



**WMSC Commissioner Brief: W-0102 – Collision With Customer – Shaw-Howard U Station – March 24, 2021**

*Prepared for Washington Metrorail Safety Commission meeting on August 3, 2021*

**Safety event summary:**

A Metrorail customer unintentionally fell off the Shaw-Howard U Station platform as a southbound Green Line train toward Branch Avenue Station approached. The person was struck by the train as they attempted to return to the platform, and they later died due to their injuries.

CCTV video shows that the individual had been stumbling around the station platform for several minutes prior to this event. The person got off a train at the station at 7:46 p.m. The person did not board a southbound Yellow Line train that arrived at 7:51 p.m., but then moved toward the platform edge at 7:53 p.m. as the edge lights flashed to indicate the approach of a southbound Green Line train. After falling, the person attempted to return to the platform, but could not prior to the train striking them. The Train Operator had hit the emergency braking “mushroom” button approximately two seconds prior to the collision.

The Train Operator reported striking the person, and the Rail Operations Control Center (ROCC) de-energized third rail power, notified the Metro Transit Police Department (MTPD), and called D.C.’s 911 center to request a D.C. Fire and Emergency Medical Services (DCFEMS) response.

The ROCC later made a second call to D.C.’s 911 center that does not appear to have been coordinated with the first call. At 7:55 p.m., a ROCC Assistant Superintendent reported that a person was struck by a train at Shaw-Howard U. Station. At 8:00 p.m., a Maintenance Operations Center (MOC) Assistant Superintendent separately called to report a person struck by a train at the same location.

While the Train Operator was conducting their duties to begin a ground walk around of the train to locate the person on the roadway, MTPD personnel stopped the Train Operator from finishing those duties and instructed the Train Operator to sit on a bench. This occurred after customers on the train had reached the platform and was done without coordination with the ROCC. The Train Operator was initially designated as on-scene commander, however significant communication with the ROCC was conducted through the Station Manager, who was not designated by the ROCC as on-scene commander. The ROCC instead had notified two supervisors that they would serve as on-scene commander and forward liaison when they arrived at the station.

The Station Manager assisted with offloading customers from the train to the platform, including those customers in the trailing 5 cars that remained in the tunnel. The Station Manager located the person under the train and the platform edge. DCFEMS was able to get the unresponsive person onto the platform at approximately 8:20 p.m. to perform CPR, and took the person to the hospital, however the person later died.

After the initial portions of the investigation were complete, Metrorail repaired the damaged lead railcar of the train.

**Probable Cause:**

The probable cause of this event was a person inadvertently falling onto the roadway as a train approached.



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**WMSC staff observations:**

It is not clear that Metrorail confirmed that power was down using a hot stick prior to emergency personnel entering the roadway. While the person was in the area between the railcar and the platform, the collector shoes on that side of the railcar would be energized if third rail power was up, so this verification should have occurred prior to entering the roadway.

The WMSC continues to highlight to Metrorail the need to improve 911 notifications. While the first call in this case was timely, the lack of coordination continues to be a challenge. The WMSC has discussed this with ROCC leadership, and they have stated that improvements are being considered and developed, including those required under corrective action plans (CAPs) related to WMSC findings in and related to the ROCC Audit issued in September 2020.

Metrorail did not sufficiently review CCTV and vehicle video footage as part of this investigation. The Safety Department stated that station video and forward-facing video from the train was withheld by MTPD. Safety event investigations are a critical process that must be used to determine mitigations that can reduce the likelihood of recurrence. This process and other aspects of Metrorail's Public Transportation Agency Safety Plan, and the safety management system (SMS) approach it incorporates, require access to and consideration of all available data and information, including video. While Metrorail attempted to reference a criminal investigation, a safety investigation and criminal investigation are separate processes that can and do operate in parallel, not in conflict with one another.

The WMSC, in coordination with Metrorail, has since instituted a specific protocol for the WMSC to receive Metrorail video files and to access live video streams.

**Staff recommendation:** Adopt final report.



Washington Metro Area Transit Authority

Department of Safety and Environmental

Management (SAFE)

**FINAL REPORT OF INVESTIGATION A&I E21117**

<b>Date of Event:</b>	3/24/2021
<b>Type of Event:</b>	Collision
<b>Incident Time:</b>	19:53 hours.
<b>Location:</b>	Shaw-Howard U Station, Track 2.
<b>Time and How received by SAFE:</b>	19:59 hours. SAFE On-call Phone
<b>WMSC Notification Time:</b>	21:21 hours.
<b>Rail Vehicle:</b>	Train ID 509, [L7630-7631.7635-7634.7712-7713.7619-7618T]
<b>Injuries:</b>	Fatality
<b>Damage:</b>	Damaged Front Cowling on Lead Car 7630
<b>SMS I/A Incident Number:</b>	20210324#92450MX

Shaw-Howard Station  
Collision  
March 24, 2021  
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## **Abbreviations and Acronyms**

<b>AIMS</b>	Advanced Information Management System
<b>ARS</b>	Audio Recording System
<b>CCTV</b>	Closed-Circuit Television
<b>CM</b>	Chain Marker
<b>CMOR</b>	Office of Chief Mechanical Officer
<b>COMM</b>	Office of Systems Maintenance Communication Section
<b>DCFEMS</b>	District of Columbia Fire Emergency Medical Services
<b>EMS</b>	Emergency Medical Services
<b>ETS</b>	Emergency Trip Systems
<b>ERT</b>	Emergency Response Team
<b>IC</b>	Incident Commander
<b>IIT</b>	Incident Investigation Team
<b>MOC</b>	Maintenance Operations Control
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>MTPD</b>	Metro Transit Police Department
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>OUC</b>	Office of Unified Communications
<b>PA</b>	Public Address
<b>ROCC</b>	Rail Operations Control Center
<b>ROIC</b>	Rail Operations Information Specialist
<b>RTC</b>	Rail Traffic Controller
<b>RTRA</b>	Office of Rail Transportation
<b>SAFE</b>	Department of Safety and Environmental Management
<b>SMS I/A</b>	Safety Measurement System Incidents/Accidents
<b>SOP</b>	Standard Operating Procedure
<b>VMDS</b>	Vehicle Monitoring and Diagnostic System
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

### **Executive Summary**

On Wednesday, March 24, 2021, at approximately 19:53 hours, a Train Operator operating Green Line Train ID 509 [L7630-7631.7635-7634.7712-7713.7619-7618T], in Branch Avenue Station's direction, notified the Rail Operations Control Center (ROCC) Radio Rail Traffic Controller (RTC) their train struck a person within Shaw-Howard U Station's platform limits, Track 2. The ROCC initiated emergency notifications to the respective internal and external departments. The ROCC de-energized third rail power at Shaw-Howard U Station, Track 2, and began single-tracking between U Street Station and Mt. Vernon Square Station, Track 1.

