



PRELIMINARY REPORT

Delray Beach, Florida

HWY19FH008

(3 pages)



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HIGHWAY

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The information in this report is preliminary and will be supplemented or corrected during the course of the investigation.

On Friday, March 1, 2019, about 6:17 a.m. eastern standard time, a 2018 Tesla Model 3 electric-powered passenger vehicle was southbound in the right through lane of the 14000 block of State Highway 441 (US 441) in Delray Beach, Palm Beach County, Florida, when it struck an eastbound 2019 International truck-tractor in combination with a semitrailer. The combination vehicle was operated by First Fleet, Inc. At the crash site, southbound US 441 consists of two through travel lanes divided from the northbound lanes by an earthen median (figure 1). A left-turn lane allows vehicles to change direction and enter the northbound lanes. A right-turn lane allows access to a private driveway into an agricultural facility on the highway's west side. On both sides of the highway, a bicycle lane runs next to the right travel lane. The posted speed limit is 55 mph.



Figure 1. Southbound view of crash intersection. Private driveway into agricultural facility is visible on right side of image. (Source: Google Maps)

As the Tesla approached the private driveway, the combination vehicle pulled from the driveway and traveled east across the southbound lanes of US 441. The truck driver was trying to cross the highway's southbound lanes and turn left into the northbound lanes. According to surveillance video in the area and forward-facing video from the Tesla, the combination vehicle slowed as it crossed the southbound lanes, blocking the Tesla's path.

The Tesla struck the left side of the semitrailer. The roof of the Tesla was sheared off as the vehicle underrode the semitrailer and continued south (figure 2). The Tesla came to a rest on the median, about 1,600 feet from where it struck the semitrailer. The 50-year-old male Tesla driver died as a result of the crash. The 45-year-old male driver of the combination vehicle was uninjured.



Figure 2. Tesla Model 3 with extensive roof damage photographed postcrash at tow yard.

Preliminary data from the vehicle show that the Tesla’s Autopilot system—an advanced driver assistance system (ADAS) that provides both longitudinal and lateral control over vehicle motion—was active at the time of the crash.¹ The driver engaged the Autopilot about 10 seconds before the collision. From less than 8 seconds before the crash to the time of impact, the vehicle did not detect the driver’s hands on the steering wheel. Preliminary vehicle data show that the Tesla was traveling about 68 mph when it struck the semitrailer. Neither the preliminary data nor the videos indicate that the driver or the ADAS executed evasive maneuvers.

The National Transportation Safety Board (NTSB) continues to gather information on the operation of the Tesla’s ADAS and the Tesla driver’s actions leading up to the crash. The investigation will also examine the driver of the combination vehicle, the motor carrier, highway factors, and survival factors. All aspects of the crash remain under investigation as the NTSB determines the probable cause, with the intent of issuing safety recommendations to prevent similar crashes. The NTSB is working in partnership with the Palm Beach County Sheriff’s Office during the investigation.

¹ Autopilot is a proprietary name used by Tesla for a combination of vehicle automation systems that provide driver assistance through the Traffic-Aware Cruise Control, Autosteer, and Auto Lane Change systems. According to Tesla, Autosteer uses camera sensors, radar, and ultrasonic sensors to determine how to steer the vehicle, and it requires drivers to hold the steering wheel—an alert is given to the driver if the system does not detect a driver hand on the steering wheel for a period of time.