



WMSC Commissioner Brief: W-0078 – Person Struck by Train – L’Enfant Plaza Station – December 15, 2020

Prepared for Washington Metrorail Safety Commission meeting on May 18, 2021

Safety event summary:

A Metrorail customer placed themselves in front of a train entering L’Enfant Plaza Station at 8:46 a.m. on December 15, 2020.

Train 306 entered the station at 29.8 mph and slowing, with the master controller in the B5 braking position. The Train Operator activated emergency braking 21 feet into the station platform limits. The person was struck when the train was approximately 34 feet into the station platform limits.

Train 306 came to a stop 193 feet into the platform limits.

The Train Operator of the Greenbelt-bound train properly reported the collision, and a second train operator riding on Train 306 contacted the ROCC and offered assistance. Customers on the train were walked through the rear cars to exit directly onto the platform from the portion of the train that was inside the station.

The ROCC de-energized third rail power at 8:48 a.m. on Track 1 where the collision occurred. At 8:50 a.m., the ROCC Assistant Superintendent called for D.C. Fire and EMS (DCFEMS) assistance, and the MOC Assistant Superintendent contacted Metro Transit Police to respond.

Train service was suspended for the investigation and response.

At 8:56 a.m., the individual who was struck by the train was found under the lead car of the train, showing signs of life.

DCFEMS arrived at 9:00 a.m. At 9:03 a.m., the ROCC de-energized third rail power on Track 2 (the Green and Yellow Line platforms at L’Enfant Plaza are side platforms, so the two tracks are directly next to each other).

At 9:16 a.m., DCFEMS removed the person from the roadway and transported them to the hospital. The individual survived.

Following an investigation, normal service resumed at 11:29 a.m.

Probable Cause:

An individual intentionally placed themselves into the path of a train.

Corrective Actions:

Metrorail took no specific corrective action related to this event.

Staff recommendation: Adopt final report.



Washington Metro Area Transit Authority

Department of Safety and Environmental Management (SAFE)

FINAL REPORT OF INVESTIGATION A&I E20494

Date of Event:	12/15/2020
Type of Event:	Person Struck by Train
Incident Time:	08:46 hrs.
Location:	L'Enfant Plaza Station, Track 1
Time and How received by SAFE:	08:48 hrs. SAFE On-call Phone
WMSC Notification Time:	10:23 hrs.
Responding Safety Officers:	WMATA SAFE: Yes WMSC: No Other: N/A
Rail Vehicle:	Train ID 306 L7250-51x7027-26x7206-07x7277-76T
Injuries:	Unknown Injuries
Damage:	None
Emergency Responders:	SAFE, DCFEMS, RTRA, CMNT, DCPD, PWR and PLNT
SMS I/A Incident Number:	20201215#90782MX

L'Enfant Plaza – Person Struck by Train
December 15, 2020

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Abbreviations and Acronyms

AIMS	Advanced Information Management System Audio
ARS	Recording Service
CCTV	Closed Circuit Television
CENV	Vehicle Program Services
DCFEMS	District of Columbia Fire Emergency Medical Services
ER	Event Recorder
MC	Master Controller
MOC	Maintenance Operations Center
MSRPH	Metro Safety Rules Procedures Handbook Metro
MTPD	Transit Police Department
OSC	On-scene Commander
PLNT	Plant Maintenance
ROCC	Rail Operations Control Center
ROIC	Rail Operations Information Center
RTC	Rail Traffic Controller
RTRA	Office of Rail Transportation
SOP	Standard Operating Procedure
VMDS	Vehicle Monitoring and Diagnostic System

FINAL REPORT OF INVESTIGATION A&I E20494

Executive Summary

On Tuesday, December 15, 2020, at approximately 08:46 hrs., Train ID 306 [L7250-51x7027-26x7206-07x7277-76T] on Track 1 traveling inbound in the direction of Greenbelt Station, entered L'Enfant Plaza Station platform limits and made contact with a person on the roadway. The Train Operator of Train ID 306 notified the Rail Operations Control Center (ROCC) Radio Rail Traffic Controller (RTC) of the collision. The Radio RTC acknowledged the transmission, made the respective calls to Rail Operation Information Center (ROIC), ROCC Assistant Superintendent, and proceeded to dispatch an Office of Rail Transportation (RTRA) Supervisor. Customers aboard Train ID 306 were walked through to the lead car and exited onto the L'Enfant Plaza Station platform with assistance. There were no reported injuries to customers aboard the train or WMATA personnel. RTRA removed the Train Operator from service for post-incident toxicology testing and subsequent MTPD interview.

