



Issued: November 3, 2025

Railroad Investigation Report: RIR-25-16

# New York City Transit Employee Struck by Train

<b>Location</b>	Manhattan, New York
<b>Date</b>	November 29, 2023
<b>Accident type</b>	Employee fatality
<b>Train</b>	New York City Transit 2317-D 1 crewmember, unknown number of passengers 8 railcars
<b>Track</b>	Track B2 on the D line
<b>Hazardous materials</b>	None
<b>Fatalities</b>	1
<b>Injuries</b>	0
<b>Property Damage</b>	None

## 1. Factual Information

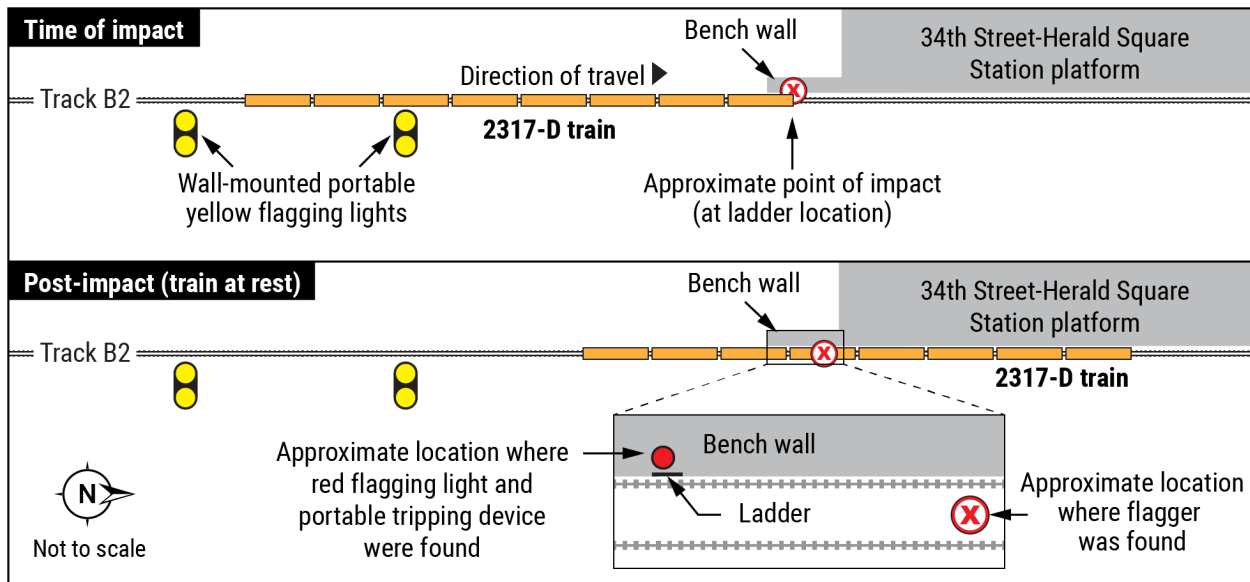
### 1.1 Accident Description

On November 29, 2023, about 12:13 a.m., northbound New York City Transit (NYCT) passenger train 2317-D struck and killed an NYCT employee working as a flagger on a work crew on track B2 of the D line near the 34th Street-Herald Square Station in Manhattan, New York.<sup>1</sup> (See figure.) As the train entered the work crew's work zone, it experienced an equipment-induced brakes-in-emergency application.<sup>2</sup> When the train operator exited the train to see what caused the brake application, she saw that the flagger was under the fifth car of the train and was unresponsive. The flagger was transported to a nearby hospital and was pronounced dead. There were no other injuries. The accident took place in an underground tunnel and the weather was not a factor. Train 2317-D did not have an event recorder, nor did it have inward- and outward-facing audio and image recorders.

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<sup>1</sup> Visit [ntsb.gov](https://www.ntsb.gov) to find additional information in the [public docket](#) for this NTSB accident investigation (case number RRD24FR003). Use the [CAROL Query](#) to search safety recommendations and investigations.

