Washington Metropolitan Area Transit Authority

# Board Action/Information Summary

| Action | Information | MEAD Number: 201883 | Resolution: Yes | No |
|---|---|---|---|---|

**TITLE:**

Roadway Worker Protection Program

**PRESENTATION SUMMARY:**

The Department of Safety & Environmental Management (SAFE) will update the Board on the Roadway Worker Protection (RWP) program, which is critical in providing protection to individuals occupying the right-of-way.

**PURPOSE:**

The Board Safety Committee will receive an update on the RWP program, and actions being implemented to enhance roadway worker safety. The committee presentation provides transparency to our stakeholders, employees, and public in the Washington metropolitan area community.

**DESCRIPTION:**

Metro continues to work and is committed to identifying and mitigating hazards that pose a safety risk to our employees, contractors, and customers. A comprehensive RWP program is part of the safety defenses designed to keep all roadway workers from harm while on the right-of-way. Several enhancements have occurred to the RWP program, including process changes, codifying RWP requirements, adapting new technology, and increased safety assurance activities.

**Key Highlights:**

• Several additional Roadway Worker Protection (RWP) defenses have been implemented since the last board RWP update.

• SAFE is pursuing bi-directional warning system technologies to add another layer of protection for roadway workers which will meet the NTSB Recommendation R-08-04.

• An Advanced Mobile Flagger (AMF) procedure was recently introduced to strengthen RWP. A roadway worker positioned at station (end of platform) notifies approaching Class I / Class II vehicle operators of mobile work crews ahead of them. This notification involves multiple actions that the operator is required to follow, such as reducing speed, blowing horn, and being vigilant of workers on the track. In addition, the use of Foul Time has been made mandatory in all red hot spots system-wide.

• Several measures have been instituted to provide RWP Safety Assurance, while cooperating with FTA to ensure transparency and compliance.

• Metro has developed a Frequently Asked Questions (FAQs) guidance document for common RWP questions, and is completing a survey which is identifying track system hot spots. The first evolution of this survey was issued in January 2017.

**Background and History:**

Many enhancements have been made since the last Board RWP review in November 2016, including instituting an Advanced Mobile Flagger process and conducting a Hot Spot review. There has also been progress in meeting the NTSB recommendation R-08-04 to enhance roadway worker protection through the use of technology to provide another layer of protection. As this solution requires extensive testing, Metro is taking a low tech approach (i.e., AMF) that moves us closer to the spirit of the NTSB recommendation, while continuing to pursue the high tech solutions, such as bi-directional Protran technology.

**Discussion:**

**RWP Enhancements**
Metro has accomplished many RWP enhancements in the past 18 months. Some were the result of identifying causal factors as part of internal incident investigations; others were in response to FTA recommendations.

Below is a summary of the recent RWP initiatives:

• There was a Safety Stand Down that informed all employees that the daily operations of the Metrorail system must be based on safety, and that safety is the foundation of all decision making within the approved procedures.

• New radio protocols were developed that standardized the verbiage used between wayside personnel and the Rail Operations Control Center.

• Contractor RWP standards were strengthened, requiring all non-Metro personnel to have at least a Level One credential.

• There was a Permanent Order that declared rail vehicles should not exceed 10 MPH while passing personnel on the tracks.

• There was an RWP Escort Training Surge that emphasized the escort's responsibilities while on the roadway.

• There was a Safety Stand Down that informed and educated Roadway Workers in Charge (RWICs) on identifying Hot Spots including No Clearance Zones and the use of Foul Time to establish Exclusive Track Occupancy Roadway Protection.

• The Rail Access Guide was revised to include locations that were upgraded to hot spots.

• AMF – Additional layer of RWP protection by verbally alerting rail vehicle operators of the presence of personnel ahead and invoking actions that the vehicle operators must

take to enhance RWP (i.e., reduced speed, blowing horn, and vigilance for employees on wayside).

• A FAQ guidance document was developed to answer common RWP questions.

• A Vehicle Awareness Technology for roadway maintenance machines (RMMs) was successfully tested and Metro is moving forward with a more extensive pilot program to provide additional layers of RWP in fixed work zones.

• Metro is receiving an FTA grant to explore wayside worker protection technologies. A preliminary test was conducted, and the pilot project will begin once the grant process is complete.

**FTA Grant / NTSB R-08-04**
Metro continues to explore technology and other means to supplement the protection of roadway workers that will eventually meet the NTSB recommendation R-08-04, which states that the Authority must "implement appropriate technology to automatically alert wayside workers of oncoming trains and alert train operators the presence of wayside workers".

Metro will be receiving an FTA grant to help fund the investigation and testing of advance bi-directional warning technologies to improve roadway worker safety.

The project will also test a track inspector location awareness system with enhanced RWP that will communicate with the ROCC: 1) where the roadway worker is located on the right of way (ROW); 2) where the roadway worker entered the ROW or exited the ROW; 3) how long the roadway worker was on the ROW; and 4) where the train is in relationship to the roadway worker.

**Vehicle Awareness Technology**
The Vehicle Awareness Technology is intended to enhance RWP at fixed work zones, and is designed only for Class II / RMMs. Roadway workers don armbands that provide an audio/visual alert when an equipped train approaches. Conversely a device installed at the entering end of the work zone informs approaching trains of the workers presence on the right of way by providing an audio/visual alert within the operators cab. Metro conducted a pilot test of this system in December 2016. Another test is scheduled to be conducted in the near future in order to further customize the system to meet WMATA's needs.

In addition, RMM Vehicle-to-Vehicle collision avoidance protection system is intended to alert Class II operators when their vehicles are within close proximity of each other to reduce the likelihood of collisions between equipped vehicles. Metro conducted a pilot test for this system in December 2016. Another test is scheduled to be conducted in the near future in order to further customize the system to meet Metro's needs.

**Advanced Mobile Flagger**
The Advanced Mobile Flagger (AMF) procedure was implemented in May 2017. Nearly all RWP card holders (98%) have been trained on this process. The procedure includes assigning a roadway worker to be positioned at the end of the rail station platform in the direction of normal travel for Class I/II vehicles. The AMF is equipped with a flashing

amber light and orange flag. The duties of the AMF include notifying the approaching rail vehicle of mobile work crews on the tracks ahead of them.

Once notified, the rail vehicle will travel half of it's regulated speed, and blow its mainline horn continuously. Upon seeing the work crew, the rail vehicle is to reduce their speed to 10 MPH and be prepared to stop. The rail vehicle is not to proceed past the crew until it receives the proper/approved hand signal to proceed. After instructions are received, the rail vehicle must operate at 10 MPH until the entire train has cleared the crew. Only after the rail vehicle has passed the entire crew, may it proceed at its normal speed.

**RWP Safety Assurance**
In addition to the FTA's oversight, there are several layers of internal RWP oversight. The Department of Safety (SAFE), Maintenance of Way, and Rail Transportation are reviewing RWP processes in the field. SAFE personnel are also periodically embedded in the ROCC to review RWP compliance from the controller's perspective. The Department of Quality Assurance, Internal Compliance and Oversight (QICO) is also performing audits on the ROCC, which will include RWP compliance. All non-complaint findings are fully investigated by SAFE and are self-reported by Metro to the FTA.

**Frequently Asked Questions and Hot Spot Survey**
A Frequently Asked Questions (FAQ) guidance document was developed that answers commonly asked RWP questions. This FAQs was communicated to all employees via SAFE website and hard copy at the divisions. Managers discuss the clarification points at the local level as well.