At approximately 08:47 hrs., an RTRA Train Operator riding on Train ID 306 contacted the Radio RTC to assist as directed. The Radio RTC acknowledged the Train Operator and requested for them to check the condition of the Train Operator of Train ID 306 and to perform Metrorail Safety Rules and Procedures Handbook (MSRPH) Standard Operating Procedure (SOP) #26 Person Hit by Train processes to verify the location and condition of the person. The Train Operator acknowledged the Radio RTC's request. Based on the Advanced Information Management System (AIMS), the third rail power was de-energized at L'Enfant Plaza Station, Track 1 at 08:48:39 hrs.

The ROCC Assistant Superintendent notified the District of Columbia Fire Emergency Medical Services (DCFEMS), and the Maintenance Operations Control (MOC) Assistant Superintendent notified Metro Transit Police Department (MTPD) at approximately 08:50 hrs. An MTPD officer arrived on the scene at approximately 08:52:24 hrs. The responding personnel located the person underneath the lead Car 7250 with signs of life at approximately 08:56:36 hrs.

The DCFEMS arrived on the scene at approximately 09:00:50 hrs. and removed the injured person from the roadway at 09:16:30 hrs. The person was transported to George Washington University Hospital Center with unspecified injuries.

The DCFEMS cleared the scene and relinquished control to MTPD to perform their incident investigation. At 10:37:50 hrs. MTPD requested third rail power be re-energized to move now Train ID 706 (Train ID 306 was changed to 706 when the destination was shifted to a non-revenue train) in the Archives Station's direction and complete their investigation. Upon clearing Train ID 706 from L'Enfant Plaza Station platform limits, MTPD entered the roadway to investigate the incident. RTRA transported Train ID 706 to Greenbelt Yard for post-incident inspection and data analysis.

At approximately 11:15 hrs., MTPD relinquished control of the incident scene to RTRA. The Office of Plant Maintenance (PLNT) personnel were standing by on the platform and permitted to enter the roadway under foul time protection to disinfect the roadway in preparation for mainline restoration. At 11:29 hrs., third rail power was re-energized at L'Enfant Plaza Station, Track 1 and 2.

Based on the Vehicle Monitoring and Diagnostic System (VMDS) data, Train ID 306 entered L'Enfant Plaza Station platform limits at 29.8 mph with the Master Controller (MC) in the B5 (brake) position. The Train Operator of Train ID 306 placed the MC in the EMERGENCY position at 29.8 mph. The Emergency Trainline de-energized and applied "Emergency Braking" 21 feet into the L'Enfant Plaza Station platform; Train ID 306 struck the person at 29.8 mph the MC in the "Emergency" position, 34 feet into the platform. The train came to a complete stop, 193 feet into the platform limits after the Train Operator of Train ID 306 moved the MC to the B5 Position. The train was keyed down. Based on Vehicle Program Services (CENV) analysis, there was no data to support any anomalies with the consist that may have contributed to this incident.

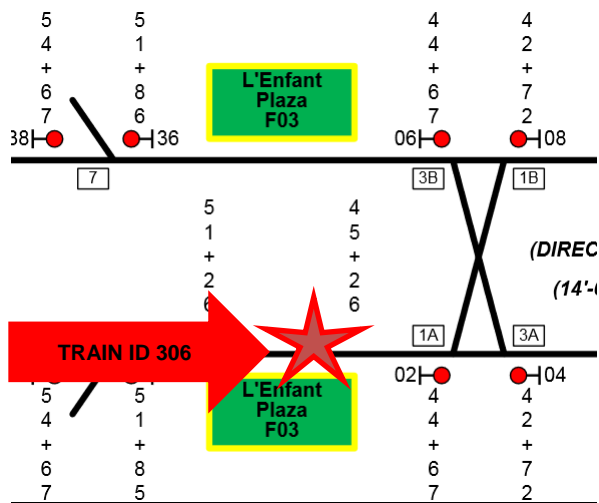
The probable cause of the L'Enfant Plaza Station Person Struck by Train event on December 15, 2020, was a person intentionally placing themselves in the train's dynamic envelope by jumping in front of the oncoming train as it approached.

An analysis of data collected from systems of record, SAFE concludes there were no safety deficiencies related to any WMATA Station facility, vehicle, or human factor components that contributed to the Train's person being struck.