<sup>2</sup> *Brakes-in-emergency* is NYCT's term for an emergency braking application. An emergency braking application uses all available braking force to stop a train as quickly as possible.



**Figure.** Diagram of the scene both before and after the accident.

## 1.2 Before the Accident

On the night of the accident, a work crew consisting of a supervisor, flagger, and 11 other roadway workers was scheduled to clean the tracks at the 34th Street-Herald Square Station. The roadway workers were using brooms and shovels to manually clean trash from all four tracks at the station. They were scheduled to do the same at other stations once their work at the 34th Street-Herald Square Station was complete. The flagger was to set up the lights, monitor for oncoming trains, warn the work group when a train was arriving, signal for the train to stop and then signal for the train to proceed once the work group was at a place of safety. The supervisor was to assign the tasking, provide job briefings, and oversee the work.

According to an interview between the supervisor of the work crew and National Transportation Safety Board (NTSB) investigators, the supervisor held a job safety briefing with the flagger. The supervisor said that he reminded the flagger to clear up on the bench wall when clearing the track and that the flagger acknowledged that he understood. The supervisor also noted that the flagger appeared alert and “fit for duty” when he arrived for work.<sup>3</sup>

<sup>3</sup> Railroads perform fitness-for-duty assessments on employee prior to their employment to determine if they have the physical and cognitive ability to safely perform their job. The assessment can include medical exams, drug tests, and a review of their health status and medication. Often railroads colloquially use the term to mean that someone appeared normal with no visible impairment or deficits.

After the job briefing, the supervisor of the work crew accompanied the flagger to set up the lights to provide on-track protection for the work crew. NYCT regulations require a second qualified flagger accompany the flagger to set up the lights together at specific locations on the tracks.<sup>4</sup> The work crew supervisor was a qualified flagger; however, they did not set up the lights according to the regulations. The supervisor of the work crew told the NTSB that instead of setting up the lights together as required, they divided the work with each of them setting up the lights on an individual track. Also, the lights were not placed at the precise intervals required in the regulations. The first set of yellow flagging lights and the second set of yellow flagging lights were 289 feet and 1 inch apart rather than the required 300 feet apart. Also, the distance between the portable trip stop and the beginning of the work area was 188 feet and 7 inches instead of 150 feet. The NTSB also discovered that the supervisor had been using his cellphone to communicate with the flagman, and others, which is against NYCT rules.

## 1.3 Personnel Information

### 1.3.1 Flagger

Flaggers are responsible for protecting the rest of the work crew from train traffic by establishing working limits.<sup>5</sup> On the evening of the accident, the flagger was equipped with a flashlight and positioned near a portable trip block between the northernmost yellow flagging lights and the rest of the crew.<sup>6</sup> Under NYCT's standard operating procedures, the flagger would use a flashing red light that was placed on or near the track to serve as a visual indication of where the work area was to begin. The flagger would also have a white flashlight and a whistle to communicate with the work crew and a portable bank of lamps to illuminate the area where he was working. The flashing red light is required to remain lit from the time the working limits were established until workers are clear. A portable trip block must be attached to the lantern with a flashing red light. The trip block and lantern are connected by a cord that was about 3 feet in length. When an approaching train needs to pass through the area, the flagger at the entrance of the work area will communicate to the work crew to clear up by signaling with a white flashlight and blowing his whistle. Once the work crew is clear of

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<sup>4</sup> a) MTA *Rules and Regulations Manual* 3.72 (c).

<sup>5</sup> (a) *Working limits* refers to a segment of track with definite boundaries in which trains may move only as authorized by the roadway worker having control over that defined segment of track. (b) MTA *Rules and Regulations Manual* 3.76.

