

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



RRD23FR001

ONBOARD IMAGE RECORDER

Specialist's Factual Report

February 7, 2023

A. ACCIDENT SUMMARY

Location: Camden, New Jersey
Date: October 14, 2022
Time: 2121 eastern daylight time (EDT)
Vehicle: PATCO passenger train

B. ONBOARD IMAGE RECORDER SPECIALIST

Specialist: W. Deven Chen
Electrical Engineer - Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

The NTSB Vehicle Recorder Division received an onboard, inward-facing video file recorded on the PATCO passenger train.

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

1.1 Onboard Image Recorder Recording Description

No details were obtained regarding the make and model of the train's onboard video system. The video file did not contain audio, and was 7 minutes and 28 seconds in length, in .asf (Advanced System Format) format, with a resolution of 640 x 480 pixels at a frame rate of 5 frames per second (fps).

1.2 Time Correlation

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

D. SUMMARY OF THE VIDEO FILE

From the start of the video to the time when the collision occurred, there were no observable distractions by the train operator. Below is the detailed summary of the video.

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 sitting in front of the control panel inside the operation cab. The train was not moving. The operator was

looking to his left and appeared to be checking on the view mirrors. Figure 1 depicts the field-of-view (FoV) of the camera.

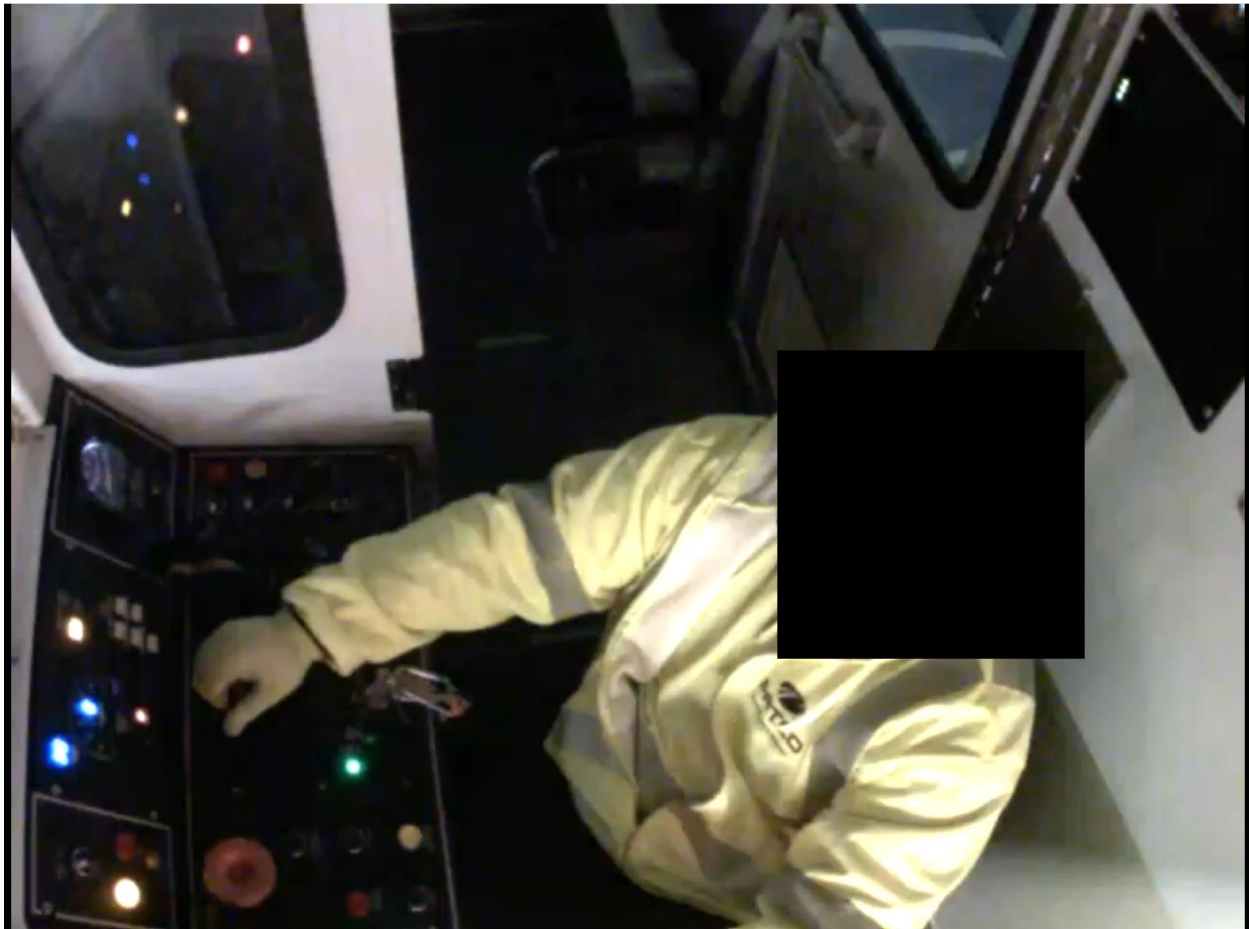


Figure 1. A screenshot depicting the FoV of the onboard inward-facing video file.

00:06 - The operator input controls on the control panel, and the train started moving (indicated by moving shadows in the operation cab).

01:12 - The operator input controls, and the train stopped moving. The operator looked to his left to check on the view mirrors, then the operator picked up a hand-held radio device.

01:18 to 02:41 - The operator talked into the hand-held radio device occasionally and made some inputs on the control panel. During this period, the train was not moving.

02:42 - The operator put down the hand-held radio device. The operator then input controls, and the train started moving. The operator was looking straight forward.

03:37 - The operator looked to his left briefly.

03:38 - The operator was looking straight forward.

03:39 - The operator became alarmed and input controls quickly, and the train stopped.

03:40 to 03:54 - After the train stopped, the operator appeared shocked. The operator got out of the seat and leaned to look forward. Then the operator checked the control panel, then leaned to the left of the operation cab, and his upper body disappeared in the camera view. The operator appeared to be looking out the left window of the operation cab.

03:55 to 07:21 - The operator briefly reappeared in the camera view to pick up the hand-held radio device, then his upper body disappeared in the camera view again. In this period, the operator occasionally reappeared in the camera view.

07:22 - The emergency response arrived, indicated by flashing red and blue lights.

07:28 - The image recording ended.

Submitted by:

W. Deven Chen
Electrical Engineer - Recorder Specialist