

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 26, 1978

Forwarded to:

Honorable Thomas D. Moreland
Commissioner
Georgia Department of
Transportation
No. 2 Capitol Square
Atlanta, Georgia 30334

SAFETY RECOMMENDATION(S)

H-78-64

On the afternoon of June 20, 1977, closure of a through lane in a construction zone on southbound I-75 south of the city of Atlanta, Georgia, resulted in traffic delays on that roadway. As traffic volumes increased at 3:00 p.m., the congestion caused traffic to back up throughout the I-75 southbound construction zone, as well as the section of I-75 southbound before the construction zone. The area included the I-75 and I-285 interchange which was located just southeast of the Atlanta International (Hartsfield) Airport. That congestion resulted in the formation of a queue back through the acceleration lane from the I-285 eastbound to the I-75 southbound connecting ramp. The queue then extended up the ramp, past the deceleration lane of I-285 eastbound, and onto the I-285 eastbound right, through lane for about 1/2 mile west of the interchange.

An eastbound tractor-semitrailer combination unit approached the standing traffic between 35 and 45 mph and collided with and overrode the last automobile in the queue. The automobile was pushed into the vehicle ahead and two other vehicles to its front were subsequently involved. No fire ensued. Four persons in the first automobile were killed and one other was hospitalized. A second driver was injured slightly.

The roadway alignment in this area is such that aircraft in their final approaches to runways 27L and 33 at Atlanta International Airport overfly the roadway at low altitudes.

The tractor-semitrailer combination unit (truck) was owned by Cates Trucking, Inc., of Swayzee, Indiana. The truck was being operated by Cates under a trip-lease agreement with J. H. Ware Trucking, Inc., of Fulton, Missouri, an Interstate Commerce Commission authorized for-hire motof common carrier.

Postcrash inspections revealed that the truck was well maintained with no apparent mechanical defects. The brakes were found to be in good condition and properly adjusted.

On the day of the accident, paving operations on I-75 southbound required the redirection of one through-traffic lane onto a temporary shoulder lane in order to maintain two lanes of travel. About 1:30 p.m. this shoulder usage was stopped because of space restrictions as paving operations approached an overpass. From this time onward, only one lane of southbound I-75 traffic was maintained. The restricted flow resulted in the standing queue on the connected I-285 eastbound right lane.

The closing of all but one lane of traffic on I-75--a major interstate--with the resulting 3 1/2-mile traffic backup was not in compliance with Federal Highway Administration (FHWA) recommended practices, 1/ the Manual on Uniform Traffic Control Devices (MUTCD) policies regarding construction zones, or with Highway Safety Program Standard No. 12, "Highway Design, Construction and Maintenance."

The FHWA recommended practice of "Acceptable Levels of Service" states, "There are occasions when the amount of traffic past a construction site is not predictable. When this occurs, a rule-of-thumb to determine how much street can be closed is that no vehicle in either lane should suffer more than a 90 second delay."

Another section titled Freeway Maintenance states, "Special consideration must be given to closing lanes for freeway maintenance. In most urban areas freeway lanes cannot be closed during peak hours, and closing lanes even during nonpeak hours often creates extensive congestion."

Existing signing and marking standards for construction zones are designed to meet the information needs of drivers operating on rural, low-volume roadways. 2/ These rural operations usually afford more stopping distance and lateral clearances to accommodate driver reactions. Additionally, the rural area usually contains fewer distractions and control devices to compete for a driver's attention. In spite of these differences, current traffic management strategies at urban freeway construction zones are mere modifications of rural, low-volume road standards. 3/

The Georgia DOT should review its maintenance policies and practices and assure that they comply with the standards and guidelines which have been developed and propagated for the purposes of avoiding the situation that made this accident possible. Efforts should be made to assure that highway maintenance personnel and contractors are aware of and make provisions in their planning and work programs for (1) identifying

1/ FHWA TS-77-204 "Office Function Volume 1 - Traffic Controls in Construction and Maintenance Work Zones," issued May 1977, p. 26.

2/ "Evaluation of a Prototype Safety Warning System on the Gulf Freeway," C.L. Dudek, et al., Texas Transportation Institute, Texas A&M University, Research Report 165-13, July 1974.


3/ Ibid.

problem areas in heavy high-speed highway zones, and (2) either rerouting traffic or working around the peak volume hours.

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

Incorporate the policies, recommended practices, and standards contained in FHWA's guidelines and the Manual on Uniform Traffic Control Devices related to the control of traffic in maintenance and construction zones. (Class II, Priority Action) (H-78-64)

KING, Chairman, McADAMS, HOGUE, and DRIVER, Members, concurred in the above recommendations.


By: James B. King
FOR Chairman