



The Massachusetts Bay Transportation Authority

ROW Rules Compliance and Safety Work Plan

IAL-230418-WP-1-
230605 Work Plan

BACKGROUND

Overview: FTA issued an Immediate Action Letter (IAL) to require the Massachusetts Bay Transportation Authority (MBTA) to address findings and implement measures to protect workers on its Right-of-Way (ROW) on April 18, 2023. Between March 13, 2023 and April 14, 2023, the MBTA experienced five near miss events and a serious employee injury, resulting in required immediate action from the FTA for the MBTA to:

- Enhance Monitoring of Implementation of Track Access Procedures
- Assess Capacity to Support Track Access
- Develop and Implement a ROW Rules Compliance and Safety Work Plan and
- Expedite Revision of Initial ROW Safety Training Materials

PURPOSE

This Work Plan has been developed to address the FTA's requirement to Develop and Implement a ROW Rules Compliance and Safety Work Plan.

FTA Required Action

1. Complete the development of a ROW rules compliance and safety work plan that sets forth corrective actions MBTA will take to improve compliance with ROW safety procedures and ensure motorperson awareness regarding the presence of workers on the ROW, based on review of near miss events, and the above required activities. At a minimum, the work plan must address the following actions:
 - a. worker ahead flagging or notice provided to motorpersons in stations in advance of workers on the ROW;
 - b. re-configuration of available radio channels to provide additional capacity for heavy and light rail lines;
 - c. review and revision of required information to be exchanged between flaggers and dispatchers during radio call on/call off process to ensure unambiguous and explicit communication;
 - d. review and revision of night and day orders to ensure safety critical information is communicated explicitly;
 - e. adoption of line maps or other tools for OCC dispatchers to track the presence of workers on the ROW;
 - f. increased use of Level 3 protection for some MBTA work crews;
 - g. additional training, qualification, and experience requirements for OCC dispatchers managing ROW access;
 - h. additional training and qualification for Operations and Engineering & Maintenance flaggers;
 - i. enhanced audits of ROW safety; and
 - j. changes to the Safety Rules Compliance Program to include requirements for providing feedback to workers (positive and constructive) at conclusion of each observation and collection of additional information to support understanding of the real world conditions under which workers access the ROW.

ANALYSIS AND RECOMMENDATIONS

Analysis

The MBTA must review and improve existing processes and procedures used to manage ROW access, safety and awareness. This effort must include technical solutions to existing systems and adaptive solutions for departmental staff through training and additional resources.

Recommendations

Develop a work plan of executable tasks to review and improve previous submittals required by the IAL, assess each element in the FTA Required Action, determine where elements are being addressed under current Corrective Action Plans (CAP) or other IAL actions, and develop action items to improve each element if not addressed by CAPs and IAL.



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ACTION PLAN

Based on analysis of recent events, MBTA is dedicating to review and improve processes and procedures used to manage ROW access, safety and awareness.