The District of Columbia Fire Emergency Medical Services (DCFEMS), Metro Transit Police Department (MTPD), Department of Safety and Environmental Management (SAFE), and the Office of Rail Transportation (RTRA) supervisors were dispatched to the incident location. Based on Audio Recording System (ARS) playback, the responding Shaw-Howard U Station Manager assisted with offloading the affected consist by performing a walk-through interior inspection of the out-of-service train. Additionally, the Shaw-Howard U Station Manager performed a ground walk-around, located the person, and reported to the ROCC that the person showed no signs of life.

Based on the Advanced Information Management System (AIMS) playback, at 19:54 hours, the Buttons RTC de-energized third rail power on Track 2. Based on ARS playback, [radio and ambient] at 19:54 hours, the ROCC Radio RTC complied with Standard Operating Procedure (SOP) 1A per the Metrorail Safety Rules and Procedures Handbook (MSRPH). The ROCC Radio RTC assigned the Train Operator as the On-Scene Commander (OSC) and indicated Office of Rail Transportation (RTRA) Supervisor One would be appointed the OSC upon their arrival. Additionally, upon arrival of RTRA Supervisor Two at 19:55 hours, ROCC Radio RTC indicated they would be appointed as the RTRA Forward Liaison. RTRA removed the Train Operator from service for post-incident toxicology testing per RTRA's SOP 102-1 Removing an Employee from Service.

Based on the Vehicle Monitoring and Diagnostic System (VMDS) data, Train ID 509 entered the Shaw-Howard U Station, Track 2, with a train speed of 38 MPH. The Train Operator initiated the consist emergency brake sequence after the emergency push button was depressed with a train speed of 36 MPH. The estimated speed at which the person was struck by the train was 32 MPH. The train came to a complete stop after traveling 219 feet from the impact location. Based on the Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT) post-incident analysis, there was no data to support any anomalies with the consist that may have contributed to this incident.

The MTPD report revealed at approximately 19:55 hours, the ROCC notified MTPD and reported that a person had been struck by a train at the Shaw-Howard U Station, Track 2. Upon MTPD Crime Investigation Departments (CID), Crime Scene Search (CSS), DCFEMS, and Emergency Medical Services (EMS) responding to the scene, the person was located underneath car 7635 and the area of refuge, showing signs of life. The DCFEMS extricated the person from the roadway. The person was unresponsive, and DCFEMS personnel performed life-saving measures on the station's platform. DCFEMS subsequently transported the person to Howard University Hospital for further medical treatment.

MTPD reported that the person sustained an apparent head injury and possible internal injuries. MTPD personnel, along with CID personnel, responded to the hospital. Despite all life-saving measures, the person succumbed to their injuries. See Appendix A. Per MTPD, the person appeared to be under the influence. The person was stumbling and making erratic movements while walking around on the Shaw-Howard U Station platform. At 19:51 hours, a Huntington Station train arrived on the platform, and the person did not board the train and stumbled down the platform. At 19:53 hours, the platform edge lights were blinking, and the person made their way towards the edge of the platform. The person appeared to walk off as if they may have thought they were still walking on the platform. The person immediately attempted to get back up, but the incident train had struck them at that time.

Based on ARS playback, at 22:29 hours, RTRA Supervisor One reported to the ROCC that all MTPD personnel were clear of the scene and relinquished the scene to RTRA personnel. Per ARS playback, Emergency Response Team (ERT) personnel notified the ROCC and reported they visually inspected the track's infrastructure elements from the platform with no signs of track defects noted. ERT personnel deemed the area safe for rail vehicle movement. The ROCC resumed regular rail service at 22:42 hours.

After reviewing the ARS, there did not appear to be any communication deficiencies over the radio. The On-Call Safety Officer notified the Crisis Management Center (CMC) on March 24, 2021, at 21:21 hours, via email.

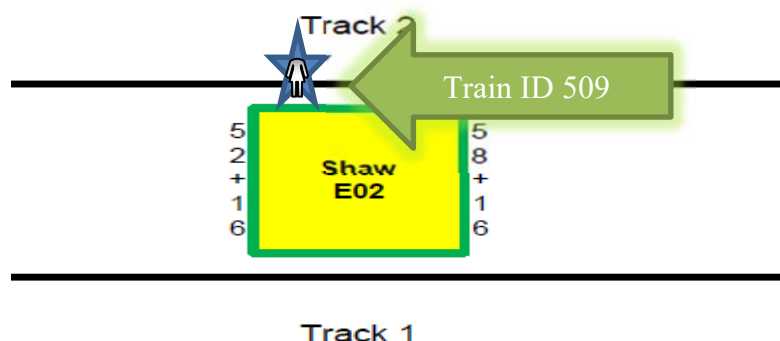
The probable cause of the person Struck by a Train event at the Shaw-Howard U Station on March 24, 2021, was the person walked off the platform for unknown reasons, falling onto the roadway and placing themselves within the train's dynamic envelope. Based on a post-incident station inspection, SAFE did not identify any slip or trip hazards that may have contributed to this event.

An analysis of data collected from systems of record, interviews with staff, and MTPD's incident report review, SAFE concludes there were no safety deficiencies related to any WMATA station facility, vehicle, or human factor components identified as contributors to this event.

### **Incident Site**

Shaw/Howard U Station, Track 2.

### **Field Sketch/Schematics**



## **Purpose and Scope**

The purpose of this incident investigation and candid self-evaluation is to collect and analyze available facts, determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

## **Investigation Methods**

The investigative methodologies included the following:

- Formal Interview – SAFE interviewed the Train Operator as part of this investigation
- Informal Interviews – Collected through conversations with persons during the investigation to provide background and supporting information.
- Documentation Review – A collection of relevant work history information and process documentation in Metro systems of record. These records include:
  - Employee Training Procedures & Records
  - Certifications
  - The 30-Day work history
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic Atmospheric Administration (NOAA)
  - Rail Operations Control Center (ROCC) Procedures Manual
  - Office of Systems Maintenance Communication Section (COMM)
  - Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT) post-incident analysis data
  - Office of Car Maintenance (CMNT) post-incident inspection data
  - Metro Transit Police Department (MTPD) executive briefing report
  - Maximo
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:
  - Audio Recording System (ARS) playback [Radio and Phone Communications]
  - Advanced Information Management System (AIMS) playback
  - Closed Circuit Television (CCTV)
  - Network Video Recording (NVR)

## **Investigation**

On Wednesday, March 24, 2021, ARS playback revealed at 19:53 hours, Train Operator of Train ID 509, L7630-7631.7635-7634.7712-7713.7619-7618T, Green Line train, notified the ROCC Radio RTC that their consist struck a person within the platform limits at Shaw-Howard U Station, Track 2.



