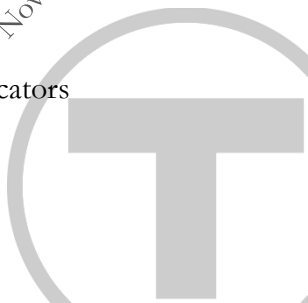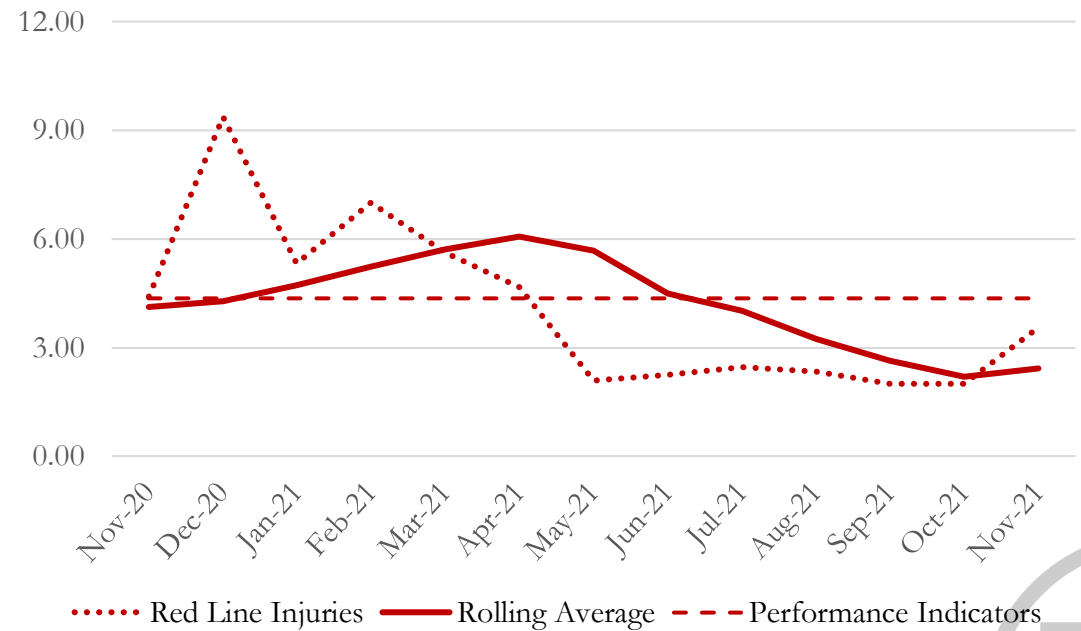
8

RAIL

CUSTOMER INJURIES

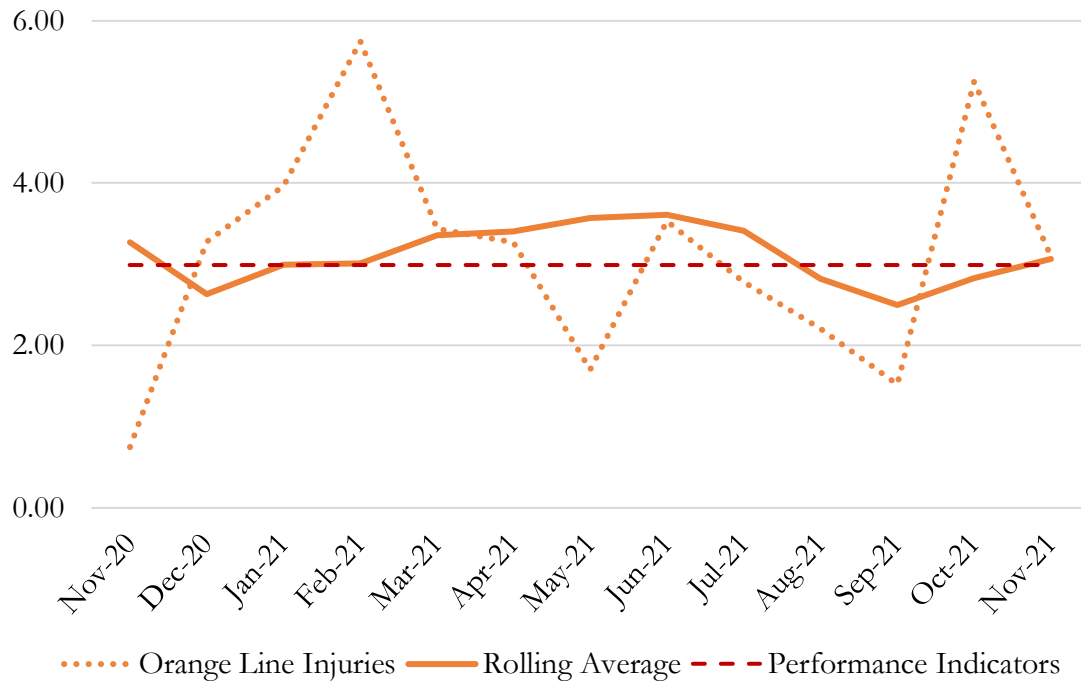**Green Line Customer Injuries per 1,000,000 Customers**