Metro is currently developing a scope of work for updating and clarifying procedures in the Roadway Access Guide as well as affected MSRPH documents.

**FUNDING IMPACT:**

| Information item only - no funding impact. | |
|---|---|
| Project Manager: | Patrick Lavin |
| Project Department/Office: | SAFE |

**TIMELINE:**

| **Previous Actions** | |
|---|---|
| **Anticipated actions after presentation** | • Continue to implement all corrective actions<br>• Continue to review advanced technology for RWP<br>• Complete pilot test |

**RECOMMENDATION:**

To inform the Board's Safety Committee of the status of RWP program and continuing steps to enhanced protection of our employees.

# Supporting RWP Documentation

# Washington Metropolitan Area Transit Authority

METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

# PERMANENT ORDER

**NO. T-16-10 Radio Protocols, Modification to General Rule 1.79**

**Date:** Tuesday, July 19, 2016

**TO:** All Personnel

**Permanent Order T-16-10** establishes new radio protocols to provide formal authorized standard verbiage to be used in communicating certain terms and acknowledgements. The new protocols also reinforce the need to restate, word for word, at all times, the communications received. This order modifies **General Rule 1.79**.

Modifications made to **General Rule 1.79** are shown below with additions underlined and highlighted.

**Modifications made to General Rule 1.79:**

1.79 Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall**, at all times,** be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver. **Whenever the transmitter has completed their transmission and is turning the airtime over to the receiving party for acknowledgement or reply, they are to end their communication with the word "over". Speed restrictions must always be acknowledged by each Train Operator, even when a blanket message is sent out from Central Control, through 100 percent word for word repeat back from the Operators to Central Control or the Tower.**

**Positive Identification must be established prior to transmitting a message. Positive identification includes the transmitter stating their Train/Equipment Number or Unit ID Number, location and track number at the beginning of a transmission and the receiver repeating back the Train/Equipment Number**

**<u>or Unit ID Number, location and track number when acknowledging the radio call.</u>**

When communicating with Class I and Class II vehicles, employees are to identify the train ID or unit ID by the complete number series. This method of positive train/unit identification shall be consistently used when transmitting and acknowledging information. Examples: Train ID 404 shall be identified as "four zero four". Train ID 414 shall be identified as "four fourteen", instead of "four one four". Train 932 shall be identified as "nine thirty two". PM-32 shall be identified as "PM thirty two" instead of "PM three two".

When communicating location information related to Power Rooms only (TPSS or TBS), that is Alpha-Numeric (e.g. C-07, E-07, B-14), employees must use the International Civil Aviation Organization (ICAO) standard for communicating the "Alpha" character. For example: C-07 shall be identified as "C-Charlie- Zero Seven". E-07 shall be identified as "E-Echo-Zero Seven".

International Civil Aviation Organization (ICAO) Standard

| Letter | Word | Pronunciation |
|---|---|---|
| A | ALFA | AL FAH |
| B | BRAVO | BRAH VOH |
| C | CHARLIE | CHAR LEE (or) SHAR LEE |
| D | DELTA | DELL TAH |
| E | ECHO | ECK OH |
| F | FOXTROT | FOKS TROT |
| G | GOLF | GOLF |
| H | HOTEL | HOH TELL |
| I | INDIA | IN DEE AH |
| J | JULIETT | JEW LEE ETT |
| K | KILO | KEY LOW |
| L | LIMA | LEE MAH |
| M | MIKE | MIKE |
| N | NOVEMBER | NO VEM BER |
| O | OSCAR | OSS CAH |
| P | PAPA | PAH PAH |

| | | |
|---|---|---|
| Q | QUEBEC | KEH BECK |
| R | ROMEO | ROW ME OH |
| S | SIERRA | SEE AIR RAH |
| T | TANGO | TANG GO |
| U | UNIFORM | YOU NEE FORM (or) OO NEE FORM |
| V | VICTOR | VIK TAH |
| W | WHISKEY | WISS KEY |
| X | XRAY | ECKS RAY |
| Y | YANKEE | YANG KEY |
| Z | ZULU | ZOO LOO |

**Below is a list of authorized terms and responses to be used, in all cases, as applicable, in communicating with the Rail Operations Control Center (ROCC):**

| TERM | DESCRIPTION |
|---|---|
| Central | Rail Operations Control Center (ROCC) |
| Copy | The transmission was heard and understood |
| Disregard | Canceling previous instructions |
| Hold | Hold your position – DO NOT MOVE until so instructed |
| Affirmative | Yes |
| Landline | Call by telephone, specified number or person |
| Out | Used by Central Control (ROCC). End of transmission, no reply is needed |
| Over | I am finished with my transmission and I am turning control of the air time over to you and I am awaiting your response |
| Proceed | Permission to move train |
| Negative | No |
| Repeat | Repeat all of your last transmission |
| Single Tracking | Controlled changes in the direction of traffic, on a single main line track segment, between selected interlockings. |
| Urgent (to be used in emergencies) | Repeated three times consecutively (Urgent, Urgent, Urgent) to notify parties of a hazardous condition which could result in death or injury, damage to property, or cause a serious disruption in operations. |

| | |
|---|---|
| **Standby** | **STOP TRANSMITTING (Calling station should honor "standby" without question unless the calling station has an URGENT call to report) Wait for further instruction** |

**As a means of ensuring that messages are not interrupted on the different talk group radio channels (OPS2, OPS3 etc.), when an employee is communicating with Central Control, Central will close out a communication loop by saying "Central, out". Central saying "out" signifies that no response is necessary or expected from the other party and is the end of a that communication. This then opens up the airway for another party in the same talk group to then begin their transmission.**

**Approval of Permanent Order T-16-10**

Recommended:
Lisa Woodruff
Director
Rail Operations Control Center

Approve:
James Hughes
Managing Director
Department of Rail Transportation

Approve:
Patrick Lavin
Chief Safety Officer
System Safety and Environmental Management

Approve:
Andy Off
Assistant General Manager
Transit Infrastructure and Engineering Services

# Washington Metropolitan Area Transit Authority

ROADWAY WORKER PROTECTION MANUAL

# PERMANENT ORDER

**NO. R- 17-01** **Date: Thursday, January 26, 2017**

**TO:** All Personnel

In order to ensure that proper procedures are utilized to enhance the safety of personnel on the roadway, the following edits have been made to the Roadway Worker's Protection Manual (RWPM). The edits presented below will be included in Revision 3.0 of the RWPM, currently in process.

Permanent Order R-17-01 modifies:

## Key Personnel Section:

1. **Roadway Worker-In-Charge (RWIC)**
2. **Location: National Airport**

   Due to the curved track design south of National Airport that limits visibility, all Roadway Workers in Charge (RWIC) accessing the roadway must request Foul Time from the Rail Operations Control Center (ROCC) and receive authorization before entering the area below as defined as **Hot Spot** areas in the Roadway Access Guide of the Roadway Worker Protection Manual (RWPM).

3. **Chain Markers of the identified Hot Spot at National Airport:**
   1. C1-400+00 to C1-410+00 – Track 1
   2. C2-400+00 to C2-410+00 – Track 2
   3. C1-428+00 to C1-445+00 – Track 1
   4. C2-428+00 to C2-445+00 – Track 2
   5. C2-445+00 to C2-478+00 – Track 2
   6. C1-375+00 to C1 385+00 - Track 1 (Roadway Access Guide will be updated to reflect)

1.31. The RWIC shall review the Roadway Access Guide and shall determine all Hot Spots and/or all No Clearance Zones within their working limits.