Incident Site

L'Enfant Plaza Station, Track 1

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 Process and Methods

Upon receiving the person Struck by Train notification at L'Enfant Plaza Station on December 15, 2020, notification SAFE launched a cross-functional investigation into this event. SAFE team members worked with relevant WMATA subject matter experts to review the incident's facts and data.

The investigative methodologies included the following:

- Physical Site Assessment
- Formal Interviews – As of this report's date, SAFE was unable to interview the Train Operator due to being out on leave for an undetermined amount of time.
- Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information
- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
 - Employee Training Procedures & Records review
 - Certifications review
 - The 30-Day work history review
 - Incident/Accident Safety Measurement System review
 - MSRPH
 - National Oceanic Atmospheric Administration (NOAA) data review
 - Maximo review
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:
 - ARS playback [Radio and Phone Communications]
 - AIMS playback review
 - CCTV Review
 - CENV VMDS data review

Investigation

On Tuesday, December 15, 2020, at approximately 08:48 hrs., Train ID 306 [L7250-51x7027-26x7206-07x7277-76T] on Track 1 traveling inbound in the direction of Greenbelt Station, entered L'Enfant Plaza Station platform limits and struck a person on the roadway. The Train Operator of Train ID 306 notified the collision's ROCC Radio Rail Traffic Controller (RTC). The Radio RTC acknowledged the transmission, made the respective calls to ROIC, ROCC Assistant Superintendent, and dispatched an RTRA Supervisor to the scene. Customers aboard Train ID 306 were walked through, proceeded to the lead car, and exited onto the Navy Yard Station platform with assistance. There were no reported injuries to customers aboard the train or WMATA personnel. RTRA removed the Train Operator from service for post-incident testing and interview by MTPD.

Note: No radio communication issues were reported or identified during this investigation.

Chronological Event Timeline

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

Time	Description
08:46:19 hrs.	• [Radio] <u>Train ID 306 Train Operator</u> : Emergency, emergency, emergency
08:46:25 hrs.	• [Radio] <u>The Radio RTC repeated</u> : Emergency, emergency, emergency and request the Train Operator's Train ID and Location.
08:46:30 hrs.	• [Radio] <u>Train Operator</u> : Train ID 306 at L'Enfant Plaza Station, Track 1.
08:46:38 hrs.	• [Radio] <u>Radio RTC</u> : Train ID 306, go ahead with your message, over.
08:46:48 hrs.	• [Radio] <u>Train Operator</u> : Central, there is somebody under the train.
08:47:04 hrs.	• [Radio] <u>Radio RTC</u> : Confirmed the report of a person struck by a train.
08:47:15 hrs.	• [Ambient] <u>Radio RTC</u> : informed the ROIC specialist and the ROCC Assist. Superintendent of the person struck by a train at L'Enfant Plaza Station, Track 1.
08:47:12 hrs.	• [Radio] A <u>Train Operator riding on Train ID 306</u> : Contacted Radio RTC and offered assistance.
08:47:30 hrs.	• [Radio] <u>Radio RTC</u> : Acknowledged the Train Operator and requested them to check the Train Operator of Train ID 306 condition to attempt to locate the person on the roadway and advise of their condition.
08:47:34 hrs.	• [Radio] <u>Train Operator</u> : Acknowledged the Radio RTC's request.
08:48:39 hrs.	• [AIMS] ROCC de-energized Third rail power at L'Enfant Plaza Station, Track 1.
08:50:00 hrs.	• [Ambient] <u>The ROCC Assistant Superintendent</u> : Notified the DCFEMS, and the MOC Assistant Superintendent notified the MTPD.
08:51:09 hrs.	• [Radio] <u>Radio RTC</u> : Made a blanket announcement and informed all personnel that train service was being suspended between Mt. Vernon Square Station and Navy Yard Station.
08:52:24 hrs.	• [CCTV] An MTPD officer arrived on the scene.
08:56:17 hrs.	• [Radio] Train Operator located the person under Car 7250.
08:56:36 hrs.	• [Radio] The Train Operator reported signs of life.
09:00:50 hrs.	• [CCTV] The DCFEMS arrived on the scene.
09:03:35 hrs.	• [AIMS] ROCC de-energized Third rail power at L'Enfant Plaza Station, Track 2.
09:16:30 hrs.	• [CCTV] The person was removed from the roadway by DCFEMS and transported to George Washington University Hospital.

