

Log H-508



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Date: October 16, 1987

In reply refer to: H-87-50 through -54

Mr. James A. Wilding
General Manager
Metropolitan Washington Airport
Authority
Hangar 9, National Airport
Washington, D.C. 20001

On November 20, 1986, at approximately 6:00 p.m. e.s.t. a Hertz shuttle bus traveling along the terminal building entrance roadway at Washington Dulles International Airport crashed into a signpost supporting a guide sign located in the gore area between the arrival and departure ramps. The left front corner of the bus was penetrated 6 feet, and the driver was severely injured; five bus passengers were injured. Airport rescue and fire personnel responded almost immediately. A fire started after the vehicle was evacuated and was quickly extinguished.

The driver had left the Hertz rental area located on the North Service Road a few minutes earlier with eight or more passengers. She entered the terminal entrance roadway from the bus parking exit roadway. The speed limit on this section of highway was 15 mph. It was raining at the time, the relative humidity was 96 percent, and the windshield was fogged up. There was no roadway lighting.

The signpost struck by the bus was located 25 feet from the tip of the approach nose of the gore area. Supported by two 8-inch tubular steel posts, the sign was imbedded in concrete below ground level. Each post was less than 2 feet from the edge of the nearest pavement. The curbing, which delineated the gore, was 2 to 3 inches high and easily mountable by a vehicle. White demarcation lines extended 28 feet from the tip of the approach nose. There was no crash cushion or attenuator in front of the posts. Since the accident, a Fitch Inertial Barrier System (free standing sand-filled plastic containers) has been installed.

The signposts were nonbreakaway and nonfrangible; i.e., when hit by a vehicle the posts would remain standing and the vehicle probably would be severely deformed. There were other signposts similarly located in gore areas and embankments in the airport roadway system. At one location the signpost was "protected" by large truck tires. 1/ At another location, an additional sign had been installed on the original signpost severely limiting the safety effectiveness of the frangible supports. Still another sign had a multiple support system with outdated safety features. None of the single post-mounted signs were of the

1/ Since the accident, the tires have been removed and a "Bullnose Attenuator" has been installed. This consists, in part, of a steel W-section shaped into a bulbous front.

breakaway type. Investigators also noticed that some recently installed guardrails did not meet current Federal highway safety standards and that the speed limit signs did not reflect the limits imposed by the highway alignment. It is important when designing highway appurtenance protection that realistic speeds be used so that proper cushioning will be afforded in case of an accident.

Investigators also determined that although the roadway system pavement markings were in good condition at the time of the accident, the reflectorized lines lost much of their effectiveness in rain. Without good roadway guidance, any hazards in or along the roadway increase the danger to motorists and their passengers. The National Transportation Safety Board believes that raising pavement markers and delineators and/or providing illumination would improve guidance at night and during rain. Neither method was in use on the terminal roadway system, although good illumination was provided on less traveled and less complex roadways in the airport complex. For example, the North Service Road which services Hertz and other car rental agencies was well lighted.

Before the transfer of the airports from the Federal Aviation Administration (FAA) to the Metropolitan Washington Airport Authority (Authority), the FAA police investigated accidents at the airport and completed standard accident report forms used by police agencies in Virginia. However, a copy of these reports were not forwarded to the Virginia Department of Motor Vehicles. The reports were forwarded to the FAA safety manager at National Airport and were stored in a general file with other incident reports that occur on the airport properties. The record system was not used for surveillance, evaluation, or planning for improved highway safety.

The Safety Board has been informed that since the Authority has assumed responsibility for the operation of the airports, an improved highway accident surveillance system has been initiated. The Safety Board encourages full development of the system so that the Authority will have a basis for implementing an effective accident reduction program through improvement of highway design features and other countermeasures.

Recent announcements by the Authority indicate that the Washington-Dulles Airport is growing rapidly and that changes to the facilities are being made to cope with the growth. With this expansion, which includes roadway facilities, the Safety Board believes that the existing highway facilities should be upgraded to meet current Federal safety standards, and that the Authority should develop an accident evaluation and surveillance system which will allow officials to identify and correct safety deficiencies.

