

# National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



RRD22LR012

## **SECURITY CAMERA AND ONBOARD VIDEO RECORDER**

Specialist's Factual Report

January 4, 2023

## **A. ACCIDENT SUMMARY**

Location: Chicago, Illinois  
Date: July 16, 2022  
Time: 01:50 a.m. central daylight time (CDT)  
Vehicle: Chicago Transit Authority (CTA) train #435

## **B. SECURITY CAMERA AND ONBOARD VIDEO RECORDER SPECIALIST**

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National Transportation Safety Board (NTSB)

## **C. DETAILS OF THE INVESTIGATION**

The NTSB Vehicle Recorder Division received onboard, forward-facing, and inward-facing video files from the CTA train #435 (hereinafter referred to as accident train), and two security camera video files that captured the accident.

In agreement with the Investigator-In-Charge (IIC), a video group was not conducted, and a summary report was prepared.

### **1.1 Security Camera and Onboard Video Recorder Recording Description**

No details were obtained as to the make and model of the security camera system or the train's onboard video system. The onboard inward-facing and forward-facing video files were sent via a DVD, and the other two video files were submitted to the NTSB Vehicle Recorder Laboratory electronically.

### **1.2 Recording Files Description**

None of the four video files had audio.

The onboard forward-facing video file was 18 minutes and 1 second in length, in .mkv (Matroska Video) format, with 1280 x 720 pixels at a frame rate of 26 frames per second (fps).

The onboard inward-facing video file was 1 hour, 38 minutes and 7 seconds in length, in .mkv format, with 352 x 240 pixels at a frame rate of 25 fps.

Among the two security camera video files, one was recorded from a single camera at the train station platform (hereinafter referred to as security video file #1). The other file was an edited video with footage compiled from various cameras at the train station, following the struck CTA employee's movements at the station (hereinafter referred to as security video file #2).

The security video file #1 was 20 minutes and 1 second in length, in mkv format, with 1600 x 1200 pixels at a frame rate of 9 fps.

The security video file #2 was 11 minutes and 42 seconds in length, in mp4 format, with 640 x 480 pixels at a frame rate of 15 fps.

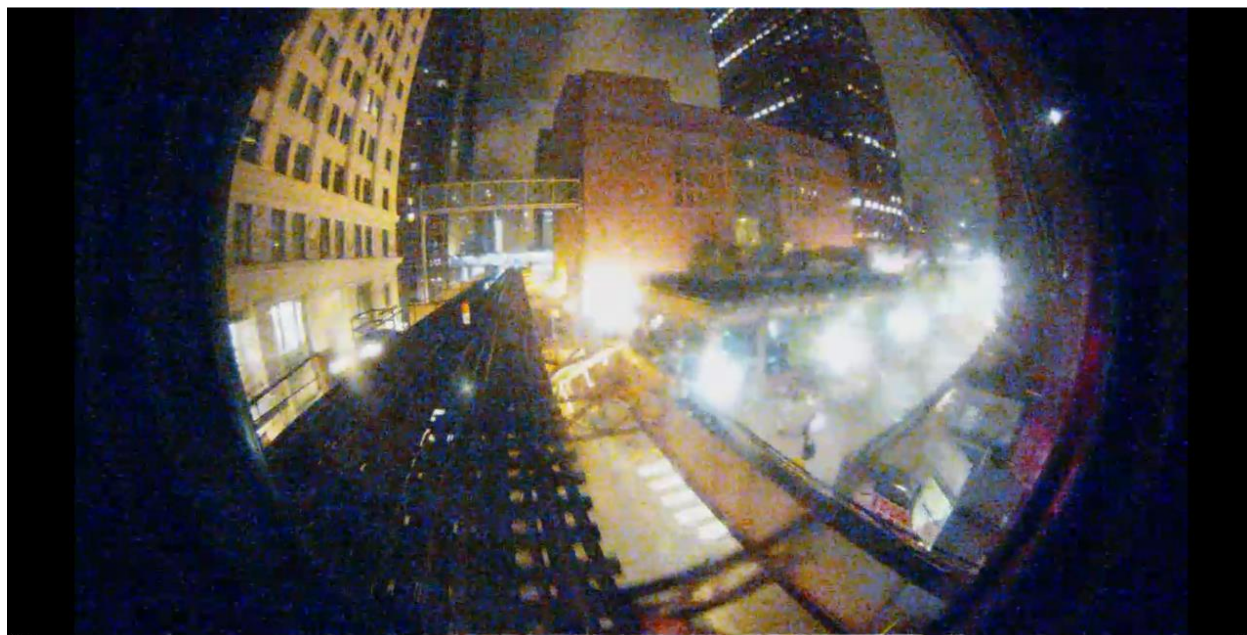
### **1.3 Time Correlation**

A time correlation of the video files to the local time was not conducted, instead, the times in the report are presented in video file elapsed time from the start of the recording. The times are given in the format of H:MM:SS or MM:SS, where H stands for the number of elapsed hours, MM stands for the number of elapsed minutes, and SS stands for the number of seconds.

## **D. SUMMARY OF THE VIDEO FILES**

### **1.1 Onboard Forward-facing Video File**

The video recording started with the accident train running on the rail track approaching the LaSalle St. train station. Figure 1 is a screenshot of the view from the camera.