## Advanced Information Management System (AIMS)

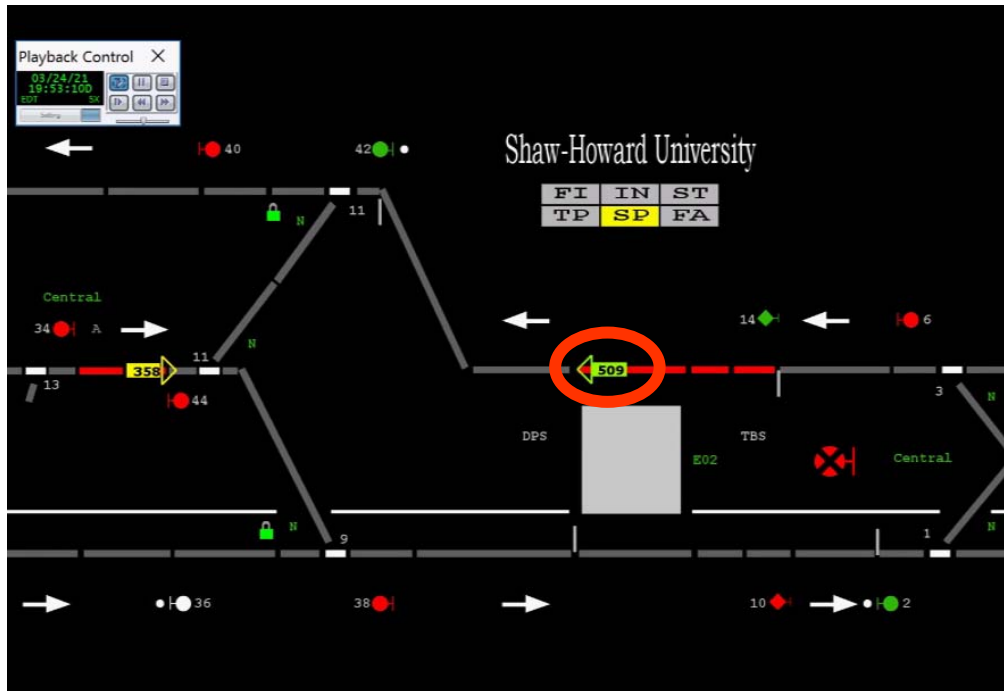


Diagram 1 - Based on the AIMS playback, Train ID 509 entered Shaw-Howard U Station, Track 2, at 19:53:10 hours, and appears to be when they reported the person on the roadway per ARS.

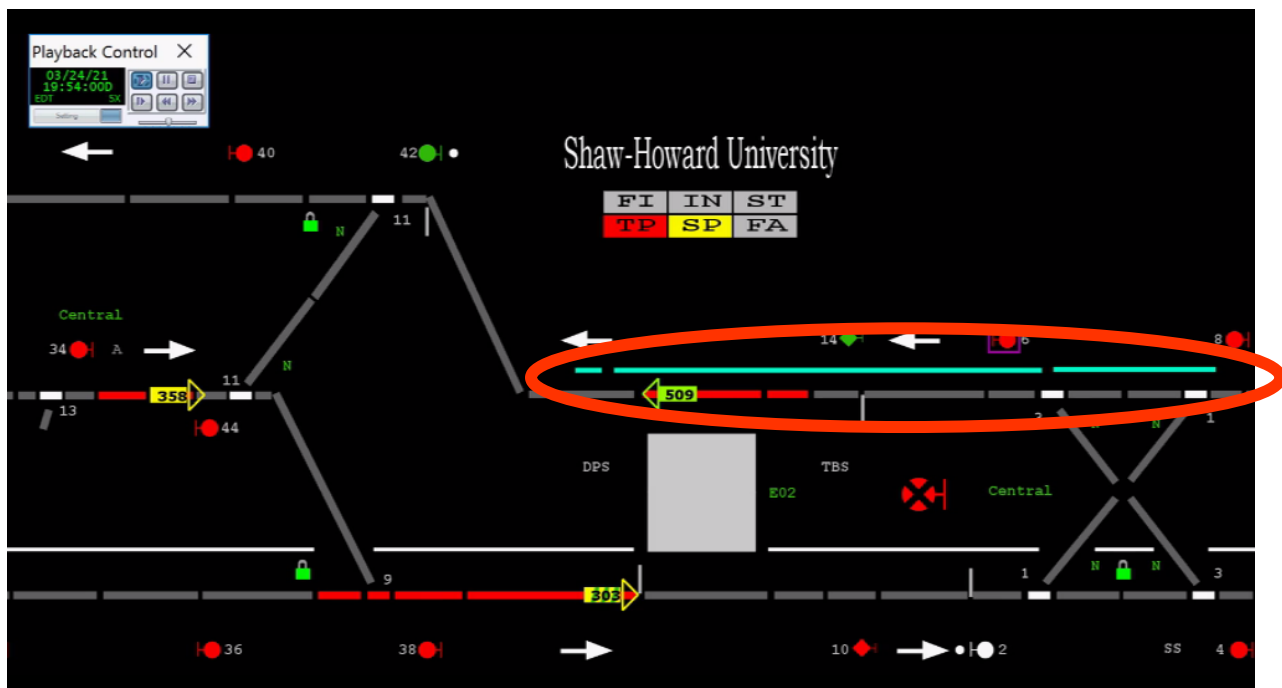


Diagram 2 - Based on the AIMS, the green symbol on the AIMS power display shows ROCC subsequently de-energized third rail power at Shaw-Howard U Station, Track 2 19:54:00 hours.

Based on ARS playback, the DCFEMS extricated the injured person from underneath car 7635 to the platform and performed life-saving measures at 20:20 hours.