10:37:50 hrs.	<ul style="list-style-type: none"> [AIMS] Third rail power was momentarily re-energized to clear now Train ID 706 from the scene for transport to Greenbelt Yard.
11:15:00 hrs.	<ul style="list-style-type: none"> [Radio] MTPD cleared the scene and relinquished the incident scene to RTRA.
11:29:00 hrs.	<ul style="list-style-type: none"> [Radio] ROCC resumed Normal service at L'Enfant Plaza Station, Track 1 and Track 2.

Note: Times above may vary from other data based on clock settings.

Advanced Information Management System

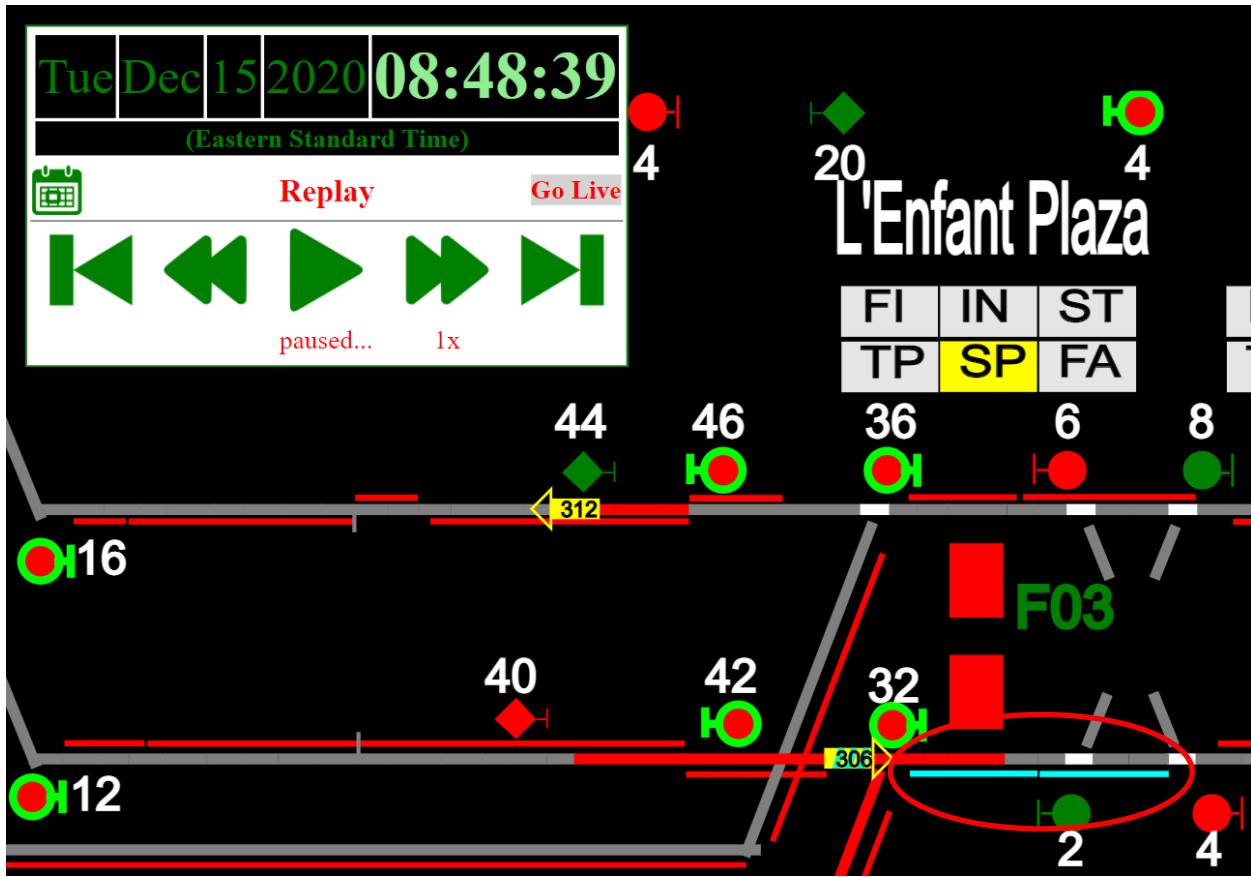


Figure 1: AIMS – 08:48:39 hrs. Third rail power was de-energized L'Enfant Plaza Station, Track 1.

