



WMSC Commissioner Brief: W-0066 – Fatality – Gallery Place-Chinatown Station – September 14, 2020

Prepared for Washington Metrorail Safety Commission meeting on March 2, 2021

Safety event summary:

A Metrorail customer entered Gallery Place-Chinatown Station at 5:42 a.m. After reaching the Green and Yellow Line (lower level) platform, the customer appeared disoriented and unsteady on their feet. They fell onto the roadway at 5:46 a.m. None of the other few customers on the platform took any noticeable action to suggest they were aware of this fall, and no Metrorail personnel noticed this occur (on CCTV or in person). The person appears to have lost consciousness after the fall. The person then regained consciousness, staggered to their feet, then while appearing to remain disoriented, started collecting their items from roadway. The person remained on the track bed for a total of three minutes.

At that point, 5:49 a.m., a Green Line train toward Branch Ave. Station approached the Gallery Place Station platform at more than 38 mph. 111 feet before reaching the platform, the Train Operator put the train's master controller into emergency braking. This coincides with the time that forward-facing video indicates that it is clear that a person is on the tracks ahead. The video shows that an undefined object is visible approximately 225 feet from the platform, but only around 100 feet from the platform did it become clear that object was a person. Inward-facing operator cab video could not be retrieved in this event. The data was corrupted.

As the train entered the station, now going more than 33 mph, the customer attempted to get out of the way of the train.

The Train Operator activated the emergency brake mushroom (a redundant method of ensuring that emergency braking activated by moving the master controller into emergency position has been applied that also independently applies emergency braking if the master controller is not in the emergency position) just after the person was struck, when the train was going 33 mph 23.5 feet into the platform. The train stopped 228.2 feet into the station platform at 5:49:18 a.m.

Third rail power was deenergized on Track 2 at 5:50 a.m., and a ROCC Assistant Superintendent contacted the D.C. Office of Unified Communications at 5:51 a.m.

D.C. Fire and EMS arrived at 5:58 a.m. Passengers on the train were evacuated by 6:02 a.m. through the bulkhead doors to reach the front of the train where they could exit onto the platform through the front three cars of the train that were on the platform.

A ground walk around was conducted at 6:08 a.m., and an RTRA Supervisor confirmed that third rail power had been deenergized.

The train was moved toward Greenbelt Yard at approximately 8:24 a.m., Metro Transit Police took over the scene from D.C. FEMS at 8:30 a.m., and RTRA took over the scene at 9:36 a.m.

Normal service resumed at 10:07 a.m.



Probable Cause:

The probable cause of this fatality was a disoriented customer falling onto the roadway unnoticed.

WMSC staff observations:

As part of a continuous safety improvement process, it is important to focus on ways to mitigate the risks of events or consequences occurring in the future, regardless of any direct way to have prevented this specific event from occurring given the situation at that time. This could include additional efforts to educate customers on the necessity of taking action and how to alert Metrorail personnel of foreign objects or people on the roadway, an emphasis on monitoring of and acting upon CCTV images, or more extensive checks by station personnel.

The forward-facing camera footage and Train Operator interview also illuminate areas for potential safety improvements related to a more phased or balanced lighting intensity between the station and the end of the tunnel.

Staff recommendation: Adopt final report.



Washington Metro Area Transit Authority

Department of Safety and Environmental Management (SAFE)

FINAL REPORT OF INVESTIGATION A&I E20346

Date of Event:	9/14/2020
Type of Event:	Person Struck by Train
Incident Time:	05:49 hrs.
Location:	Gallery Place Station, Track 2
Time and How received by SAFE:	05:57 hrs. SAFE On-call Phone
WMSC Notification Time:	08:18 hrs.
Responding Safety Officers:	WMATA SAFE: Yes WMSC: No Other: N/A
Rail Vehicle:	Train ID 513 L7092 -93x7107-06x7206-07x7135-34T
Injuries:	Fatality
Damage:	None
Emergency Responders:	DCFEMS, RTRA, CMNT, MTPD, PWR, PLNT