*Photo 1 – Damaged sustained to the front cowling on lead car 7630.*



*Photo 2 – Damaged sustained to the front cowling on lead car 7630.*



Photo 3 – Shaw-Howard U Station, Track 2 incident scene.

Based on ARS playback, at 21:09 hours, the DCFEMS departed the scene and subsequently transported the person to Howard University Hospital for further medical treatment. At 21:52 hours, third rail power was restored on Track 2. Incident Train ID 509 moved towards Greenbelt Yard for post-incident inspection. Single tracking efforts concluded between Shaw-Howard U Station and Mt Vernon Square Station, and normal service resumed at 22:42 hours.

### **Audio Recording System (ARS) Chronological Event Timeline**

A review of ARS playback, i.e., phone, ambient, and radio communications, revealed the following:

19:53:04 hrs.	<p><u>Train ID 509 Train Operator</u>: Repeated Emergency, Emergency, and Emergency three times consecutively and reported striking a person within the platform limits at Shaw-Howard U Station, Track 2.</p> <p><u>ROCC Radio RTC</u>: Acknowledged and instructed the RTRA Supervisor One to board the next train, go to Shaw-Howard U Station, and indicate they will be the OSC upon arrival.</p> <p><u>RTRA Supervisor One</u>: Acknowledged. [Ops 3]</p>
19:54:34 hrs.	<p><u>ROCC Radio RTC</u>: Notified Train ID 509 Train Operator instructed them to make prescribed public address announcements to passengers and asked do they have any cars on the platform?</p> <p><u>Train ID 508 Train Operator</u>: Responded; I have two and a half cars on the platform.</p> <p><u>ROCC Radio RTC</u>: Acknowledged and indicated until the RTRA Supervisor arrives, you will be the OSC SOP 1A is in effect. [Ops 3]</p>
19:54:54 hrs.	<p><u>ROCC Radio RTC</u>: Notified MTPD and reported a person being struck by a train at Shaw-Howard U Station, Track 2. [Ambient]</p>
19:55:01 hrs.	<p><u>ROCC Assistant Superintendent</u>: Notified Office of Unified Communications (OUC) and reported a person being struck by a train at Shaw-Howard U Station, Track 2. [Phone]</p>

19:55:15 hrs.	<p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and indicated they are on scene.</p> <p><u>ROCC Radio RTC</u>: Acknowledged and instructed the Shaw-Howard U Station Manager to assist the Train Operator in offloading the affected consist.</p> <p><u>Shaw-Howard U Station Manager</u>: Acknowledged.</p> <p><u>ROCC Radio RTC</u>: Notified RTRA Supervisor Two and indicated that you would be appointed as the RTRA Forward Liaison once you arrive at the platform.</p> <p><u>RTRA Supervisor Two</u>: Acknowledged. [Ops 3]</p>
19:56:17 hrs.	<p><u>ROCC Radio RTC</u>: Alerted all Ops 3 Train Operators and reported there are two emergencies currently. Please make prescribed public address announcements to passengers on trains and in stations. <b>Note</b>: The other emergency was Train ID 306 Train Operator had to offload their train at Braddock Road Station due to a sick customer laying on the floor in Car 7484. [Ops 3]</p>
19:54:20 hrs.	<p><u>ROCC Radio RTC</u>: Notified Rail Operations Information Center and reported a person being struck by a train at Shaw-Howard U Station, Track 2. [Ambient]</p>
19:59:05 hrs.	<p><u>Train ID 509 Train Operator</u>: Notified ROCC Radio RTC and reported their consist was offloaded and their Lead Car was 7630, and requested permission to perform a ground walk-around inspection.</p> <p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and reported MTPD was on scene and all customers were clear of the consist. [Ops 3]</p>
19:59:10 hrs.	<p><u>Rail Operations Information Center (ROIC)</u>: Notified SAFE and reported a person being struck by a train at Shaw-Howard U Station, Track 2, and we are about to single-track between U St Station and Mt Vernon Square Station, Track 1. [Ambient]</p>
20:00:00 hrs.	<p><u>ROCC Radio RTC</u>: Notified Train ID 509 Train Operator instructed them to report if the person shows any signs of life during their ground walk around.</p> <p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and reported the person is under car 7635, and there were no signs of life at this time. [Ops 3]</p>
20:00:55 hrs.	<p><u>MOC Assistant Superintendent</u>: Notified DC Emergency Administration 911 Center and reported a person being struck by a train at Shaw-Howard U Station, Track 2. [Phone]</p>
20:06:55 hrs.	<p><u>ROCC Radio RTC</u>: Alerted all Train Operators approaching the area and indicated an emergency at Shaw-Howard U Station, Track 2, and we are single-tracking between U St Station and Mt Vernon Square Station. [Ops 3]</p>
20:07:52 hrs.	<p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and reported DCFEMS was on the scene. [Ops 3]</p>
20:10:04 hrs.	<p><u>CMNT</u>: Notified ROCC Radio RTC and reported they were en route to the scene. [Ops 3]</p>
20:14:10 hrs.	<p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and reported the Train Operator was with MTPD, and we are still searching for signs of life. [Ops 3]</p>
20:16:44 hrs.	<p><u>Shaw-Howard U Station Manager</u>: Notified ROCC Radio RTC and reported CMNT was on the scene. [Ops 3]</p>
20:17:15 hrs.	<p><u>ERT</u>: Notified ROCC Radio RTC and reported they were on scene and standing by for further instructions. [Ops 3]</p>



