

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



HWY23MH015

VIDEO FILES

Specialist's Factual Report

June 4, 2024

TABLE OF CONTENTS

A. ACCIDENT.....	3
B. VIDEO FILES SPECIALIST	3
C. DETAILS OF THE INVESTIGATION	3
1.0 VIDEO FILE INFORMATION.....	4
1.1 Video timing	4
D. SUMMARY OF EVENTS.....	4
2.0 VIDEO FILE A - FREIGHTLINER COMBINATION UNIT.....	4
3.0 VIDEO FILE B - KENWORTH COMBINATION UNIT.....	5
4.0 VIDEO FILE C - MACK COMBINATION UNIT	6
5.0 VIDEO FILE D - POLICE OFFICER BODYCAM.....	6

A. ACCIDENT

Location: Highland, Illinois
Date: July 12, 2023
Time: 01:48 central daylight time (CDT)
06:48 coordinated universal time (UTC)
Vehicle 1: Prevost motorcoach
Vehicle 2: Freightliner combination unit
Vehicle 3: Kenworth combination unit
Vehicle 4: Mack combination unit

For a summary of this accident, refer to the public docket for this investigation. A post-accident photograph of the four vehicles involved in the accident is provided in Figure 1.



Figure 1. Post-accident photograph of the vehicles involved in the accident. (Source: Illinois State Police, annotated by NTSB).

B. VIDEO FILES SPECIALIST

Specialist Kyle Garner
Sr. Aerospace Engineer - Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A group was not convened.

The NTSB Vehicle Recorder Division received the following video files:

Video File A: *U-2 frontal impact activation.mp4*
Video File B: *U-3 Dashcam Video.mp4*
Video File C: *U-4 Branum Trucking.mp4*
Video File D: *tick23051949-tick23053496-video 1.mp4*

The videos were downloaded by non-NTSB personnel and forwarded via a file share service to the NTSB for review.

1.0 Video file information

Table 1 provides information about each video file discussed in this report.

Table 1. Video file details.¹

Video File	Source	Duration ²	Pixel Dimension
A	Vehicle 2 (Freightliner) onboard camera	01:01	960x1080
B	Vehicle 3 (Kenworth) onboard camera	01:00	1920x1080
C	Vehicle 4 (Mack) onboard camera	01:00	1920x1080
D	Police officer bodycam	12:54	720x480

1.1 Video timing

Video files A, B, and C contained an on-screen timestamp in either local time CDT or UTC. Although the on-screen timestamps could not be independently verified, the time of the accident appeared to be consistent across all three cameras. Thus, aside from a conversion from UTC to CDT, no other corrections were made to the on-screen timestamps, and all times in the summary for video files A, B, and C are sourced from the on-screen timestamp in CDT.

Video file D, the responding police officer's bodycam footage, did not contain any timing information. Thus, the timing of the summary for video file D is expressed as video elapsed time, which is the time from the beginning of the recording.

D. SUMMARY OF EVENTS

2.0 Video file A - Freightliner combination unit

Video file A was recovered from the first combination unit struck by the motorcoach during the accident sequence. The video was a split screen with two camera views. The top half of the video was a camera of unknown origin and contained no data relevant to the accident. The bottom half of the video was from a

¹ Reported pixel dimension and frame rate are based on metadata embedded in the file. Files that have been modified from their original version may have incorrect metadata.

² In *mm:ss*, where *mm* is minutes and *ss* is seconds.

left-side external-facing camera on the combination unit.³ The video did not have audio. For the duration of the video, the weather conditions appeared clear with no restrictions on visibility.

An on-screen timestamp indicated that the video started at 01:48:19 CDT and ended at 01:49:20 CDT. At the start of the video, the combination unit was parked on the right shoulder of the rest area exit ramp.

The first 40 frames of the video, from 01:48:19 to 01:48:21, show the motorcoach impacting the side of the combination unit; however, due to the dark lighting conditions and the vibration of the camera from the impact, the motorcoach was difficult to see in the video. As the motorcoach exited the camera's field of view the rear brake lights of the motorcoach were visible and illuminated.

The remainder of the video was uneventful.