Gallery Place Station – Person Struck by Train

September 14, 2020

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Abbreviations and Acronyms

AIMS	Advanced Information Management System
ARS	Audio Recording Service
ATC	Automatic Train Control
CCTV	Closed-Circuit Television
CENV	Vehicle Program Services
CID	Crime Investigation Department
CMNT	Car Maintenance
DCFEMS	District of Columbia Fire and Emergency Management Services
DVEU	Digital Video Evidence Unit
ER	Event Recorder
FT	Foul Time
MOC	Maintenance Operations Center
MSRPH	Metrorail Safety Rules Procedures Handbook
MTPD	Metro Transit Police Department
NOAA	National Oceanic Atmospheric Administration
NVR	Network Video Recording
OCME	Office of Chief Medical Examiner's
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

Executive Summary

On Monday, September 14, 2020, a customer entered Gallery Place Station at 05:42 hrs., at 05:46 hrs., the customer stood by the edge of the platform and accidentally fell into the roadway, when the customer arrived on their feet they appeared to be in a disoriented state; at approximately 05:49 hrs., a Green Line train [Train ID 513 consist of **L7092-93x7107-06x7206-07x7135-34T**] on Track 2 traveling inbound in the direction of Branch Ave Station, entered Gallery Place Station lower-level platform limits and made contact with a person on the roadway. The Train Operator of Train ID 513 notified the Rail Operations Control Center (ROCC Radio Rail Traffic Controller (RTC of the event. The Radio RTC acknowledged the transmission and attempted to ascertain if the Train Operator was able to perform Metrorail Safety Rules and Procedures Handbook (MSRPH) Standard Operating Procedure (SOP) #26 Person Hit by Train processes.

The Train Operator contacted the Radio RTC and requested an Office of Rail Transportation (RTRA) Supervisor. An RTRA Supervisor notified the Radio RTC they were mobile to Gallery Place Station. Based on Advanced Information Management System (AIMS) Playback, at 5:50 hrs. The Buttons RTC de-energized third rail power on Track 2. The ROCC Assistant Superintendent notified the District of Columbia Fire and Emergency Management Services (DCFEMS), and the Maintenance Operations Control (MOC) Assistant Superintendent notified Metro Transit Police Department (MTPD) at approximately 05:51 hrs.

DCFEMS arrived on the scene at approximately 05:58 hrs. An RTRA Supervisor arrived on the scene at Gallery Place Station at 06:01 hrs. the Radio RTC appointed the RTRA Supervisor as the On-Scene Commander (OSC). At approximately 06:02 hrs., Metro Transit Police Department (MTPD) arrived at Gallery Place Station; the Radio RTC appointed the MTPD officer as the OSC and appointed the RTRA Supervisor as the RTRA Forward Liaison. At approximately 06:05 hrs., the additional RTRA Supervisor arrived on the scene, was appointed the RTRA Incident Command Liaison, and dispatched to the Incident Command Post located at 7th and H Street. At 06:06 hrs., the Radio RTC gave permission for the RTRA Forward Liaison to verify that third rail power was de-energized utilizing Foul Time (FT) Roadway Worker Protection (RWP). At 6:08 hrs. the RTRA forward Liaison notified the Radio RTC that the third rail was confirmed de-energized.

The RTRA Supervisor conducted a ground walk around on Train ID 513, the RTRA Supervisor reported no life signs. The unidentified adult victim sustained fatal injuries and was pronounced deceased at the scene at 06:12 hrs. The Medical Examiner was notified at 06:28 hrs., District of Columbia (D.C.) medical examiner's office arrived on the scene and initiated their investigation at 07:18 hrs. The deceased had no identification located on the scene.

At approximately 08:03 hrs., DCFEMS requested third rail power be re-energized to move now Train ID 713 (after Train ID 513 was re-blocked as a non-revenue train) in the direction of Greenbelt Yard. Upon clearing Train ID 713 from the platform limits, DCFEMS cleared the incident scene and relinquished control to MTPD to perform their incident investigation.

At approximately 09:36 hrs., MTPD relinquished control of the incident scene to RTRA. Plant Maintenance Department (PLNT personnel were standing by on the platform and permitted to enter the roadway under FT RWP to disinfect the roadway in preparation for mainline restoration. At 10:07 hrs., third rail power was re-energized at Gallery Place Station, Track 2 and normal service resumed on the mainline.

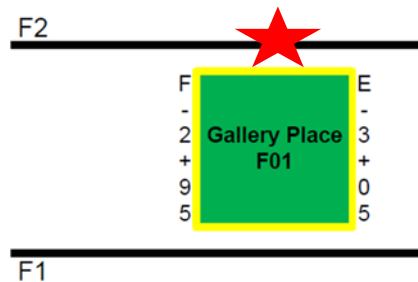
The probable cause of this fatality was a disoriented customer falling onto the roadway unnoticed.

