Safety Committee Meeting
December 2016

Committee Members

T. Prendergast, Chair
A. Albert
N. Brown
F. Ferrer
C. Moerdler
M. Pally
J. Samuelson
V. Tessitore, Jr.
J. Vitiello
P. Ward
N. Zuckerman
Safety Committee Meeting
2 Broadway, 20th Floor Board Room
New York, NY 10004
Wednesday, 12/14/2016
8:30 - 9:30 AM ET

1. Public Comments

2. Approval of Minutes - September 28, 2016
   Final Safety Committee Minutes - Page 3

3. Safety Committee Work Plan
   2016 Safety Committee Work Plan - Page 6
   Proposed 2017 Safety Committee Work Plan - Page 9

4. Evaluation of Safety Committee Charter
   Safety Committee Charter - Page 12

5. Safety Metrics
   MNR Metrics - Page 14
   LIRR Metrics - Page 15
   NYCT Metrics - Page 16
   B & T Metrics - Page 17

   Bus Collision Prevention Presentation - Page 18

7. Safety Assurance: Railroad Emergency Preparedness
   LIRR Emergency Preparedness Presentation - Page 21
   MNR Emergency Preparedness Presentation - Page 24

Date of next meeting: February 23, 2017 @ 8:30 am
The following members were present:

Hon. Thomas Prendergast, Chair
Hon. Mitchell Pally
Hon. John Molloy
Hon. Ira Greenberg
Hon. Susan Metzger
Hon. Andrew Albert
Hon. Neal Zuckerman
Hon. James E. Vitiello
Hon. Charles Moerdler
Hon. Vincent Tessitore
Hon. Peter Ward
Hon. Fernando Ferrer

The following safety officers were present:
David Mayer - MTAHQ
Cheryl Kennedy - NYCT
Loretta Ebbighausen - LIRR
Pashko Camaj – B&T
Peter Kohner – MTA CC
Justin Vonashek – MNR
Anne Kirsch – MTAHQ
Stephen Vidal – MTA Bus

Joseph J. Giulietti, President, Metro-North Railroad (“MNR”), Patrick Nowakowski, President, Long Island Rail Road (“LIRR”), Donald Spero, President, Bridges and Tunnels (“B&T”), Michael Horodniceanu, President, MTA Capital Construction (“MTA-CC”), and Michael Chubak, Chief Financial Officer, New York City Transit (“NYCT”) and Craig Cipriano, Executive Vice President, MTA Bus also attended the meeting.

Chairman Prendergast called the meeting to order.

PUBLIC SPEAKERS

There was one (1) public speaker, Murray Bodin. Please refer to the video recording of the meeting produced by the MTA and maintained in MTA records for the content of speaker’s remarks.
APPROVAL OF MINUTES

Upon motion duly made and seconded, the minutes of the July 2016 Safety Committee were approved.

2016 COMMITTEE WORK PLAN

Chairman Prendergast asked Mr. Mayer if there were any changes to the work plan. Mr. Mayer stated there were no changes.

Mr. Mayer asked Chairman Prendergast permission to update the board on work with the National Safety Council (NSC). Mr. Mayer announced that the MTA’s application to join the NSC’s Campbell Institute was approved. The Campbell Institute serves as the NSC’s Center of Excellence of Employee Safety and Health, and highly selective.

SAFETY METRICS

Mr. Mayer stated that the Metrics included in the Safety Committee book are the same Metrics reported in the Agency Committee books.

Mr. Goldberg asked if following the incident with New York & Atlantic (“NY & A”), any measures have been taken to ensure that NY & A are complying with safety regulations. Chairman Prendergast explained that excluding the last incident it is his understanding, NY & A has complied with regulations. Mr. Nowakowski added, LIRR is in communications with NY & A and ensuring NY & A continue to adhere to safety requirements as directed by LIRR.

Mr. Zuckerman asked if after compiling safety reports, the Safety team is able to discern patterns that cut across the agencies. Mr. Mayer stated that all aspects transportation rely on the performance of individuals; so, anything that affects human performance – such as fatigue, adherence to procedures, medical fitness – cuts across all MTA agencies. He also stated that the agencies share best practices and those practices are incorporated where applicable. Chairman Prendergast agreed with Mr. Mayer and reiterated that a large portion of Operations depend on individual employees and their adherence to safety guidelines.

Mr. Albert stated he believed the Safety Reports were to specify the causes of reported fires. Ms. Kennedy assured him that the information is collected and will periodically be relayed back to the Committee.