<sup>6</sup> A *trip block* is a metal block that is attached to the side of the rail which, when it makes contact with a part on the train called a *trip cock*, will activate the train's emergency brakes.

the tracks, the flagger will remove the trip block, position himself away from the tracks on a 49-inch-high bench wall on the west side of the track, extinguish the flashing red light, in preparation for the train to pass.<sup>7</sup> However, following the accident, the flashing red work area light, still attached to the portable trip block, was found turned off at the top of the bench wall near the ladder. The flagger will then signal to the train operator with his white flashlight, so that the train was allowed to pass. The train operator will then sound the horn twice and proceed through the unoccupied work zone.

The flagger was hired by NYCT about 11 months before the accident and was still in probationary status. He was diagnosed with severe sensorineural hearing loss in his right ear and moderate high-frequency sensorineural hearing loss in his left ear during his preemployment audiometric testing. The hearing loss made it difficult for him to localize sounds, and his employment was on the condition that he wear his hearing aids while working. The flagger's requirement to wear hearing aids was not communicated to his operational department or to his supervisor. There is no evidence that the flagger was wearing his hearing aids at the time of the accident, nor were they recovered after the accident.

The flagger had previously been diagnosed with disorders including depression, anxiety, and post-traumatic stress disorder. At the time of his hiring, he was being treated for these disorders with a combination of prescription medications and cognitive therapy. In addition, the flagger had been diagnosed with long-term substance abuse disorders which were reported to be in remission since 2017.

### **1.3.2 Supervisor**

The supervisor of the work group was hired by NYCT as a track worker in 2007 and was promoted to the position of maintenance supervisor in 2017. He told NTSB investigators that his duties were "to assign the work, make sure my men are safe, and make sure my work is completed, to keep proper records. Things of that nature."

The supervisor told the NTSB that on the evening of the accident, prior to the incident, he heard the flagger blowing his whistle, indicating the approach of a train. The work crew supervisor said that after hearing the whistle he told the crew to clear the work area. Once the work crew was clear, he waved his white flashlight to signal to the flagger that it was okay for the train to proceed. He said that he then saw the flagger acknowledge receipt of his signal that the crew was clear. The supervisor later saw the

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<sup>7</sup> The bench wall extends off the station platform through the working limits and beyond and serves as a walkway.

train approach and stop in the work area. He did not witness the flagger being struck by the train.

### **1.3.3 Train Operator**

During the investigation, the operator told NTSB investigators that as she approached the flagger's location she lost sight of him as he "just disappeared" after giving her the signal to proceed. However, she provided conflicting statements to emergency personnel. For instance, immediately after the accident, she told emergency responders that she had not seen anyone until she discovered the flagger underneath the train. However, she told emergency department staff at the hospital that she had witnessed someone jumping onto the track and she told another hospital employee that she had discovered a deceased individual while working.

The operator of the train had worked for NYCT since 2016; however, in 2019 she was diagnosed with a chronic medical condition with associated neurocognitive issues, began receiving medical treatment, and did not return to work until March 2023. The condition had the potential to impact her cognition and performance. Although she was cleared to return to work, she still had lingering medical issues, including neurocognitive issues. The train operator had not attended a recent follow-up appointment with her specialist, so the status of her chronic condition at the time of the accident was unknown.

## **1.4 Rules, Regulations, and Procedures**

### **1.4.1 NYCT Procedures for Roadway Worker Protection**

According to NYCT procedures, when a train is approaching a work area the flagger is required to:

- Provide worker protection by requiring trains to stop before entering.
- Maintain protection for the crew by leaving the portable trip stop in position, instructing the crew to clear the area, and receiving a clear signal from the supervisor indicating that the crew is in a safe location.
- Safely remove protection by uninstalling the portable trip stop, moving to a place of safety, concealing the red light, and giving the operator a proceed signal with his white flashlight.

### **1.4.2 MTA Rules and Regulations**

NYCT, part of the overarching Metropolitan Transportation Authority (MTA), follows the MTA Rules and Regulations Manual. In addition, NYCT sometimes publishes documents called Subway Bulletins which are specific to the rail transit system.

