

National Transportation Safety Board

Office of Railroad, Pipeline and Hazardous Materials

Washington, DC 20594



RRD22LR005

SYSTEM SAFETY

Group Chair's Factual Report

June 30, 2022

Table of Contents

A.	ACCIDENT.....	3
B.	GROUP.....	3
C.	SUMMARY	3
D.	FACTUAL INFORMATION.....	4
1.0	CONDUCTOR.....	4
1.1	Work History	4
1.2	Schedule	5
2.0	INTERVIEWS.....	6
2.1	Engineer.....	6
2.2	Assistant Conductor	7
2.3	Lead Service Attendant (LSA).....	10
2.4	LSA Trainee.....	11
2.5	Trainmaster.....	12
3.0	WESTERLY POLICE DEPARTMENT INCIDENT REPORT	13
4.0	AMTRAK CELL PHONE POLICY	14
5.0	AMTRAK TOBACCO USE POLICY	15
6.0	CELL PHONE USAGE	16
7.0	MEDICAL	16
E.	CHIEF REVIEW	17

A. ACCIDENT

Location: Westerly, Rhode Island
Date: January 15, 2022
Time: 1:57 p.m. (local)
18:57 UTC
Train: Amtrak 163-15

B. GROUP

A single working group was established that included three NTSB investigators, including the investigator-in-charge (IIC), an operations investigator, a system safety investigator, and party members. See the Rail Factual Report (compiled by the IIC and operations investigator) in the docket for information about the group members.

C. SUMMARY

Please see the Rail Factual Report for a summary of the accident.

D. FACTUAL INFORMATION

Please see the Rail Factual Report for an operational overview. The records discussed in this section of the report are supplemental.

1.0 Conductor

1.1 Work History

The conductor was hired by Amtrak on July 13, 2015, as a passenger conductor trainee. On November 8, 2015, she graduated to become an assistant passenger conductor. On September 7, 2020, she was promoted to a passenger conductor. She worked as conductor and assistant conductor several times in between July 21, 2021, and October 26, 2021, and held the position of passenger conductor between October 27, 2021, and the accident.

The conductor's certification (pursuant to 49 CFR Part 242) was issued on November 7, 2020, and set to expire 11/7/2023.¹ Amtrak records indicated that she was familiar with the physical characteristics of the territory between Providence, Rhode Island and New London, Connecticut (which includes Westerly, Rhode Island).² Amtrak records showed that in 2021, the conductor had completed training pertaining to Amtrak's catenary systems, as well as the operating rules and signals of both Metro-North Railroad and the Northeast Operating Rules Advisory Committee (NORAC).³ Amtrak records indicated no disciplinary records on file for the conductor.⁴

¹ Document: Conductor Certificate

² Document: Conductor Physical Characteristics

³ Amtrak provided NTSB with documentation of the conductor's training in the form of detailed spreadsheets, which cannot be redacted and uploaded to the public docket.

⁴ See again document: Conductor Employment History

1.2 Schedule

On the day of the accident (1/15/2022), the conductor reported for work at 11:00 am, and had been on duty for about 3 hours when the accident occurred. She also worked the day before (1/14/2022) from 1:50 pm to 10:57 pm. She did not work on the two days before that (1/12/2022 - 1/13/2022). Her work schedule preceding the accident is shown in the table below:⁵

LOCAL CLOCK TIME	LOCAL DATE													
	1/2/2022	1/3/2022	1/4/2022	1/5/2022	1/6/2022	1/7/2022	1/8/2022	1/9/2022	1/10/2022	1/11/2022	1/12/2022	1/13/2022	1/14/2022	1/15/2022
12:00:00 AM														
1:00:00 AM							1:39 AM							
2:00:00 AM														
3:00:00 AM														
4:00:00 AM														
5:00:00 AM														
6:00:00 AM														
7:00:00 AM														
8:00:00 AM														
9:00:00 AM														
10:00:00 AM														
11:00:00 AM							11:00 AM							11:00 AM
12:00:00 PM														
1:00:00 PM		1:10 PM	1:10 PM			1:50 PM		1:00 PM	1:10 PM	1:10 PM			1:50 PM	1:57 PM
2:00:00 PM														
3:00:00 PM														
4:00:00 PM														
5:00:00 PM														
6:00:00 PM														
7:00:00 PM							7:42 PM							
8:00:00 PM														
9:00:00 PM								9:48 PM						
10:00:00 PM		10:59 PM	10:14 PM										10:57 PM	
11:00:00 PM									11:03 PM					
Time (hh:mm)		9:49	9:04			11:49	8:42	8:48	9:53	9:24			9:07	2:57
Time Away (hh:mm)		134:58	14:11			63:36	9:21	17:18	15:22	14:07			63:16	12:03