PLAN STRUCTURE: FIRST 60 DAYS

#	Actionable Items	Description	Main Stakeholders ¹	Est Start ²	Est End ³
Item 1.a worker ahead flagging or notice provided to motorpersons in stations in advance of workers on the ROW					
1.a.1	Assess and implement light rail pilot	Determine and perform modifications (e.g., mobile a-frame signs, fixed platform signs, advanced mobile flagger, etc.) to current light rail operations & infrastructure in the Green Line central subway (Hynes to Park). Pilot location selected due to proximity to multiple near miss incidents.	QCO*, Operations, E&M	6/5/2023	8/7/2023
1.a.2	Develop procedure and train staff	Create standard procedures that address how notice is established, removed, communicated and resulting actions of when notice is recognized. Develop and implement training materials for new procedures to pilot in the Green Line central subway. Pilot location selected due to proximity to multiple near miss locations.	QCO*, Operations, E&M, Training	6/5/2023	8/7/2023
1.a.3	Procure consulting services	Issue an RFP for consulting services to assess technological capabilities for long-term implementation of measures intended to provide notice to motorpersons in advance of workers on the ROW.	QCO*, Operations, IT, OCE	6/5/2023	8/7/2023
Item 1.b re-configuration of available radio channels to provide additional capacity for heavy and light rail lines					
1.b.1	Administer spot audits of radio logs under IAL-AC-5 action	Establish recurring cadence of radio audits to develop data that is incorporated into analyses for root causes.	QCO*, Safety, Operations	4/28/2023	8/7/2023
1.b.2	Diversion Radio Communication Pilot	Implement a move of diversion related radio communications to dedicated channel(s), to be managed by the construction supervisor with OCC.	IT, QCO*, Safety, Operations	6/5/2023	8/7/2023
1.b.3	Train on use of ICAO language	Develop a training for International Civil Aviation Organization (ICAO) language for radio communication to be deployed within OCC.	QCO*, Safety, Operations	6/5/2023	8/7/2023
Item 1.c review and revision of required information to be exchanged between flaggers and dispatchers during radio call on/call off process to ensure unambiguous and explicit communication					
1.c.1	Review Call On/Call Off Script	Perform a detailed analysis of radio communication logs to determine if current script/process is not over or under detailed.	QCO*, Operations, E&M	4/18/2023	7/14/2023

¹ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

² Est Start – Estimated Start Date

³ Est End Estimated Completion Date

* Indicates responsible department



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1.c.2	Revise Call On/Call Off Script	Based on analysis, revise script/process with sufficient detail and standardized checklists.	QCO*, Operations, E&M	7/14/2023	8/7/2023
Item 1.d review and revision of night and day orders to ensure safety critical information is communicated explicitly					
1.d.1	Revise Day/Night Order Draft Reviews	Increased structure and monitoring of day/night order draft reviews to ensure there are no single points of failure in creating and revising the orders for final distribution.	QCO*, E&M, Operations	4/18/2023	5/19/2023
1.d.2	Revise day/night orders	Complete short-term actions outlined in April 24 th submission to incorporate additional key contacts, safety hotline details to improve communication.	QCO*, E&M, Operations	4/18/2023	6/16/2023
1.d.3	Implement addendum timeframe limitations for day/night orders	Standardize and enforce requirements for revisions to day/night orders.	QCO*, E&M, Operations	4/18/2023	5/19/2023
1.d.4	Revise test train procedure and work crew limitations	Develop procedure to document test train routing on day and night orders and deconflict work to be occurring during test train operations.	QCO*, E&M, Operations, Construction Logistics	4/18/2023	6/23/2023
1.d.5	Implement ROW Access Request Form Improvements	Analyze fields available in the ROW Access Request Form to understand if there are additional fields that would provide greater level of detail on work limits or scope to aid in clarifying the orders	QCO*, E&M, Operations,	4/18/2023	8/1/2023
Item 1.e adoption of line maps or other tools for OCC dispatchers to track the presence of workers on the ROW					
1.e.1	Observe visual aid Blue Line pilot at OCC	Develop feedback loop for technical & adaptive improvements to an already implemented pilot program to put power map on dispatcher's sheet to visually assess where workers are located.	QCO*, E&M, OCC	5/1/2023	6/30/2023
1.e.2	Update/streamline available dispatcher documentation	Assess effectiveness of OCC documentation for each transit line and implement technical improvements or revision to existing documentation for ease of use & awareness.	QCO*, E&M, OCC	6/30/2023	7/14/2023
1.e.3	Develop additional visual aid pilots for other Light & Heavy rail lines	Utilize feedback loop from Blue Line Pilot to provide visual aid for light & heavy rail lines. Expanded pilot will include a documentation retention plan.	QCO*, E&M, OCC	7/14/2023	8/7/2023
Item 1.f increased use of Level 3 protection for some MBTA work crews					
1.f.1	Level 3 Protection Analysis	Develop an assessment of what types of work activities currently utilize Level 3 protection (work that is <1 hour with live service) with pros & cons for other activities to be performed under Level 3 protection or the appropriate level of protection.	QCO*, E&M, Operations	6/5/2023	8/7/2023
Item 1.g additional training, qualification, and experience requirements for OCC dispatchers managing ROW access					