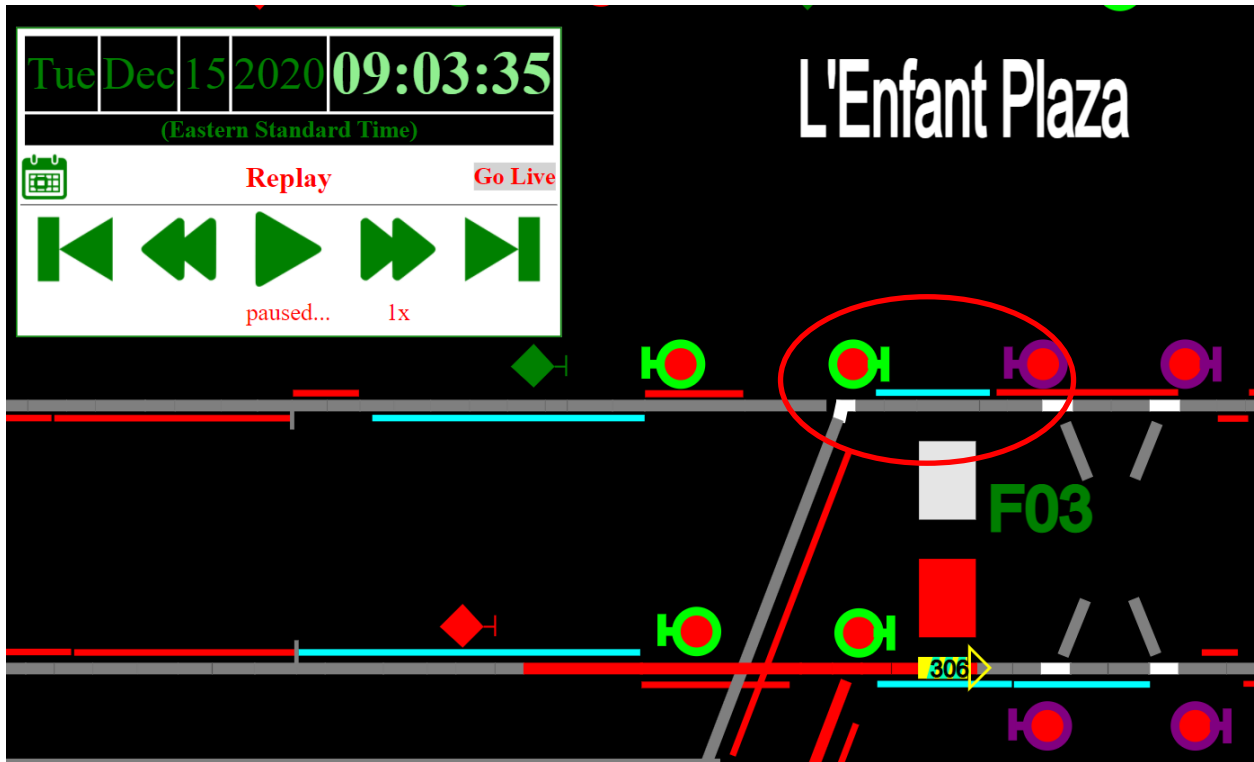


Figure 2: AIMS Photo – 09:03:35 hrs., Third rail power was de-energized at L'Enfant Plaza Station, Track 2

