

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, DC 20594

February 10, 2020

Digital Video Recorder (DVR)

Specialist's Factual Report By Sean Payne

1. EVENT

Location: Delray Beach, Florida
Date: March 1, 2019
Vehicle: Tesla Model 3, 5YJ3E1EB2JF0XXXXX¹
Operator: Private
NTSB Number: HWY19FH008

2. GROUP

A group was not convened.

3. SUMMARY

For a summary of the accident event, please refer to the *Crash Summary Report* which is included in the public docket for this accident.

4. DETAILS OF INVESTIGATION

Beginning on March 6, 2019 the National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following electronic files:

| | |
|-----------------|--|
| Recorder Type: | Network Video Recorder (NVR) |
| Location: | 14095 US 441 – Agricultural Company Driveway |
| Reference Name: | Video 1 |
| Recorder Type: | NVR |
| Location: | 14095 US 441 – Agricultural Company Parking Lot |
| Reference Name: | Video 2 |

¹ Last five digits of the VIN number has been redacted.

4.1. Recorder Description

The agricultural company was unable to provide the make and model of the vehicle. The NTSB was provided two video files. Both video files were of a resolution of 2688 pixels by 1520 pixels and were 20 frames per second (FPS).

4.2. Timing and Correlation

Timing of the summary is expressed as seconds relative to impact. Negative values equate to a time before impact, time zero relates to the time impact and positive values equate to the time after impact.

The two videos were correlated using the NVR's internal timing system, which appeared to be synced across the two cameras. The Tesla vehicle's impact with the tractor-trailer combination vehicle was used as a common reference point.

4.3. Summary of Video Recording Contents

In agreement with the Investigator-In-Charge, a video group did not convene, and a summary report was prepared.

The two DVR recordings were determined to be "protected" video as the recordings contain graphic imagery. As such, the DVR recordings are summarized below.

Figure 1 is a diagram of the security camera locations and vehicle movements involved in the accident. The yellow numbers and lines represent the security cameras that captured the accident and their respective field of view. The red arrow denotes the location and direction of travel of the tractor-trailer combination at the start of the recording. The blue arrow represents the direction of travel of the Tesla vehicle.

