

H-301

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: October 6, 1981

Forwarded to:  
Honorable Harry R. Hughes  
Governor of Maryland  
Annapolis, Maryland 21401

SAFETY RECOMMENDATION(S)

H-81-71

About 5:55 p.m. on April 20, 1981, a scheduled intercity bus with 34 passengers onboard was southbound on Interstate Route 95 (I-95) en route to Washington, D.C., via Silver Spring, Maryland. As the bus approached the Interstate Route 495 (Capital Beltway) interchange, the traffic ahead in the right lane slowed and came to a stop. The bus failed to stop, crashed into the rear of the automobile ahead of it, and precipitated a four-car, front-to-rear-end collision. Two of the automobiles burst into flames which quickly spread to and engulfed the bus after it had been evacuated. Three occupants of the automobile struck by the bus were killed. The drivers of the other three automobiles, the busdriver, and the 34 bus passengers received minor injuries. 1/

The busdriver stated that the bus arrived in Baltimore, Maryland, about 20 minutes behind schedule because of traffic delays encountered at toll booths and arrived at Laurel, Maryland, about a half hour late. About 5:50 p.m., the bus left Laurel and was southbound in the far right lane of I-95 en route to Silver Spring. The weather was clear, visibility was good, and the highway was dry. According to the busdriver, the bus was traveling at 50 mph in moderate to heavy traffic when, about a mile from the exit ramp leading into westbound I-495, traffic in the right lane slowed and came to a stop. The busdriver said he was approximately 100 feet behind an automobile when the traffic stopped. The bus failed to stop, however, and crashed into the rear of a 1981 Chevrolet Chevette. The Chevette was pushed into the rear of a 1976 Dodge Colt, which in turn was pushed into the rear of a 1978 Dodge Aspen, which in turn struck the rear bumper of a 1980 Ford Mustang.

I-95 is a north/south, Federal-aid, primary highway that traverses Maryland from the northeast corner of the State to the Washington, D.C., area where it joins the Capital Beltway system encircling the District of Columbia before continuing south into Virginia. Although I-95 was originally planned to extend south, past the Capital Beltway, into the District of Columbia, the plan was abandoned and construction of I-95 was discontinued at the Capital Beltway. As a result, southbound I-95 traffic is channeled onto the Capital Beltway. Eastbound traffic is

1/ For more detailed information, read Highway Accident Report--"Continental Trailways, Inc., Scheduled Intercity Bus/Multiple-Vehicle Collision and Fire, Interstate Route 95, Near Beltsville, Maryland, April 20, 1981" (NTSB-HAR-81-5).

designated as a continuation of I-95 and westbound traffic is designated as I-495. The continuation of I-95 traffic exits from I-95 onto two ramps; westbound traffic uses a one-lane cloverleaf design and the eastbound traffic uses a diamond-type exit ramp with access to a U-turn area.

An hourly traffic volume count taken by the Maryland Department of Transportation (DOT) on the date of the crash between 5 p.m. and 6 p.m. on I-95 about 12 miles north of the crash site disclosed that there were 3,870 southbound vehicles, which was a 53-percent increase over the 1980 average count for that time and place. Accident statistics for a 1.3-mile section of southbound I-95, which included the crash site, revealed that from 1977 through 1979 there were 32 traffic accidents. Twenty-three of these were property damage accidents and 9 were personal-injury accidents; there were no fatal accidents. Rear-end collisions accounted for 7 of the 32 accidents. An analysis of the accidents on this section of the highway by the Maryland DOT indicated that they were not abnormal in number or severity when compared to the accident rates of similar highways within the State.

Maryland State Police familiar with this section of I-95 said that there were often traffic delays and backups during peak traffic hours, especially in the right lane of southbound I-95. These delays and backups apparently resulted from an inability of the interchange ramp from southbound I-95 to westbound I-495 to accommodate the volume of vehicles traveling through this location.

A design study report <sup>2/</sup> prepared by the Maryland DOT, which proposed future improvements at the I-95/495 interchange, stated, "the existing interchange is not adequate to serve the resulting traffic movements and volumes. The turning movements to travel east and west (and return) on the Capital Beltway have greatly increased over prior forecasts . . . ." The study proposed the following improvements: (1) construction of a directional connecting ramp from southbound I-95 to the eastbound roadway of the Capital Beltway (I-95); (2) widening of ramps from southbound I-95 to westbound I-495, and from eastbound I-495 to northbound I-95; (3) elimination of the U-turn at the end of I-95, and (4) the construction of a park-and-ride facility for commuters.

The Maryland DOT received design approval on March 23, 1981, for the proposed improvement from the U.S. Department of Transportation, Federal Highway Administration (FHWA). The FHWA indicated that the project is in the State's consolidated transportation program for FY 1981-86 as a project under development and evaluation. It appears unlikely that the project will be built in the near future. <sup>3/</sup> The FHWA has indicated that the project will be 2 years in the design stage before a priority will be assigned.

The I-95/495 interchange was designed and constructed under the assumption that I-95 would extend south of the Capital Beltway into Washington, D.C., and that the interchange would be part of a continuing north/south highway system rather than the termination point of southbound I-95. Since it was not built to accommodate a large flow of through traffic from I-95, the traffic flow on the exit ramp from southbound I-95 to westbound I-495 increases beyond the ramp's capacity during peak hours of traffic and

<sup>2/</sup> "Design Study Report, FAP I-95-3 (64)6 I-95/495 Interchange Reconstruction and Park and Ride Facility," Maryland Department of Transportation, State Highway Administration, June 1980.

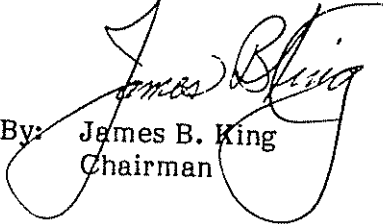
<sup>3/</sup> Letter from FHWA Division Administrator, Region 3, to NTSB Investigator-in-Charge, received May 9, 1981.

causes the flow of southbound I-95 traffic in the right lane to be disrupted by coming either to a complete stop or to a significantly reduced speed. To what degree and at what distance upstream this condition manifests itself depends on the traffic density, but wherever this condition exists, it increases the probability of traffic accidents and is clearly undesirable. Because the crash probably would not have occurred if the traffic had not come to a halt in the right lane of southbound I-95, and since this traffic backup was caused by the inadequate capacity of the interchange to accommodate the volume of southbound I-95 traffic exiting to westbound I-495 during a peak traffic hour, the Safety Board concludes that the inadequate interchange was a factor in this accident. The already planned safety improvements at the interchange should eliminate the traffic backups.

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

Review conditions at the I-95/495 interchange and determine if the planned safety improvements should be expedited. (Class II, Priority Action) (H-81-71)

KING, Chairman, DRIVER, Vice Chairman, and BURSLEY, Member, concurred in this recommendation. GOLDMAN, Member, dissented. McADAMS, Member, did not participate.

By:  James B. King  
Chairman

PATRICIA A. GOLDMAN, Member, concurring and dissenting:

I concur in the adoption of this report and the probable cause of the Beltsville, Maryland, accident. However, I do not believe recommendation H-81-71 is justified.

Our investigation disclosed that the safety improvement project for the I-95/495 interchange is part of the State of Maryland's consolidated transportation program and is "under development and evaluation." I support the completion of this project as soon as practical.

Our investigation did not include an evaluation of Maryland's system for reviewing projects and establishing priorities. Therefore, it seems inappropriate to second guess the State's plans for the project since they are apparently well aware of the problem.