Mr. Moerdler expressed his concern over the increase of bus incidents in recent years and asked if the increase may be due in part to double and triple parked delivery trucks. Mr. Vidal agreed with that possibility and stated the Department of Buses is actively involved with NYPD as well as the NYC Vision Zero task force where the issue is discussed bi-weekly.

Mr. Albert stated his agreement with Mr. Moerdler that since the installation of the bicycle lane and commercial vehicle loading zones on Amsterdam Ave traffic is more congested.

Mr. Vitiello asked if the new trains being ordered would include technology to ensure conductor alertness. Mr. Mayer answered that current train technology includes alerters and that Positive
Train Control will mitigate unsafe acts in the future, but that preventing inattention is the ultimate goal.

Mr. Greenberg stated that knowing the locations of the bus rear-end collisions could be helpful to the committee. Mr. Vidal answered that the Department of Buses is aware of “hot spot” locations and will relay that information to the Committee at a future meeting.

SAFETY PROMOTION: SAFETY FOCUS EFFORTS

Mr. Mayer then asked safety leads to discuss the safety efforts and promotions taking place at each agency. Please refer to the video recording of the meeting produced by the MTA and maintained in MTA records for the content of speaker’s remarks.

Mr. Pally asked what measures are taken to ensure that contractors used by Capital Construction adhere to MTA safety regulations. Mr. Kohner answered that standard procedure would call for a review of the incident followed by a stand down and/or disciplinary action.

Mr. Ferrer asked for an example of a past incident involving a contractor and the action taken. Mr. Kohner answered that using a drill, a sub-contractor penetrated a tunnel. The sub-contractor was immediately removed from the site, the prime contractor paid for the damages incurred and management changes resulted as well.

Mr. Moerdler asked whether monetary fines would give the contractors incentive to adhere to regulations rather than disrupting job sites and consequently delaying projects. Mr. Kohner responded that payments are sometimes withheld until mitigation measures are taken and only in extreme cases are contractors removed from job sites.

SAFETY RISK MANAGEMENT: RAIL INFRASTRUCTURE IMPROVEMENT GRANTS

Mr. Mayer then reported on the improvements being made at Grade Crossings. Please refer to the video recording of the meeting produced by the MTA and maintained in MTA records for the content of speaker’s remarks.

Mr. Albert asked if there is a list of the types of improvements eligible for federal funding. Mr. Mayer answered that the Grants Management Departments keep track of funding that MTA projects are eligible for.

Mr. Pally expressed his pleasure at the improvements being done at the Executive Drive grade crossing. Secondly, he asked about monitoring cameras at grade crossings. Mr. Mayer answered that currently there are crossings with cameras.

Mr. Moerdler asked if technology such as weight sensors can determine objects on grade crossings and relay that information to train operators. Mr. Mayer answered that trial programs currently underway will give a better understanding of which systems are best suited for the MTA’s needs.

ADJOURNMENT

Upon motion duly made and seconded, the Board voted to adjourn the meeting at 9:42 am.
# 2016 Safety Committee Work Plan

## I. RECURRING AGENDA ITEMS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Comments</td>
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<tr>
<td>Committee Work Plan</td>
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## II. SPECIFIC AGENDA ITEMS

### January 2016
- Safety Policy – Committee Charter Proposed Revision: Committee Chair & Members
- SMS Framework & Safety Metrics: MTA Chief Safety Officer

### February 2016
- Effectiveness of Training: Agency Safety Leads
- Safety Metrics: Agency Safety Leads

### April 2016
- Safety Policy – Specific item TBD: MTA Chief Safety Officer
- Safety Risk Management: Safety Staff

### July 2016
- Safety Promotion – Specific item TBD: Safety Staff

### September 2016
- Safety Promotion – Specific item TBD: MTA Chief Safety Officer
- Safety Risk Management – Specific item TBD: Safety Staff

### December 2016
- Safety Policy – Evaluation of Safety Committee Charter: Committee Chair & Members

### January 2017
- Safety Policy – Approval of 2016 Work Plan: Committee Chair & Members
- Safety Risk Management – Specific item TBD: Safety Staff
Detailed Summary

I. RECURRING AGENDA ITEMS

Approval of Minutes
The Committee Chair will request a motion to approve the minutes of the prior meeting of the Safety Committee.

Committee Work Plan
The Work Plan will list, by meeting, the topics scheduled for review. The Committee will be advised if any changes have been made to the plan.

II. SPECIFIC AGENDA ITEMS

Note: The SMS framework has four pillars: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. To facilitate general oversight of SMS activities at the MTA and its agencies, each agenda items will generally pertain to one of these pillars.