20:20:15 hrs.	<u>Shaw-Howard U Station Manager:</u> Notified ROCC Radio RTC and reported that the DCFEMS extricated the person from underneath car 7635 to the platform, and medical assistance was currently being performed. [Ops 3]
20:54:33 hrs.	<u>ROCC Radio RTC:</u> Alerted all Train Operators approaching the area and indicated an emergency at Shaw-Howard U Station, Track 2, and we are single-tracking between U St Station and Mt Vernon Square Station. Please make prescribed public address announcements to passengers on trains and in stations. [Ops 3]
21:09:20 hrs.	<u>RTRA Supervisor One:</u> Notified ROCC Radio RTC and reported that the DCFEMS departed the scene. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
21:20:00 hrs.	<u>ROCC Radio RTC:</u> Notified RTRA Supervisor and indicated I need you to confirm third rail power is de-energized. The ROCC Radio RTC stated the E03-08 signal was red, prohibit exits, block calls, cancellation of automatic signals, blue block, and human form status were in place. You have permission to enter the roadway to hot stick to verify third rail power was de-energized on Track 2 at Shaw-Howard U Station and provide a chain marker. <u>RTRA Supervisor One:</u> Acknowledged. [Ops 3]
21:25:35 hrs.	<u>RTRA Supervisor One:</u> Notified ROCC Radio RTC and reported that that they spoke with the OSC and MTPD still had the scene <u>ROCC Radio RTC:</u> Acknowledged and stated E03-08 signal was red, prohibit exits, block calls, cancellation of automatic signals, blue block, and human form status were in place, you have permission to enter the roadway to hot stick to verify third rail power was de-energized on Track 2 at Shaw-Howard U Station and provided a chain marker. <u>RTRA Supervisor One:</u> Acknowledged. [Ops 3]
21:27:58 hrs.	<u>RTRA Supervisor One:</u> Notified the ROCC Radio RTC and confirmed that third rail power was de-energized at chain marker E2-051+00, and they were safely back on the platform relinquishing their Foul Time. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
21:32:12 hrs.	<u>CMNT:</u> Notified ROCC Radio RTC and reported that their inspection of the consist was complete and they were clear of the roadway. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
21:38:00 hrs.	<u>RTRA Supervisor:</u> Notified ROCC Radio RTC and reported that all personnel and equipment were clear of the roadway requested that third-rail power be restored at the ROCC's discretion so that a train can go through the area to perform a track inspection. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
21:52:22 hrs.	<u>ROCC Radio RTC:</u> Granted permission for the train on Track 2 at Shaw-Howard U Station to crossover from Track 2 to Track 1 going in Greenbelt Rail Yard's direction. <u>RTRA Supervisor One:</u> Acknowledged and indicated once the train cleared the area, we need power de-energized again so that MTPD can continue their investigation. [Ops 3]
22:02:17 hrs.	<u>ROCC Radio RTC:</u> Notified RTRA Supervisor One and indicated I need you to confirm third rail power is de-energized. The ROCC Radio RTC stated E03-08 signal was red, prohibit exits, block calls, cancellation of automatic signals, blue block, and human form status were in place. You have permission to enter the roadway to hot stick to verify third rail power is de-energized on Track 2 at Shaw-Howard U Station and provide a chain marker. <u>RTRA Supervisor One:</u> Acknowledged. [Ops 3]

22:04:51 hrs.	<u>RTRA Supervisor One:</u> Notified the ROCC Radio RTC and confirmed that third rail power was de-energized at chain marker E2-051+00, and they were safely back on the platform relinquishing their Foul Time. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
22:29:55 hrs.	<u>RTRA Supervisor One:</u> Notified the ROCC Radio RTC and reported that MTPD cleared the roadway and turned over the scene back to RTRA due to completing their investigation. [Ops 3]
22:31:28 hrs.	<u>ERT:</u> Notified the ROCC Radio RTC and reported that they visually inspected all of the track's infrastructure elements from the platform, and there were no signs of track defects. ERT personnel deemed the area safe for rail vehicle movement. <u>ROCC Radio RTC:</u> Acknowledged. [Ops 3]
22:33:45 hrs.	<u>ROCC Radio RTC:</u> Announced third rail restoration efforts were in effect Shaw-Howard U Station, Track 2. [Ops 3]
22:42:54 hrs.	<u>ROCC Radio RTC:</u> Notified Train ID 510 Operator normal service resumed, and they were the first train to service Shaw-Howard U Station, Track 2. [Ops 3]

### **Metro Transit Police Department (MTPD)**

The MTPD report revealed at approximately 19:55 hours, the ROCC notified MTPD and reported that a person had been struck by a train at the Shaw-Howard U Station, Track 2. Upon MTPD, CID, CSS, DCFEMS, and EMS responding to the scene, the person was located underneath car 7635 and the area of refuge, showing signs of life. The DCFEMS extricated the person from the roadway. The person was unresponsive, and DCFEMS personnel performed life-saving measures. DCFEMS subsequently transported the person to Howard University Hospital for further medical treatment. MTPD reported that the person sustained an apparent head injury and possible internal injuries. MTPD personnel, along with CID personnel, responded to the hospital. Despite all life-saving measures, the person succumbed to their injuries. See Appendix A.

MTPD reported, based on Shaw-Howard U Station CCTV review, revealed the person exits Car 7572 at Shaw-Howard U Station at 19:46 hours. Per MTPD, the person appeared to possibly be under the influence. The person was stumbling and making erratic movements while walking around on the Shaw-Howard U Station platform. At 19:51 hours, a train to Huntington Station arrived on the platform; the person did not board the train and stumbled down the platform. At 19:53 hours, the platform edge lights were blinking, and the person made their way towards the edge of the platform. The person appeared to walk off as if they may have thought they were still walking on the platform. The person immediately attempted to get back up, but the incident train had struck them at that time. See Appendix A.

### **Office of Car Maintenance (CMNT)**

Upon arrival at the scene, CMNT performed an on-site exterior and interior inspection of the affected consist and deemed the consist safe for rail vehicle movement in travel to Greenbelt Yard. CMNT personnel identified damage sustained to the front cowling on lead car 7630, which CMNT repaired. Additionally, CMNT performed an under-car cleaning and a post-incident inspection on the brake system, propulsion system, and master controller operational checks. CMNT found these subsystems worked as designed. CMNT did not identify any abnormal conditions that contributed to the collision event. See Appendix B.

## Office of Chief Mechanical Officer (CMOR) / Incident Investigation Team (IIT)

### Event Recorder (ER) Data Graph/Sequence of Events

Based on IIT CMOR analysis of the downloaded VMDS and ER, details from the data analysis are as follows:

TIME	Description
19:53:00 hrs.	The consist entered Shaw-Howard U Station with the master controller placed in B5 mode, and the speed was 38 MPH.
19:53:01 hrs.	The Consist decelerated at a B5 rate, at that time the speed was 36 mph. Emergency brake sequence was initiated after Train Operator activated the emergency brake function "mushroom."
19:53:03 hrs.	At the estimated time of impact the consist was in emergency braking, and the speed was 32 mph.
19:53:13 hrs.	The consist came to a complete stop after traveling 219 feet from the impact location.
19:53:56 hrs.	The consist was keyed down.

**Note:** The VMDS data does not show any abnormalities with the railcar's operations contributing to this incident. All of the associated subsystems' such as Automatic Train Control (ATC), brakes, and propulsion, acted as designed to bring the train to a complete stop.

