



# National Transportation Safety Board

Washington, DC 20594

## Safety Recommendation Report

### Train Approach Warning and Predetermined Place of Safety

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<b>Accident/Incident Number:</b>	DCA17FR009
<b>Operator:</b>	Long Island Rail Road
<b>Accident:</b>	Roadway Worker Fatality
<b>Location:</b>	Queens Village, New York
<b>Date:</b>	June 10, 2017
<b>Recommendation Number:</b>	R-18-006 and -007
<b>Adopted:</b>	February 13, 2018

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The National Transportation Safety Board (NTSB) is investigating the June 10, 2017, accident in which a Long Island Rail Road (LIRR) train struck and killed a roadway worker who was occupying the railroad tracks inside an interlocking in Queens Village, New York. During this investigation, NTSB investigators became aware of an improper practice by the LIRR roadway workers working in or near the tracks. The LIRR must ensure that roadway workers are complying with its operating rules and procedures and the Federal Railroad Administration (FRA) roadway worker protection regulations. As a result of this ongoing investigation, the NTSB is issuing two urgent safety recommendations to the Metropolitan Transportation Authority (MTA). The LIRR is a subsidiary of the MTA.

### Ongoing Investigation

On June 10, 2017, about 10:12 a.m. eastern daylight time, an LIRR train on main line track 3 approached five roadway workers. The foreman, followed by two employees, and the watchman at the rear were walking single file in main line track 1 in the Queens Interlocking. Another employee was walking on the right-of-way, clear of all tracks, at the same pace as the other employees. The roadway workers confirmed the watchman warned them of the approaching train, but they disagreed on when he gave the warning. Despite that, the security video showed the roadway workers made no attempt to clear the tracks. Investigators could not determine the number of seconds between the time the train's engineer sounded the horn and the time of the accident. Three roadway workers remained in track 1, but the foreman moved into the path of the train. The train was traveling about 78 mph when the engineer applied the emergency brake just before impact.

Investigators learned during employee interviews that the roadway workers had been using “train approach warning” (TAW) as their method of on-track safety.<sup>1</sup> Investigators determined that the roadway workers had adequate sight distance to use this method; however, they did not clear the track, as required, when trains approached. The LIRR rules and procedures require that a work group establish a “predetermined place of safety” before using a TAW. The place of safety cannot be in a track unless working limits are established.<sup>2</sup> After the watchman warned the roadway workers of the approaching train, they remained in a live track—which does not comply with the LIRR rules and procedures.<sup>3</sup>

Federal regulations require that a TAW be given “in sufficient time to enable each roadway worker to move to and occupy a previously arranged place of safety not less than 15 seconds before a train moving at the maximum authorized speed on that track can pass the location of the roadway worker. This place of safety may not be in a track, unless working limits are established on that track.”<sup>4</sup>

In response to the NTSB’s investigation, on June 13, 2017, the LIRR issued a “red alert” (alert) to its employees reiterating rules and procedures for TAWs and job briefings.<sup>5</sup> The alert specified that a predetermined place of safety cannot be in a track unless working limits are established. On June 19, 2017, the LIRR held a safety meeting to inform its employees that the company had issued an alert on the roadway worker fatality and to further reinforce concerns about the use of TAWs as a method of on-track safety. It is not known whether all affected employees received this alert.

On September 15, 2017, NTSB investigators interviewed LIRR engineering department employees, including two track foremen who regularly worked in the Queens Interlocking and were qualified to serve as roadway workers-in-charge.<sup>6</sup> One foreman said that it is sometimes safer to stay in the live track when trains were passing on adjacent tracks. The other foreman said that remaining in a live track with trains passing on an adjacent track is prohibited. Neither track foreman could recall any specific discussion of the LIRR roadway worker protection rules and procedures following the June 10, 2017, accident.

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<sup>1</sup> (a) *Train approach warning* is a method of establishing on-track safety by warning roadway workers of the approach of a train in ample time for them to move to, or remain in, a place of safety in accordance with the *Railroad Workplace Safety* requirements of Title 49 *Code of Federal Regulations (CFR)* Part 214. (b) *On-track safety* refers to a state of being free from the danger of being struck by a moving train or other railroad equipment; guidelines for on-track safety are contained within operating and safety rules that govern track occupancy by personnel, trains, and on-track equipment.