January 2016

Safety Policy – Committee Charter Proposed Revision
The MTA Chief Safety Officer will discuss revising the Safety Committee charter to include specific reference to SMS and invite the Committee to vote to recommend that the Governance Committee make such a change.

SMS Framework & Safety Metrics
The MTA Chief Safety Officer will review SMS principles and the importance of leading indicators.

February 2016

Effectiveness of Training
Follow-up discussion regarding the measures used to assess the effectiveness of training at the agencies.

Safety Metrics
A review of updated leading and lagging indicators consistent with the development and implementation of SMS at the MTA.

April 2016

Safety Policy
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Policy SMS pillar.

Safety Risk Management
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.
July 2016

Safety Assurance – Review of Safety Performance
The committee will receive a briefing and discussion will be invited pertaining to the safety performance of the agencies. This relates to the Safety Assurance SMS pillar, and provides an opportunity for deeper exploration of “lagging” indicators of safety.

Safety Promotion
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Promotion SMS pillar.

September 2016

Safety Promotion
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Promotion SMS pillar.

Safety Risk Management
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.

December 2016

Safety Policy – Evaluation of Safety Committee Charter
The Safety Committee Charter specifies that the Committee Chair & Members will review the charter annually. This relates to the Safety Policy SMS pillar.

Safety Assurance – Review of Safety Performance
The committee will receive a briefing and discussion will be invited pertaining to the safety performance of the agencies. This relates to the Safety Assurance SMS pillar, and provides an opportunity for deeper exploration of “lagging” indicators of safety.

January 2017

Safety Policy – Approval of 2016 Work Plan
The committee will be presented with and discuss the 2016 work plan and asked to approve the same. As the work plan governs the activities of the committee, this pertains to the Safety Policy SMS pillar.

Safety Risk Management
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.
2017 Safety Committee Work Plan

I. RECURRING AGENDA ITEMS

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II. SPECIFIC AGENDA ITEMS

**February 2017**
- Safety Policy – Committee Charter Proposed Revision: Committee Chair & Members
- SMS Framework & Safety Metrics: MTA Chief Safety Officer

**May 2017**
- Safety Policy – Specific item TBD: MTA Chief Safety Officer
- Safety Risk Management: Safety Staff

**July 2017**
- Safety Promotion – Specific item TBD: Safety Staff

**September 2017**
- Safety Promotion – Specific item TBD: MTA Chief Safety Officer
- Safety Risk Management – Specific item TBD: Safety Staff

**December 2017**
- Safety Policy – Evaluation of Safety Committee Charter: Committee Chair & Members

**January 2018**
- Safety Policy – Approval of 2016 Work Plan: Committee Chair & Members
- Safety Risk Management – Specific item TBD: Safety Staff

**Detailed Summary**

I. RECURRING AGENDA ITEMS

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The Committee Chair will request a motion to approve the minutes of the prior meeting of the Safety Committee.
Committee Work Plan
The Work Plan will list, by meeting, the topics scheduled for review. The Committee will be advised if any changes have been made to the plan.

II. SPECIFIC AGENDA ITEMS

Note: The SMS framework has four pillars: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. To facilitate general oversight of SMS activities at the MTA and its agencies, each agenda items will generally pertain to one of these pillars.

**February 2017**

**Safety Policy**

**SMS Framework & Safety Metrics**
The MTA Chief Safety Officer will review SMS principles, summarize accomplishments in 2016 and any changes in leading indicators.

**May 2017**

**Safety Policy**
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Policy SMS pillar.

**Safety Risk Management**
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.

**July 2017**

**Safety Assurance – Review of Safety Performance**
The committee will receive a briefing and discussion will be invited pertaining to the safety performance of the agencies. This relates to the Safety Assurance SMS pillar, and provides an opportunity for deeper exploration of “lagging” indicators of safety.

**Safety Promotion**
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Promotion SMS pillar.

**September 2017**

**Safety Promotion**
The committee will receive a briefing and/or an action item pertaining to a specific aspect of the Safety Promotion SMS pillar.

**Safety Risk Management**
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.

**December 2017**
Safety Policy – Evaluation of Safety Committee Charter
The Safety Committee Charter specifies that the Committee Chair & Members will review the charter annually. This relates to the Safety Policy SMS pillar.

Safety Assurance – Review of Safety Performance
The committee will receive a briefing and discussion will be invited pertaining to the safety performance of the agencies. This relates to the Safety Assurance SMS pillar, and provides an opportunity for deeper exploration of “lagging” indicators of safety.