SAFE determined there were no safety deficiencies related to any WMATA station facility or vehicle that contributed to the person being struck by the train.

Incident Site

Gallery Place 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 Process and Methods

Upon receiving notification of the person Struck by Train incident at Gallery Place Station on September 14, 2020, 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 – SAFE interviewed one (1) as part of this investigation. Interviews included persons present during and after the incident, those directly involved in the response process. SAFE interviewed the following individuals:
 - Train Operator
- Informal Interviews – Collected through conversations with individuals during the course of 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
 - Certifications
 - The 30-Day work history review
 - MSRPH
 - National Oceanic Atmospheric Administration (NOAA) data review
 - Maximo
- 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

Investigation

On Monday, September 14, 2020, a customer entered Gallery Place Station at 05:42 hrs., at 05:46 hrs., the customer stood by the edge of the platform and accidentally fell into the roadway, when the customer arrived on their feet they appeared to be in a disoriented state; at approximately 05:49 hrs., Train ID 513 reported their train made contact with a person on the roadway at Gallery Place Station, Track 2 to the ROCC. The Radio Rail Traffic Controller (RTC) acknowledged the transmission and tried to ascertain if the operator was able to perform their duties regarding SOP #26 Person Hit by Train operations and procedures. The Train Operator reported that their lead car was 7092 and

requested a supervisor to assist. A Rail Transportation Supervisor (RTRA notified ROCC that they were moving towards Gallery Place Station.

At 05:49 hrs., the Maintenance Operations Center (MOC Assistant Supervisor notified the Automatic Train Control (ATC specialist desk to dispatch ATC assistance to the adjacent interlockings to support single-track operations. The MOC Supervisor also informed Power and Plant personnel to provide additional assistance and clean-up efforts. The Button RTC de-energized third rail power at 05:50 hrs.

The ROCC Assistant Superintendent notified the District of Columbia Fire Department (DCFEMS), and the MOC Assistant Superintendent notified Metro Transit Police Department (MTPD). At approximately 05:51 hrs. ROCC implemented single-track operations between L'Enfant Plaza and Mt. Vernon Square Station via Track 1. The Station Manager at Gallery Place Station reported to the platform and was appointed the OSC and was instructed to verify any signs of life. The OSC commander reported that Train ID 513 had three rail cars on the platform. The Radio RTC instructed the Train Operator to offload the customers on the platform side by walking customers on the trailing cars through the bulkhead doors to the cars on the platform and performing a ground walk around checking for signs of life; they were able to do so.

The Radio RTC dispatched an additional RTRA Supervisor to assist with the incident at 05:52 hrs. DCFEMS arrived on the scene at approximately 05:58 hrs. An RTRA Supervisor arrived on the scene at Gallery Place Station at 06:01 hrs., the Radio RTC appointed the RTRA Supervisor as the OSC. At approximately 06:02 hrs., MTPD arrived at Gallery Place Station; the Radio RTC appointed the MTPD officer as the OSC and appointed the RTRA Supervisor as the RTRA Forward Liaison; Train ID 515 verified clear of customers. At approximately 06:05 hrs., the additional RTRA Supervisor arrived on the scene, was appointed the RTRA Incident Command Liaison, and dispatched to the Incident Command Post located at 7th and H Street. At 06:06 hrs., the Radio RTC gave permission for the RTRA Forward Liaison to verify that third rail power was de-energized utilizing foul time protection.

At 06:08 hrs., the RTRA Forward Liaison reported to ROCC that third rail power was confirmed de-energized within the platform limits. At 06:10 hrs., Car Maintenance (CMNT) arrived on the scene for assistance. At approximately 06:12 hrs., the RTRA Forward Liaison reported that the customer struck by the train was beneath car 7107, displaying zero signs of life. At 06:14 hrs., the Radio RTC instructed all Green and Yellow operators to express Gallery Place Station per DCFEMS. The Medical Examiner was notified at 06:28 hrs., D.C. Medical Examiner's Office arrived on scene and initiated their investigation at 07:18 hrs. The decedent had no identification found on the scene and was later removed from the roadway.

At 08:02 hrs., the RTRA Forward Liaison reported that DCFEMS personnel and equipment were clear of the roadway and requested that ROCC restore third rail power. With third rail power restored, Train ID 513 was dispatched to Greenbelt Yard for post-incident inspection at 08:24 hrs.