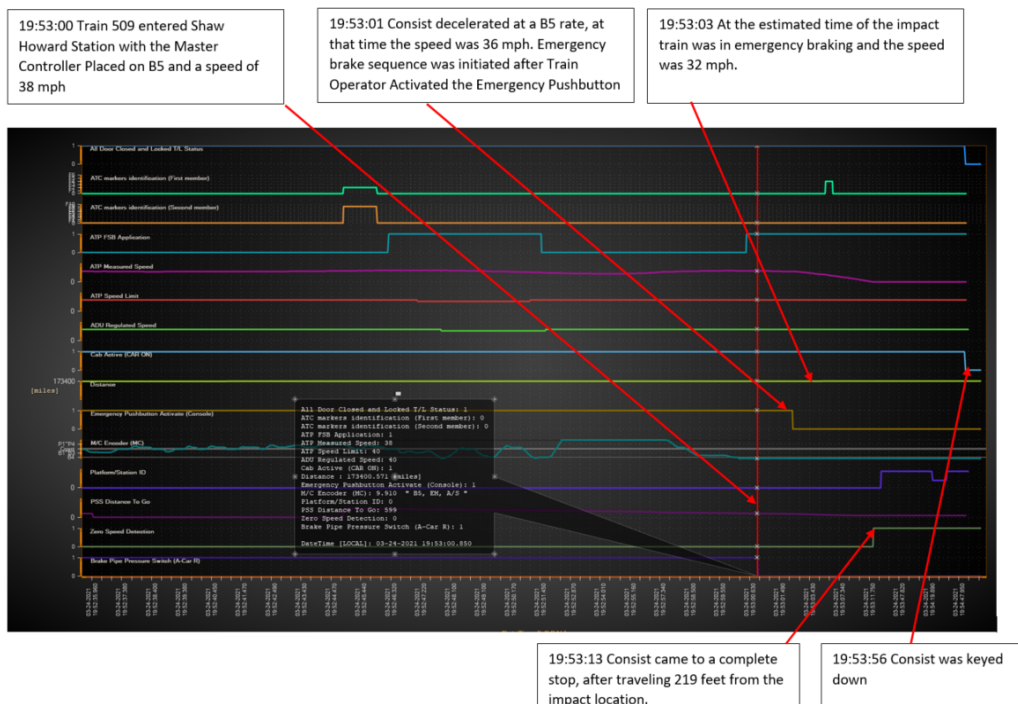


Diagram 3 - ER Graphical Analysis

## **Office of System Maintenance Communication Section (COMM)**

COMM personnel performed a comprehensive radio operational test at Shaw-Howard U Station, Tracks 1 and 2. The test was successful, and the signal was at an optimal level.

**Note:** After reviewing the Audio Recording System playback, there did not appear to be any communication deficiencies over the radio.

### **Interview Findings**

Based on the investigation into the reported person being struck by train event, SAFE conducted one investigative interview and identified the following key findings associated with this event as follows:

During the virtual interview, the Train Operator reported they were feeling alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident. The employee indicated on March 23, 2021, they returned to work from a 10-day vacation. Before the collision event, the Train Operator stated while entering Shaw-Howard U Station, Track 2, they observed a person peeking off of the platform as if they were looking for their train to arrive.

The Train Operator was about to sound the horn, but then the person jumped off the platform, placing themselves within the train's dynamic envelope, fouling the roadway. The Train Operator immediately depressed the emergency brake function "mushroom" and set the Master Controller in the emergency position. The Train Operator indicated that the train couldn't stop in time and struck the person on the roadway. The Train Operator notified the ROCC and requested permission to offload the consist and perform a ground walk around. The Train Operator indicated they felt comfortable enough to complete those tasks. After the patrons had safely exited the consist, the Train Operator began to do a ground walk around to locate the person on the roadway. MTPD personnel approached them and told them to sit on a bench and then was interviewed by MTPD. There were two Shaw-Howard U Station Managers that responded to the scene and took over the Train Operator's duties after being asked to sit down by MTPD. The Train Operator reported no discrepancies with the train console or any distractions in the cab area. The Train Operator indicated they were on their last trip, and during the three-round trips they completed before the incident, they had no mechanical discrepancies with the train.

### **Station Site Assessment**

SAFE performed an inspection of the station after the incident. There were no adverse safety concerns that contributed to the incident. All the Station's Emergency Trip Systems (ETS) and Public Address (PA) systems were reported operational.

### **Findings**

- The CCTV and NVR, Forward-Facing Camera was unavailable due to the MTPD criminal investigation.
- The AIMS display shows that third rail power was de-energized at Shaw-Howard U Station, Track 2, approximately one minute after the collision.
- WMATA personnel complied with SOP #1A and SOP #26 procedures when responding to this event.



- Based on CCTV playback, MTPD reported the person appeared to possibly be under the influence. The person was stumbling and making erratic movements while walking around on the Shaw-Howard U Station platform. At 19:53 hours, the platform edge lights were blinking, and the person made their way towards the edge of the platform. The person appeared to walk off as if they may have thought they were still walking on the platform. As the person fell on the roadway in front of the incoming Train ID 509, they immediately attempted to get back up, but the incident train had struck them at that time.
- Based on the AIMS playback, the ROCC de-energized third rail power at Shaw-Howard U Station, Track 2 at 19:54 hours. However, it could not be verified via ARS playback if third rail power was confirmed de-energized before DCFEMS performed rescue efforts.
- Based on a post-incident station inspection, SAFE did not identify any slip or trip hazards that may have contributed to this event.
- Based on ARS, CMNT Road Mechanic personnel performed an under-car visual inspection and deemed the consist safe for movement.
- CMNT personnel identified damage sustained to the front cowling on lead car 7630, which CMNT repaired and painted car 7630. Additionally, CMNT performed an under-car cleaning and a post-incident inspection on the brake system, propulsion system, and master controller operational checks. CMNT found these subsystems worked as designed.
- Based on ARS, ERT notified the ROCC and confirmed a good visual track inspection, and reported that all personnel were clear of the roadway.
- During the virtual interview, the Train Operator reported they were feeling alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident. The employee indicated on March 23, 2021, they returned to work from a 10-day vacation.

## **Weather**

At the time of the incident, NOAA recorded the temperature at 61°F with drizzle, fog, and 94% humidity. (Weather source: National Oceanic Atmospheric Administration – Location: Washington DC.)