January 2018

Safety Policy – Approval of 2018 Work Plan
The committee will be presented with and discuss the 2018 work plan and asked to approve the same. As the work plan governs the activities of the committee, this pertains to the Safety Policy SMS pillar.

Safety Risk Management
The committee will receive a briefing and discussion will be invited pertaining to a specific aspect of the Safety Risk Management SMS pillar.
The Metropolitan Transportation Authority
SAFETY COMMITTEE

This Charter for the Safety Committee was adopted by the Board Chair and a majority of the members of Board of the Metropolitan Transportation Authority, a public benefit corporation established under the laws of the State of New York (together with any other entity or corporation for which the members of the Metropolitan Transportation Authority serve as a board of directors, the “MTA”), as amended on June 22, 2016.

I. PURPOSE

The Safety Committee (the “Committee”) shall assist the Board Chair and the Board by reviewing, providing guidance, and making recommendations with respect to the management of safety on an MTA-wide basis.

The MTA manages safety through its SMS or “Safety Management System,” which is a top-down, organization wide, data driven approach to managing safety risk and assuring the effectiveness of safety mitigations. SMS includes systematic policies, procedures, and practices for the management of safety risk.

II. COMMITTEE AUTHORITY

In discharging its role, the Committee is empowered to investigate any matter brought to its attention. To facilitate any such investigation, the chairperson of the Committee shall have access to all books, records, facilities and staff of the MTA (including any of its subsidiary corporations or affiliates). The foregoing is not intended to alter or curtail existing rights of individual Board members to access books, records or staff in connection with the performance of their fiduciary duties as Board members.

III. COMMITTEE MEMBERSHIP

The Committee shall consist of 3 or more members of the Board and shall include the Board Chair, the chairs of each operating committee of the Board, and each member of the Board recommended for appointment to the Board by a labor organization. All other members of the Committee shall be appointed by the Board Chair. If not otherwise a member of the Committee, each Vice-Chair of the Board shall be an ex officio member of the Committee. The Board Chair shall appoint the chairperson of the Committee. In the absence of the chairperson at a meeting of the Committee, the Board Chair shall appoint a temporary chairperson to chair such meeting. A member of the Committee may be removed, for cause or without cause, by the Board Chair.

IV. COMMITTEE MEETINGS

The Committee shall meet on a regularly-scheduled basis at least 4 times per year, and more frequently as circumstances dictate. The Committee shall cause to be kept adequate minutes of all its proceedings and records of any action taken. Committee members will be furnished with copies of the minutes of each meeting. Meetings of the Committee shall be open to the public, and the Committee shall be governed by the rules regarding public meetings set forth in the applicable provisions of the Public Authorities Law and Article 7 of the Public Officers Law that relate to public notice, public speaking and the conduct of executive session. The Committee may form and assign responsibilities to subcommittees.
when appropriate. The Committee may request that any member of the Board, the Chief Safety Officer, the Auditor General, any officer or staff of the MTA, or any other person whose advice and counsel are sought by the Committee, attend any meeting of the Committee to provide such pertinent information as the Committee requests. The Chief Safety Officer shall (1) furnish the Committee with all material information pertinent to matters appearing on the Committee agenda relating to safety on an MTA-wide basis, (2) provide the chairperson of the Committee with all information regarding safety on an MTA-wide basis that is material to the Committee’s monitoring and oversight of safety on an MTA-wide basis, and (3) inform the chairperson of the Committee of any matters not already on the Committee agenda that should be added to the agenda in order for the Committee to be adequately monitoring and overseeing safety on an MTA-wide basis.

V. COMMITTEE REPORTS

The chairperson of the Committee shall report on the Committee’s proceedings, and any recommendations made.

VI. KEY RESPONSIBILITIES

The following responsibilities are set forth as a guide with the understanding that the Committee may diverge as appropriate given the circumstances. The Committee is authorized to carry out these and such other responsibilities assigned by the Board Chair or the Board, from time to time, and take any actions reasonably related to the mandate of this Charter.