**Hot spots are locations on the railroad where additional Roadway Worker Protection is required!** These physical locations include a variety of conditions, including, but not limited to:

1. Curves with limited visibility
2. Tunnels with limited and close clearance
3. Track locations with heavy outside noise
4. Track locations with limited or no clearance
5. Bridge locations with limited or no clearance
6. Track locations with limited or no visibility due to obstructions (i.e. vegetation, train movement, etc.)
7. All Portals
8. Weather (i.e. fog, heavy rain, snow, etc.)

**Important:** For inspections and short term duration work at National Airport, the RWIC must declare Foul Time (FT) when there are Hot Spots or No Clearance Zones and shall request ROCC to hold all vehicles at the preceding station using Foul Time (FT).

RWIC must request "Foul Time" from Rail Operations Control Center when entering the roadway at National Airport if their inspection/work area involves the following areas:

1. C1-400+00 to C1-410+00 – Track 1
2. C2-400+00 to C2-410+00 – Track 2
3. C1-428+00 to C1-445+00 – Track 1
4. C2-428+00 to C2-445+00 – Track 2
5. C2-445+00 to C2-478+00 – Track 2
6. C1-375+00 to C1 385+00 - Track 1 (Roadway Access Guide will be updated to reflect)

ROCC will grant Foul Time after ensuring that the requested area is protected with:

- All governing signals protecting the requested work area are placed in a stop status (RED),
- Remove all "Automatic" functions from signals and place in manual,
- Prohibit exits are placed on exit signals in work area, and
- Blue Block track indications are depicted on AIM.

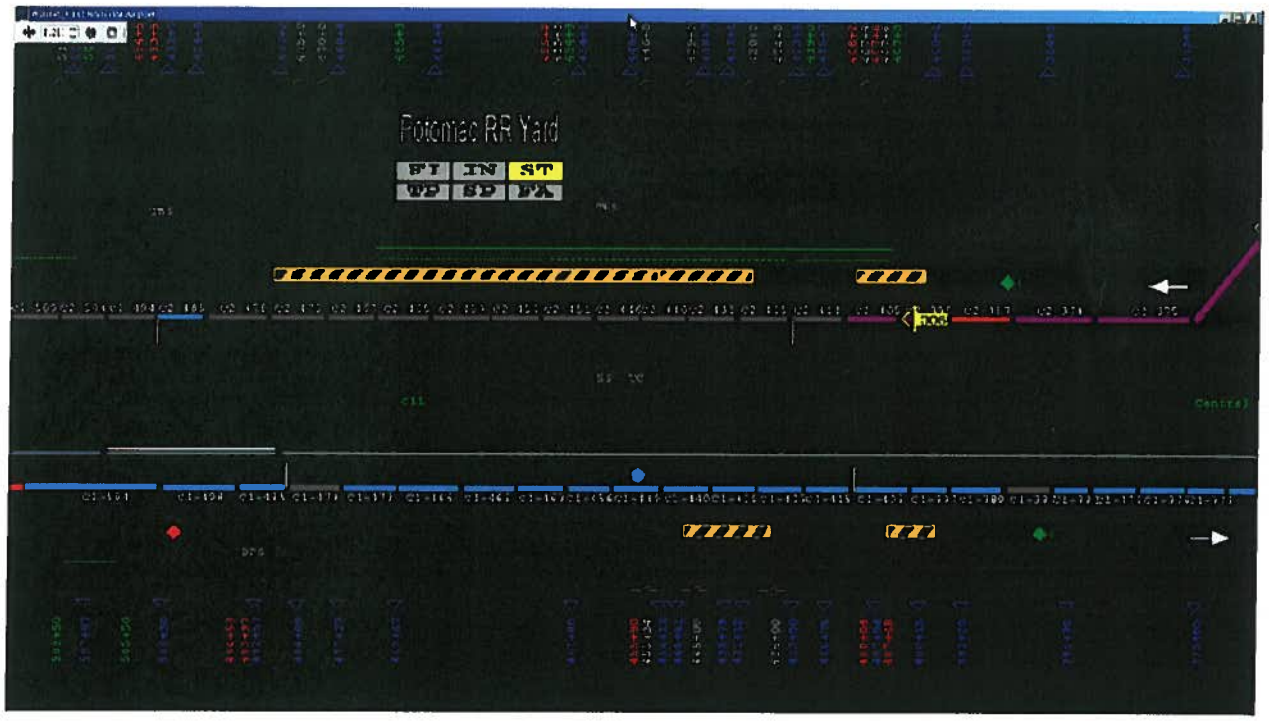
ROCC will hold trains on the platform of the nearest station if foul time request is minimal, less than 3 minutes. If Foul Time request is for an area of inspection or emergency work that requires a lengthier amount of time. ROCC shall ensure that the above methods are in place and initiate single track operations around the affected area. ROCC shall notify train operators of the condition and instruct them to pass the affected area at no greater speed than 35mph on the adjacent track.

## Rail Operations Control Center (ROCC)/ Maintenance Operations Control (MOC) Section:

1. ROCC shall notify and continue to notify trains and rail equipment the reason why they are holding; personnel have requested Foul Time, or that trains or equipment will be single tracked due to any Roadway worker who is traversing through areas where there are visual impediments or hot spots.

2. ROCC shall repeat verbatim all information conveyed by the RWIC when cleared of areas that contain visual impediments, hot spots or no clearance zones and confirm Foul Time has been relinquished. ROCC will discontinue single track operation and resume normal service with advisories if personnel are still present.

3. The picture below displays the newly added graphics to the AIMS screen for the Controllers. The yellow and black (police tape) provides a visual aide to the controllers to depict the area at National Airport where Foul Time is required.



**Approval of Permanent Order R-17-01**

Recommended:
Robert Davis
Chair
RWPM Committee

Concur:
Deltrin Harris
(Acting) Director
Rail Operations Control Center

Approve:
Lisa Woodruff
Managing Director
Department of Rail Transportation

Approve:
Patrick Lavin
Chief Safety Officer
Department of Safety &
Environmental Management

Approve:
Andy Off
Assistant General Manager
Transit Infrastructure and Engineering
Services

# Washington Metropolitan Area Transit Authority

ROADWAY WORKER PROTECTION MANUAL

# PERMANENT ORDER

**NO. R- 17-02 Granting Foul Time** **Date:** Friday April 28, 2017

**TO:** All Personnel

Permanent Order R-17-02 modifies the process used in the Rail Operations Control Center (ROCC) to grant Foul Time (FT). The revision will require ROCC to establish a checklist which will be used for all requests. Foul Time shall not be granted without implementing the checklists to ensure the necessary protection is in place.

When Foul Time is granted for any reason, the ROCC is to ensure a checklist is used and the following steps are taken:

1. Repeat Foul Time request and advise Roadway Worker In Charge (RWIC)/Requestor and crew to standby and stand clear.
2. Cancel all approaching signals to ensure Foul Time area is protected by RED SIGNALS (remove automatic signaling if applicable).
3. Establish "Prohibit Exits" in Foul Time area .
4. Inform Train Operators in approach to Foul Time area that there is a RED SIGNAL. Confirm and acknowledge Train ID.
5. Establish "Blue Block Traffic" in Foul Time area.
6. Establish "Human Form" in Foul Time area.
7. Confirm over radio to the RWIC/Requestor that all protections have been established and which signals have been cancelled.
8. RWIC/Requestor must repeat back confirmation that they are aware of chain marker(s), track number, canceled signal(s) and Train ID contacted.
9. Grant Foul Time to RWIC/Requestor.