Specific MTA and NYCT rules require:

- a second qualified flagger to accompany the flagger when setting up and removing flags.<sup>8</sup>
- two yellow lights or two yellow flags must be displayed at a point not less than 500 feet or more than 700 feet from where the flagger will be located and two additional yellow lights or yellow flags be displayed at a location 300 feet farther in the direction from which the trains approach, except in a case where there is a station platform within 300 feet.<sup>9</sup>
- flaggers' positions must be sufficiently illuminated and a portable lamp bank or other approved light source should be used during track cleaning activities.<sup>10</sup>
- that electronic devices be prohibited as they could distract workers, prohibited electronic devices include personal cell phones.

## 1.5 Postaccident Toxicology Testing

Postaccident toxicology testing on the flagger noted the absence of some of the prescribed medication he was supposed to be taking for his diagnosed medical conditions. However, the testing did reveal inactive metabolites of cocaine. Testing on the train operator and the work crew supervisor revealed no tested-for substances in their systems, including alcohol.

## 1.6 Postaccident Actions

### 1.6.1 Federal Transit Administration

On August 13, 2024, the Federal Transit Administration (FTA) issued a special directive identifying two findings related to NYCT's roadway worker protection program and directed NYCT to make four actions to address those findings.<sup>11</sup> The FTA issued this special directive because it determined that a combination of unsafe conditions and practices existed that resulted in a substantial risk of death or injury.

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<sup>8</sup> (a) MTA *Rules and Regulations Manual* 3.72 (c). (b) Both flaggers must be fully qualified.

<sup>9</sup> MTA *Rules and Regulations Manual* 3.80 (a).

<sup>10</sup> NYCT Subway Bulletin 15-19.

<sup>11</sup> FTA, [Special Directive 24-6](#), (Washington, DC: 2024, US Department of Transportation, FTA).

The FTA's first finding was that NYCT had not used principles of safety risk management in its agency safety plan to address changing safety risks to its workers. The FTA issued a required action mandating that NYCT conduct a comprehensive risk assessment of its roadway worker protection program and submit it to the FTA within 60 days of issuance. The FTA also required NYCT to submit a proposal to the FTA to revise its agency safety plan based on the results of the assessment within 30 days of completing the assessment and create a plan for monitoring its implementation.

The FTA's second finding was that NYCT must take additional steps to ensure that its roadway worker protection program is sufficiently safe and in compliance with FTA regulations. The FTA required that NYCT begin weekly internal monitoring of its roadway worker protection program within 10 days of the issuance of the directive and monitor its sufficiency. Further, the FTA required that NYCT develop a corrective action plan within 100 days of the issuance of the directive to address the results of the internal monitoring activities and submit it to the FTA for approval. Once the FTA approved the plan, NYCT then had 30 days to begin submitting monthly progress reports to the FTA.

On October 31, 2024, the FTA issued a final rule, *Rail Transit Worker Protection*, which went in effect on December 2, 2024.<sup>12</sup> The object of the rule is to provide minimum safety standards for roadway worker protection for transit workers. The rule applies to all rail transit agencies, including NYCT, that are covered by the state safety oversight agency (SSOA) program. Under this rule, SSOAs are required to oversee and enforce the implementation of the program requirements.

The standards addressed in this rule pertain to requirements for on-track safety and supervision, job briefings, good faith safety challenges, and the reporting of unsafe acts, conditions, and near misses. The rule provides guidance for the development and implementation of risk-based redundant protections for roadway workers, training and qualification programs, and compliance monitoring activities. Under this rule, rail transit agencies are expected to comply with the standards as a baseline and use safety management system processes to determine any other activities needed. In an October 2024 statement, the NTSB expressed support for this final rule and said that the rule represented a critical step in improving safety.<sup>13</sup>

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<sup>12</sup> *Federal Register*, Vol 81, no. 211 October 31, 2024 ([87166](#)).