To fulfill its purpose, the Committee shall:

1. Monitor the implementation and operation of the MTA’s SMS;

2. Monitor the safety record of the MTA and each of its subsidiaries and constituent authorities, including by selecting and reviewing key safety indicators;

3. Provide a forum for the open discussion of safety issues among representatives from the MTA and each of its subsidiaries and constituent agencies;

4. Facilitate the identification of approaches and solutions that address MTA-wide safety issues;

5. Review and assess the adequacy of this Charter annually;

6. Conduct an annual self-evaluation of the performance of the Committee, including its effectiveness and compliance with this Charter; and

7. Report regularly to the Board Chair and Board on Committee findings and recommendations and any other matters the Committee deems appropriate or the Board Chair or the Board requests, and maintain minutes or other records of Committee meetings and activities.
# October 2016 Safety Report

## Performance

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>FRA Reportable Customer Accident Rate per Million Customers</td>
<td>2.16</td>
<td>1.85</td>
<td>1.19</td>
</tr>
<tr>
<td>FRA Reportable Employee Lost Time Injury Rate per 200,000 worker hours</td>
<td>2.77</td>
<td>2.14</td>
<td>2.92</td>
</tr>
<tr>
<td>Grade Crossing Incidents&lt;sup&gt;1&lt;/sup&gt;</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Mainline FRA Reportable Train Derailments</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mainline FRA Reportable Train Collisions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<sup>1</sup> Per FRA - Any impact between railroad on-track equipment and a highway user at a highway-rail grade crossing. The term “highway user” includes automobiles, buses, trucks, motorcycles, bicycles, farm vehicles, pedestrians, and all other modes of surface transportation motorized and un-motorized.

## Leading Indicators

### Employee: Focus on C3RS

<table>
<thead>
<tr>
<th>Employee: Focus on C3RS</th>
<th>2015</th>
<th></th>
<th>2016</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>October</td>
<td>Year end</td>
<td>October</td>
<td>Year to Date</td>
</tr>
<tr>
<td>Total Reports Received</td>
<td>0</td>
<td>574</td>
<td>4</td>
<td>570</td>
</tr>
<tr>
<td>Total Reports Reviewed by PRT</td>
<td>0</td>
<td>261</td>
<td>38</td>
<td>715</td>
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<tr>
<td>Total Reports that Meet C3RS Program Criteria</td>
<td>0</td>
<td>212</td>
<td>29</td>
<td>583</td>
</tr>
<tr>
<td>Total Corrective Actions being Developed</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Total Corrective Actions Implemented</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Customer and Community: Focus on Grade Crossings

<table>
<thead>
<tr>
<th>Customer and Community: Focus on Grade Crossings</th>
<th>2015</th>
<th></th>
<th>2016</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Gates</td>
<td>October</td>
<td>Year to Date</td>
<td>October</td>
<td>Year to Date</td>
</tr>
<tr>
<td>MTA Police Details</td>
<td>1</td>
<td>24</td>
<td>5</td>
<td>51</td>
</tr>
<tr>
<td>Summons</td>
<td>110</td>
<td>1,170</td>
<td>136</td>
<td>1,317</td>
</tr>
<tr>
<td>Warnings</td>
<td>9</td>
<td>175</td>
<td>9</td>
<td>100</td>
</tr>
<tr>
<td>Community Education and Outreach</td>
<td>NA</td>
<td>NA</td>
<td>11,432</td>
<td>38,378</td>
</tr>
</tbody>
</table>

### Cameras on Rolling Stock

<table>
<thead>
<tr>
<th>Cameras on Rolling Stock</th>
<th>Fleet Size</th>
<th>Total Installed</th>
<th>% Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inward / Outward Facing Cab Cameras</td>
<td>956</td>
<td>4</td>
<td>0.42%</td>
</tr>
<tr>
<td>Passenger Compartment Cameras</td>
<td>1,083</td>
<td>5</td>
<td>0.46%</td>
</tr>
<tr>
<td>Total</td>
<td>2,039</td>
<td>9</td>
<td>0.44%</td>
</tr>
</tbody>
</table>

**Definitions:**

Confidential Close Call Reporting System (C3RS) - Labor, Management, and Federal Railroad Administration (FRA) partnership designed to enhance safety through analysis of confidential reports of employee close calls. The Peer Review Team (PRT) meets to review reports and recommend corrective actions. Program began in April, 2015.

Broken Gates - The number of events at grade crossing locations where a vehicle broke a crossing gate.

MTA Police Detail - The number of details specifically for the purpose of monitoring behavior at Grade Crossings.

Summons for Grade Crossing Violation and other Infractions- The number of violations issued to a motorist for going around a crossing gate or due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Warnings - The number of warnings issued to motorists due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Community Education and Outreach - The number of participants who attended a TRACKS, Operation LifeSaver, or Railroad Safety Awareness Event. Program began in May 2016.

Cameras on Rolling Stock - Number of complete inward/outward and passenger compartment camera installations on rolling stock. Installation began in October 2016.
October Safety Report

Statistical results for the 12-Month period are shown below.