**Figure 1.** A screenshot shows the view of the onboard outward-facing video file.

00:20 - The accident train struck the CTA employee. Prior to the impact, the CTA employee was visible to the camera lying on the rail track without any movement.

00:26 - The train stopped before the LaSalle St. station.

00:38 - The train started moving forward further into the station.

00:47 - The train stopped.

00:51 - The train started moving forward further through the station.

01:07 - The train stopped.

01:16 - The train started moving forward further through the station.

01:23 - The train stopped.

01:26 - The train started moving forward further through the station.

01:34 - The train stopped.

01:38 - The train started moving forward further through the station.

01:44 - The train came to a final stop at the station.

04:08 ~ 06:00 - The operator of the accident train walked out of the operation cab to the station platform. The operator then crossed a yellow barrier, walked down stairs to the rail tracks, and walked toward the back of the train and disappeared from the camera view. Shortly after, the operator returned to the camera view and went back to the station platform. During this period, the operator was occasionally talking into a hand-held radio device.

09:12 ~ 11:48 - The operator with the hand-held radio device went down to the rail tracks again and then returned to the station platform.

15:23 - Emergency response vehicles were shown pulling over on the street near the train station. There was nothing else remarkable about the recording.

18:01 - The video recording ended.

## **1.2 Onboard Inward-facing Video File**

The inward-facing camera was facing the operator from the top left side of the operation cab. The video recording file began with the operator on the right side of the operation cab near the right door. The operator appeared to be standing. The train was moving, and the operator was looking forward.

00:26 - The operator leaned forward as the train stopped abruptly.

00:29 ~ 00:35 - The operator walked toward the left side of the operation cab and disappeared from the camera view.

00:36 ~ 00:39 - The operator returned to the right side of the operation cab and input controls to start train.

00:48 - The train stopped without input from the operator.

00:51 - The operator input controls, and the train started moving forward.

01:07 - The train stopped without input from the operator.

01:12 ~ 01:16 - The operator's left hand reached up to a position near the camera to input a control. After that, the operator input more controls, and the train started moving forward.

01:22 - The train stopped without input from the operator.

01:26 - The operator input controls, and the train started moving forward.

01:33 - The train stopped without input from the operator.

01:38 - The operator input controls, and the train started moving forward.

01:43 - The operator input controls, and the train stopped at the LaSalle St. station.

01:48 ~ 02:13 - The operator looked to the back of the train from the right door of the operation cab.

02:14 - The operator walked towards the left side of the operation cab and disappeared from the camera view.

02:43 ~ 03:13 - The operator returned to the camera view and picked up a hand-held radio device with the left hand. The operator then made some inputs with the right hand on a control panel.

03:15 - The operator walked toward the left side of the operation cab and disappeared from the camera view.

03:53 ~ 03:58 - The operator returned to the camera view and looked to the back of the train from the right door of the cab.

03:59 - The operator walked toward the left side of the operation cab and disappeared from the camera view.

04:07 ~ 04:09 - The operator was shown on the station platform outside of the right door of the operation cab. The operator walked toward the front of the train and disappeared from the camera view.

04:10 ~ 19:30 - The operator reappeared in the camera view occasionally and talked into the hand-held radio device.

20:40 - The emergency response personnel showed up on the station platform. There was nothing else remarkable about the recording.

1:38:07 - The video recording ended.

### **1.3 Security Video File #1**

The camera was fixed at a location at the LaSalle St. train station platform. Figure 2 shows a screenshot of the view from the camera. Figure 3 shows the same screenshot with labels.



**Figure 2.** A screenshot shows the view of the security video file #1.



**Figure 3.** A screenshot of the view of the security video file #1 with labels.

00:59 - A train (not the accident train) pulled in and stopped at the LaSalle St. train station.

01:11 - The same train (not the accident train) left the station.

11:44 - The struck CTA employee came into view on the right-side platform (refer to figure 3). The CTA employee was wearing an orange and yellow safety vest.

11:45 ~ 14:30 - The CTA employee walked on the platform toward a barrier, then crossed the barrier and walked down stairs to the rail tracks. The CTA employee attempted to cross the tracks towards the left-side platform. As the CTA employee nearly crossed the right track, the CTA employee fell. Then as the CTA employee slowly crawled onto the right rail of the left track, the CTA employee fell onto the rail abruptly. The CTA employees body went motionless as he fell. The CTA employee continued to be motionless in that position.

16:55 - The accident train came into view, moving towards the station.

17:23 - The accident train struck the CTA employee. Prior to the impact, there were no motion detected from the CTA employee after the CTA employee fell onto the rail as described above.

20:01 - The video recording ended.

#### **1.4 Security Video File #2**

This is an edited video file with footage compiled from various cameras at the LaSalle St. train station. It started with footage following the struck CTA employee's movements, from entering the LaSalle St. station, to walking at various areas at the station, to entering and walking on a platform, to crossing a barrier and walking down stairs to the rail tracks, then trying to cross the tracks, and falling onto a rail and becoming still and ultimately being struck by the accident train. The edited video file then continued with footage following the accident train operator's actions after the train came to the final stop at the station. This edited video matched what was shown on the other three video files.

Submitted by:

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