<sup>13</sup> NTSB, [NTSB Board Members Applaud New FTA Action to Protect Rail Transit Roadway Workers](#), (Washington, DC: NTSB, 2024).

### **1.6.2 New York State Public Transportation Safety Board**

The New York State Public Transportation Safety Board is an external oversight board responsible for safety oversight of all public transportation systems operating in New York State. On October 6, 2025, the New York State Department of Transportation's Public Transportation Safety Board informed the NTSB that NYCT is in compliance with the terms of the FTA's April 2024 Special Directive, meeting all required submissions and actions. Further, NYCT meets bi-weekly with the FTA to discuss actions associated with the Special Directive.

### **1.6.3 NYCT**

Following the accident, NYCT implemented a pilot project to enable Occupational Health Clinic nurse case managers to follow up with employees who need to provide medical documentation. In addition, NYCT's occupational health department developed pathways to penalize employees who repeatedly miss scheduled appointments or fail to provide requested medical documentation. NYCT's occupational health department has also implemented a program in which employee restrictions, such as corrective lenses or hearing aids, are made visible on identification badges.

Furthermore, on June 16, 2025, NYCT informed the NTSB that it had made or plans to make additional changes in response to this accident.<sup>14</sup> These changes include equipping new NYCT trains with event recorders and inward- and outward-facing cameras; revising procedures for improving communications between NYCT operational departments and the occupational health department; and optimizing NYCT's response to emergencies and cooperation with emergency response agencies.

## **2. Analysis**

On November 29, 2023, about 12:13 a.m., northbound NYCT passenger train 2317-D struck and killed an NYCT flagger who was working on track B2 of the D line near the 34th Street-Herald Square Station in Manhattan, New York. During this investigation, NTSB conducted interviews, reviewed signal system data logs, security camera footage, cell phone records, and examined physical evidence present after the accident. However, not all aspects of the accident sequence could be determined due to insufficient evidence.

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<sup>14</sup> E-mail from the vice president of system safety MTA to the NTSB, June 16, 2025.



## 2.1 Roadway Worker Protection

According to NYCT rules and procedures, the red light attached to the trip block should have been used to warn the operator to stop the train and to stay stopped until the crew and the supervisor could go to a place of safety. Then, the supervisor was to wave a flashlight with a white light to indicate to the flagger that he and the rest of the crew were safe. The flagger was to acknowledge that he had seen the white light by displaying his own white light. The flagger was then to remove the trip block by lifting it off the rail, then go to a place of safety, and then turn off the red light. The flagger was then to give a clear signal to the train operator that it was safe for the train to proceed through the working limits, only after the track was completely clear and the entire crew, including the flagger, was in a place of safety.

Both the supervisor and the operator told NTSB investigators in interviews that the flashing red light was lit when the train approached the working limits. However, the available evidence did not indicate whether the flagger gave a clear (proceed) signal to the train. Following the accident, the flagger's white flashlight was found illuminated and the red light was discovered in the off position. There was no audio or video evidence to show precisely when the red light was turned off.

## 2.2 Recorders

The train was not equipped with an event recorder which would have provided valuable insight into the actions of the operator at the time of the accident. The NTSB has advocated the use of event recorders in rail vehicles for nearly 30 years. In 1996, the NTSB recommended that the FTA and the American Public Transportation Association encourage the use of event recorders and create guidelines for their use.<sup>15</sup> The NTSB further made a safety recommendation to the FTA in 2015 requesting that event recorders be required on all rail transit vehicles.<sup>16</sup>

Additionally, this investigation was hampered by the absence of inward- and outward-facing image recorders. These recorders could have verified what the operator saw and heard and what actions the flagger and operator took. These devices also would have been beneficial to NYCT in overseeing the performance of its employees.