At approximately 08:30 hrs., DCFEMS cleared Gallery Place Station and relinquished control of the scene to MTPD. At 08:39 hrs., third rail power was de-energized to allow MTPD to conduct a roadway investigation. Upon completion of their investigation, MTPD relinquished control of the incident to RTRA, clearing the scene. ROCC allowed PLNT personnel to clean the tracks for restoration at approximately 09:36 hrs.

At approximately 10:07 hrs., RTRA personnel reported that Track 2 was revenue ready. The ROCC restored third rail power at Gallery Place Station, Track 2 and resumed normal revenue service. Subsequently, an RTRA Supervisor escorted the Train Operator for post-incident analysis.

Chronological Timeline of Events

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

05:42:57 hrs.	Customer entered Gallery Place Station.
05:46:33 hrs.	Customer standing near the edge of the platform accidentally falls to the roadway [CCTV]
05:49:15 hrs.	Train ID 513 reported their train made contact with a person on the roadway. [Radio]
05:49:37 hrs.	MOC Assistant Superintendent notified the ATC specialist to dispatch ATC personnel to the adjacent interlockings for single-track support. [Phone]
05:50:01 hrs.	Third rail power de-energized Track 2 Gallery Place Station. [AIMS]
05:51:22 hrs.	ROCC Assistant Superintendent notified DCFEMS MOC Assistant Superintendent notified MTPD to report the incident and request assistance. [Phone]
05:58:00 hrs.	DCFEMS Arrived at Gallery Place Station. [Radio]
06:01:05 hrs.	First RTRA Supervisor arrived on the scene and appointed the OSC. Incident Command located at 7th and H Street. [Radio]
06:02:10 hrs.	MTPD arrived on the scene at Gallery Place Station; ROCC appointed the RTRA Supervisor as the RTRA Forward Liaison. [Radio]
06:05: 03 hrs.	Additional RTRA Supervisor arrived at Gallery Place Station, ROCC instructed the Supervisor to respond to the Incident Command post located at 7th and H Street. [Radio]
06:08:42 hrs.	RTRA Supervisor confirmed third rail power confirmed de-energized Track 2 Gallery Place Station. [Radio]
06:12:30 hrs.	RTRA Forward Liaison reported that the customer is located beneath Car 7107, displaying no signs of life. [Radio]
08:02:51 hrs.	RTRA Forward Liaison reported DCFEMS personnel & equipment were clear of the roadway. [Radio]
08:24:14 hrs.	Incident train moving in the direction of Greenbelt Yard for post incident inspection. [Radio]
08:30:48 hrs.	DCFEMS cleared the scene & relinquished the incident scene to MTPD. [Radio]

09:36:22 hrs.	MTPD cleared the scene and relinquished the incident scene to RTRA. [Radio]
10:07:18 hrs.	Normal service resumed Track 2 Gallery Place Station. [Radio]

Vehicles Program Services (CENV)

ER Data Graph/Sequence of Events

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

05:49:05 hrs.	Master Controller was placed in the B5 brake position, with a train speed of 38.69 MPH, 111.1 ft from the beginning of the Gallery Place Station platform.
05:49:06 hrs.	Prior to entering the platform, Master Controller was placed in the EMERGENCY position; Train ID 513 was traveling at a speed of 38.19 MPH.
05:49:08 hrs.	Console mushroom was activated, the train was traveling at 33.01 MPH. The train was 23.51 ft onto the Gallery Place Station platform.
05:49:18 hrs.	The train comes to a complete stop 228.2 ft onto platform.
05:52:23 hrs.	Master Controller was moved from EM position to Auto-Store position.
05:49:24 hrs.	Train keyed down.

Based on CENV download and analysis, Train ID 513 was traveling at approximately 38 MPH before going into emergency braking with an eight-car consist entering Gallery Place Station. The train responded as expected, and its performance was within design specification. No operational anomalies were noted on the VMDS fault log during the reported incident time.

