

H-770 AI-4

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 3, 1981

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Forwarded to:

Honorable M. Slade Caltrider  
State Highway Administrator  
State Highway Administration  
Maryland Department of Transportation  
300 W. Preston Street  
Baltimore, Maryland 21201  
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SAFETY RECOMMENDATION(S)

H-81-48 through 50

On February 28, 1981, a passenger car traveling south on Kenilworth Avenue (State Route 201) in Cheverly, Maryland, vaulted the approach guardrail leading to the bridge over the Amtrak Northeast Corridor tracks. The car landed on a southbound track and was hit by a passenger train traveling at 107 mph. The locomotive derailed and the train traveled 3,700 feet before coming to a stop. The driver of the car was killed and 11 of the 50 occupants of the train were injured.

The approach guardrail to the east parapet of the bridge for southbound traffic on Kenilworth Avenue was 117 feet long with post spacing of 12 feet 6 inches; it was not attached to the bridge parapet. The height averaged 20 inches and the end section was not properly flared. The low height was partly due to sod and soil buildup over a long period of time. After the accident, 65 feet of the guardrail closest to the parapet was replaced with a post spacing of approximately 6 feet 3 inches. The end remained unattached. The height of the replacement sections averaged 23 inches above the ground.

Neither the existing guardrail nor the replacement guardrail met present guidelines promulgated by the American Association of State Highway and Transportation Officials (AASHTO). 1/ As a result of the Safety Board's questioning of this practice in discussions with the division office of the Federal Highway Administration (FHWA), and as a result of FHWA discussions with the State Highway Administration of the Maryland Department of Transportation, the guardrail was modified. The modification raised the height and attached the guardrail to the parapet. We appreciate this speedy reaction to correct this deficiency.

1/ American Association of State Highway and Transportation Officials, Guide for Selecting, Locating, and Designing Traffic Barriers, (Washington, D.C.: The Association, 1977).

The investigation also revealed that approach guardrails were not attached to the west parapet on this bridge, the east parapet on northbound Kenilworth Avenue, and the bridge parapets over nearby U.S. Route 50. Likewise, a subsequent survey of some other highway bridges in Maryland revealed that many had approach guardrail which did not meet current Federal guidelines. The FHWA has told the Safety Board that Maryland does not have a program for systematically upgrading bridge approach guardrail to current standards. Attachment of approach guardrail to bridge ends has long been recognized as an effective means for redirecting vehicles to prevent direct impact with bridge parapets or abutments.

Therefore, the National Transportation Safety Board recommends that the State Highway Administration of the Maryland Department of Transportation:

Routinely remove soil buildup adjacent to guardrail systems so that the design height of the system is maintained. (Class II, Priority Action) (H-81-48)

Strengthen management procedures to insure that damaged guardrail is replaced to meet, at a minimum, the latest guidelines of the American Association of State Highway and Transportation Officials. (Class II, Priority Action) (H-81-49)

Develop and implement a program for systematically upgrading bridge approach guardrail to presently accepted American Association of State Highway and Transportation Officials guidelines. (Class II, Priority Action) (H-81-50)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and GOLDMAN, Members, concurred in these recommendations. BURSLEY, Member, did not participate.

  
By: James B. King  
Chairman