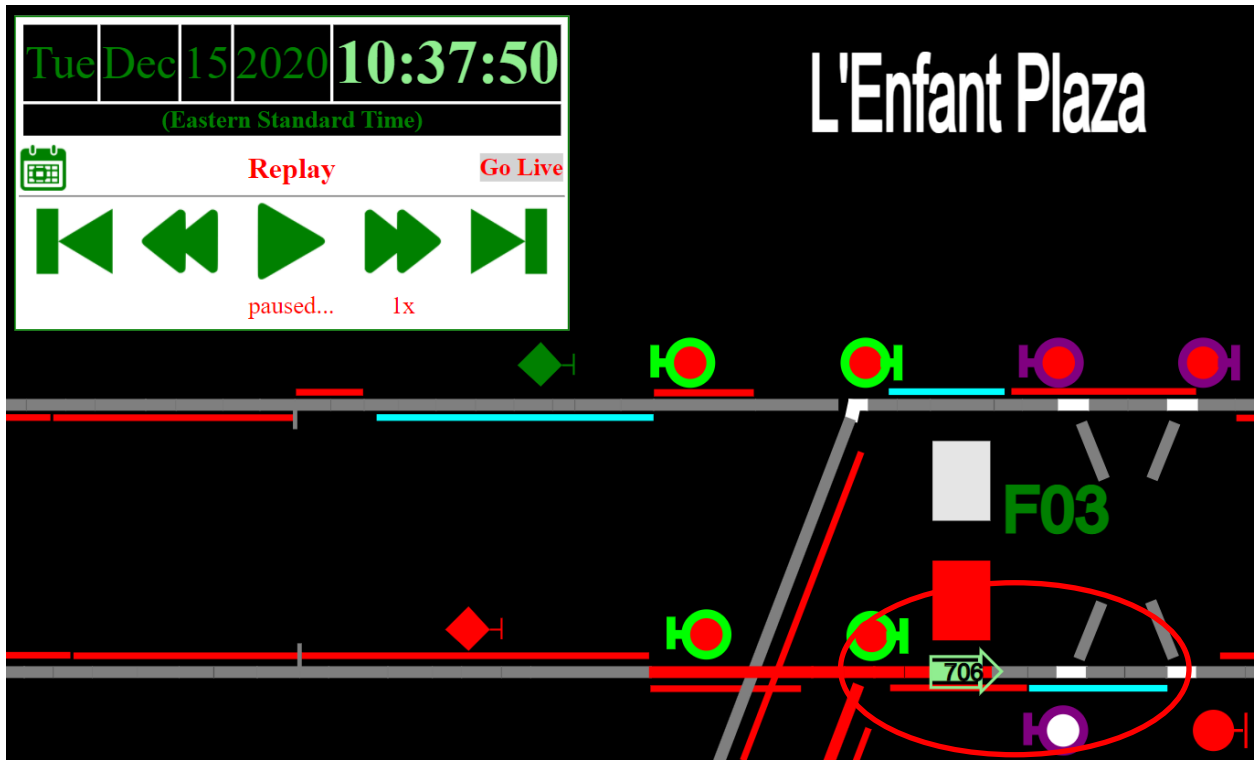


Figure 3: AIMS Photo – 10:37:50 hrs. Third rail power was momentarily re-energized at L'Enfant Plaza Station, Track 2, to clear now Train ID 706 from the scene.