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<sup>15</sup> (a) NTSB, *Collision of Washington Metropolitan Area Transit Authority Train T-111 with Standing Train at Shady Grove Passenger Station, Gaithersburg, Maryland, January 6, 1996*, [NTSB/RAR-96/04](#), (Washington, DC: NTSB, 1996). (b) Safety Recommendation R-96-46 is classified Closed–Acceptable Action.

<sup>16</sup> (a) NTSB, *Chicago Transit Authority Train Collides with Bumping Post and Escalator at O'Hare Stations, Chicago, Illinois, March 24, 2014*, [NTSB/RAR-15/01](#), (Washington, DC: NTSB, 2015). (b) Safety Recommendation R-15-23 is classified Open–Unacceptable Response.

Between 1976 and 2015, the NTSB investigated 65 rail transit accidents. In 47 of those accidents, audio and image recorders would have greatly benefited the investigation.<sup>17</sup>

## 2.3 NYCT Oversight

The NTSB found that the actions of the crew, as described by the crew supervisor, were in violation of multiple NYCT rules, including MTA's flagging arrangements rule, flagging responsibilities rule, and point-to-point flagging rule.<sup>18</sup> The flagger's red light should have remained illuminated until the entire crew, including the flagger himself, was secure in a place of safety.<sup>19</sup> A qualified flagger should have accompanied the flagger to set up and remove the lights. The additional flagger should have been specifically assigned to watch for and warn of approaching trains and should have verified that the flagging was properly established.<sup>20</sup> Rather than setting up lights together with one watching out for the other, the flagger and supervisor set up lights simultaneously, with each one on a different track.

Following the accident, NTSB investigators performed sight-distance testing at the accident location and found that the lighting was sufficient for the train operator, flagger, and cleaning crew to perform their jobs appropriately. Although the NTSB found that the work area was sufficiently illuminated, it was not in compliance with NYCT regulations, which required that lights be placed at specific intervals and that a bank of lights be used for supplemental illumination.<sup>21</sup> However, the NTSB could neither prove nor disprove that the noncompliance contributed to the accident.

This is not the first accident the NTSB investigated regarding flagger protection at NYCT. On November 3, 2016, two NYCT employees were struck while setting up flagging protection.<sup>22</sup> One employee was killed, and the other was seriously injured. As a result of that investigation, the NTSB made a safety recommendation to MTA to conduct a comprehensive risk assessment of its flagging rules and implement revisions to its

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<sup>17</sup> (a) NTSB, *Inward- and Outward-facing Audio and Image Recorders as Investigative and Safety Tools*, [NTSB/RSR-17/02](#), (Washington, DC: NTSB, 2017). (b) Safety Recommendation R-17-13 is classified Open–Acceptable Response.

<sup>18</sup> MTA *Rules and Regulations Manual* 3.80 (a), 3.72 (c), 3.76 (c), 3.77 (c), 3.77 (d), and 3.58 (b).

<sup>19</sup> MTA *Rules and Regulations Manual* 3.58 (b).

<sup>20</sup> MTA *Rules and Regulations Manual* 3.72 (c).

<sup>21</sup> MTA *Rules and Regulations Manual* 3.80 (a).

<sup>22</sup> NTSB, *New York City Transit Train Strikes Two Flagmen, Brooklyn, New York, November 3, 2016*, [RAB-19/03](#), (Washington, DC: NTSB, 2019).

flagging rules that will reduce risks.<sup>23</sup> In response to this safety recommendation, MTA issued a safety advisory to remind employees to “consider alternatives before entering the trackway and applying flagging rules” and incorporated information from the advisory into existing training documentation. On March 9, 2020, the NTSB classified this safety recommendation Closed–Acceptable Action.