When the RWIC/Requestor has determined that Foul Time is no longer necessary they shall relinquish it through the following process:

1. RWIC/Requestor contacts ROCC and states the following:
    a. Radio ID

b. Relinquishing Foul Time at the granted Foul Time location and current physical location.

2. ROCC confirms over radio to the RWIC/Requestor that Foul Time has been relinquished at stated locations and advises RWIC/Requestor to be on the lookout for vehicle movement.
3. ROCC must denote time Foul Time was relinquished.

Foul Time must be utilized for all hot spots as identified in RED on Attachment A: 2017 Access Guide. Any employee certified with a Roadway Worker Protection (RWP) Level 2 or Level 4 can request Foul Time at any time they feel it is warranted to ensure their safety.

Permanent Order R-17-02 also modifies the level of protection in the Roadway Protection Manual (RWPM) for Exclusive Track Occupancy (ETO) from optional to require for Foul Time protection.

Permanent Order R-17-02 also modifies the RWIC Coordination with ROCC for Establishment of Work Zone Protection to require "Drop Signals" with Foul Time Protection as denoted in the table below.

**KEY:**

| | | | |
|---|---|---|---|
| IT | Inaccessible Track | FT | Foul Time |
| ITD | Individual Train Detection/Lone Worker | R | Required |
| ETO | Exclusive Track Occupancy | AR | As Required |
| TAW | Train Approach Warning | NA | Not Applicable |

**RWIC Coordination with ROCC for Establishment of Work Zone Protection**

| Protection Coordination | IT | ITD Lone Worker | ETO | TAW | FT |
|---|---|---|---|---|---|
| Verify Shunt | R | NA | AR | AR | NA |
| GOTRS work limits | R | NA | AR | AR | NA |
| Prohibit Exits | R | R | R | R | R |

| Protection Coordination | IT | ITD Lone Worker | ETO | TAW | FT |
|---|---|---|---|---|---|
| Adjacent Track Speed Restrict | AR | AR | AR | AR | AR |
| Block Calls | AR | AR | AR | AR | AR |
| Cancelling Automatic Signals | AR | AR | AR | AR | R |
| Physical Barrier | R | NA | NA | NA | NA |
| PPE | R | R | R | R | R |
| Hot Stick/VAD | R | AR | AR | AR | AR |
| WSAD | R | NA | AR | NA | NA |
| ROCC Notification/ Roadway Job Safety Briefing | R | R | R | R | R |
| Drop Circuits | NA | NA | AR | NA | NA |
| Drop Signals | NA | NA | AR | NA | R |
| Announcements | AR | AR | AR | AR | R |
| Blue Block Traffic/Human Form | AR | AR | AR | AR | R |
| Stop Train Movement | NA | NA | NA | NA | R |

Attachment A: 2017 Access Guide
Attachment B: Metrorail System Signals Maps

**Approval of Permanent Order 17-02**

Approve:
Joseph Leader
Chief Operating Officer
Operations

Approve:
Patrick Lavin
Chief Safety Officer
Department of Safety &
Environmental Management

# Washington Metropolitan Area Transit Authority

ROADWAY WORKER PROTECTION MANUAL

# PERMANENT ORDER

**NO. R- 17-03 Advanced Mobile Flagger** **Date:** Friday April 28, 2017

**TO:** All Personnel

Permanent Order R-17-03 identifies the introduction and procedures of the Advanced Mobile Flagger (AMF).

## Definitions:

**ADVANCED MOBILE FLAGGER (AMF)** – A person stationed at the end of a platform (8 car marker or end gate) in the direction in which a Class I/Class II Vehicle is normally traveling, equipped with a Flashing Amber Lantern/E-Flare and Orange Flag. The duties of the AMF are to notify all Class I/Class II vehicle operators that a Mobile Work Crew is on the tracks ahead of them.

**AMF Requirements:**

1. The AMF must be Roadway Worker Protection (RWP) Level 2 or Level 4 qualified.
2. The AMF receives direction from the Roadway Worker In Charge (RWIC) of the Mobile Work Crew to which they are assigned.
3. The AMF is required to follow Personal Protective Equipment (PPE) guidelines per the Minimum PPE Standard for On-Track Safety in the Roadway Worker Protection Manual (RWPM).
4. In addition to the PPE required, the following equipment is also required when performing the duties of an AMF:
   - WMATA Approved Flashing Amber Lantern/E-Flare and Orange Flag
   - WMATA Approved and Calibrated Working Radio
   - WMATA Approved Air Horn and Whistle

**FLASHING AMBER LANTERN/E-FLARE** – A signaling device which displays a flashing amber light.

**ORANGE FLAG** – A WMATA approved Orange Flag that acts as a signaling device. It measures 18in. x 18in.

**Procedures:**

**RWIC (Roadway Worker in Charge) Procedures:**

1. The RWIC duties remain the same as published under Key Personnel in Section 1, Roadway Worker-In-Charge, as published in the RWPM.
2. In addition, the RWIC will assign and identify the employee in the Mobile Work Crew who will fulfill the duties of the AMF. While checking the AMF for the required WMATA approved PPE, the RWIC will also ensure that the AMF has the following equipment:
   - WMATA Approved Flashing Amber Lantern/E-Flare and Orange Flag
   - WMATA Approved and Calibrated Working Radio
   - WMATA Approved Air Horn and Whistle
3. The RWIC will direct the AMF to position themselves at the next station ahead (in the direction the Mobile Crew will be walking). The AMF will take their position at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track the Mobile Work Crew is inspecting.
4. Once the AMF has taken their position on the platform ahead of the Mobile Work Crew, they will place their Flashing Amber Lantern/E-Flare into its base and position it at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track their crew is inspecting. The AMF will hold the Orange Flag in their hand. The AMF will then notify the RWIC that they are in place and the Flashing Amber Lantern/E-Flare and Orange Flag has been positioned.
5. The RWIC will contact ROCC and request permission to enter the Roadway to complete Mobile Work Crew tasks (e.g. Track Inspections). The RWIC will also request from ROCC, the location of any trains on the track, which may currently be operating or stopped between the station where the AMF is positioned and the station where the RWIC is preparing to enter the Roadway. Once the ROCC gives the RWIC permission to enter the Roadway, normal RWP procedures will resume. The RWIC will note their "On Track Time" given by ROCC.
   **NOTE: If the RWIC should request to increase their RWP protection level to "Foul Time", the RWIC must inform the AMF when the Foul Time is in place.**
6. Once the RWIC, with their Mobile Work Crew, reaches the platform where the AMF is setup, the RWIC then follows this same process when sending the AMF to the next station.
   **NOTE: This process will be repeated until the Mobile Work Crew completes their assignment for the day and clears the roadway with ROCC.**

**Advanced Mobile Flagger (AMF) Procedures:**

1. The AMF will be identified and assigned by the RWIC of the Mobile Work Crew.
2. The AMF is required to follow PPE guidelines per the Minimum PPE Standard for On-Track Safety in the RWPM.
3. In addition to the PPE required, the following equipment is also required when performing the duties of an AMF:
   - WMATA Approved Flashing Amber Lantern/E-Flare and Orange Flag

