



**Massachusetts Bay
Transportation Authority**

Safety Data Analysis Report

**Michael Catsos
Director of SMS and Safety Oversight**

BUS

SAFETY PERFORMANCE INDICATORS

Bus - Safety Performance Indicators																			
Bus	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Fatalities - Total ¹	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0
NTD Reportable Safety Events - Total ²	10	7	7	8	6	8	12	11	12	10	6	120	99	8.17	8	7	11	98	26
NTD Reportable Safety Events - Rate per million revenue miles	5.21	3.63	3.83	4.35	3.26	4.45	6.35	6.50	6.53	5.59	3.32	5.21	4.54	4.21	4.48	4.25	5.85	4.21	4.89
NTD Reportable Injuries - Total ²	27	19	21	18	22	19	28	35	43	13	20	324	277	23.83	23	28	21	286	72
NTD Reportable Injuries - Rate per million revenue miles	14.00	9.86	11.50	9.80	11.95	10.57	14.83	20.69	23.40	7.26	11.07	14.00	12.70	12.23	12.88	17.00	11.16	12.23	13.55
Customer Injuries - Rate per million passenger trips	2.93	2.74	2.57	2.29	2.16	1.96	2.12	4.07	3.72	1.42	2.02	2.93	2.56	2.54	2.83	3.39	3.58	2.54	3.28
Collisions - Rate per million revenue miles	57.42	77.88	63.51	81.08	65.75	60.09	81.54	90.43	72.37	83.82	67.56	57.42	74.78	60.08	68.30	60.12	67.49	60.08	65.48
with Vehicle - Rate per million revenue miles	44.18	60.75	53.11	64.21	52.71	46.74	65.13	72.70	58.76	68.18	55.37	44.18	59.84	56.64	49.82	51.62	53.14	56.64	51.56
with Object - Rate per million revenue miles	9.73	13.50	7.67	14.15	9.78	11.13	11.65	13.00	11.43	11.18	8.31	9.73	11.51	10.77	15.67	7.29	12.22	10.77	11.85
with Person - Rate per million revenue miles	1.51	2.08	1.10	1.09	1.09	1.11	1.59	2.96	1.09	1.68	0.55	1.51	1.38	1.49	1.68	0.61	0.53	1.49	0.94
with T Vehicle - Rate per million revenue miles	2.00	1.56	1.64	1.63	2.17	1.11	3.18	1.77	1.09	2.79	2.21	2.00	1.97	2.39	1.12	0.00	1.06	2.39	0.75
Reportable Smoke/Fire Incidents	1	0	1	2	0	3	2.00	1	2	2	0	15	14	1.33	1	1	1	16	3
Mean Miles between Mechanical Failures	25,000	26,099	25,623	25,199	27,128	23,317	17,374	16,595	22,229	14,685	19,428	25,000	18,718	29,500	15,091	23,469	20,865	29,500	19,100

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



RAIL

SAFETY PERFORMANCE INDICATORS - HEAVY RAIL

Heavy Rail - Safety Performance Indicators																			
Heavy Rail	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Fatalities - Total ¹	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	1
NTD Reportable Safety Events - Total ²	2	1	2	5	2	2	3	4	0	0	3	24	25	2	1	4	2	24	7
NTD Reportable Safety Events - Rate per million revenue miles	1.00	0.52	1.09	2.75	1.18	1.31	2.17	3.23	0.00	0.00	2.05	1.00	1.32	1.07	0.64	2.85	1.48	1.07	1.62
NTD Reportable Injuries - Total ²	16	18	23	17	16	14	11	17	14	20	11	195	202	15	23	20	21	180	64
NTD Reportable Injuries - Rate per million revenue miles	8.46	9.32	12.56	9.36	9.42	9.14	7.96	13.75	12.58	13.65	7.52	8.46	10.64	7.99	14.64	14.23	15.57	7.99	14.80
Mainline Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Mainline Non-Revenue Train Derailments	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Yard Derailments	0	1	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	4	0
Maintenance Vehicle Derailments	0	0	0	3	0	0	3	1	0	0	0	5	8	0	0	1	0	5	1
Mean Miles between Mechanical Failures	47,500	43,898	51,980	73,942	66,535	41,019	44,136	50,554	77,170	64,826	49,750	47,500	55,222	44,500	64,076	49,660	62,979	44,500	58,258