3.0 Video file B - Kenworth combination unit

Video file B was recovered from the second combination unit struck by the motorcoach during the accident sequence. The video was from a forward-facing camera and did not include audio. For the duration of the video, the weather conditions appeared clear with no restrictions on visibility.

An on-screen timestamp indicated that the video started at 01:47:59 CDT and ended at 01:48:59 CDT. At the start of the video, 01:48:00, the combination unit was parked on the right shoulder of the rest area exit ramp. Another combination unit, which also was equipped with a forward-facing onboard camera discussed in section 4.0, was parked on the shoulder directly ahead.

The video from 01:47:59 to 01:48:17 was uneventful. At 01:48:17, the combination unit lurched forward, consistent with an impact from either the motorcoach or the combination unit parked directly behind it.

At 01:48:19, the headlights of the motorcoach were visible in the reflection of the tailgate of the combination unit parked directly ahead.

At 01:48:20, the motorcoach entered the field of view of the camera. The right front side of the motorcoach impacted the left rear side of the Mack combination unit parked on the shoulder directly ahead and came to rest.

The remainder of the video was uneventful.

³ When facing towards the direction of travel.

4.0 Video file C - Mack combination unit

Video file C was recovered from the third combination unit struck by the motorcoach during the accident sequence. The video was from a forward-facing camera and included audio. For the duration of the video, the weather conditions appeared clear with no restrictions on visibility.

An on-screen timestamp indicated that the video started at 01:48:00 CDT and ended at 01:48:59 CDT. At the start of the video, 01:48:00, the combination unit was parked on the right shoulder of the rest area exit ramp. Another combination unit was visible parked on the shoulder directly ahead and its taillights were illuminated.

The video from 01:48:00 to 01:48:21 was uneventful. At 01:48:21, a sound consistent with impact was noted and the combination unit lurched forward after being struck by the motorcoach. The motorcoach was not visible in the recording.

Three seconds after the sound consistent with impact, a loud beep was noted and was followed by an electronic voice stating, "harsh event detected."

At 01:48:27, the truck driver of the combination unit was audible in the background noting that there had been a collision.

The remainder of the video was uneventful.

5.0 Video file D - police officer bodycam

Video file D was downloaded from the body-worn camera of a police officer who responded to the accident. The first 5 minutes of the video was of the officer driving to the accident scene. The video included audio.

At 05:00 video elapsed time, the officer arrived at the accident scene and exited his vehicle. The road lights on the rest area exit ramp were visible and illuminated. As the officer walked towards the scene, the taillights of the Freightliner combination unit were visible and illuminated, as shown in Figure 2.



Figure 2. Police officer bodycam at video elapsed time 05:19. The Freightliner combination unit's taillights are illuminated (circled in red).

At 06:02, the officer spoke with another state police officer about the status of the victims. The officer stated that the three combination unit drivers were asleep at the time of the accident and not injured. On the motorcoach, the officer stated that the driver was injured, and of about 15 known passengers on the bus, one was pinned and three had sustained fatal injuries.

At 07:02, the officer interviewed the driver of the Mack combination unit. The driver stated that post-accident the motorcoach driver was upright in his seat, but unresponsive. Further, the driver stated that after the accident he helped passengers out of the window of the motorcoach and extinguished a fire.

At 08:01, the officer walked towards the front of the motorcoach, as shown in Figure 3.



Figure 3. Police officer bodycam at video elapsed time 08:01 showing the post-accident condition of the front of the motorcoach.

At 08:07, the officer looked into the driver's window, however, the driver was not visible in the recording.

At 10:27, the officer mentioned to another officer that the motorcoach driver was trapped, but had visible chest rise and was breathing.

For the remainder of the video, the officer discussed the arrival of medivac helicopters and witnessed the fire department attempting to access the injured passengers of the motorcoach through a window, as shown in Figure 4.



Figure 4. Police officer bodycam at video elapsed time 12:25. A first responder is visible on a ladder carrying a spinal board through a window of the motorcoach.

The video ended at 12:53 video elapsed time.

Submitted by:

Kyle Garner
Sr. Aerospace Engineer - Recorder Specialist