- WMATA Approved and Calibrated Working Radio
- WMATA Approved Air Horn and Whistle

4. Under the direction of the RWIC, the AMF will position themselves at the next station ahead (in the direction the Mobile Crew will be walking). The AMF will take their position at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track the Mobile Work Crew is inspecting.
5. Once the AMF has taken their position on the platform ahead of the Mobile Work Crew, they will place their Flashing Amber Lantern/E-Flare into its base and position it at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track their crew is inspecting. The AMF will hold the Orange Flag in their hand.
6. The AMF must establish positive communication, i.e., via phone, radio, etc. to notify the RWIC that they are in place and the Flashing Amber Lantern/E-Flare and Orange Flag has been positioned.
7. As the Class I/Class II vehicle approaches the AMF and their Flashing Amber Lantern/E-Flare and Orange Flag, the AMF is to ensure that the Class I/Class II Vehicle stops at their location. If the Class I/Class II Vehicle Operator does not blow two (2) short blasts of their mainline horn to acknowledge the presence of the AMF, the AMF must immediately give the WMATA Approved Hand Signal to stop utilizing the Orange Flag. The AMF must continuously give this Hand Signal utilizing the Orange Flag until the vehicle acknowledges them with two (2) short horn blasts, or comes to a complete stop.
8. If the Class I/Class II Vehicle fails to stop at the AMF's location and is proceeding towards the Mobile Work Crew, the AMF must make an immediate transmission on the radio to the RWIC. AMF will advise the RWIC and all personnel to clear the Roadway immediately. The AMF will notify the RWIC that a Class I/Class II Vehicle is approaching them. The incident must also be reported to ROCC, at the first available opportunity, so that an investigation can commence.
9. When the Class I/Class II Vehicle stops at the end of the platform (8 car marker or end gate), the AMF is to inform the Class I/Class II Vehicle Operator, verbally face-to-face, that there is a Mobile Work Crew ahead, by using the approved AMF Script, as follows:

**SCRIPT THE AMF WILL READ, FACE-TO-FACE, TO CLASS I/CLASS II VEHICLE OPERATOR**

"THERE IS A MOBILE WORK CREW AHEAD.

YOU MUST OPERATE YOUR CLASS I/CLASS II VEHICLE AT ONE-HALF OF YOUR REGULATED SPEED.

ONCE YOU DEPART FROM THE PLATFORM, YOU ARE REQUIRED TO BLOW YOUR MAINLINE HORN CONTINUOUSLY, USING SHORT HORN BLASTS. UPON OBSERVING THE MOBILE WORK CREW, FURTHER REDUCE YOUR SPEED TO 10 MPH. AND BE PREPARED TO STOP.

YOU MUST NOT PROCEED PAST THE WORK CREW UNTIL YOU RECEIVE THE PROPER WMATA APPROVED HAND SIGNAL TO PROCEED.

IF YOU DO NOT RECEIVE THE PROPER HAND SIGNAL, YOU MUST STOP.

AFTER YOU RECEIVE THE PROPER HAND SIGNAL TO PROCEED, YOU MUST OPERATE AT 10 MPH. UNTIL THE ENTIRE TRAIN HAS CLEARED THE PERSONNEL ON THE TRACK.

ONCE THE REAR OF YOUR CLASS I/CLASS II VEHICLE HAS PASSED THE ENTIRE MOBILE WORK CREW, YOU THEN MAY RESUME NORMAL REGULATED SPEED FOR YOUR CLASS I/CLASS II VEHICLE."

**WARNING: The AMF will not give a Class I or Class II operator the permission to advance if "Foul Time" is in effect. The AMF will inform the Class I or Class II operator to follow the instructions from ROCC when "Foul Time" is in effect. Once "Foul Time" is relinquished by the RWIC, the AMF can instruct the Class I or Class II operator to proceed by using the above script.**

**AMF Procedures for Locations with Connecting Rail Lines**

For an inspection commencing at A02 (Farragut North); while walking INBOUND on TRACK #2, **you must request Foul Time** from the platform at A02 CM A2 38+35, until you call clear on the outbound side of the C&A Connection on track #2 at CM A2 37+10.

For an inspection commencing at B06 (Fort Totten); while walking INBOUND on TRACK #1, **you must request ROCC OPS #1 Controller to HOLD ALL MOVEMENTS** from the E-line to the B-line operating through the B&E Connection at CM B1 262+25. This will be until you call clear on the inbound side of the B&E Connection on track #1 at CM B1 262+25.

For an inspection commencing at C13 (King Street); while walking OUTBOUND on TRACK #1 **you must request Foul Time** from the platform at C13 CM C1 557+75 until you call clear on the outbound side of C97 Interlocking at CM 571+60 on the J-line or C-line track #1.

For an inspection commencing at C07 (Pentagon); while walking INBOUND on TRACK #2, **you must request Foul Time** from the platform at C07 CM C2 256+30 until you call clear on the inbound side of C07 Interlocking CM C2 256+10 on the C-line or the L-line track #2.

For an inspection commencing at C05 (Rosslyn); while walking OUTBOUND on TRACK #1, **you must request Foul Time** from the platform C05 CM C1 144+75 until you call clear on the outbound side of C05 interlocking CM C1 147+00 on the K-line or C-line track #1.

For an inspection commencing at C14 (Eisenhower); you are walking INBOUND on TRACK #2, **you must request Foul Time** at C14. CM 592+00.

For an inspection commencing at D09 (Stadium), while walking OUTBOUND on TRACK #2.
**You MUST HAVE TWO AMFs** - ONE at G01 (Benning Road) and ONE at D10 (Minnesota).

For an inspection commencing at E07 (West Hyattsville); while walking INBOUND on TRACK #1, **you must request ROCC OPS #3 Controller to HOLD ALL MOVEMENTS** from the B-line to the E-line operating through the B&E Connection at CM E1 275+50. This will be until you call clear on the inbound side of the B&E connection track #1 CM E1 275+00.

For an inspection commencing at F03 (L'Enfant); while walking OUTBOUND on TRACK #1, **you must request Foul Time** from the platform F03 CM F1 51+25 until you call clear on the outbound side of F03 interlocking on the L-line or F-line track #1.

For an inspection commencing at K05 (East Falls Church); you are walking OUTBOUND on TRACK #1, **you MUST HAVE TWO AMFs** - ONE at K06 (West Falls) and ONE at N01 (McLean).

**NOTE: All Chain Markers are approximate. Ensure the Mobile Work Crew is clear of the dynamic envelope of the connecting line before relinquishing Foul Time.**

**<u>Class I/Class II Vehicle Operator Procedures:</u>**

1. As the Class I/Class II Vehicle Operator approaches a Flashing Amber Lantern/E-Flare and the AMF holding the Orange Flag, they **MUST** sound two (2) short blasts on their Mainline horn to acknowledge the presence of the AMF, and **MUST** come to a complete stop at the end of the platform (8 car marker or end gate).
2. The Class I/Class II Vehicle Operator will receive verbal face-to-face instructions from the AMF, using the script, included in this Permanent Order.
3. The Class I/Class II Vehicle Operator will depart the station at one-half the regulated speed and blow their Mainline horn continuously, using short horn blasts, until the operator observes the Mobile Work Crew.
   a. The Class I/Class II Vehicle Operator MUST REMAIN VIGILANT and on the lookout for the Mobile Work Crew as communicated by the AMF.

b. Upon observing the mobile work crew, the Class I/Class II Vehicle Operator MUST reduce speed to 10 mph. and be prepared to stop.