Table 1. Conductor Work Schedule Preceding the Accident. Hours worked are generally shown in green/outlined blocks that correspond to the 24 hours of the day (y-axis). The specific shift start and end times are written at the top and bottom of the green/outlined blocks. The estimated accident time (1:57 pm) is shown in orange. At the bottom of the table, Time indicates the total shift time, and Time Away indicates the total time between shifts.

⁵ Document: Conductor Hours of Service. The table above is based on company records except for the end time on January 15, 2022, which was amended to reflect the time of the accident. Also, note that time and time away in the table above are not the same as Amtrak records of duty time. Amtrak records are consistent with the applicable regulation, which states that time spent in deadhead transportation to a duty assignment is time on duty, but time spent in deadhead transportation from a duty assignment to the place of final release is neither time on duty nor time off duty. Deadheading means the physical relocation of a train employee from one point to another as a result of a railroad-issued verbal or written directive (see 49 CFR 228.5 "Deadheading").

2.0 Interviews

Please see the Rail Factual Report for an interview-based description of the accident sequence. The interview notes provided in this report are supplemental.

2.1 Engineer

The interview transcript for the Amtrak engineer is available in the public docket.⁶

The engineer said that he had employed as an engineer since about 2012 and was familiar with the territory where the accident occurred. He described the morning of the accident as “uneventful,” though it was “extremely cold” outside. He said that they were running “just over an hour late” due to an equipment issue. He estimated that they departed Boston, Massachusetts around 12:30 pm, and that the trip between Boston and Westerly took “just over an hour.” He said the train speed was “around 30 or 35” mph as they arrived at the Westerly station platform. He said that “no one was on the platform because it was brutally cold” outside. He indicated that Westerly was the first “low platform” that they arrived at on their trip.

Investigators discussed door operations with the engineer. He did not know if the doors on the equipment being used on the day of the accident (regional train) were engineered to close at a certain speed. He indicated that there was no engineering function that prevented him from departing a station with the doors open on Amtrak regional trains. However, he said that Amtrak’s Acela equipment was engineered not to move unless the doors are closed. If a passenger opens the door on an Acela train while in motion, the train will automatically go into emergency braking.

Investigators asked the engineer about his interactions with the conductor on the day of the accident. He indicated that the conductor seemed to be in good spirits and did not appear to be fatigued. He was not aware of any medical issues that may have impinged on the conductor’s performance.

⁶ Document: Interview Engineer

2.2 Assistant Conductor

The interview transcript for the Amtrak assistant conductor is available in the public docket.⁷

The assistant conductor said the crew on the train consisted of himself, the conductor, the engineer, the lead service attendant (LSA), and an LSA trainee. The assistant conductor said that he is qualified to work as a conductor but is currently working as an assistant conductor. He said, *"both the conductor and the assistant conductor are responsible for the safety of the train, the movement of the train, all passengers and crew, and making sure that all rules are observed."*

The assistant conductor indicated that he reported for work in the Boston Crew Room at about 11:00 am. He said that a crew briefing was conducted. After the briefing, he looked at the track chart on a computer monitor and saw that their equipment was not in the station yet. He said, *"it was very cold that day, I don't remember what the temperature was, but it was -- you know, the wind chill was in the single digits, or the negatives and I guess that had been wreaking some havoc on some of the equipment that we were supposed to use."* He said, *"it was a clear, sunny day, it was just bitter cold and windy."* He estimated that their train departed Boston around 12:40 pm, "approximately an hour late."