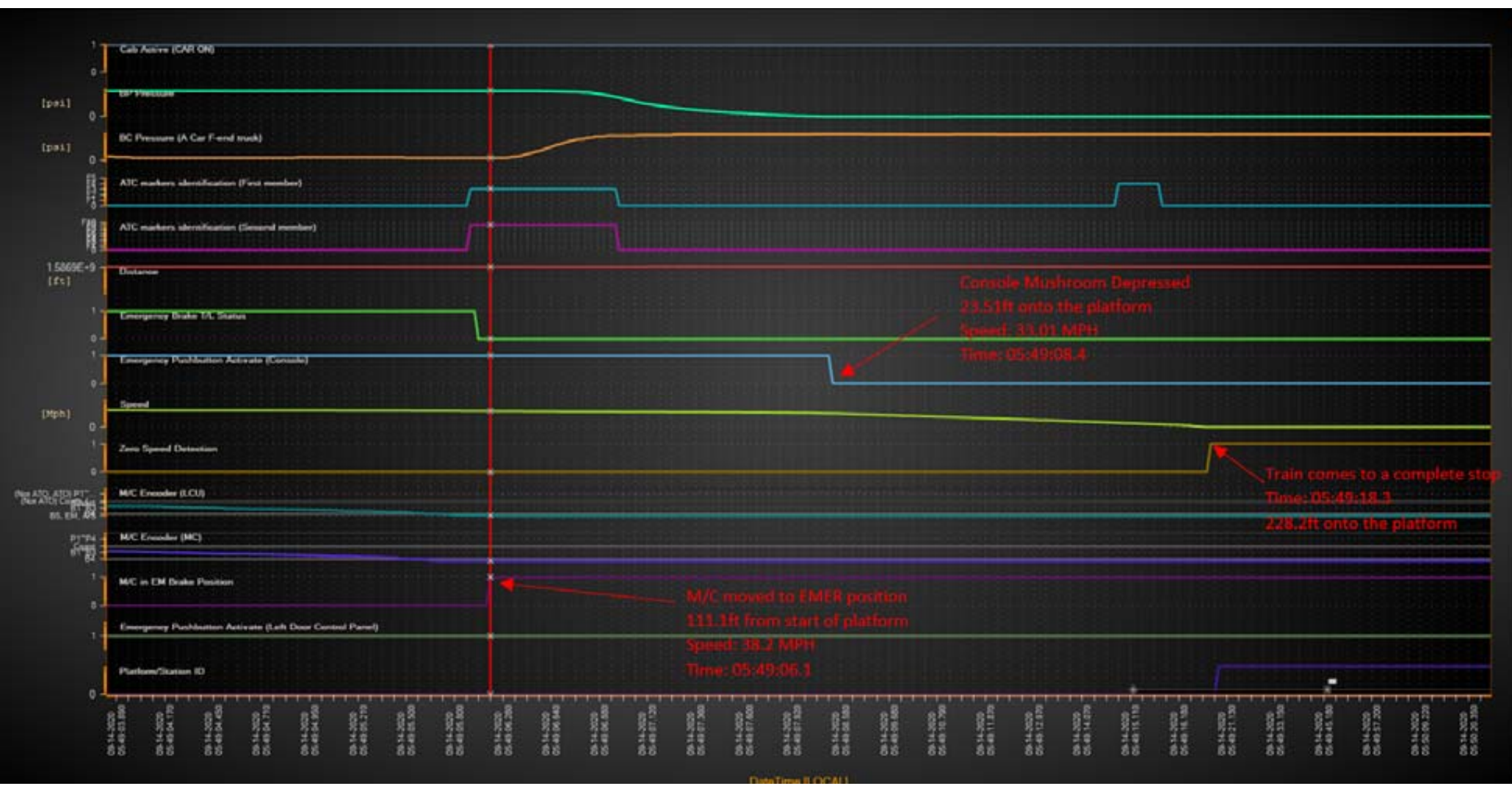


Diagram 1- ER Graphical Analysis

Car 7092 Network Video Recording

Based on Network Video Recording (NVR) forward-facing camera, it appears a white object was visible while on approach to Gallery Place Station, approximately 225 ft away from the platform limits [2.5 car lengths]. However, the object was unclear until the train was about 100 feet from the platform limits.

As the train approached the Gallery Place Station platform, NVR shows a human figure positioned within the train's dynamic envelope wearing a white pullover and light color pants below.

The customer made an action to avoid being struck, i.e., the customer body language showed actions of moving to the right side [operator side] of the train towards the third rail and parapet wall lighting before the train made contact.