<table>
<thead>
<tr>
<th>Performance Indicator</th>
<th>12-Month Average</th>
</tr>
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<tbody>
<tr>
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<tr>
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<td>3</td>
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Leading Indicators

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<td>45</td>
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<td>45</td>
</tr>
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<td>27</td>
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<td>0</td>
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<td>0</td>
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<td>107</td>
</tr>
<tr>
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<td>59</td>
<td>797</td>
</tr>
<tr>
<td>Summons</td>
<td>98</td>
<td>1,025</td>
</tr>
<tr>
<td>Warnings</td>
<td>43</td>
<td>504</td>
</tr>
<tr>
<td>Arrests</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Community Education and Outreach</td>
<td>21,546</td>
<td>90,434</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cameras on Rolling Stock</th>
<th>Completed</th>
<th>Total</th>
<th>% Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled to Begin in December</td>
<td>TBD</td>
<td>TBD</td>
<td></td>
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</table>

Definitions:

Confidential Close Call Reporting System (C3RS) - Labor, Management, and Federal Railroad Administration (FRA) partnership designed to enhance safety through analysis of confidential reports of employee close calls. The Peer Review Team (PRT) meets to review reports and recommend corrective actions.

Broken Gates - The number of events at grade crossing locations where a vehicle broke a crossing gate.

MTA Police Detail - The number of details specifically for the purpose of monitoring behavior at Grade Crossings.

Summons for Grade Crossing Violation and other Infractions - The number of violations issued to a motorist for going around a crossing gate or due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Warnings - The number of warnings issued to motorists due to behavior that put the motorist at risk (i.e. cell phone use, etc.).

Community Education and Outreach - The number of participants who attended a TRACKS, Operation LifeSaver, or Railroad Safety Awareness Event.

Cameras on Rolling Stock - Number of complete inward/outward camera installations on rolling stock.
## Monthly Operations Report

Statistical results for the 12-Month period are shown below.

### Safety Report

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subways</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subway Customer Accidents per Million Customers ¹</td>
<td>2.60</td>
<td>2.63</td>
<td>2.52</td>
<td></td>
</tr>
<tr>
<td>Subway Collisions ²,³</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Subway Derailments ²,³</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Subway Fires ²</td>
<td>978</td>
<td>1,048</td>
<td>925</td>
<td></td>
</tr>
<tr>
<td><strong>Buses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Collisions Per Million Miles</td>
<td>49.24</td>
<td>52.13</td>
<td>56.15</td>
<td></td>
</tr>
<tr>
<td>Bus Collision Injuries Per Million Miles</td>
<td>6.31</td>
<td>6.54</td>
<td>6.40</td>
<td></td>
</tr>
<tr>
<td>Bus Customer Accidents Per Million Customers</td>
<td>1.08</td>
<td>1.13</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>Total NYCT and MTA Bus Lost Time Accidents per 100 Employees</td>
<td>3.63</td>
<td>3.88</td>
<td>4.01</td>
<td></td>
</tr>
</tbody>
</table>

¹ 12-Month Average data from October through September.
² 12-month figures shown are totals rather than averages.
³ Data from November through November.

### Leading Indicators

#### Subways

<table>
<thead>
<tr>
<th>Roadway Worker Protection</th>
<th>November</th>
<th>YTD</th>
<th>Goal</th>
<th>YTD as % of Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Track Safety Audits -- Actual Count</td>
<td>18</td>
<td>331</td>
<td>336</td>
<td>98.5%</td>
</tr>
<tr>
<td>Joint Track Safety Audits -- Compliance Rate</td>
<td>99.7%</td>
<td>99.0%</td>
<td>100.0%</td>
<td>99.0%</td>
</tr>
</tbody>
</table>

#### Mainline Collision/ Derailment Prevention

| Continuous Welded Rail Initiative (# of Track Feet)         | 4,042    | 51,785 | 61,178  | 84.6%            |

#### Station -- Emergency Communication

| Help Point Installations                                   | 15       | 120    | 130     | 92.3%            |

#### Buses

<table>
<thead>
<tr>
<th>Collision Prevention</th>
<th>November</th>
<th>YTD</th>
<th>Goal</th>
<th>YTD as % of Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audible Pedestrian Warning System Pilot ⁴</td>
<td>4</td>
<td>4</td>
<td>40</td>
<td>10.0%</td>
</tr>
<tr>
<td>Collision Warning System Pilot ⁵</td>
<td>2</td>
<td>2</td>
<td>20</td>
<td>10.0%</td>
</tr>
<tr>
<td>Vision Zero Employee Training</td>
<td>538</td>
<td>5,521</td>
<td>6,000</td>
<td>92.0%</td>
</tr>
</tbody>
</table>

⁴ Proof of concept on 4 buses continues to function as designed. Vendor has initiated retrofit program to install turn warning system and are on target to install 40 pilot buses by end of year.