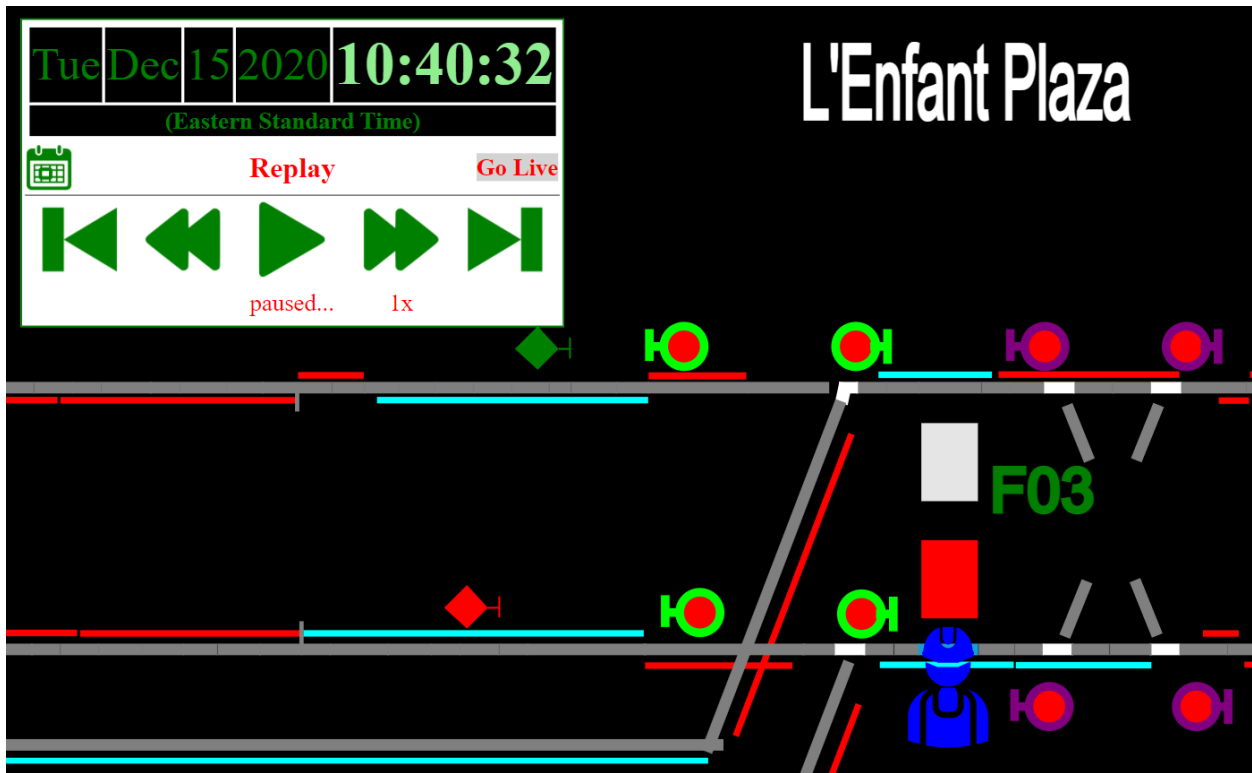


Figure 4: AIMS Photo – 10:40:32 hrs. MTPD entered the roadway to continue investigating the incident.

Note: Times above may vary from other data based on clock settings.