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1.g.1	ROW Addendum Curriculum class size	Increased instructor to participant ratio to make training more effective. Ensure all of OCC attends and passes RAC training.	QCO*, Training, Operations	5/15/2023	8/7/2023
1.g.2	Implement additional OCC supervisory presence & authority	Ensure that all shifts have senior supervisory presence to administer pre-shift briefings that educate high-risk operations requiring oversight, on-the-job coaching and training. (In practice, at time of submission, Division Chief Deputy and Division Chief are scheduled on night shift to coach and train dispatchers as an interim measure while analyzing staffing needs).	QCO*, OCC, E&M	4/24/23	8/7/2023
1.g.3	Existing training evaluation and gap analysis	Review existing training, qualifications and experience required for OCC dispatchers to manage ROW access and determine additional needs. Revise existing 22-6 & 7 consultant scope to prioritize training evaluation and gap analysis of ROW access management.	QCO*, Training, OCC, Operations	6/5/2023	8/7/2023
Item 1.h additional training and qualification for Operations and Engineering & Maintenance flaggers					
1.h.1	ROW Addendum Curriculum class size	Increase instructor to participant ratio to make training more focused and effective.	QCO*, Training, Operations	5/15/2023	5/24/2023
1.h.2	Utilize existing initiatives to increase staff capabilities	In addition to RAC training, action items associated with items 1.b, 1.c & 1.f, revise ROW checklist to include safety critical information with personnel signatory concurrence.	QCO*, Operations, E&M, Training	6/5/2023	8/7/2023
Item 1.i enhanced audits of ROW safety					
1.i.1	Work Site Hazard Analysis Documentation	Develop and implement procedures to document work site hazard analyses are completed to work commencing and the resulting requirements for protection measures.	QCO*, E&M, Construction Logistics	4/20/2023	8/7/2023
1.i.2	ROW Access Verification Implementation	Develop and implement procedures to document ROW access after work is complete to document any deficiencies in ROW access protocols.	QCO*, Operations, Safety	4/20/2023	8/7/2023
1.i.3	Revise ROW Checklist	Revise ROW checklist to include safety critical information such as site/work specific hazards, sign-in record of all participating field personnel, and confirmation of ROW certification, and with personnel signatory concurrence of job and protection understanding.	QCO*, Operations, E&M	6/5/2023	8/7/2023
1.i.4	ROW Roster Implementation	Develop and implement procedures to document personnel planning to access the ROW 24 hours in advance.	QCO*, Operations, E&M	4/20/2023	5/19/2023
Item 1.j changes to the Safety Rules Compliance Program to include requirements for providing feedback to workers (positive and constructive) at conclusion of each observation and collection of additional information to support understanding of the real-world conditions under which workers access the ROW					
1.j.1	Revise SRCP Forms	Revise forms to include constructive feedback that supports understanding of	QCO*, E&M, Operations	4/20/2023	8/7/2023



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		the real-world conditions under which workers access the ROW.			
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PLAN STRUCTURE: BEYOND FIRST 60 DAYS