⁵ Proof of concept on 2 buses continues to function as designed. Vendor has initiated retrofit program to install the operator alert system and are on target to install 20 pilot buses by end of year.
Safety Report

Statistical results for the 12-Month period are shown below.

<table>
<thead>
<tr>
<th>Performance Indicator</th>
<th>12-Month Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>November 2014</td>
</tr>
<tr>
<td>Customer Collisions Rate for Bridge Customers per Million Vehicles</td>
<td>5.81</td>
</tr>
<tr>
<td>Customer Injury Collisions Rate for Bridge Customers per Million Vehicles</td>
<td>0.94</td>
</tr>
<tr>
<td>Employee Accident Reports</td>
<td>256</td>
</tr>
<tr>
<td>Employee Lost Time Injuries Rate per 200,000 worker hours</td>
<td>4.9</td>
</tr>
<tr>
<td>Construction Injuries per 200,000 worker hours</td>
<td>2.77</td>
</tr>
</tbody>
</table>

Leading Indicators

<table>
<thead>
<tr>
<th>Roadway Safety</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce Development (# of Participants)</td>
<td>23</td>
<td>1687</td>
</tr>
<tr>
<td>Fleet Preventative Maintenance Insp.</td>
<td>66</td>
<td>1186</td>
</tr>
<tr>
<td>Safety Taskforce Inspections</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>October</td>
<td>Year End</td>
<td>October</td>
</tr>
<tr>
<td>Construction Safety</td>
<td>403</td>
<td>3419</td>
</tr>
<tr>
<td>Fire Safety</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Fire Code Audits Completed</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>FDNY Liaison Visits</td>
<td>2</td>
<td>23</td>
</tr>
</tbody>
</table>

Definitions:

**Workforce Development** provides for focused safety and skills training to all operations, maintenance and staff personnel. Classes feature OSHA 10 and 30 Classes, operations mandatory safety and skills instruction and retraining and specialty training (TIMS, CDL, FDNY instruction, Wrecker Driver Instruction and Roadway Safety Rules).

**Fleet Preventative Maintenance Inspections** are conducted at each location to improve the customer and worker safety environment. Inspections identify potential hazardous roadway or facility conditions and prescribe corrective actions to eliminate hazards.

**Safety Taskforce Inspections** are conducted by the joint Labor and Management Committee at each facility throughout the year on a rotating basis. The inspections consist of reviewing past accident and incident experiences/reports and facility safety reports. The Taskforce meets with location management and union representatives and makes a complete tour of the facility. The Taskforce is comprised of representatives of the Safety and Operations groups and has representation from each of the represented unions.

**Construction Safety Inspections** are conducted by an independent safety monitor to ensure that the necessary components for a safe construction are present. Inspections include review of safety organization, job hazard analysis, safe work plans for specific high risk activities, personal protective equipment, fire protection, industrial hygiene, and training.

**Fire Code Audits** are required by the NYS Uniform Fire Prevention Code. They are conducted by the Safety and Health Department at each building and facility throughout the Agency. They feature a review of fire prevention activities and the condition of fire fighting and suppression equipment.

**FDNY Liaison Visits** are conducted on a regular basis (typically twice a year) whereby local fire companies visit and tour the facilities to become familiar with the structures and buildings and the fire equipment provided. This facilitates the development of strategies for fighting fires and responding to emergencies. Additionally, special drills and training exercises are conducted to drill on communications and special rescue operations should they be required.
Fall (Seasonal) Challenges

MTA Bus Operations

The Fall season has been linked to an increase in collisions involving pedestrians

- Fall challenges include:
  - Daylight savings (earlier sunset and darkness)
  - Holiday distractions
  - Increased number of tourists
  - Traffic congestion
  - Wet leaves on roadbed

- According to New York City traffic analysis, the weekday hourly average rate of severe injuries and fatalities involving pedestrians nearly triples in mid-December as compared to August

- MTA’s program is in line with the City’s “Dusk and Darkness” safety campaign
Buses’ emphasis has shifted from traditional safety metrics to more predictive measures.

**Lagging Indicators (Reactive):**
Measurements collected after an incident occurs.
- Bus Collisions
- Customer Accidents
- Injuries On Duty

**Leading Indicators (Predictive):**
Pre-incident measurements.
- Aggressive Driving Complaints
- Check Ride Violations
- Customer Complaints
- Red Light Camera Violations
- Speed Camera Violations

Business intelligence tools are now utilized to inform and improve current safety strategies.