Red Line Customer Injuries per 1,000,000 Customers

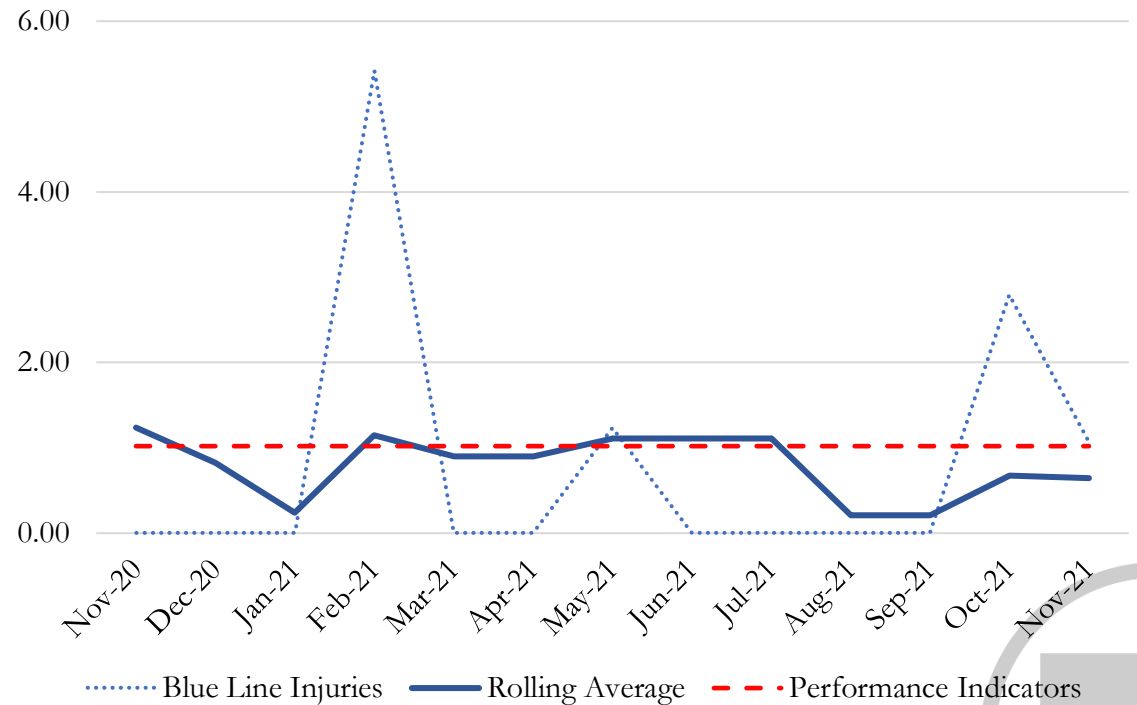Green Line: ·····Green Line Injuries ──Rolling Average ‑‑‑Performance Indicators

Red Line: ·····Red Line Injuries ──Rolling Average ‑‑‑Performance Indicators

RAIL

CUSTOMER INJURIES

Orange Line Customer Injuries per 1,000,000 Customers

Legend: ⋯⋯ Orange Line Injuries — Rolling Average – – – Performance Indicators

Blue Line Customer Injuries per 1,000,000 Customers

Legend: ⋯⋯ Blue Line Injuries — Rolling Average – – – Performance Indicators

FIRE/SMOKE

Code 1 <u>Reportable</u> 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 <u>Non-Reportable</u> Incidents
- fire/smoke with <u>NO</u> injury transport, suppression or evacuation

