

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: September 26, 1978

Forwarded to:  
Honorable Karl S. Bowers  
Administrator  
Federal Highway Administration  
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)  
H-78-61 through -63

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 motor 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.

The 27-year-old truckdriver had been employed by Cates Trucking, Inc., since January 1977. He held a valid Indiana chauffeur's license as required for the operation of a vehicle of the truck's size and weight configuration. Indiana authorities reported no traffic violation convictions on his driver's record. The driver stated that before this accident, he had been involved in one accident in 1972 and since had no additional incidents. He was medically qualified to drive based on a postaccident examination; however, he was operating with a forged medical certificate.

On June 19, 1977, the truckdriver left the Cates terminal in Swayzee, Indiana, and traveled without a semitrailer about 16 miles to Kohomo, Indiana, where he picked up a loaded semitrailer. The cargo was destined for Tampa, Florida, with an intermediate drop in Jacksonville, Florida. A reconstruction of the driver's trip based on the driver's log, service receipts, witness statements, and trip records indicated that this driver had exceeded both the on-duty hours and driving hours. He had driven about 608 miles following his last 8 consecutive hours off duty at the time of the accident. During this 26-hour period, he had been driving for 11 1/2 hours and on duty -- not driving -- for 14 1/2 hours. The driver carried two log books, neither of which was accurate.

The Safety Board believes that if the truckdriver had been attentive to traffic conditions and kept his eyes on the traffic ahead, the accident would have been avoided. The truckdriver stated that he was aware of slowing traffic. Also, he was probably more than 2 1/2 car lengths behind the traffic ahead of him when he "glanced" at a low flying aircraft, because traffic ahead had already stopped before he redirected his attention from the aircraft to the traffic ahead. In his fatigued condition, his perception and reaction capabilities were probably so deteriorated that it took him longer to comprehend and react to the traffic condition ahead.

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. This 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 3½-mile traffic backup was not in compliance with Federal Highway Administration (FHWA) recommended practices, 1/ the

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

Manual on Uniform Traffic Control Devices (MUTCD) policies regarding construction zones, or Highway Safety Program Standard No. 12, "Highway Design, Construction and Maintenance."

The FHWA recommended practices 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."

Construction zone conditions on interstate roads similar to those on I-75 are rapidly becoming commonplace.

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/

Therefore, the National Transportation Safety Board recommends that the Federal Highway Administration:

Increase its oversight function of the Georgia Department of Transportation and, if necessary, help them develop plans for maintenance and construction projects to assure compliance with FHWA's standards and practices. (Class II, Priority Action) (H-78-61)

Implement, as soon as possible, new concepts, methods, and approaches currently being developed through FHWA's Office of Research Project that will provide traffic management systems in construction zones more specifically tailored to urban driver information needs. (Class II, Priority Action) (H-78-62)

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/ "Traffic Management During Urban Freeway Maintenance Operations," Research Proposal, Texas Transportation Institute, Texas A&M University, Research Study No. 2-18-78-228, 1977.

Direct its Bureau of Motor Carrier Safety to increase surveillance of motor carrier operations under its jurisdiction and assure that they are in compliance with existing regulations for driver qualifications and hours of service. (Class I, Urgent Action) (H-78-63)

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

*Francis H. McAdams*  
By: James B. King  
Chairman  
*for*