Station Site Assessment

SAFE conducted a site assessment and determined no slip or trip hazard present would have contributed to this event. All platform emergency notification equipment was working as designed. Based on further investigation, SAFE determined the point of train and customer contact; please refer to the description below:

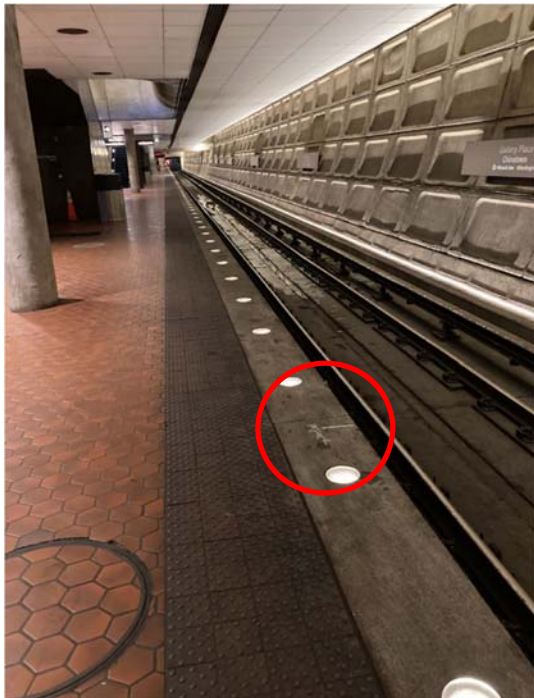


Photo 1 - This is the point of contact location approximately 15 feet away from the platform entrance.

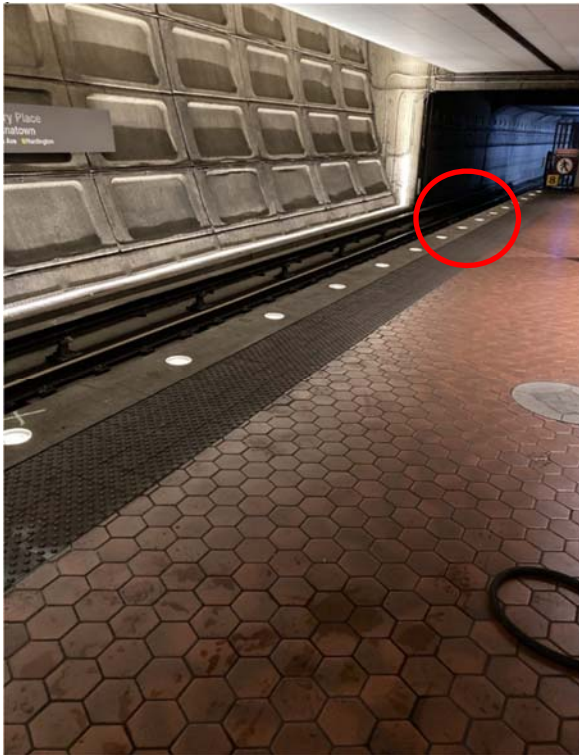


Photo 2- Indication of train and customer contact on approach end Track 2.

Advanced Information Management System

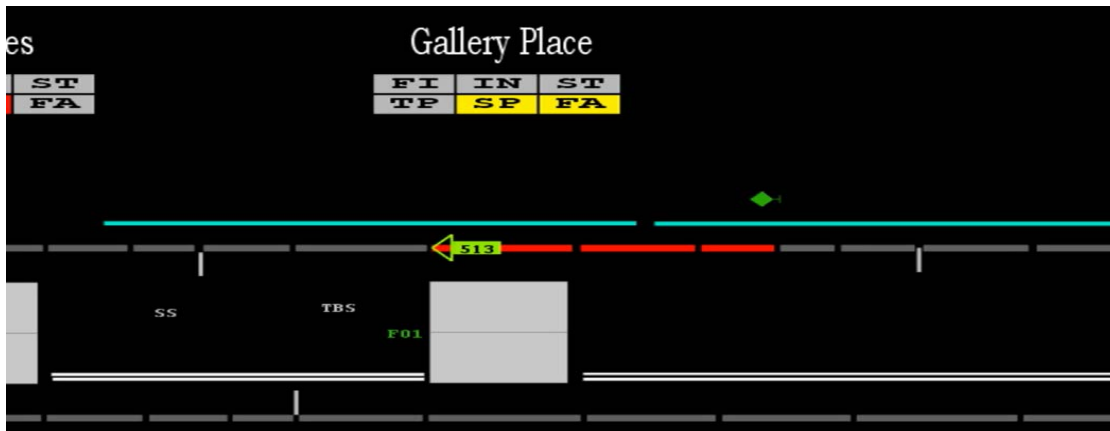


Photo 1: AIMS indication shows Third Rail Power De-energized Track 2 Gallery Place.

