



Log H595D SR-1
National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 5, 1998

In reply refer to: H-98-24

Mr. Francis B. Francois
Executive Director
American Association of State Highway and
Transportation Officials
444 North Capitol Street, N.W.
Suite 249
Washington, D.C. 20001

About 5:52 a.m. on February 12, 1997, a doubles truck with empty trailers, operated by Consolidated Freightways, Inc., that was traveling northbound on U.S. Route 41, a four-lane divided limited access highway, near Slinger, Wisconsin, lost control and crossed over the 50-foot depressed median into the southbound lanes. A flatbed truck loaded with lumber, operated by McFaul Transport, Inc., that was traveling southbound on U.S. Route 41 collided with the doubles truck, lost control, and crossed over the median into the northbound lanes. A northbound passenger van with nine adult occupants struck and underrode the right front side of the flatbed truck at the landing gear. A refrigerator truck loaded with produce, operated by Glandt/Dahlke, Inc., that was also traveling northbound, struck the right rear side of the flatbed truck. Although it had snowed from about 8 p.m. to 3 a.m. the night before, it was clear at the time of the accident. Other motorists and the emergency responders to the accident scene reported icy patches in the roadway. Eight of the nine van occupants suffered fatal injuries, and the remaining occupant suffered serious injuries. Two of the three commercial truckdrivers were treated for minor injuries and released; the third refused treatment.¹

Because this was a cross-median accident, the National Transportation Safety Board reviewed some median issues raised by the Slinger accident. The 1996 AASHTO *Roadside Design Guide* warrants for median barriers on high-speed, controlled-access roadways that have relatively flat medians consider traffic volumes, median widths, and accident histories. Based on the standards provided in this guide, the average daily traffic and median width on U.S. Route 41 in the area of the accident indicate that median barriers are not necessary at this location.

¹For further information, read Highway Accident Report—*Multiple Vehicle Crossover Accident. Slinger, Wisconsin, February 12, 1997* (NTSB/HAR-98/01)

The AASHTO *Roadside Design Guide* warrants, however, are based on a 1968 "limited analysis of median crossover accidents" and 1974 research on barrier performance. Like many highway design criteria, the warrants do not address the volume of heavy trucks using the roadway. For the accident area, the 1993 traffic counts show average traffic distributions that include 20 percent trucks. In addition, the warrants do not take into consideration the higher speed limits or changes in the characteristics of the passenger vehicle fleet of recent years. According to the National Highway Traffic Safety Administration, the light truck and van weight class that includes sport utility vehicles now constitutes 30 percent of the passenger vehicle fleet and 40 percent of the new car market.

Some States have recognized these concerns. In June 1997, for example, the California Department of Transportation (Caltrans) changed its policy regarding its freeway median barrier volume/width study warrant.² Caltrans recognized that a 25-percent increase in freeway traffic; changes in vehicle designs; adjustments in driver skills, abilities, and attitudes; and increases in speed limits had altered the historical trend surrounding the probability of cross-median accidents. Caltrans extended its policy to a 75-foot median-barrier-freeway-volume/width-study warrant. Caltrans expects to cut the annual number of fatal cross-median accidents on the State's freeway system in half by this action.

Based on the foregoing information, the Safety Board concluded that current AASHTO median barrier warrants do not take into account the composition and characteristics of the current vehicle fleet.

Therefore, the National Transportation Safety Board makes the following safety recommendation to the American Association of State Highway and Transportation Officials:

Review, with the Federal Highway Administration, the median barrier warrants and revise them as necessary to reflect changes in the factors affecting the probability of cross-median accidents, including changes in the vehicle fleet and the percentage of heavy trucks using the roadways. (H-98-24)

Also, the Safety Board issued Safety Recommendations H-98-8 through -13 to the Federal Highway Administration; H-98-14 through -17 to the National Highway Traffic Safety Administration; H-98-18 to the National Association of Governors' Highway Safety Representatives; H-98-19 through -23 to the American Trucking Associations, the International Brotherhood of Teamsters, and the Motor Freight Carrier Association; H-98-25 to the Wisconsin Department of Transportation; and H-98-26 to the Independent Truckers and Drivers Association, the National Private Truck Council, and the Owner-Operators Independent Drivers Association, Inc.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "to promote transportation safety by conducting independent accident

²Caltrans internal memorandum to all district directors from Traffic Operations, dated June 27, 1997.

investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation H-98-24 in your reply. If you need additional information, you may call (202) 314-6484.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

By: 
Jim Hall
Chairman