Therefore, the National Transportation Safety Board recommends that the Washington Metropolitan Airport Authority:

Review all existing highway appurtenances such as signs and sign supports, guardrails, and crash attenuators to determine if they meet Federal current standards, and take immediate action to upgrade those appurtenances to comply with such standards. (Class II, Priority Action) (H-87-50)

Review the existing signs and markings to determine whether they provide positive guidance to the users of the roadway facilities under various light and weather conditions and upgrade or change signs and markings if improvements are needed. (Class II, Priority Action) (H-87-51)

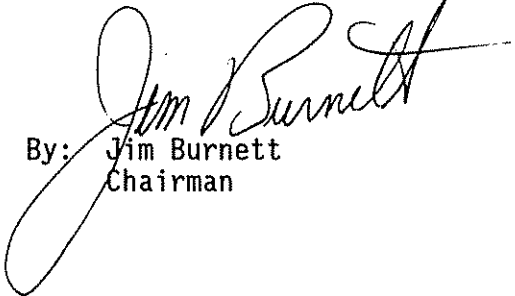
Review the existing roadways to determine if lighting can facilitate the motorist's driving and can improve highway safety. Install lighting in areas where hazards exist. (Class II, Priority Action) (H-87-52)

Establish and regularly monitor an accident record system to provide the necessary information for determining the need for highway safety improvements. (Class II, Priority Action) (H-87-53)

Implement appropriate procedures to assure that all proposed roadways on the airports under your jurisdiction comply with applicable standards and guidelines specified in the Manual on Uniform Traffic Control Devices and the American Association of State Highway and Transportation Officials Guide for Selecting, Locating, and Designing Traffic Barriers. (Class II, Priority Action) (H-87-54)

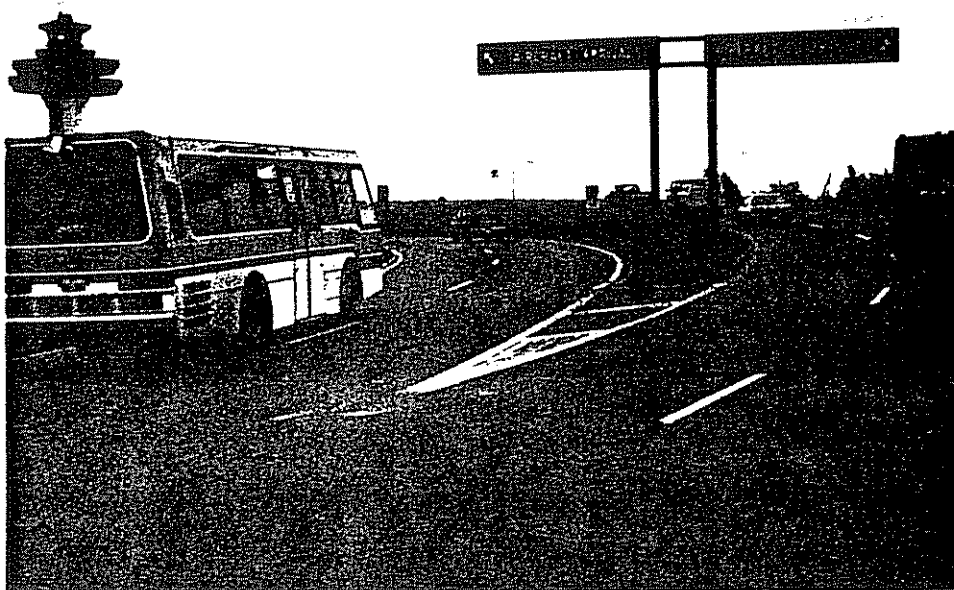
The National Transportation Safety Board is an independent Federal agency with the statutory responsibility ". . . to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of our safety recommendations. Therefore, we would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations H-87-50 through -54 in your reply.

BURNETT, Chairman, GOLDMAN, Vice Chairman, LAUBER, NALL, and KOLSTAD, Members, concurred in these recommendations.

By: 
Jim Burnett
Chairman

Attachment

PHOTOGRAPHS OF ACCIDENT SITE



ACCIDENT SITE SHOWING SIGNING AND LACK OF CRASH CUSHIONS



SIGN SUPPORTS SHOWING PREVIOUS IMPACT MARKS