- In prior years safety data was kept across multiple databases which made analyses and measurement challenging.

- New analytic tools introduced to provide a holistic view of safety performance effectively capturing leading indicators and enabling the potential for early intervention.
Communications strategy has been shifted to effectively share relevant safety information

- Letters from executive staff
- Posters
- Take-ones
- Safety materials at Picks
- Shop gates
- Union meetings
- Videos
Emergency Responder Training

Background

• Regulatory requirement under FRA Title 49 Part 239
• Training is delivered by Employee Training and Corporate Development Department in partnership with Corporate Safety and Transportation Departments
• Classroom, Hands on Equipment Familiarization, Yard Familiarization and Drills
### Classroom, Hands On Equipment and Yard Familiarization

#### Suffolk Fire Departments

<table>
<thead>
<tr>
<th>Year (YTD)</th>
<th>Departments</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>10</td>
<td>610</td>
</tr>
<tr>
<td>2015</td>
<td>11</td>
<td>479</td>
</tr>
<tr>
<td>2016</td>
<td>21</td>
<td>810</td>
</tr>
</tbody>
</table>

#### Nassau Fire Departments

<table>
<thead>
<tr>
<th>Year (YTD)</th>
<th>Departments</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>4</td>
<td>147</td>
</tr>
<tr>
<td>2015</td>
<td>10</td>
<td>344</td>
</tr>
<tr>
<td>2016</td>
<td>5</td>
<td>258</td>
</tr>
</tbody>
</table>

#### FDNY

<table>
<thead>
<tr>
<th>Year (YTD)</th>
<th>Departments</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>24</td>
<td>327</td>
</tr>
<tr>
<td>2015</td>
<td>31</td>
<td>368</td>
</tr>
<tr>
<td>2016</td>
<td>24</td>
<td>306</td>
</tr>
</tbody>
</table>

#### EMS

<table>
<thead>
<tr>
<th>Year (YTD)</th>
<th>Departments</th>
<th>Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>3</td>
<td>74</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>73</td>
</tr>
<tr>
<td>2016</td>
<td>4</td>
<td>72</td>
</tr>
</tbody>
</table>

### Drills

- 2014 Ronkonkoma Yard
- 2015 Atlantic Tunnel / Old Woodhaven Station
- 2015 Babylon Yard
- 2016 Atlantic Tunnel / Old Woodhaven Station
- 2016 Yaphank Siding
Metro-North Railroad’s First Responder Joint Exercise Program

Safety Committee Meeting – December 2016

FRA TRAINING & EXERCISE REQUIREMENTS

49 CFR 239 – Passenger Train Emergency Preparedness

- Standards for Emergency Preparedness Planning
- Emergency Communication & Coordination
- First Responder Training & Exercise Requirements
- Annual Full-Scale Exercise (FSE)
- Promotes Safety of Passengers with Disabilities
Metro-North Railroad’s Joint Exercise Program

METRO-NORTH JOINT EXERCISE PROGRAM
- Passenger Train Emergency Preparedness Plan Training
- Yard And Rail Equipment Familiarization
- Local First Responder Training & Drills
- Full-scale Exercise (FSE)
- After Action Report & Corrective Actions Plan

2016 JOINT EXERCISE

Partners
- Westchester County Department of Emergency Services
- Westchester Independent Living Center

Focus
- Assisting limited mobility customers during an evacuation

Desired Outcome
- Develop strategies for assisting limited mobility customers and non-ambulatory patients during rail-based incidents
Metro-North Railroad’s Joint Exercise Program

Participants
- Metro-North Railroad
- MTA Police Department
- North White Plains Fire Department
- Valhalla Volunteer Ambulance Corps
- Westchester County Department of Emergency Services
- Westchester County Technical Rescue Team
- Westchester Independent Living Center, Inc.

Scenario
- Passenger Train Strikes a Downed Tree
- Minor Smoke Condition in First Car
- Customer Using Wheelchair in First Car
Metro-North Railroad’s Joint Exercise Program

Lessons Learned – Passenger Relocation

- Emergency egress staircases reduce evacuation time
- EMS stair chair fits down aisle & through barrel-end doors
- Vertical ladders present evacuation challenges

Lessons Learned – Passenger Technical Rescue

- Removal through egress windows can be accomplished using basic equipment:
  - Roof Ladder
  - Stokes Basket
  - Ropes & Webbing
- Motorized mobility “scooters” can be disassembled and removed through egress window