#	Actionable Items	Description	Main Stakeholders ⁴	Est Start ⁵	Est End ⁶
Item 1.a worker ahead flagging or notice provided to motorpersons in stations in advance of workers on the ROW					
1.a.4	Onboard consultant	Onboard selected consultant	QCO*	8/8/2023	9/25/2023
1.a.5	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and determine best practices for advanced notice to motorpersons of workers on the ROW.	QCO*, Operations	9/25/2023	11/1/2023
1.a.6	Select consultant recommendations	Engage stakeholder departments to review short and long-term improvement recommendations to select measures to be implemented.	QCO*, Operations, E&M	11/2/2023	12/17/2023
Item 1.b re-configuration of available radio channels to provide additional capacity for heavy and light rail lines					
1.b.4	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and determine best practices for radio channel management.	QCO*, IT, Operations	8/7/2023	9/1/2023
1.b.5	Complete analysis of radio volume to assess root cause of potential capacity issues	Review results of Safety audits, analyses and results to independently analyze results to identify root causes of issues with radio communication capacity.	QCO*, Safety, IT Operations	8/7/2023	10/1/2023
1.b.6	Develop a set of recommendations	Based on analysis results, develop revisions to radio channel management, including potentially adjusting ROW work assignments, radio call procedures and multichannel classifications of types of radio calls.	QCO*, IT, Operations	10/1/2023	10/27/2023
1.b.7	Accommodate selected recommendations	Adjust rules, policies, procedures and radio systems configurations to adopt revisions.	QCO*, IT, Operations	10/28/2023	3/2/2024
1.b.8	Design verification procedure to ensure rules are complied and effective	Continually evaluate final configurations, processes and roles to verify compliance and identify improvements to the revisions.	QCO*, IT, Operations	1/19/2024	5/17/2024
Item 1.c review and revision of required information to be exchanged between flaggers and dispatchers during radio call on/call off process to ensure unambiguous and explicit communication					
1.c.3	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and determine best practices for call on/call off script/procedure.	QCO*, OCC, E&M	8/7/2023	9/1/2023
1.c.4	Training on OCC communication	Update SD 22-7 CAP 6 training materials and train dispatchers, flagging and motorpersons on new script & process.	QCO*, Training, E&M, Operations	9/15/2023	11/17/2023

⁴ In the event of personnel or departmental changes, responsibilities for actionable items shall transfer to the new leadership.

⁵ Est Start – Estimated Start Date

⁶ Est End Estimated Completion Date

* Indicates responsible department



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1.c.5	Call On/Call Off Feedback Loop	Perform a series of verification audits to confirm new script & checklists are being used efficiently. Receive input from employees and revise procedure accordingly. Develop an ongoing audit procedure for OCC instructors to continually review procedure execution.	QCO*, OCC, E&M, Operations	11/18/2023	2/16/2024
Item 1.d review and revision of night and day orders to ensure safety critical information is communicated explicitly					
1.d.6	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and determine best practices for development, review, revision and issuance of night and day orders.	QCO*, E&M, OCC	8/7/2023	9/1/2023
1.d.7	Mid Term Actions (SD 22-4 Trial)	Complete mid-term actions in-line with SD 22-4 CAP 4 trial plan (FTA-TRA-22-004: AI 5) <ul style="list-style-type: none"> - Improved definitions of power isolations - Adjust planning timelines (trial) Revised document format (trial)	QCO*, E&M, OCC	4/1/2023	9/1/2023
1.d.8	Long Term Actions (SD 22-4 CAP 4 Implementation)	Complete long-term actions in line with SD 22-4 CAP 4 implementation plan <ul style="list-style-type: none"> - Fully implement adjusted planning timelines Fully implement revised document format	QCO*, E&M, OCC	9/1/2023	2/1/2024
1.d.9	Documentation and Training	Complete documentation and training for all key roles participating in the compilation, review, and execution of the day and night orders in line with SD 22-4 CAP 4 AI 10	QCO*, E&M, OCC	2/1/2024	6/30/2024
Item 1.e adoption of line maps or other tools for OCC dispatchers to track the presence of workers on the ROW					
1.e.4	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and determine best practices for OCC dispatcher tracking of workers on the ROW. This may include handheld tools, personal visuals or OCC wall technology.	QCO*, E&M, OCC	8/7/2023	9/1/2023
1.e.5	Incorporate visual aid and tools into OCC expansion	Based on industry benchmarking and initiated pilots, develop recommendations for OCC expansion work being performed under SD 22-6 CAP.	QCO*, E&M, OCC, OCE, Capital	9/1/2023	9/15/2023
Item 1.f increased use of Level 3 protection for some MBTA work crews					
1.f.2	Assess levels of protection	Utilize existing consultant (22-5, 6 & 7) to assess all rules related to levels of protection and make recommendations for gaps & improvements. Once recommendations accepted, consultant will standardize operating procedures and rules for implementation. Provide evaluation of levels of protection to determine frequency of each, associated work activities and trends of efficacy, inefficiencies or linked safety incidents.	QCO*, Operations, E&M, Safety	6/5/2023	9/29/2023
1.f.3	Industry Benchmarking	Assess peer transit agencies to review current practices, technical solutions and	QCO*, E&M, Operations	8/7/2023	10/1/2023



