PRELIMINARY REPORT
HIGHWAY
HWY18FH013

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

About 6:46 p.m. on Tuesday, May 8, 2018, a 2014 Tesla Model S electric-powered car was traveling south in the 1300 block of Seabreeze Boulevard, in Fort Lauderdale, Florida. The car was occupied by the 18-year-old driver, a front seat passenger, and a second passenger seated in the right rear. Seabreeze Boulevard consists of two northbound and two southbound lanes divided by a center turn lane, with a posted speed limit of 30 mph. At the crash location, the roadway curves to the left. The approach to the curve has an advance warning sign denoting a left-hand curve, augmented by a flashing beacon and a posted advisory speed of 25 mph (Figure 1).

Figure 1. Seabreeze Boulevard with advance warning sign circled in red; and closeup view of approach to curve with advance warning sign, flashing beacon, and 25-mph advisory speed limit.

According to witnesses, the Tesla driver maneuvered into the left lane to pass another vehicle and lost control of the car while attempting to move back into the right lane. The Tesla then struck and mounted the west side curb, crossed the sidewalk, and continued south, striking a wall in front of a residence. The car continued forward and struck the wall a second time on the south side of the driveway. Several witnesses reported that the Tesla erupted in flames after the second collision.

The Tesla re-entered the roadway, mounted the curb on the opposite side of the street, struck a metal light pole, and came to rest in the driveway of an adjacent residence. Both the driver and the front seat passenger died. The rear seat passenger was ejected, injured, and transported to a local hospital.

The Fort Lauderdale Fire and Rescue Department arrived at the crash scene and found the Tesla fully engulfed in flames. They extinguished the vehicle fire using 200–300 gallons of water and foam. Small portions of the lithium-ion high-voltage battery had separated from the vehicle, and—though there was no visible fire—they applied water and foam to the debris. During the loading of the car for removal from the scene, the battery reignited and was quickly extinguished. Upon arrival at the storage yard, the battery reignited again. A local fire department responded to the storage yard and extinguished the fire. Figure 2 shows the Tesla postcrash.

Figure 2. Remains of Tesla Model S at storage yard.

According to data obtained from the Tesla's restraints control module (RCM), approximately 3 seconds before the collision, the vehicle was traveling 116 mph.[1] Two seconds before impact, the car was traveling 108 mph when the driver applied the brakes and increased the steering angle, at which point the stability control engaged.

At the time the RCM initiated the deployment command (for air bags, restraint pretensioners, etc.), the car's speed had decreased to 86 mph. The brake pedal was still depressed, and a larger steering input had been applied. The RCM also showed that both the driver and the front seat passenger were restrained at the time of the crash.

The NTSB continues to gather information on the Tesla Model S systems and maintenance records to determine the availability of other data sources and the viability of data recovery postfire. The investigation will also include examining the procedures used to extinguish the battery fire and to remove and store the car postcrash.

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 Fort Lauderdale Police Department.

[1] The RCM recorded the vehicle's speed, engine speed, braking, steering, and occupant restraint up to 5 seconds before impact and deployment of the occupant restraint system.