



PRELIMINARY REPORT

HIGHWAY

HWY13MH012

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

About 7:00 p.m. Pacific daylight time (PDT) on Thursday, May 23, 2013, a span of the Interstate 5 Bridge (Structure 4794A) at milepost 228.25 in Mount Vernon, Skagit County, Washington, collapsed into the Skagit River, along with two passenger vehicles. The bridge, constructed in 1955, had four concrete approach spans on the north and south ends and four 160-foot-long steel through-truss spans over the river. The over-water truss spans were non-load-path-redundant, and certain members of the truss were considered fracture critical. The collapsed span, located on the north end of the truss portion of the bridge, consisted of two northbound and two southbound traffic lanes divided by a concrete barrier.

Immediately prior to the collapse, a 2010 Kenworth truck-tractor in combination with a 1997 Aspen flatbed trailer loaded with a casing shed (oversize load) was following a pilot vehicle traveling southbound on Interstate 5. According to witnesses, as both vehicles approached the bridge, another southbound truck-tractor in combination with a semitrailer overtook and passed the oversize load in the left lane. The driver of the oversize load reported to investigators that he felt “crowded” by the passing combination vehicle so he moved his vehicle to the right. As the oversize load was being transported across the bridge, the top of the load collided with the overhead portal and multiple sway braces on the far right side of the truss structure. The impacts caused significant damage to load-bearing members of the bridge’s superstructure, resulting in the failure and subsequent collapse of the northernmost bridge span. During the post-collision investigation, the driver reported to investigators that he thought the height of the oversize load was 15 feet 9 inches. The lowest portion of the sway braces, as measured over the active portion of the roadway, was determined to be 14 feet 8 inches. According to the operator of the pilot vehicle, the clearance pole mounted on the front of her vehicle was set at 16 feet 2 inches.

Two passenger vehicles—a southbound 2010 Dodge Ram pickup truck towing a 2009 Jayco camper trailer and a northbound 2013 Subaru XV Crosstrek—were on the bridge span at the time of the collapse. The vehicles and the damaged span fell into the river. The three vehicle occupants were later rescued from the water. In addition to the span that collapsed, at least one adjacent span was found to have impact damage from the oversize load. The motorists on the collapsed span received injuries of varying degrees; no fatalities resulted from the collapse.