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		determine best practices for levels of protection for work crews.			
1.f.4	Develop & implement ROW Rulebook revisions	Revise ROW rulebook to improve and potentially expand the levels of protection & their definitions. Will also include revisions related to IAL actions updating ROW Safety Training Materials.	QCO*, E&M, Operations, Safety	8/18/2023	TBD
Item 1.g additional training, qualification, and experience requirements for OCC dispatchers managing ROW access					
1.g.4	Develop & implement additional training required	Incorporate development of additional OCC dispatcher training needed to manage ROW access into consultant scope under Special Directive (SD) 22-6 work.	QCO*, Training, OCC, Operations	7/1/2023	12/15/2023
Item 1.h additional training and qualification for Operations and Engineering & Maintenance flaggers					
1.h.3	Develop & implement new ROW flagging class curriculum	Incorporate development of additional flagger training needed to manage ROW access into consultant scope under Special Directive (SD) 22-6 work.	QCO*, Training, OCC, Operations	7/1/2023	12/15/2023
Item 1.i enhanced audits of ROW safety					
1.i.5	Increase Construction Logistics short-term support	Utilize existing consultants and vendors to provide short-term staffing & support to standardize Construction Logistics procedures & processes. Develop longer-term resource plan to adequately staff Construction Logistics oversight of ROW access.	QCO*, Capital, Operations, E&M	8/7/2023	9/29/2023
1.i.6	Assess Departmental Oversight of ROW Safety	Incorporate scope to CAP 22-9-4 consultant to perform analysis of how Capital and E&M manage Contractor/crew ROW access and safety auditing to determine departments have adequate resources & processes.	QCO*, Capital, Operations, E&M	6/5/2023	9/29/2023

COMPLETION DOCUMENTATION

Performance Metrics

- TBD

Verification

Overview:

- TBD



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WORK PLAN COMMITMENT

Responsible Parties

Department ⁷	Name	Email	Signature
E&M	Joseph Cheever	[Redacted]	DocuSigned by: <i>Joseph Cheever</i> DocuSigned by: 1670266149894F7...
IT	John Glennon	[Redacted]	DocuSigned by: <i>John Glennon</i> DocuSigned by: 850157B255C39CF...
OCE	Joseph Pavao	[Redacted]	DocuSigned by: <i>Joseph Pavao</i> DocuSigned by: 96880741D57447...
Training	Frenia Hunter	[Redacted]	DocuSigned by: <i>Frenia Hunter</i> DocuSigned by: 7669B759962371B...
OCC	Kim Dwarika	[Redacted]	DocuSigned by: <i>Kimberly Dwarika</i> DocuSigned by: 27D8D491A4574E7...

Executive Leadership of Responsible Parties

DocuSigned by:
Meredith Sandberg
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Meredith Sandberg
MBTA Acting Chief of Quality, Compliance, and Oversight Date

DocuSigned by:
Scott Bosworth
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Scott Bosworth
MBTA Chief of Capital Programs Date

DocuSigned by:
David Panagore
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David Panagore
MBTA Chief Administrative Officer Date

⁷ Offices designated as supporting roles provide subject matter expertise to responsible parties during action development and are not directly responsible for delivery of actionable items listed above.



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Executive Leadership of Responsible Parties

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Erik Stoothoff

6/5/2023

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Erik Stoothoff

MBTA Acting Chief Operating Officer

Date

DocuSigned by:

Ronald Ester

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Ronald Ester

MBTA Chief Safety Officer

Date

DocuSigned by:

Patrick Lavin

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Patrick J. Lavin

MASSDOT Chief Safety Officer

Date

DocuSigned by:

Phillip Eng

6/5/2023

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Phillip Eng

MBTA General Manager & CEO

Date