Despite the positive action taken by MTA following the 2016 flagger fatality, improper flagging continued to be an ongoing concern. The New York State Public Transportation Safety Board reported that in 2021 and 2022, improper flagging was identified as the most frequent “near miss” safety event for the MTA transit system.<sup>24</sup> Furthermore, the actions of the employees leading to the current accident—which violated multiple MTA rules—demonstrate NYCT’s failure to enforce rules and prioritize safety during flagging operations. Additionally, the FTA determined that a combination of unsafe conditions and practices existed that demonstrated a substantial risk of death or injury, resulting in the issuance of the 2024 special directive discussed in section 1.6.1.

Furthermore, as mentioned earlier in this report, the presence of inward- and outward-facing image recorders could have added another layer of safety oversight of NYCT employees. These recorders can be used to proactively identify unsafe behaviors and remediate them through additional training and reinforcement of proper procedures before an accident occurs.

## 2.4 Employee Factors

There were several employee factors that may have contributed to the circumstances of the accident; however, based on available evidence, the contribution was ultimately undetermined.

The train operator had a chronic condition that had the potential to impact her cognition and performance. The train operator had not attended a recent follow-up appointment with her specialist, so the status of her chronic condition at the time of the accident was unknown and its contribution to the accident could not be determined.

The flagger had hearing loss that required the use of hearing aids while working; however, the supervisor was unaware of this restriction, and the hearing aids were not

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<sup>23</sup> Safety Recommendation [R-19-34](#).

<sup>24</sup> For additional information, see the New York State Department of Transportation Public Transportation Safety Board [2021 Annual Program Status Report](#) (Albany, New York: New York State Department of Transportation Public Safety Board, August 24, 2022) and the New York State Department of Transportation Public Transportation Safety Board [2022 Annual Program Status Report](#) (Albany, New York: New York State Department of Transportation Public Safety Board, July 31, 2023).

recovered at the scene of the accident. The flagger's possible unaided hearing may have potentially placed him at increased risk of not hearing the train as it approached. In addition, postaccident toxicology testing indicated that the flagger had used cocaine in the days before the accident and had not taken medications prescribed for other diagnosed medical conditions, which could have impaired his cognitive and psychomotor performance; however, the extent could not be determined.

Because the flagger was in a safety-sensitive position entailing responsibility for the safety of the crew, ensuring that he was compliant with his restrictions and appropriately managing his diagnosed medical conditions may have provided a safer work environment for himself and the crew. NYCT failed to provide sufficient oversight of its employees to ensure compliance with these restrictions.

### 3. Probable Cause

The National Transportation Safety Board determines that the probable cause of the employee fatality that occurred in Manhattan, New York, was the flagger being in the foul of the track for unknown reasons as the New York City Transit passenger train entered a work area. Contributing to the likelihood of the accident was New York City Transit's ineffective oversight and insufficient enforcement of rules and procedures.

### 4. Lessons Learned

**Roadway Worker Protection.** This accident serves as a reminder about the necessity of vigilance in regard to roadway worker safety. The flagger was supposed to keep the red light on until all members of the work crew, including himself, were in a place of safety. However, that did not occur. The red light was found extinguished on the bench wall and the flagger was not standing in the clear at the time of the accident.

**Event and Video Recorders on Trains.** This accident investigation demonstrates the importance of having functional event and video recorders on trains. Had NYCT passenger train 2317-D been equipped with operational event and video recorders, the NTSB would have been able to ascertain what caused this accident on November 29, 2023. In addition, NYCT would be able to revise its regulations and procedures to prevent similar events from occurring in the future.

**Improved Oversight.** The NTSB investigation found several examples of rules violations, whether by commission or omission, that contributed to the accident. Had there been more vigilant enforcement of the rules, perhaps this accident could have been prevented.

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue

safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)).

For more detailed background information on this report, visit the [NTSB Case Analysis and Reporting Online \(CAROL\) website](#) and search for NTSB accident ID RRD24FR003. Recent publications are available in their entirety on the [NTSB website](#). Other information about available publications also may be obtained from the website or by contacting—

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