



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log H-561B

Date: October 15, 1991

In reply refer to: H-91-35

Honorable Jerry R. Curry
Administrator
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

About 3 a.m. Pacific standard time on February 13, 1991, a tractor-semitrailer (cargo tank) overturned as the vehicle was traveling on a main urban roadway in Carmichael, California.¹ At the time of the accident, the cargo tank contained about 8,800 gallons of automotive gasoline that was being transported by intrastate delivery to a service station. Gasoline from the cargo tank spilled into a nearby drainage ditch and entered the underground drainage system. Gasoline vapors ignited from an undetermined ignition source, and the fire flashed back and engulfed the overturned cargo tank. In addition to the total loss of the tank truck, its cargo, and two parked cars, four homes and their contents were destroyed or heavily damaged by fire, and the residents from a 2-mile-square area were evacuated. Total property damage and cleanup costs were estimated at nearly \$1 million. There were three minor injuries.

The Safety Board's accident investigation determined that the vehicle was traveling 12 to 19 mph over the posted speed limit for the curve, which caused it to overturn. To determine why the driver was traveling at a speed sufficiently excessive to cause an accident, the Safety Board analyzed the driver's background and personal profile, and his training and qualifications. Based on the results of the analysis, the Board concluded that a lapse of attention, for undetermined reasons, by the driver probably led to the operation of his truck at an excessive speed.

In response to the Motor Carrier Safety Act of 1984 (Public Law 998-554, Section 216), the National Highway Traffic Safety Administration (NHTSA) published a study on heavy truck (tractor-trailer combinations) safety.² The study, which recommends research in several areas of heavy truck rollover prevention in the human factors area, noted the following:

¹ The accident report contains more detailed information: "Overturn of a Tractor-Semitrailer (Cargo Tank) With the Release of Automotive Gasoline and Fire, Carmichael, California, February 13, 1991," Hazardous Materials Accident Report NTSB/H2M-91/01.

² Dot HS 807 109 Final Report, March 1987, p. 126.

- o The core portion of the rollover research program would be a carefully planned set of driver/vehicle experiments in which maneuvering conditions approaching rollover are involved.
- o One outcome of the planned research would be a better definition of what the driver can and cannot be expected to do in avoiding rollover.
- o Another outcome would be the identification of those vehicle properties which are instrumental in providing beneficial feedback to the driver. Such feedback properties could be promoted in improved vehicle design practice or, conceivably, included as a requirement in a safety standard.

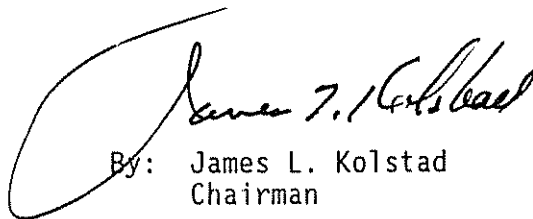
As of August 1991, NHTSA has not acted on the recommendations of this study or commenced this research. The Safety Board is concerned that NHTSA has not acted on the recommendations of its 1987 study to conduct research of human performance factors that may reduce rollovers of tractor-trailer trucks. The Safety Board believes that NHTSA should proceed with the research as recommended in the study.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the National Highway Traffic Safety Administration:

Proceed with and complete the research of human performance factors that may reduce rollovers in heavy trucks (tractor-semitrailer combinations) as recommended in the 1987 Heavy Truck Safety Study prepared in response to Section 216 of Public Law 98-554. (Class III, Longer Term Action) (H-91-35)

Also as a result of its investigation, the Safety Board issued recommendations to the Federal Highway Administration and the Research and Special Programs Administration of the U.S. Department of Transportation; the State of California; to the other States and U.S. Territories; and to Calzona Tankways, Inc.

Chairman KOLSTAD, Vice Chairman COUGHLIN, and Members LAUBER, HART, and HAMMERSCHMIDT concurred in this recommendation.



By: James L. Kolstad
Chairman