4. If the Class I/Class II Vehicle Operator **DOES NOT** receive the proper WMATA Approved Hand Signal to proceed from the Mobile Work Crew, the Class I/Class II Vehicle Operator **MUST STOP IMMEDIATELY.**
5. Once the Class I/Class II Vehicle Operator reaches the location of the Mobile Work Crew Watchman/Lookout, and receives the WMATA Approved Hand Signal to proceed, the Class I/Class II Vehicle Operator will sound the Mainline horn, using two (2) short blasts, to acknowledge the Hand Signal being given by the Mobile Work Crew, then operate at a speed no greater than 10 mph past the entire Mobile Work Crew.

   **NOTE: All operators are reminded they must adhere to permanent order T-16-07 "Introduction of 10MPH Speed Restriction on Tracks Where Workers Are Present".**
6. Once the rear of the Class I/Class II Vehicle has passed the entire Mobile Work Crew, the Operator then may resume normal regulated speed for their Class I/Class II Vehicle.

**WARNING: When "Foul Time" is in effect all operators must follow the instructions from ROCC.**

**Rail Operations Control Center (ROCC) Procedures:**

Should any personnel report a close call during any Mobile Work Crew activity, ROCC must immediately take action to ensure all personnel are safe and in the clear. ROCC will direct all personnel that work will be suspended. ROCC will identify the train involved, wayside personnel and any other factors involved in the incident. ROCC will immediately notify SAFE and other departments, as required, so an investigation can commence.

Washington Metropolitan Area Transit Authority
Department of Safety and Environmental Management

# Safety Bulletin

**SB #17-05** **May 8, 2017**

## Advanced Mobile Flagger (AMF)

In accordance with ***Permanent Order R-17-03 Advanced Mobile Flagger***, the Advanced Mobile Flagger (AMF) is an assigned Roadway Worker positioned at the end of a platform (8 car marker or end gate) in the direction of normal travel for Class I/Class II Vehicles. The AMF is equipped with a Flashing Amber Lantern/E-Flare and Orange Flag. The duties of the AMF include but not limited to, notifying approaching Class I/Class II vehicle operators of Mobile Work Crews on the tracks ahead of them.

**If the AMF is not in position at the 8 car marker, or requires to leave his/her position, the mobile work crew Roadway Worker In Charge (RWIC) must be notified by the assigned AMF and removed along with his/her crew from the Roadway prior to the AMF leaving his/her assigned position. The AMF must never leave their position while the Mobile Work Crew is still on the roadway.**

**The AMF will hold the Orange Flag in their hand as part of the AMF responsibilities.**

Once the AMF has taken their position on the platform ahead of the Mobile Work Crew, they will place their Flashing Amber Lantern/E-Flare into its base and position it at the end of the platform (8 car marker or end gate) in the direction the train is traveling on approach to assigned mobile work crew.

**Advanced Mobile Flagger (AMF) Procedures:**

1. The AMF will be identified and assigned by the RWIC of the Mobile Work Crew.

2. The AMF is required to follow PPE guidelines per the Minimum PPE Standard for On-Track Safety in the RWPM.

3. In addition to the PPE required, the following equipment is also required when performing the duties of an AMF:
   - WMATA Approved Flashing Amber Lantern/E-Flare and Orange Flag
   - WMATA Approved and Calibrated Working Radio
   - WMATA Approved Air Horn and Whistle

4. Under the direction of the RWIC, the AMF will position themselves at the next station ahead (in the direction the Mobile Crew will be walking). The AMF will take their position at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track the Mobile Work Crew is inspecting.

5. Once the AMF has taken their position on the platform ahead of the Mobile Work Crew, they will place their Flashing Amber Lantern/E-Flare into its base and position it at the end of the platform (8 car marker or end gate) in the direction the train is traveling, and on the track their crew is inspecting. The AMF will hold the Orange Flag in their hand.

6. The AMF must establish positive communication, i.e., via phone, radio, etc., to notify the RWIC that they are in place and the Flashing Amber Lantern/E-Flare and Orange Flag has been positioned.

7. As the Class I/Class II vehicle approaches the AMF and their Flashing Amber Lantern/E-Flare and Orange Flag, the AMF is to ensure that the Class I/Class II Vehicle stops at their location. If the Class I/Class II Vehicle Operator does not blow two (2) short blasts of their mainline horn to acknowledge the presence of the AMF, the AMF must immediately give the WMATA Approved Hand Signal to stop utilizing the Orange Flag. The AMF must continuously give this Hand Signal utilizing the Orange Flag until the vehicle acknowledges them with two (2) short horn blasts, or comes to a complete stop.

8. If the Class I/Class II Vehicle fails to stop at the AMF's location and is proceeding towards the Mobile Work Crew, the AMF must make an immediate transmission on the radio to the RWIC. AMF will advise the RWIC and all personnel to clear the Roadway immediately. The AMF will notify the RWIC that a Class I/Class II Vehicle is approaching them. The incident must also be reported to ROCC, at the first available opportunity, so that an investigation can commence.

9. When the Class I/Class II Vehicle stops at the end of the platform (8 car marker or end gate), the AMF is to inform the Class I/Class II Vehicle Operator, verbally face-to-face, that there is a Mobile Work Crew ahead, by using the approved AMF Script, as follows:

**SCRIPT THE AMF WILL READ, FACE-TO-FACE, TO CLASS I/ CLASS II VEHICLE OPERATOR**

"THERE IS A MOBILE WORK CREW AHEAD.

YOU MUST OPERATE YOUR CLASS I/CLASS II VEHICLE AT ONE-HALF OF YOUR REGULATED SPEED.

ONCE YOU DEPART FROM THE PLATFORM, YOU ARE REQUIRED TO BLOW YOUR MAINLINE HORN CONTINUOUSLY, USING SHORT HORN BLASTS. UPON OBSERVING THE MOBILE WORK CREW, FURTHER REDUCE YOUR SPEED TO 10 MPH AND BE PREPARED TO STOP.

YOU MUST NOT PROCEED PAST THE WORK CREW UNTIL YOU RECEIVE THE PROPER WMATA APPROVED HAND SIGNAL TO PROCEED.

IF YOU DO NOT RECEIVE THE PROPER HAND SIGNAL, YOU MUST STOP.

AFTER YOU RECEIVE THE PROPER HAND SIGNAL TO PROCEED, YOU MUST OPERATE AT 10 MPH UNTIL THE ENTIRE TRAIN HAS CLEARED THE PERSONNEL ON THE TRACK.

ONCE THE REAR OF YOUR CLASS I/CLASS II VEHICLE HAS PASSED THE ENTIRE MOBILE WORK CREW, YOU THEN MAY RESUME NORMAL REGULATED SPEED FOR YOUR CLASS I/CLASS II VEHICLE."

If you have any questions regarding this Safety Bulletin, please contact your Regional Safety Officer or call the Safety Hotline at 202-249-SAFE (7233).

Washington Metropolitan Area Transit Authority
Department of Safety and Environmental Management

# Safety Bulletin

SB #17-06 June 1, 2017

## Roadway Worker Protection (RWP)
## Frequently Asked Questions

This safety bulletin is issued to answer some of the questions you may have regarding Roadway Worker Protection (RWP). All scenarios are intended to address individuals going on the roadway on mainline track.

