



PRELIMINARY REPORT

HIGHWAY

HWY18FH006

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

On Wednesday, February 21, 2018, about 6:02 p.m. eastern standard time, a 70-year-old male was driving a truck-tractor in combination with a semitrailer southbound on Interstate 476 (the Pennsylvania Turnpike) through Lehigh Tunnel #2 in East Penn Township, Carbon County, Pennsylvania (figure 1). After traveling about 1,000 feet through the 4,379-foot-long tunnel, the truck-tractor struck a 10-foot-long section of electrical conduit that had broken away from its attachment point(s) on the tunnel's ceiling. The conduit penetrated the vehicle's windshield (figure 2), striking the driver. The combination vehicle continued and after exiting the tunnel came to rest along the right shoulder of the highway. The truck driver was killed; no other injuries were reported.



Figure 1. Photograph of the Lehigh Tunnel south portal entrance. The crash occurred in the southbound (left) tunnel.



Figure 2. Front view of the combination vehicle at its final rest position. The displaced section of electrical conduit can be seen resting on the corner of the hood, with the end protruding through the upper part of the windshield. (Source: Pennsylvania State Police)

Lehigh Tunnel #2 was equipped with 10 sets of large axial fans suspended from the apex of the tunnel arch. The fans were controlled from the portal buildings on the north and south ends, enabling fresh air to be forced in either direction through the tunnel. Also suspended from the apex of the tunnel arch were supports for the electrical conduit system supplying power to the lights, fans, cameras, and substations inside the tunnel (figure 3). The fans and electrical system were directly above the roadway's two travel lanes. The clearance from the roadway to the bottom of the large axial fans was about 16 feet, 6 inches.

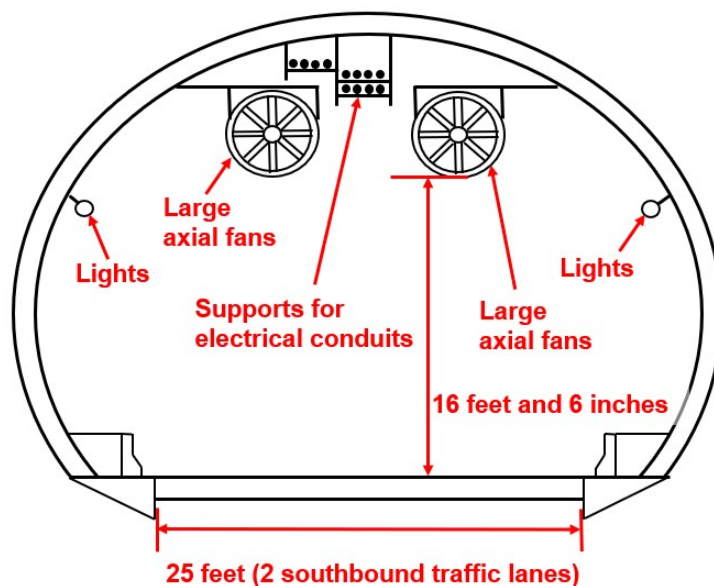


Figure 3. Diagram showing interior details of Tunnel #2. (Not to scale)

The tunnel, including the fans and electrical conduit, had last been inspected in 2016. The inspection found evidence of corrosion on multiple steel support straps used to affix the electrical conduit to the tunnel ceiling. On the day of the crash, a failure occurred in the support system, causing a section of electrical conduit to fall into the path of the southbound combination vehicle.

Before the crash, the Pennsylvania Turnpike Commission was in the process of awarding a contract to replace the lighting and electrical system in Tunnel #2¹. In part, the contract specifies relocating the electrical system from directly above the two travel lanes of the roadway to the outside edges of the tunnel walls. The estimated completion date for the new electrical system in Tunnel #2 is October 2018.

The NTSB continues to work with the Federal Highway Administration, the Pennsylvania Turnpike Commission, and the Pennsylvania State Police to collect and analyze data, including all pertinent information relating to tunnel inspections and tunnel operations. 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.

¹ The contract to be awarded was for both Tunnel #1 and Tunnel #2.