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RAIL

SAFETY PERFORMANCE INDICATORS – HEAVY RAIL CONT'D

Orange Line	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Customer Injuries - Rate per million passenger trips	3.06	3.02	3.39	2.94	1.80	2.27	0.00	1.97	1.80	1.80	1.18	3.06	2.13	1.85	2.72	1.27	2.49	1.85	2.19
Collisions - Rate per million revenue miles	2.27	0.00	0.00	0.00	0.00	0.00	0.00	19.68	0.00	0.00	0.00	2.27	0.80	0.88	0.00	2.56	0.00	0.88	0.82
with Vehicle - Rate per million revenue miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00
with Object - Rate per million revenue miles	0.7	0.00	0.00	0.00	0.00	0.00	0.00	13.12	0.00	0.00	0.00	0.7	0.54	0.2	0.00	2.56	0.00	0.2	0.82
with Person - Rate per million revenue miles	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	0.00	0.7	0.00	0.00	0.00	0.7	0.00
with T Vehicle - Rate per million revenue miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.56	0.00	0.00	0.00	0	0.27	0.00	0.00	0.00	0.00	0	0.00
Reportable Smoke/Fire Incidents	2	2	7	2	1	5	1	2	0	0	1	28	27	2	1	1	1	58	3
Red Line	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Customer Injuries - Rate per million passenger trips	3.01	2.51	3.15	1.76	1.75	1.54	2.71	1.74	1.73	4.29	2.46	3.01	2.65	2.02	3.68	5.50	3.91	2.02	4.33
Collisions - Rate per million revenue miles	0.88	0.84	0.00	0.00	1.89	0.00	0.00	1.27	0.00	0.00	0.00	0.88	0.52	0.00	1.21	0.00	0.00	0	0.46
with Vehicle - Rate per million revenue miles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0	0.00
with Object - Rate per million revenue miles	0.32	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.09	0.4	0.00	0.00	0.00	0.4	0.00
with Person - Rate per million revenue miles	0.4	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.00	0.00	0.00	0.4	0.26	0.4	1.21	0.00	0.00	0.4	0.46
with T Vehicle - Rate per million revenue miles	0.16	0.84	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.17	0.00	0.00	0.00	0.00	0	0.00
Reportable Smoke/Fire Incidents	5	5	5	0	5	2	3	2	3	3	2	70	47	5	2	5	11	91	18
Blue Line	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Customer Injuries - Rate per million passenger trips	1.05	0.00	1.01	0.00	1.79	0.00	1.76	1.66	1.69	0.00	0.96	1.05	1.05	0.88	0.93	0.00	1.65	0.88	0.91
Collisions - Rate per million revenue miles	0.72	2.79	0.00	4.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	1.10	0	0.00	0.00	0.00	0	0.00
with Vehicle - Rate per million revenue miles	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.5	0.00	0.00	0.00	0.5	0.00
with Object - Rate per million revenue miles	0.48	0.00	0.00	4.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.83	0.5	0.00	0.00	0.00	0.5	0.00
with Person - Rate per million revenue miles	0.24	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.28	0	0.00	0.00	0.00	0	0.00
with T Vehicle - Rate per million revenue miles	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0	0.00	0.00	0.00	0	0.00
Reportable Smoke/Fire Incidents	1	0	1	0	2	0	0	1	0	0	1	11	5	1	0	2	2	12	4