**1) Question: Is Train Approach Warning (TAW) still an acceptable level of roadway worker protection (RWP) for going to the roadway to perform inspections?**

***Answer:*** ***No.*** *TAW must be accompanied by an Advanced Mobile Flagger (AMF) when performing roadway inspections, as well as the use of Foul Time when traversing red hot spots.*

***Rationale:*** *The AMF is used to reduce the speed of a train in advance of the operator encountering personnel and it also provides the train operator with the fore warning that personnel are on the roadway.*

**2) Question: Can I use TAW if I am just walking on the roadway from point "A" to point "B" to reach a room or facility in an area where there is no hand rail?**

***Answer:*** ***No.*** *Foul time must be utilized if you are walking on the roadway until you reach your destination or you can have a train give you a drop off at your destination. Areas protected by handrails are covered under existing RWP rules and do not require foul time.*

***Rationale:*** *TAW has been proven to be ineffective in preventing trains from passing employees on the tracks at the required 10 MPH; therefore, in instances where employees are only walking on the roadway (not performing inspections or work), they must utilize foul time or have a train drop them off at their destination.*

**3) Question: If I am only performing a limited roadway inspection that does not require me to walk all the way from one station to the next station, am I still required to use an AMF?**

***Answer:*** ***Yes.*** *An AMF is required anytime a roadway inspection is being performed even if it is for a short duration conducted over a limited area. In addition, as stated earlier, TAW, which would have been used in the past, is no longer an acceptable level of RWP protection.*

***Rationale:*** *The AMF provides advanced warning to train operators to prevent them from passing personnel o the tracks in excess of the required 10 MPH.*

**4) Question: If I am performing inspections of equipment, such as ETS boxes on the catwalk in a place of safety do I need an AMF?**

***Answer:*** ***Yes.*** *An AMF is required anytime a roadway inspection is being performed or the RWIC can implement a higher level of protection such as ETO.*

***Rationale:*** *The AMF provides advanced warning to train operators to prevent them from passing personnel on the tracks in excess of the required 10 MPH.*

**5) Question: Is text messaging between the AMF and the RWIC an acceptable form of positive communication?**

***Answer:*** ***No.*** *The RWIC and the AMF must have a verbal conversation to ensure that there is no ambiguity or misinterpretation of the information that is being communicated.*

***Rationale:*** *A text message can be misinterpreted. Positive verbal communication reduces the likelihood of information being misunderstood.*

**6) Question: Do I need to utilize an AMF if I am performing a mobile inspection under Foul Time?**

***Answer:*** ***Yes.*** *AMF is required when performing a mobile inspection. However, there are times when Foul Time alone will be sufficient, such as when setting up a fixed work zone during non-revenue hours.*

***Rationale:*** *As there have been instances, during revenue service, where trains have entered into areas that were supposed to be protected by Foul Time. The AMF provides an additional layer of protection to alert train operators that foul time is in effect.*

**7) Question: When I am acting as the AMF, do I need to inform the RWIC of each train that is leaving the station?**

***Answer:*** ***No.*** *This is not a requirement.*

***Rationale:*** *The Train Operator is required to blow their horns continuously until they encounter personnel; therefore, the RWIC should be alerted to the presence of an approaching train. In addition, continuous radio chatter between RWICs and AMFs would be detrimental to system-wide communication capabilities.*

**8) Question: Why do I have to set up the flashing amber light and hold the orange flag at the 8 car marker before I hear from the RWIC? Doesn't this action unnecessarily slow down trains?**

***Answer:*** *The intent of this action is to ensure that the AMF is in the correct location and prepared to caution trains prior to the RWIC and other individuals entering the track. The AMF should permit trains to leave the station under normal operating conditions until they are notified by the RWIC that the inspection will commence.*

*RWIC must verify with the ROCC the location of any trains on the track that may operating or stopped between the station where the AMF is positioned and the station where the RWIC is preparing to enter the Roadway.*

*If the Class I / Class II vehicle does not acknowledge the AMF or if it appears that the vehicle is not going to stop, the AMF should use the orange flag to give the WMATA approved hand signal to stop. If the Class I / Class II vehicle does not stop, the AMF must then immediately make a transmission on the radio to the RWIC. The AMF will notify the RWIC that a Class I / Class II Vehicle is approaching them and was not informed of the mobile work crew by the AMF.*

***Rationale:*** *The AMF being in position and prepared to flag reduces the likelihood of a train leaving the station without first being cautioned by the AMF and ensures that the inspection can commence without any unnecessary delays.*

**9) Question: When acting as an AMF should I give the Class I / Class II vehicle a hand signal with the orange flag to stop when the train is approaching the AMF?**

***Answer:*** ***No.*** *The AMF shall not wave the orange flag if the Class I / Class II vehicle acknowledges the AMF and appears to be stopping.*

***Rationale:*** *It is not necessary to give the WMATA approved handle signal or wave the orange flag if the Class I / Class II vehicle acknowledges the AMF with two short blasts of the main-line horn. If the Class I / Class II vehicle does not acknowledge the AMF, the AMF must then immediately give the WMATA approved hand signals to stop with the orange flag.*

**10) Question: Is the AMF required to wear a hard hat and safety glasses?**

***Answer:*** ***No.*** *Hard hats and safety glasses are not required to be worn by the AMF. However, if they enter the Roadway they should have them based upon department requirements.*

***Rationale:*** *Hard hats and safety glasses may be required on the Roadway per department requirements, but are not required on the station platform while serving as an AMF.*

**11) Question: Does the AMF need both an Air Horn and Whistle?**

***Answer:*** ***Yes.*** *These are required PPE for the AMF.*

***Rationale:*** *The AMF is required to have both an Air Horn and Whistle due to the potential for a unforeseen emergency situation.*

**12) Question: Does the AMF need to have BOTH the orange flag and amber lantern / e-flare while performing AMF duties.**

***Answer:*** ***Yes.*** *The AMF must use both the Orange Flag and Amber Lantern / E-Flare when performing AMF duties.*

***Rationale:*** *Due to varying visibility and lighting conditions (such as outside in sunlight, outside at night, or underground) having both the Orange Flag and Amber Lantern / E-Flare ensures that Class I and Class II vehicle operators are able to see the AMF in all lighting conditions.*

**13) Question: The procedures says that the Mainline horn has to be sound "continuously". Does the operator hold the horn down or is there a set number of horn blast? Also, how often do they sound the Mainline horn after they leave the station platform?**

***Answer:*** *The Mainline horn should be made in continuous short blasts once the train departs from the station platform. This will continue until the operator comes in view of the Mobile Work Crew. They will begin slowing down to 10mph and await a "Proceed" hand signal from the work crew.*

***Rationale:*** *This will provide an audible warning to the mobile inspection crew that a train is approaching.*

**14) Question: Does the AMF have to read the full script each time a train pulls into the platform area and must the AMF have in their possession a copy of the AMF script when conducting AMF duties?**

***Answer:*** ***Yes.*** *The purpose of the AMF is to properly warn Class I and II Rail Vehicle Operators of a Mobile Inspection Work Crew ahead. It is important to read the full script each time and have a copy of it available when performing the duties of an AMF.*

***Rationale:*** *Reading the WMATA Approved script gives every rail operator the exact same information they need to have before departing from the station platform.*

**15) Question: I'm inspecting track on Track 1 and I observe a defect on Track 2, can I request foul time on track 2 to inspect and subsequently repair the defect on track 2 without an AMF set up for track 2?**