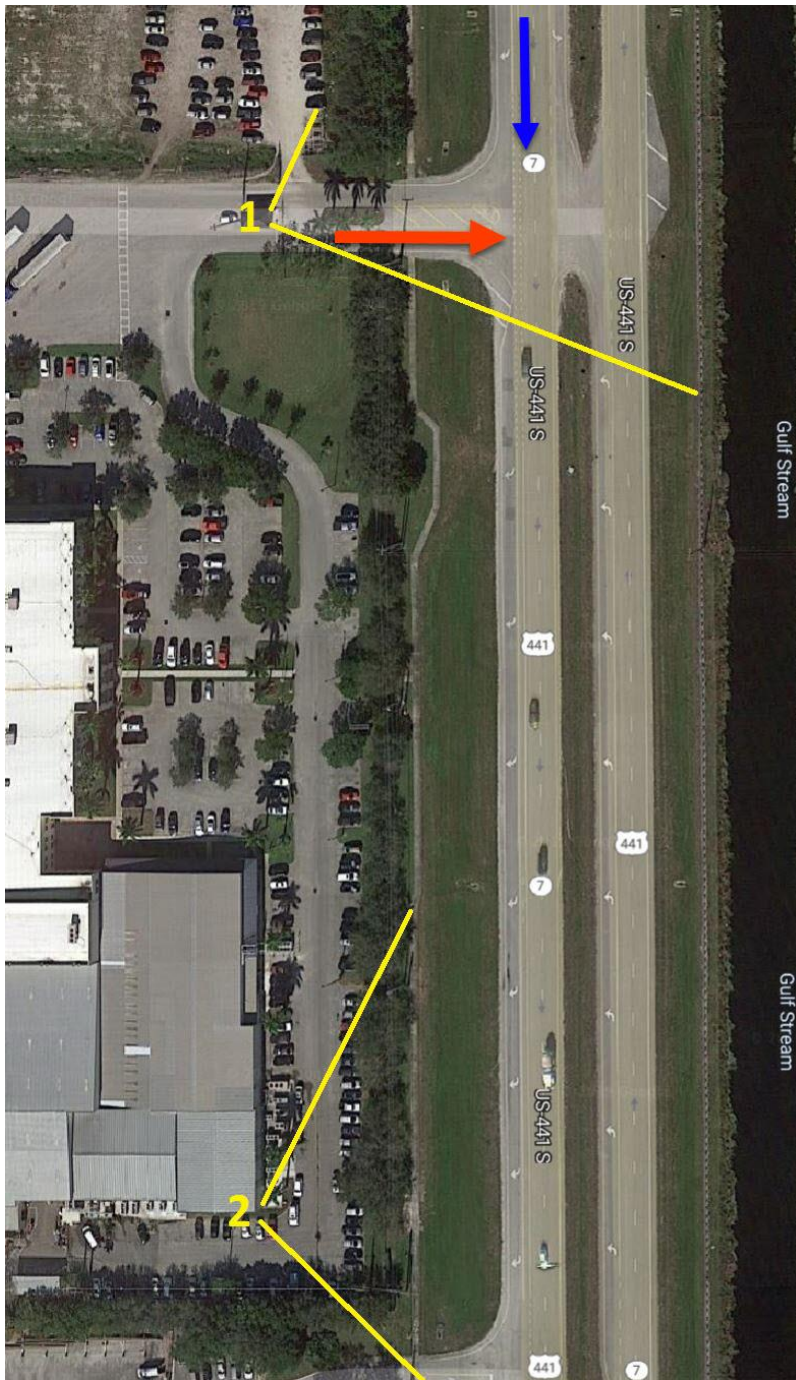


Figure 1. Security camera locations and general vehicle movement.

Security Camera 1 - 14095 US 441 Driveway

The recording provided a view eastbound along the driveway access road for 14095 US 441, toward the intersection of US 441 and the driveway access road for 14095 US 441 where the accident occurred. In general, the security camera provided a view of the rear of the tractor-trailer combination vehicle, and traffic passing northbound and southbound on US 441.

The following characteristics are noted from the recording:

- At the start of the recording, approximately -15.5 seconds until impact, the tractor-trailer combination is traveling east on the driveway access road toward the intersection of US 441.
- At -9 seconds, the tractor-trailer combination's brake lights activated. The tractor-trailer combination slowed.
- At -6 seconds, the tractor-trailer was at the intersection US 441 and the driveway access road for 14095 US 441. The tractor-trailer combination's brake lights were no longer lit. The tractor-trailer combination never came to a complete stop at the intersection.
- At -4 seconds, a non-accident vehicle traveling southbound crossed in front of the tractor-trailer combination. At this moment, the tractor-trailer combination was in motion and partially crossing US 441.
- At -1 second, the tractor-trailer combination's brake lights activated. At the same moment, the headlights of the accident Tesla vehicle were captured on the recording near the left side of the image frame. The Tesla vehicle was traveling toward impact with the tractor-trailer combination's trailer. The tractor portion of the tractor-trailer combination was obscured from the camera's view by a tree trunk. Increased illumination of the road signs slightly to the left of where the tractor portion of the tractor-trailer combination was observed.
- At time zero, the Tesla vehicle impacted the tractor-trailer combination's trailer portion.
- At approximately +1 second, the Tesla vehicle exited from under the trailer portion of the tractor-trailer combination. Orange sparks were visible in the area of the Tesla vehicle's roof.
- At +2 seconds, the Tesla vehicle was still traveling at a speed similar to when impact occurred. The Tesla vehicle crossed out of the recording's frame to the right and continued traveling southbound. The recording continued, the accident Tesla vehicle was no longer in the image frame

- At approximately +5 seconds, the tractor-trailer combination continued rolling into a left turn north on to US 441 and stopped. The tractor-trailer combination stopped before it had completed the turn north onto US 441. A car traveling northbound on US 441 passed as the tractor-trailer combination came to a stop.
- Moments later, an individual exited from the tractor portion of the tractor-trailer combination. Some traffic slowed, and some traffic continued to pass during this time. No other evidence was summarized from this recording and the recording ended.

Security Camera 2 – Parking Lot

The recording provided a view looking east from the agricultural facility at 14095 US 441. Camera 2 was approximately 780 feet south of camera 1. In general, the security camera provided a view of a parking lot within the agricultural facility with traffic passing northbound and southbound on US 441 in the background.

- The recording started approximately +4 seconds after impact. The headlights of the Tesla vehicle were visible behind a tree-line. The headlights suggested the Tesla vehicle was moving southbound along US 441.
- +9 seconds after impact, the Tesla vehicle emerged from a tree-line and was directly in front of the location of security camera 2. The Tesla vehicle had continued traveling southbound along US 441. The Tesla vehicle was still in motion, however, the Tesla vehicle appeared to be slowing. The Tesla vehicle's hazard lights were flashing.
- By +14 seconds after impact, the Tesla vehicle has passed out of the field of view for security camera 2. The Tesla vehicle appeared to continue slowing. The Tesla vehicle's hazard lights were flashing. No annotations were made after the Tesla vehicle passed out of the field of view of security camera 2.
- The recording ended at +24 seconds after impact.