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RAIL

SAFETY PERFORMANCE INDICATORS – LIGHT RAIL

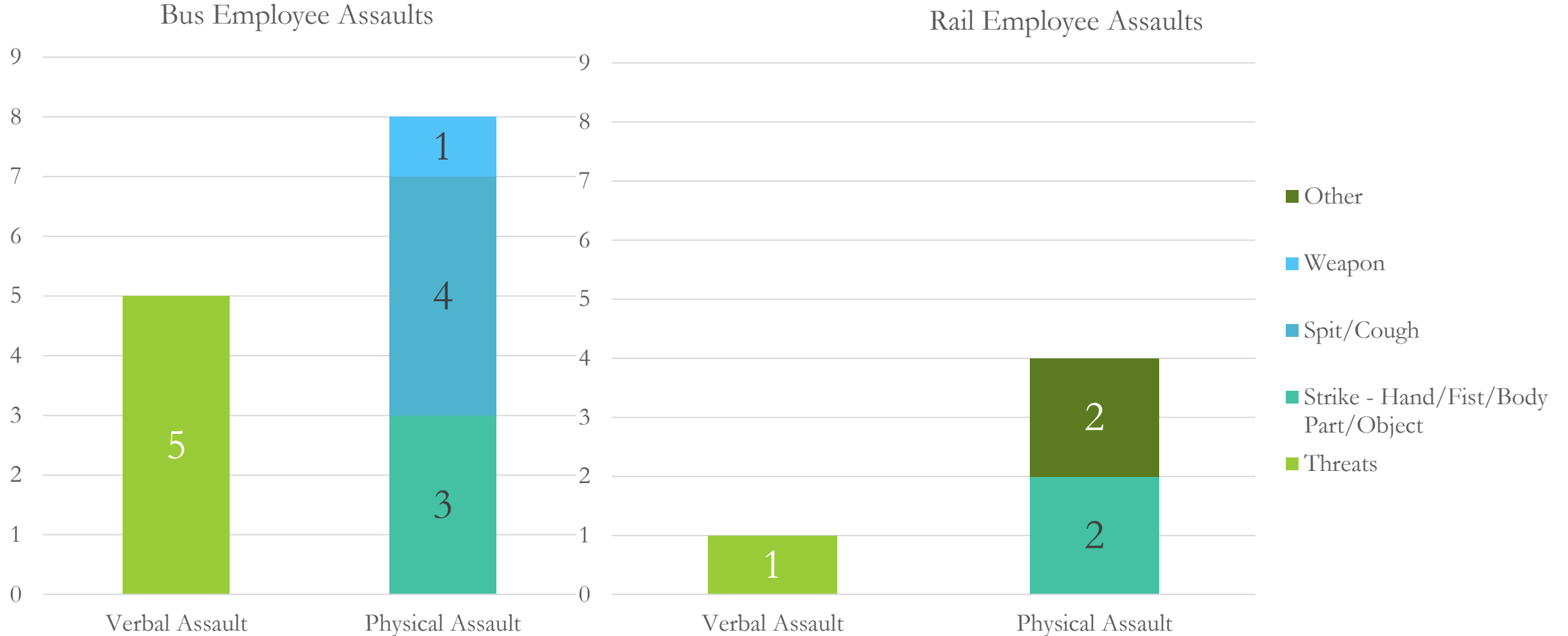
Light Rail - Safety Performance Indicators																			
Light Rail	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	2023 Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Fatalities - Total ¹	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NTD Reportable Safety Events - Total ²	2	4	2	2	5	1	5	3	1	2	2	31	33	2	2	3	4	27	9
NTD Reportable Safety Events - Rate per million revenue miles	5.58	8.05	4.16	4.10	10.30	2.05	9.94	5.67	1.84	3.94	3.83	5.58	5.53	4.94	3.83	6.33	7.39	4.94	5.85
NTD Reportable Injuries - Total ²	7	7	5	11	12	9	8	9	6	10	12	84	104	7	10	4	5	79	19
NTD Reportable Injuries - Rate per million revenue miles	14.70	14.09	10.41	22.57	24.71	18.44	15.91	17.01	11.04	19.70	22.99	14.70	17.44	14.35	19.15	8.44	9.24	14.35	12.36
Mainline Revenue Train Derailments	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0	0	2	1
Mainline Non-Revenue Train Derailments	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	0
Yard Derailments	0	0	0	0	0	0	0	0	0	0	1	4	1	0	0	1	0	4	1
Maintenance Vehicle Derailments	0	2	1	1	0	0	0	0	0	0	0	1	5	0	0	0	0	3	0
Mean Miles between Mechanical Failures	7,500	7,558	9,806	8,150	6,302	6,187	5,898	6,146	7,673	9,688	8,115	7,500	6,618	7,650	4,622	7,803	9,728	7,650	7,096
Green Line	2022 Monthly Target	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	2022 Target	2022 YTD	Monthly Target	Jan-23	Feb-23	Mar-23	2023 Target	2023 YTD
Customer Injuries - Rate per million passenger trips	3.48	2.21	1.70	4.38	1.77	1.35	3.85	2.55	2.16	2.98	4.77	3.48	2.72	2	3.99	1.43	2.07	2	2.51
Collisions - Rate per million revenue miles	4.44	6.04	6.24	2.05	10.30	0.00	7.95	1.89	1.84	9.85	1.92	4.44	5.37	2.86	3.83	6.33	9.24	2.86	6.50
with Vehicle - Rate per million revenue miles	1.66	4.03	4.16	2.05	4.12	0.00	1.99	1.89	0.00	9.85	0.00	1.66	3.35	1.36	0.00	2.11	3.70	1.36	1.95
with Object - Rate per million revenue miles	0.74	0.00	2.08	0.00	0.00	0.00	1.99	0.00	0.00	0.00	1.92	0.74	0.50	0.44	1.91	0.00	3.70	0.44	1.95
with Person - Rate per million revenue miles	0.92	0.00	0.00	0.00	2.06	2.05	3.98	0.00	0.00	0.00	0.00	0.92	0.67	0.48	1.91	4.22	0.00	0.48	1.95
with T Vehicle - Rate per million revenue miles	1.11	2.01	0.00	0.00	4.12	0.00	0.00	0.00	1.84	0.00	0.00	1.11	1.01	0.58	0.00	0.00	0.00	0.58	0.00
Reportable Smoke/Fire Incidents	3	4	2	2	2	3	3	1	1	0	2	33	31	5	1	5	1	62	7

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

²In accordance with FTA performance target guidance, security related events (including suicides/attempted suicides) are excluded from the safety events total



EMPLOYEE ASSAULTS BY MODE AND TYPE



SAFETY HOTLINE REPORTING SYSTEM

Safety Hotline Reporting Options

- Safety Hotline: (617) 222-SAFE/7233
- Safety Notification email: SafetyNotification@mbta.com
- Direct reporting to an MBTA Safety official
- Submitting Form B by email, to an MBTA Safety official, or by fax: (617) 222-5127

Month	Total Reports	Closed
January 2023	23	12
February 2023	25	14
March 2023	43	20
Total	91	46

As of 4/11/2023

Safety Hotline Reports by Hazard Types (3 or more): Past 3 months

