

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 26, 1979

Forwarded to:

Mr. David L. Weir
 Director
 Ohio Department of Transportation
 25 South Front Street
 Columbus, Ohio 43216

SAFETY RECOMMENDATION(S)

H-79-46 and -47

On May 6, 1979, about 3:05 a.m. on State Route 2 near Cleveland, Ohio, an eastbound van crossed the median and collided with two westbound automobiles. The van and second automobile slid to rest and burst into flames; the six occupants of the first automobile were killed, and the van driver was injured. The two occupants of the second automobile were injured.^{1/}

At the accident site, the roadway is a six-lane, divided highway, separated by a 36-foot grass median. The road is straight with a 2 percent downgrade for eastbound traffic. The speed limit is 55 mph. Our investigation of this accident also indicated that the nearby segment of State Route 2 in Willoughby, where the median width is 60 feet, has had a significant incidence of accidents. State Route 2 passes through Wickliffe, Willowick, Eastlake, and Willoughby, with an average daily traffic volume of 65,760, 63,300, 47,030, and 54,000, respectively.

Accidents of the same type could be prevented on these segments of highway if median barriers were installed. According to the "Guide for Selecting, Locating, and Designing Traffic Barriers," published by the American Association of State Highway and Transportation Officials (AASHTO), 1977, "For median widths greater than 30 feet, the median barrier use is optional. Medians that are wider than 50 feet do not warrant a barrier unless there is an adverse history of across-the-median accidents.

^{1/} For more detailed information, read "Highway Accident Report - Multiple Vehicle Collision and Fire, State Route 2, near Cleveland, Ohio, May 6, 1979." (NTSB-HAR-79-7)

It should be noted that after a warranted barrier is installed, accident severity will decrease; however, accident frequency will generally increase since the space available for return to the road maneuvers is decreased."

A 1964 study "Effectiveness of Median Barriers," by Rodger T. Johnson of the State of California Traffic Department states, "Median barriers are normally installed on freeways and expressways when one or more of the following conditions exist:

1. When the traffic volume exceeds 60,000 vehicles per day.
2. When there is a high number or rate of cross-median accidents. (A rate of 0.46 cross-median accidents involving opposing vehicles per mile per year, or 0.12 fatal cross-median accidents per mile per year is considered high.)"

During 10 years in the 3.96-mile segment of State Route 2 from Wickcliffe to Eastlake, there were 5 across-the-median accidents which resulted in 16 fatalities, 11 injuries, and 15 damaged vehicles. This is an average of 0.126 fatal across-the-median accidents per mile per year. Additionally, there were two across-the-median accidents: One in 1978 and one in 1976 that resulted in one claimed injury. There were seven fixed-object accidents, computer coded as "on other roadway (divided highway)," that had the potential of resulting in fatal head-on collisions. Based on the accident history, the Safety Board believes that a median barrier is warranted in the area of the 36-foot median.

In the last 3 years, in the segment of State Route 2 within Willoughby where the median width is 60 feet, there were two across-the-median accidents which resulted in one injury. Additionally, there were seven fixed-object accidents, computer-coded as "on other roadway (divided highway)." Although a barrier would be termed unwarranted by the AASHTO guide, the Safety Board believes that a complete engineering study of this 60-foot median segment should be made to determine where a barrier is warranted because of the accident history.

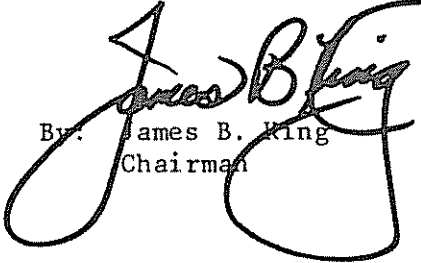
The Safety Board understands that preliminary plans are being developed to resurface this roadway and upgrade some safety features as a Resurfacing, Restoration & Rehabilitation project. Thus, construction of median barriers as a part of that project would be timely.

Therefore, the National Transportation Safety Board recommends that the State of Ohio:

Install a median barrier in the 36-foot median of State Route 2 within Wickliffe, Willowick, and Eastlake . (Class II, Priority Action) (H-79-46)

Conduct an engineering study of the 60-foot median segment of State Route 2 through Willoughby and install median barriers in those locations where there is an adverse history of across-the-median accidents which would warrant such installations. (Class II, Priority Action) (H-79-47)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.


By: James B. King
Chairman