## **Human Factors**

### **Fatigue**

Based on SAFE's review of the Train Operator's 30-day work history, the employee's 30-day work schedule leading up to the incident was compliant with WMATA'S Policy/Instruction 10.6/1 Hours of Service Limitations for Prevention of Fatigue. It did not present a risk of impairment due to fatigue.

### **Evidence of Fatigue**

The incident data was evaluated for signs, and symptoms of fatigue were examined that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. The employee reported feeling fully alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident.

### **Fatigue Risk**

The incident data was evaluated for fatigue risk factors. Risk factors for fatigue were not present. The incident time of day did not suggest an increased risk of fatigue-related impairment. The

employee reported some variation in the sleep schedule in the days leading up to the incident. The employee worked night in the days leading up to the incident. The employee was awake for 9.83 at the time of the incident. The employee reported eight hours of sleep in the 24 hours preceding the incident. The off-duty period was 16 hours which provides an opportunity for 7-9 hours of sleep. The employee reported no issues with sleep.

Since fatigue evidence and risk factors were not present, the biomathematical fatigue modeling application (SAFTE-FAST Web SFC) was not applied.

#### **Post-Incident Toxicology Testing**

After reviewing the Train Operator's post-incident testing results, it was determined that the Train Operator was not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6.

#### **Probable Cause Statement**

The probable cause of the person Struck by Train at the Shaw-Howard U Station event on March 24, 2021, was the person walked off the platform for unknown reasons falling onto the roadway, placing themselves within the train's dynamic envelope. Based on a post-incident station inspection, SAFE did not identify any slip or trip hazards that may have contributed to this event.

An analysis of data collected from systems of record, interviews with staff, and MTPD's incident report review, SAFE concludes there were no safety deficiencies related to any WMATA station facility, vehicle, or human factor components identified as contributors to this event.

#### **Recommendations/Corrective Actions**

There are no recommendations for this event due to the person walking off the platform for an unknown reason fouling the train's dynamic envelope. This was an MTPD criminal investigation.

**Appendix A – MTPD Executive Briefing Report**



***METRO TRANSIT POLICE DEPARTMENT***



***CRIMINAL INVESTIGATION DIVISION***

***EXECUTIVE BRIEFING***

---

**Person Struck by Train:**

MTP: [REDACTED]

CFS: [REDACTED]

**Location:** 1801 7<sup>th</sup> St NW, Washington, DC 20001

**Date:** March 24, 2021

**Time:** 1955 hours

**Lead Agency:**

Metro Transit Police Department (MTPD)

**Patrol Command:**

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**Patrol Officers:**

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**CID Detectives:**

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

NON-LAW ENFORCEMENT SENSITIVE

Attachment 1 – Page 1 of 3.



# **METRO TRANSIT POLICE DEPARTMENT**



## **CRIMINAL INVESTIGATION DIVISION**

### **EXECUTIVE BRIEFING**

**Reporting Officer:**

[REDACTED]

**Crime Scene Officer:**

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**OCC Liaison:**

[REDACTED]

**Train Operator:**

[REDACTED]

[REDACTED]

**Case Summary:**

At approximately 1955 hours MTPD Communications received a call for service from the WMATA OCC Liaison, [REDACTED], stating that a person had been struck by a train at the Shaw-Howard Metro Station. MTPD POB units, CID units, and DCFD responded to the scene. The victim was removed from the roadway by DCFD, reported to still showing signs of life, and transported to Howard University Hospital. The victim sustained an apparent head injury, and possible internal injuries. MTPD POB units along with CID units responded to the hospital. Despite all life-saving measures, the victim was pronounced by [REDACTED] at 2044 hours.

**Further investigation revealed:**

[REDACTED], [REDACTED], [REDACTED] and [REDACTED] responded to the Shaw-Howard Metro Station to assist with the investigation.

DCFD and EMS units responded and the victim was located under train car 7635 and the area of refuge, showing signs of life. DCFD removed the victim from the track bed. DCFD stated that it was a rescue at that point and they began life-saving measures (CPR) shortly after. The victim was transported to Howard University Hospital. MTPD [REDACTED], and CSS [REDACTED] followed the victim to the hospital. Despite all life-saving measures, the victim was pronounced deceased at 2044 hours by [REDACTED]

**NON-LAW ENFORCEMENT SENSITIVE**

*Attachment 1 – Page 2 of 3.*



# **METRO TRANSIT POLICE DEPARTMENT**



## **CRIMINAL INVESTIGATION DIVISION**

### **EXECUTIVE BRIEFING**

Detective [REDACTED] interviewed the train operator and learned that the incident train 509 was a revenue train en route to Branch Avenue. The operator reported that as he approached the Shaw-Howard Metro Station, he was coming out of the tunnel, approaching the platform, and saw the decedent peeking off of the platform, as if he was looking for his train to arrive. The operator stated that he was going to sound the horn at the decedent, but then the decedent walked off the platform, so the operator hit the mushroom button. The individual stood back up almost immediately, however the train couldn't stop in time and struck him. The operator made notification to the ROCC and began walking through the train to get the patrons off. The operator stated that he was then approached by an MTPD Officer, who told him to sit on a bench, as he was attempting to locate the decedent.

Crime Scene Search (CSS) [REDACTED] processed the scene and incident train. Personal property belonging to the victim was found on the track bed and recovered by CSS for processing. The train was moved to Greenbelt Rail Yard for further processing. CSS [REDACTED] responded for the additional processing and rail car video recovery. During preliminary train video review, Officer [REDACTED] stated that the video corroborates what the train operator reported.

A preliminary review of the Shaw-Howard Metro Station video revealed the decedent exits train car 7572, at Shaw-Howard Metro Station at 1946 hours. The decedent appears to possibly be under the influence. The decedent is stumbling and making erratic movements while walking around on the platform. At 1951 hours, a Huntington train arrives on the platform and the decedent does not board it and stumbles down the platform. At 1953 hours, the platform lights are blinking, and the decedent makes his way towards the edge of the platform. The decedent appears to walk off as if he may have thought he was still walking on the platform. The decedent immediately attempts to get back up, but at that time the incident train had struck him.

#### **Notification:**

Detectives [REDACTED] spoke with the Medical Examiner, [REDACTED], who stated that an autopsy would be performed Thursday, March 25, 2021. [REDACTED] will be provided all documents that he requests from MTPD. [REDACTED] will be memorializing the event in case number [REDACTED]

#### **Next of Kin:**

Detectives [REDACTED] responded to [REDACTED] to attempt to make Next of Kin notification. The decedent's [REDACTED] was home at the residence and was notified. The [REDACTED] stated that the decedent was not involved in drugs and was not suicidal.