Vehicles Program Services

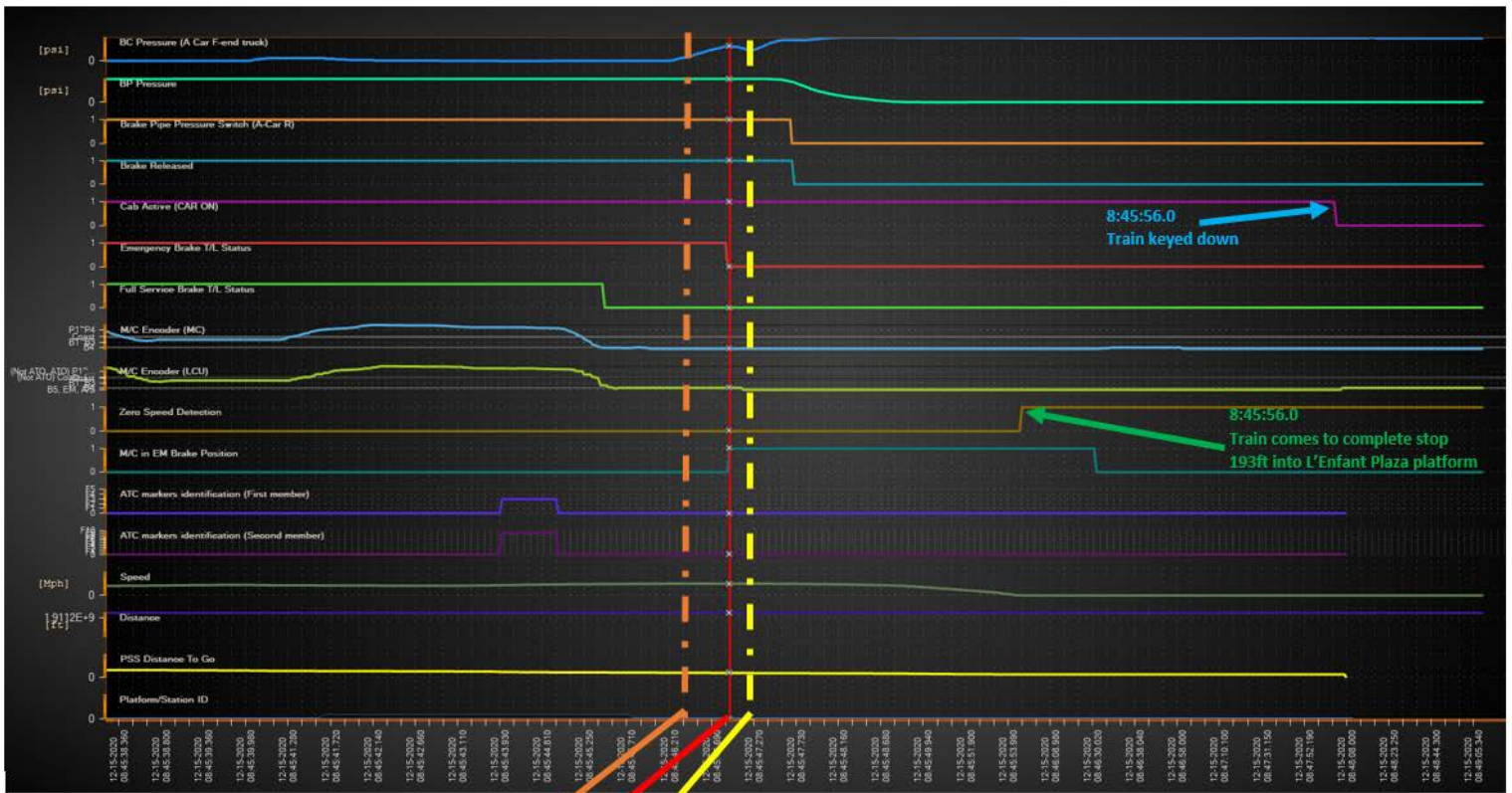
ER Data Graph/Sequence of Events

Based on CENV analysis of the downloaded VMDS and ER. Details from the data analysis are as follows:

8:45:46.4 hrs.	Train ID 306 entered L'Enfant Plaza platform limits at 29.8 mph with the MC in the B5 Position.
8:45:46.9 hrs.	The Train Operator of Train ID 306 placed the MC in the EMERGENCY position, speed was 29.8 mph, and Emergency Trainline de-energizes, Applying Emergency braking, 21 feet into the L'Enfant Plaza Platform.
8:45:47.2 hrs.	Train ID 306 struck the person at approximately 29.8 mph, with the MC in the "Emergency" position, 34 feet into the platform.
8:45:56.0 hrs.	Train ID 306 came to a complete stop, 193 feet onto the L'Enfant Plaza platform.
8:46:30.7 hrs.	The Train Operator of Train ID 306 moved the MC to a B5 Position.
8:48:07.6 hrs.	The Train Operator of Train ID 306 keyed down.

Note: Times above may vary from other data based on clock settings.

Based on CENV analysis, there was no data to support any anomalies with the consist that may have contributed to this incident.



8:45:46.4 Train #306 Enters L'Enfant Plaza, Track #1, Speed = 29.8 MPH, M/C in B5

8:45:46.9 M/C moved to EMER position, EMR T/L de-energizes, Speed = 29.8 MPH

8:45:47.2 Train makes Contact with person on the Wayside, Speed = 29.8 MPH, MC in the EMER position, 34 ft. onto platform

SAFE conducted a site assessment and determined no slip or trip hazards present to contribute to this event. All platform emergency notification equipment was working as designed.

Closed-Circuit Television

Based on a review of the CCTV playback of the L'Enfant Plaza Station platform, it revealed the following information related to the person who was reported being struck by the Train:

- The person was traveling alone.
- The person was standing at the station portal before the consist entered the station limits.
- The person intentionally paced themselves in the train's dynamic envelope.

Findings

- WMATA personnel complied with SOP #1A and SOP #26 procedures when responding to this event.
- Based on CCTV playback, the person intentionally placed themselves on the roadway in front of the oncoming train.
- Based on a post-incident Station's inspection, SAFE did not identify any slip or trip hazards that may have contributed to this event.

Weather

At the time of the incident, NOAA recorded the temperature at 32° F and cloudy with no visibility restrictions. SAFE has concluded that weather was not a contributing factor in this incident (Weather source: NOAA – Location: Washington, DC.)

Human Factors

Fatigue

The Train Operator'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*.

As of the date of this report, SAFE was unable to interview the Train Operator due to being out on leave for an undetermined amount of time. Therefore, there is no data to discount there were no personal factors present that would have increased the likelihood of fatigue-related impairment, i.e., no history of sleep issues.

Post-Incident Toxicology Testing

At the time of this incident, RTRA staff removed the Train Operator for post-incident testing. Based on SAFE's review of the Train Operator's test results, the Train Operator complied with WMATA's *Drug and Alcohol Policy and Testing Program Policy Instruction 7.7.3/6*

Probable Cause Statement

The probable cause of the L'Enfant Plaza Station Person Struck by Train event on December 15, 2020, was a person intentionally placing themselves in the train's dynamic envelope by jumping in front of the oncoming train as it approached.

An analysis of data collected from systems of record, SAFE concludes there were no safety deficiencies related to any WMATA Station facility, vehicle, or human factor components that contributed to the Train striking the person.

SAFE Recommendations

There are no recommendations for this event because the person unintentionally placed themselves onto the roadway fouling the train's dynamic envelope.