***Answer:*** *Under normal circumstances, the answer is NO. However, if the RWIC believes that an imminent hazard exists to customers, employees or property, they must take immediate action to safeguard the public to include suspending service. If repairs are required, the RWIC must set up a work zone and the ROCC will single track around the problem.*

***Rationale:*** *Employees are empowered to take immediate action and make the appropriate decisions based on the situation.*

**16) Question: Although it's not required for AMF to go to the roadway, is it a requirement for AMF to partake in safety briefing performed by RWIC to the mobile inspection crew and sign the same safety briefing form provided to mobile inspection crew?**

***Answer:*** ***Yes.*** *The AMF is part of the Mobile Work Crew. The AMF must receive the same roadway safety briefing that the RWIC delivers to the entire Mobile Work Crew.*

***Rationale:*** *The AMF must be made aware of the hotspots (no clearance areas) requiring the additional roadway protection to ensure they communicate this information to the train operator when foul time is in effect. An acknowledgement of the information provided in the safety briefing supports the vital role of protecting the mobile work crew.*

***If you have any questions regarding this Safety Bulletin, please contact your Regional Safety Officer or call the Safety Hotline at 202-249-SAFE (7233).***

Washington Metropolitan Area Transit Authority

# Roadway Worker Protection

Safety Committee
June 22, 2017

# Highlighted Actions

- Process Enhancements
- FTA/Protran Grant (NTSB R-08-04)
- Vehicle Awareness Technology
- Advanced Mobile Flagger
- Safety Assurance
- FAQs & Hot Spot Identification

# Process Enhancements

- Stand down – Safety Trumps Service (May 2016)
- New Radio Protocols / Standardized Verbiage (July 2016)
- Strengthening of Contractor RWP (Aug 2016)
- 10 MPH Speed Restriction for passing wayside workers (Oct 2016)
- RWP Escort Training Surge (Nov 2016)
- Stand down – RWP and Hot Spots (Nov 2016)
- Updated Access Guide (Jan 2017)
- AMF / Foul Time (April 2017)
- RWP FAQ (June 2017)
- Vehicle Awareness Technology – *Ongoing*
- FTA Grant / Wayside Worker Protection – *Ongoing*

# FTA/Protran Grant Project
(NTSB R-08-04)

- Bi-directional system adds layer of protection
- Critical hot spots prioritized
  - 12 locations
  - 153 units
  - 200 alarm armbands
- Roadway workers wear personal alert device on arm that activates boxes
- Train operators receive visual cue of workers ahead via boxes
- Passing trains are detected and notify personnel of their presence via armband (light and audible alert)
- Demonstration in April 2017 at National Airport

# Vehicle Awareness Technology

- For Class II / roadway maintenance machines only
- Protection
  - Vehicle to vehicle
  - Vehicle to fixed work zone
  - Vehicle to personnel via armband alerts
- Alarms sound when vehicles/workers are in close proximity of each other

# Vehicle Awareness Technology

- Limited test conducted using ProTran Technology
  - Test Overall Successful
  - Used to identify modifications
    - Antenna placement


- Project Funded
  - Currently working through procurement process
  - 30 vehicle units, four work zone units
  - Protran armbands are compatible with Protran wayside boxes and Vehicle Awareness System

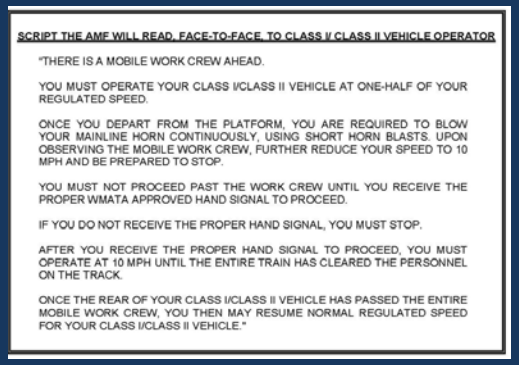
# Advanced Mobile Flagger

Stand Down

- 99% of all RWP cardholders have been trained

Procedure

- Roadway worker positioned at platform end notifies vehicle operators of mobile work crews ahead
- Equipment used
  - Amber Lantern
  - Orange Flag
  - Safety script read to vehicle operator
  - Vehicle operators also have pocket size script cards



SCRIPT THE AMF WILL READ, FACE-TO-FACE, TO CLASS I/ CLASS II VEHICLE OPERATOR

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ONCE THE REAR OF YOUR CLASS I/CLASS II VEHICLE HAS PASSED THE ENTIRE MOBILE WORK CREW, YOU THEN MAY RESUME NORMAL REGULATED SPEED FOR YOUR CLASS I/CLASS II VEHICLE."

# **Advanced Mobile Flagger** (cont')

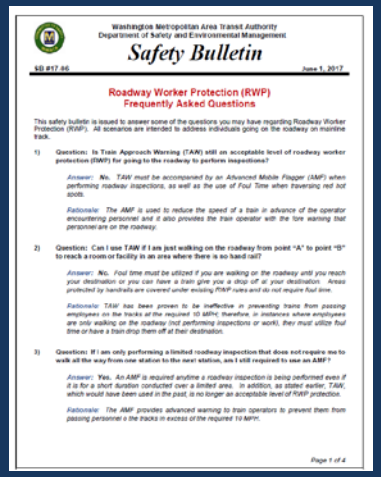
- Upon leaving the station, vehicle operator is required to:
  - Operate vehicle one half of regulated speed
  - Blow horn continuously using short blasts
  - Reduce speed to 10 MPH upon encountering work crew, and be prepared to stop
  - Proceed only after receiving acknowledgement hand signal from work crew
  - Operate at 10 MPH until completely past work crew

# Safety Assurance

- AMF compliance is monitored wayside by Maintenance of Way, Department of Safety (SAFE), Rail Transportation, and the FTA
- SAFE staff are periodically embedded in ROCC to evaluate RWP compliance by ROCC personnel
- Department of Quality Assurance, Internal Compliance and Oversight is also performing ROCC audits which will include RWP practices
- Deficiencies are communicated to FTA
- All RWP non-compliance events are fully investigated by SAFE
- Permanent Orders issued to codify RWP process changes

# FAQs and Hot Spot Identification

- FAQs are communicated to all employees via SAFE website and hard copy at the divisions
- Managers discuss points at local level



Washington Metropolitan Area Transit Authority
Department of Safety and Environmental Management

*Safety Bulletin*

SB #17-06 June 1, 2017

**Roadway Worker Protection (RWP)**
**Frequently Asked Questions**

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2) **Question: Can I use TAW if I am just walking on the roadway from point "A" to point "B" to reach a room or facility in an area where there is no hand rail?**

*Answer:* **No.** *Foul time must be utilized if you are walking on the roadway until you reach your destination or you can have a train give you a drop off at your destination. Areas protected by handrails are covered under existing RWP rules and do not require foul time.*

*Rationale: TAW has been proven to be ineffective in preventing trains from passing employees on the tracks at the required 10 MPH; therefore, in instances where employees are only walking on the roadway (not performing inspections or work), they must utilize foul time or have a train drop them off at their destination.*

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*Rationale: The AMF provides advanced warning to train operators to prevent them from passing personnel o the tracks in excess of the required 10 MPH.*

Page 1 of 4

- System-wide survey to ID hot spots (e.g., low visibility, no clearance zones) are being updated and reviewed
- Track Access Guide continuously updated based on survey