The assistant conductor said that crew usually uses one of the tables in the café car as a place to sit and as a location to place their bags and other items. He indicated that on the day of the accident, he and the conductor were sitting at that table when the train passed an interlocking known as 'High Street.' He said that they typically used that location, which is "just east of the platform in Westerly" as a "sign" that it is time to start preparing for the arrival at Westerly and notify the passengers. He said that he made an announcement that the only doors that would be opening would be located at the front and rear of the café car, which was centrally sequenced in the train. He did not recall any radio communications with the engineer as they approached the station. The assistant conductor said that they stopped at the Westerly Station platform and passengers detrained at his door, as well as the door that the conductor had opened. He said that he helped several passengers board, and then raised his right hand, a "sign" that his station work was complete. He then closed his door and attempted to communicate with the conductor over the radio, but she did not respond.⁸

⁷ Document: Interview Assistant Conductor

⁸ Please see the Rail Factual Report for a further description of the accident sequence.

Investigators asked the assistant conductor to describe how he opened the train doors, and he provided the following description:

"So, all the doors on the train, you can go to a key station at the door, you put your key in, you turn it, and then you can press a button to open just the door you're at, or you can open all the doors forward of you and behind you on whatever side of the train you're on. So, if -- so, essentially, if all the doors are working and you're at the back of your train, you can key the doors forward and they'll all open up. Now, each individual door also has a manual release. There's a red lever up in the ceiling, you pull it down, and that means you don't have to key the door. The door just opens up or -- well, it doesn't open up, it just releases and then you can open it manually. Typically, if you're coming into a small station, like we were at Westerly, that is how you would open the door because then you can drop the trap door with the steps to get down."

Investigators asked the assistant conductor if he could further describe the differences in door opening operations with regard to the station, and he provided the following description:

"Yeah, so a lot of our stations are what we call high platform stations, meaning that when we come into the station, there's no need to go down steps or anything. The station platform is level with the door of the coach and a lot of them are long enough to fit at least eight cars. And so, in that case, all we do is we put the key in, and we push the button to open the doors forwards and backwards, and all the open on the platform. Some of the stations that we come into, especially smaller stations in rural areas like Westerly, Mystic, New London, they have low level platforms, meaning that we have to drop the trap and people go down the steps to get to them. Those platforms are also smaller and won't fit an entire train set on them, so we typically only open a couple of doors. If there's three people on the train, we open three doors, if there's two, we open two doors, et cetera, and usually only three or four cars will fit on one of those platforms."

The assistant conductor said that conductors sometimes open the doors "a little crack" to monitor the station as the train arrives. However, he indicated that conductors are not supposed to open the doors or deploy the stairs until the train has come to a stop. The assistant conductor said that the stairs will sometimes "be slick with snow or ice that gets kicked on it." However, he indicated that to his knowledge, there was no ice or snow on the steps on the day of the accident. Investigators asked the assistant conductor to describe the process of deploying the stairs, and he provided the following description:

"First thing you do is you pull that red lever that we talked about, you open up the door completely, then on the ground where that trap door is, there is a button that you push with your foot. You step on it and that releases a latch. The trap door then opens just a little bit, you use one hand to hold onto the rail, the other hand to lift open the trap door, and there's another latch up against the wall, you make sure that it's securely in that latch, and then you just walk down the steps. The steps drop down."

The assistant conductor indicated that passengers typically "wait at the door to the vestibule" when it is near their time to detrain. He said, *"they typically stand in that little hallway right next to the vestibule where the bathroom doors and things are, or... the opposite end where there's no bathrooms, just next to the seats."* He indicated that he would typically stand in the vestibule as trains approach a platform. He described the vestibule area as "shaky."

The assistant conductor said that the conductor "seemed okay," and did not seem tired on the day of the accident. He said that she was generally a safe worker.

2.3 Lead Service Attendant (LSA)

The interview transcript for the Amtrak lead service attendant is available in the public docket.⁹

The Lead Service Attendant (LSA) said that she had been working in her current role with Amtrak for about 15 years.