Closed-Circuit Television

Based on a review on Gallery Place Station CCTV playback, the customer appeared to be disoriented and unsteady on their feet. The customer wandered near the edge of the platform from the eight-car marker on the approach end [train entrance] at Gallery Place Station, Track 2, and subsequently fell to the roadway. The customer appeared to have lost consciousness for a period. The customer then regained consciousness, staggered to their feet, and began collecting their items from the roadway; at the time, the train approached the platform.

Interview Findings

Based on the investigation into the person Struck by Train event, SAFE conducted one (1) investigative interview and identified the following key findings associated with this event, as follows:

At the time of the incident, the Train Operator transitioning out of a railroad curve before contacting the customer. There are several track lights in the tunnel; however, as Train Operators begin to approach the Station, the different lighting intensity between the tunnel and the Station hindered the operator's line of sight.

Findings

- The forward-facing camera from lead Car 7092 shows that the Train Operator could not bring their train to a complete stop in an efficient amount of time to avoid any contact with the customer on the roadway.
- Based on CCTV playback, the customer appears to be disoriented and unsteady on their feet. The customer wandered near the edge of the platform at Gallery Place Station and subsequently fell to the roadway, losing consciousness for a period.
- Based on post-incident Station inspection, SAFE did not identify any slip or trip hazards that may have contributed to this event.
- Car 7092 Console Camera recording was not operating before, during, and after the event due to data corruption.

Weather

At the time of the incident, NOAA recorded the temperature at 72° F, 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

Based on SAFE interview question related to Fatigue Factors and a review of the Train Operator's 30-day work history, SAFE determined, the employees' hours of service were in accordance with WMATA's *Fatigue Risk Management Policy 10.6* and *Hours of Service Limitations for Prevention of Fatigue Policy 10.7* and discounted Fatigue as a contributing factor for this event.

Post-Incident Toxicology Testing

After reviewing the person Struck by Train incident at Gallery Place Station, SAFE determined that the Train Operator involved was not at fault; therefore, Testing Program 7.7. 3/5 was not administered and has been excluded as a contributing factor.

Probable Cause Statement

The probable cause of this fatality was a disoriented customer falling onto the roadway unnoticed.

SAFE Recommendations

No recommendations as mitigation for this event due to the customer unintentionally placing themselves onto the roadway fouling the dynamic envelope of the train.

Appendix A - Interview Summaries

Interview Details

Office of Rail Transportation (RTRA)

Train Operator

The Train Operator is a WMATA employee with six (6) years of experience as a Train Operator and 12 years of service in various positions, Bus Operator and Train Operator.

Based on the SAFE interview, the Train Operator stated upon completing the pre-trip inspection, they departed Greenbelt Station at 05:24 hrs., with a destination to Branch Avenue Station. The Train Operator reported that they departed the Station en route to Gallery Place Station with their high beam headlights after servicing Mount Vernon Square. While in approach to Gallery Place Station, the Train Operator reported that they were coming down a hill; as the train became level with a clear view of the Gallery Place Station platform, the Train Operator reported that they could see a person in the roadway walking toward the train. The Train Operator reported that they depressed the emergency brake function "Mushroom," sounded the horn, and placed the Master Controller in the emergency position. The Train Operator then stated that they could hear the train's impact striking the person on the roadway. The Train Operator reported that the person on the roadway was in the trackbed at the time of impact, and they did not observe the person jump from the platform. The Train Operator reported that the customer was 10 feet away from the tunnel but within the platform limits.

The Train Operator also reported that the person on the roadway was within 150 ft of their line of sight. The Train Operator also stated that upon noticing the person on the roadway, they brightened their headlights. Per the Train Operator, Gallery Place Station dimmed lighting hindered their vision in approach to Gallery Place Station. The Train Operator reported no discrepancies with the train console or any distractions in the cab area. The Train Operator said that their train was at a speed of no more than 40 MPH in approach to Gallery Place Station. The Train Operator reported that upon making contact with the person on the roadway, ROCC asked were they able to complete a ground walk around and report any signs of life. The Train Operator stated that they reported they could not verify any signs of life and requested assistance. ROCC then instructed the Train Operator to walk the customers through the bulkhead doors to offload the train.