TOTAL REPORTABLE INCIDENTS - November 2021
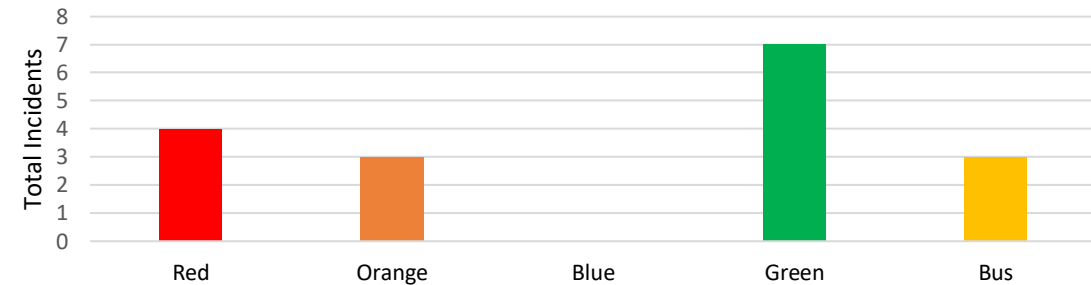
November Total Code 1: Fire/Smoke Incidents		
NTD Criteria	**Non-Reportable**	**Reportable**
Rail	14	14
Bus	5	3
November Total Incident	19	17
2020 Total Monthly Avg	*15.6*	*14.9*

November Total Reportable Incidents - AREA		
	Nov-21	*Nov-20*
Red	4	4
Orange	3	1
Blue	0	0
Green	7	4
Bus	3	0
TOTAL	**17**	**9**

SAFETY HOTLINE

Below are a sampling of MBTA Safety Hotline reports received and investigated in November 2021.

- Received a few safety concerns regarding New Columbus Bus Lane:
  1) Lack of clearance and striking hazard due to the island at Egleston Square
  2) Lack of a transit priority signal at the bus lane exit at the Walnut Street Stop.
  - *Monitoring:* 1) The curb has been modified and shaved back approx. 3 ft.
    2) Bus Op is working on the traffic light.

- Eyewash stations at Bus Maintenance haven't been serviced and need to renew a contract.
  - *Monitoring:* Eye wash bottles are in place while Bus Maintenance is meeting with a contractor and coordinating to have both Bus and Rail facilities be updated.

- Bus operators suggested we add an audio warning announcement onboard buses advising passengers to hold onto the handrails and grab bars to reduce on-board incidents.
  - *Complete:* Working with Customer Technology to add the announcement.

SAFETY INITIATIVES

## Notable Safety Initiatives in November 2021

SMS Implementation

In November, rollout of a new committee structure kicked off with the first round of Data Analysis and Safety Management Working Group meetings. The groups reviewed and discussed progress on open safety initiatives. MBTA Safety also continued the focus on SMS training rollout, with promotion of the SMS Fundamentals Course. As part of Safety Promotion events, on November 17, Safety also hosted the Annual Agents of Safety Awards which recognized employees that demonstrated high levels of safety excellence in their job performance or who have provided valuable safety input that has affected a positive change. The virtual ceremony included words from the General Manager, Chief Safety Officer, Deputy General Manager and featured guest speaker Robert Lewis Jr., Founder and President of The Base.

OHS Program Development

In November, the OHS Team presented the Powered Industrial Trucks Program with the SMRC. The team is updating the program based on the feedback received and will send it back out for a final vote. 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.
The next programs scheduled for review by the SMRC is the Material Handling & Storage Program.
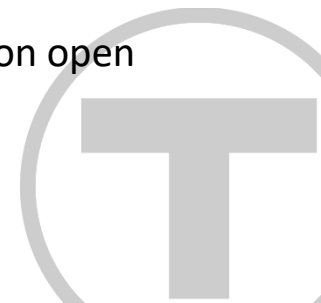
SMS Fundamentals Course

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

- 5% Past Due
- 30% Completed
- 65% Registered

■ Completed ■ Registered ■ Past Due
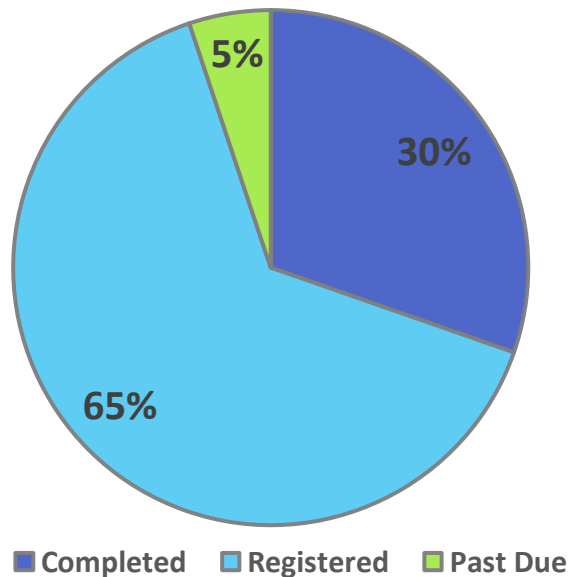
COURSE COMPLETION BY MONTH, ALL TIME