The LSA indicated that she knew the conductor well and described her as “very good” at her job, helpful, and generally “very pleasant.” The LSA said that the conductor “seemed fine” on the day of the accident and was not aware of any medical issues (e.g., sleep apnea) that may have impacted her performance.

Before the accident, the LSA indicated that she saw the conductor sitting with the assistant conductor in the café car “at the last table on the left.” She said, *“they made the announcement for Westerly, and [the assistant conductor] went to his door, and [the conductor] went to hers, and that was the last time I saw her.”*

⁹ Document: Interview Lead Service Attendant

2.4 LSA Trainee

The interview transcript for the Amtrak LSA trainee is available in the public docket.¹⁰

The LSA trainee indicated that he started training with Amtrak on December 1, 2021. He said that on the day of the accident he *"was pretty much concentrating on the job at hand,"* and not *"really paying attention too much to what was going on elsewhere."*

¹⁰ Document: Interview LSA Trainee

2.5 Trainmaster

The interview transcript for the Amtrak trainmaster is available in the public docket.¹¹

The trainmaster said that she started with the railroad in 1989 as an LSA, and currently worked in Boston. In her career, she also worked as a conductor, a station service supervisor, and a train dispatcher.

The trainmaster generally discussed various operations that conductors perform. She indicated that “spotting the train” is essentially “railroad jargon” for *“positioning the equipment to make it easy for the passengers to board and detrain.”* She indicated that it is sometimes necessary for conductors to “crack the door open” so that they can observe station platforms, as the visibility from vestibule windows is limited. She said that there is “no minimum or maximum” distance that the doors should be opened when this occurs, but they cannot be fully opened. She indicated that when the doors are “partially opened” for this process, employees must use *“the emergency handle because otherwise, the door will close once the train is in motion.”*

The trainmaster also described a process known as “flagging.” She indicated that typically a flagging employee would be positioned at the rear of the train so that they can *“see the platform to make sure nobody is running for the train at the end and trying to grab or there’s anything dangerous happening that you’ll flag the rear of the train. And that’s the person that has the door open the last to watch the end of the platform as the train is departing the station.”* She indicated that flagging is also performed as trains arrive, and the flagging employee could be a conductor or assistant conductor. She said that it is *“whoever’s designated as the flag at the job briefing.”*

The trainmaster indicated that conductors are not allowed to deploy the stairs until the train comes to a stop. She indicated that the stairs will only fully deploy if a door is completely open, not if it is “partially shut.” She indicated that Amtrak employees are not allowed to stand on the stairs while the train is in motion (aka ‘ride the stairs’).

¹¹ Document: Interview Trainmaster

3.0 Westerly Police Department Incident Report

According to the Westerly Police Department Incident Report, the responding officers were advised by the engineer and assistant conductor that *"it is common for a conductor to open their [car] door before arrival at the station. It appeared that [the conductor] may have opened her door and possibly have fallen out of the [car] while the train was still moving."*¹²

To the east of the conductor's body, the police found her radio, keys, cloth-style mask, lanyard with Amtrak ID, a winter hat, and a vape pen. To the west of her body, they located two cell phones. Westerly police were advised by an Amtrak criminal investigator/task force detective (who was responding to the accident for Amtrak) that *"it is not uncommon for conductors to vape on the steps and lean out while doing so."*

¹² The Westerly Police Department Incident Report will not be uploaded to the public docket.