#### **Decedent's**

[REDACTED]  
[REDACTED]

NON-LAW ENFORCEMENT SENSITIVE

Attachment 1 – Page 3 of 3.



## Appendix B – CMNT Work Order Details



### Washington Metropolitan Area Transit Authority Maintenance and Material Management System Work Order Details

Page 1 of 2  
MX76PROD

Work Order #: 16236295  
Type: CM



Status: INPRG  
03/24/2021 22:50

Work Description: REPORT OF A PERSON STRUCK BY A TRAIN ON TRACK #2  
Job Plan Description:

Work Information			
Asset: R7630	7630, RAIL CAR, KAWASAKI, 7000 AC, A CAR	Owning Office: CMNT-CMNT-CMNT	Parent:
Asset Tag: R7630		Maintenance Office: CMNT-ALEX-INSP	Create Date: 03/24/2021 22:49
Asset S/N: 7630		Labor Group: CMNT	Actual Start: 03/24/2021 22:50
Location: 1213	C99, ALEXANDRIA YARD	Crew:	Actual Comp:
Work Location: 1443	E94, GREENBELT YARD, BUILDING (A) PAINT & BODY SHOP	Lead:	Item: K18050001
Failure Class: CMNT001	RAIL CAR	GL Account:	
Problem Code: 2649	PASSENGER RELATED PROBLEM	Supervisor:	Target Start:
Requested By:		Requestor Phone:	Target Comp:
Chain Mark Start:		Chain Mark End:	Scheduled Start:
Create-Mileage: 168649.0		Complete-Mileage: 0.0	

Task IDs	
Task ID	
10	INSPECTED FOR BODY AND UNDER CAR DAMAGE. LEFT FRONT LOWER BONNET DAMAGED. NO OTHER DAMAGE FOUND.

Component: 000-300 RAIL CAR; 2K/3K/6K/7K	Work Accom: INSPECTED	Reason: INCIDENT//ACCIDENT	Status: APPR	Position: 213	Warranty?: Y
--	-----------------------	----------------------------	--------------	---------------	--------------

20 Performed brake rates. Brake self test, good.

B5 - front 44psi / rear 44psi -  
B4 - front 34psi / rear 34psi -  
B3 - front 24psi / rear 24psi -  
B1 - front 8psi / rear 9psi -  
coast - front 0 psi / rear 0 psi -  
emergency front - 45psi / rear 43psi.

Component: 000-300-E00 SUBSYSTEM; FRICTION BRAKE; 2K/3K/6K/7K	Work Accom: INSPECTED	Reason: INCIDENT//ACCIDENT	Status: APPR	Position:	Warranty?: Y
---	-----------------------	----------------------------	--------------	-----------	--------------

30 REPAIR FRONT END FIBERGLASS AND PREPARE; PAINT TO MATCH

Component: 000-300-B03-004 FRONT END; CAR END; 2K/3K/6K/7K	Work Accom: REPAIRED	Reason: INCIDENT//ACCIDENT	Status: APPR	Position: 232	Warranty?: Y
--	----------------------	----------------------------	--------------	---------------	--------------

Actual Labor									
Task ID	Labor	Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost
10	ard	03/25/2021	03/25/2021	06:30	07:30	N	01:00	00:00	\$25.85

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03/29/2021 11:03

Attachment 2 – Page 1 of 2.



Washington Metropolitan Area Transit Authority  
Maintenance and Material Management System  
Work Order Details

Page 2 of 2  
MX76PROD

Work Order #: 16236295  
Type: CM



Status: INPRG  
03/24/2021 22:50

Work Description: REPORT OF A PERSON STRUCK BY A TRAIN ON TRACK #2  
Job Plan Description:

Actual Labor											
Task ID	Labor		Start Date	End Date	Start Time	End Time	Approved?	Regular Hours	Premium Hours	Line Cost	
10		E	03/25/2021	03/25/2021	06:30	07:30	N	01:00	00:00	\$40.87	
20		A	03/25/2021	03/25/2021	11:30	12:00	N	00:30	00:00	\$20.93	
30			03/26/2021	03/26/2021	10:00	14:00	N	04:00	00:00	\$162.69	
Total Actual Hour/Labor:								06:30	00:00	\$250.34	
Related Incidents											
Ticket	Description					Class	Status	Relationship			
8530675	Person struck by train, medics dispatched and trains single tracked.					SR	RESOLVED	ORIGINATOR			
Failure Reporting											
Cause			Remedy			Supervisor			Remark Date		
Remarks:											

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03/29/2021 11:03

Attachment 2 – Page 2 of 2.

## **Appendix C – Interview Summary**

### **Office of Rail Transportation**

#### **Train Operator**

The Train Operator is a WMATA employee with 13 years of service. The Train Operator started as a Bus Operator and has been a Train Operator for seven years. The Train Operator's last rail certification date was on April 9, 2019.

Based on the SAFE interview, the Train Operator reported they were feeling alert at the time of the incident. The employee reported experiencing no symptoms of fatigue in the time leading up to the incident. The employee indicated on March 23, 2021, and they returned to work from a 10-day vacation. Before the collision event, the Train Operator stated while entering Shaw-Howard U Station, Track 2, they observed a person peeking off the platform as if they were looking for their train to arrive.

The Train Operator was about to sound the horn, but then the person jumped off the platform, placing themselves within the train's dynamic envelope, fouling the roadway. The Train Operator immediately depressed the emergency brake function "mushroom" and set the Master Controller in the emergency position. The Train Operator indicated that the train couldn't stop in time and struck the person on the roadway. The Train Operator notified the ROCC and requested permission to offload the consist and perform a ground walk around. The Train Operator indicated they felt comfortable enough to complete those tasks. After the patrons had safely exited the consist, the Train Operator began to do a ground walk around to locate the person on the roadway. MTPD personnel approached them and told them to sit on a bench and then was interviewed by MTPD. There were two Shaw-Howard U Station Managers that responded to the scene and took over the Train Operator's duties after being asked to sit down by MTPD. The Train Operator reported no discrepancies with the train console or any distractions in the cab area. The Train Operator indicated they were on their last trip, and during the three-round trips they completed before the incident, they had no mechanical discrepancies with the train.