<sup>2</sup> The term *working limits* refers to a segment of track with definite boundaries upon which trains and engines may move only as authorized by the roadway worker who has control over that defined segment of track. Working limits may be established through “exclusive track occupancy,” “inaccessible track,” “foul time,” or “train coordination.”

<sup>3</sup> A *live track* is a track that is in service for the movement of trains and railroad equipment.

<sup>4</sup> Title 49 *CFR* 214.329.

<sup>5</sup> A “red alert” is the LIRR method for reinforcing its safety rules and procedures.

<sup>6</sup> *Roadway worker-in-charge* refers to the roadway worker who is qualified (49 *CFR* 214.353) to establish on-track safety for roadway work groups and lone workers qualified (49 *CFR* 214.347) to establish on-track safety for themselves.

LIRR is conducting audits; however, for audits conducted from June 2016 to June 2017, there are no documented exceptions to areas of noncompliance with these four critical rules regarding the proper use of a TAW:

- RWP25—timely warning of approaching trains is provided
- RWP28—roadway workers properly clear track to a predetermined place of safety
- RWP29—predetermined place of safety is unobstructed
- RWP30—work stops after warning; tracks are cleared 15 seconds before train arrives at work location

The LIRR's operational testing is done under a program named Situational Awareness for Efficient Railroading (SAFER). The SAFER program establishes the guidelines and directions for the LIRR managers conducting operational testing. The SAFER manual for engineering employees states:

The Code of Federal Regulations mandates each railroad conduct operational tests and inspections to determine the extent of compliance by its employees with its operating rules and instructions. Our SAFER program is designed to prevent train accidents/incidents and personal injuries by improving employee operating and safety habits. In addition to the requirements mandated by the FRA, we have enhanced our system to include Maintenance of Way (MofW) employees not previously covered under the SAFER program. This program can also be used as a tool in evaluating promotional and probationary employees.

The NTSB is concerned that the LIRR management is overlooking and, therefore, normalizing noncompliance with the LIRR rules and the federal regulations regarding the proper clearing of tracks while using TAW for on-track safety. Therefore, the NTSB recommends that the MTA audit Long Island Rail Road's use of TAW as a method of worker protection for compliance with LIRR rules and federal regulations. Furthermore, the NTSB recommends that following the completion of the audit, the MTA implement actions to correct any identified deficiencies.

## **Previous Recommendations to MTA**

In 2014, the NTSB issued three safety recommendations to the MTA:

Require representatives from your operating divisions to regularly review safety and operational data from all divisions to identify safety issues and trends and share the results across your operating properties. (R-14-66)

Establish a program to systematically evaluate deficiencies identified on one Metropolitan Transportation Authority property and determine the applicability of safety mitigations to other Metropolitan Transportation Authority properties. (R-14-67)

Develop an oversight and tracking process to ensure that the recommendations from the various investigations and reviews of Metro-North Railroad are coordinated, addressed, and resolved at all Metropolitan Transportation Authority properties. (R-14-68)

On May 18, 2016, the NTSB classified the above three recommendations “Open—Acceptable Response,” noting that the MTA is developing an authority-wide safety management system (SMS) through which it will ensure that best practices learned from agency-level reviews of safety policies and practices are shared authority-wide.

A safety audit, such as the one described in this report, falls under the SMS component of safety assurance. Oversight activities, such as the audit, are appropriate for the MTA headquarters to undertake; such measures are responsive to, and consistent with, the SMS approach called for in Safety Recommendations R-14-66, -67, and -68.

## Recommendations

The National Transportation Safety Board makes the following two urgent safety recommendations to the Metropolitan Transportation Authority.

### To the Metropolitan Transportation Authority:

Audit Long Island Rail Road’s use of train approach warning as a method of worker protection for compliance with Long Island Rail Road rules and federal regulations. (R-18-006) (**Urgent**)

Following the completion of the audit, implement actions to correct any identified deficiencies. (R-18-007) (**Urgent**)

## BY THE NATIONAL TRANSPORTATION SAFETY BOARD

**ROBERT L. SUMWALT, III**  
Chairman

**EARL F. WEENER**  
Member

**T. BELLA DINH-ZARR**  
Member

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