4.0 Amtrak Cell Phone Policy

Amtrak provided NTSB with their personal electronic device (PED) and e-ticketing mobile device (eMD) policy.¹³ Generally, Amtrak follows NORAC Operating rules, which define:

- *"PERSONAL ELECTRONIC DEVICE: An electronic device that was not provided to the employee by the railroad for an authorized business purpose.*
- *RAILROAD-SUPPLIED ELECTRONIC DEVICE: An electronic device provided to an employee by the employing railroad for an authorized business purpose. A railroad supplied device will be considered a personal electronic device when it is being used by the employee for a purpose other than an authorized business purpose."*

Generally, on-duty train crew members are prohibited from using PEDs while the train is in motion, though the policy does contain provisions for acceptable PED use, such as coordinating during an emergency. Amtrak provides conductors with eMDs, which have an authorized business purpose and are considered a railroad-supplied electronic device. Amtrak's operating rules address what train crew members are required to do with PEDs when an eMD is supplied in their system special instructions:¹⁴

- *"... a personal electronic device must not be used when a railroad radio or a railroad-supplied electronic device is available.*
- *When use is not authorized, personal electronic devices must be turned off and stored out of sight, along with any earpieces, headphones, or other similar peripheral devices, off one's person (in the employee's grip, luggage, backpack, etc.). Electronic devices placed out of sight but on one's body (e.g., in pockets, covered or concealed by clothing, etc.) are not considered as being stored and would be a violation of this instruction."*

¹³ Document: Amtrak PED and eMD Policy

¹⁴ See again document: Amtrak PED and eMD Policy. Specifically, GO 901 Employee Timetable No. 9. Effective August 2, 2021. 716-S1. USE OF PERSONAL ELECTRONIC DEVICES.

5.0 Amtrak Tobacco Use Policy

NTSB requested information from Amtrak about its tobacco use policy, as well as its oversight for conductors on trains. Amtrak provided NTSB with the following information:¹⁵

B. Amtrak Service Standards Manual January 2022

Page 189 - Section 7-4, item 14

14. Smoking Policy

Amtrak supports a smoke-free environment and does not allow the use of tobacco products, electronic nicotine smoking devices or marijuana (including possession even in states where recreational use is legal or permitted medically) onboard trains and inside stations, offices, or other designated Amtrak facilities. Train Service and Onboard Service employees on duty and/or in uniform are not permitted to use tobacco products or electronic nicotine smoking devices on Locomotive Cabs, Cab Control Cars, and Power Cars.

Enforcement

All On-Train personnel are responsible for the enforcement of the smoking policy.

Station Dwell

- *Where station dwell times and conditions permit, Conductors may use their discretion in allowing customers to use tobacco products or electronic nicotine smoking devices briefly on station platforms.*
- *Conductors must exercise care to ensure that their trains incur absolutely no delay as a result of permitting customers to smoke at stations.*
- *On-Train personnel must remind customers not to leave train-side, and be prepared to board the train immediately once a member of the train crew calls "All Aboard."*
- *Train Service and Onboard Service employees on duty and/or in uniform are not permitted to use tobacco products or electronic nicotine smoking devices on platforms during station dwell times.*
- *Train Service and Onboard Service employees, off-duty and not in uniform, are permitted to use tobacco products or electronic nicotine smoking devices on platforms during station dwell times, when allowed.*

¹⁵ This information was provided in an email. There is no associated document in the docket.

H. Smoking

Employees on duty in or about passenger stations or passenger trains are prohibited from using tobacco while serving patrons or while in their presence. Smoking in engines, except in cabs, is prohibited.

Amtrak's Code of Ethics and Standards for Behavior

III. G Tobacco Use

For the health and comfort of our customers and employees, Amtrak maintains a tobacco-free environment in all Amtrak work locations - our offices, shops, yards, any other facilities, vehicles, trains, and stations. No form of tobacco may be used in any of those areas.

Amtrak has a smoke-free policy as is demonstrated in the information provided above. Employees found in violation are handled administratively through the HR disciplinary process.

6.0 Cell Phone Usage

For information about cell phone usage, please refer to the mobile phone records report in the docket.¹⁶

7.0 Medical

An NTSB medical officer is supporting this investigation and uploaded a Medical Factual Report to the docket.

¹⁶ Document: Mobile Phone Records - Specialist's Factual Report_RRD22LR005

E. CHIEF REVIEW

Submitted by:

Mike Hoepf, Ph.D.
System Safety Investigator

/s/ June 30, 2022

Approved by:

Bob Beaton, Ph.D., CPE
Chief, System Safety Division

/s/ June 30, 2022