



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: May 24, 2002

In reply refer to: H-02-06

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The National Transportation Safety Board is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The Safety Board is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses training law enforcement personnel about safe traffic control procedures within highway work zones. The recommendation is derived from the Safety Board's investigation of the work zone collision between a tractor-semitrailer and a Tennessee Highway Patrol (THP) vehicle in Jackson, Tennessee, on July 26, 2000,¹ and is consistent with the evidence it found and the analysis it performed. As a result of this investigation, the Safety Board has issued five safety recommendations, one of which is addressed to the National Sheriffs' Association, the International Association of Chiefs of Police, and the American Association of State Highway and Transportation Officials. Information supporting this recommendation is discussed below. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement this recommendation.

About 8 a.m. on July 26, 2000, a work zone project began near milepost 85.6 on eastbound Interstate Highway 40 (I-40) in Jackson, Tennessee. This was the third day of an

¹ For more information, read: National Transportation Safety Board, *Work Zone Collision Between a Tractor-Semitrailer and a Tennessee Highway Patrol Vehicle, Jackson, Tennessee, July 26, 2000*, Highway Accident Report NTSB/HAR-02/01 (Washington, DC: NTSB, 2001).

operation that consisted of milling rumble strips into the shoulder pavement. The three construction vehicles that were involved were positioned along the outside shoulder of the interstate. Two THP vehicles, with their emergency lights flashing, were also present to assist with enforcement and traffic control. The THP vehicles were stopped 450 feet and 950 feet, respectively, behind the construction vehicles along the right lane.

About 8:52 a.m., an eastbound 1999 International truck tractor pulling a loaded semitrailer, and traveling at a driver-estimated speed of 65 mph in a 55-mph work zone, collided with the trailing THP vehicle. Witnesses reported that the patrol car exploded and caught fire at impact. The patrol car was pushed approximately 192 feet before it came to rest in the median. The tractor-semitrailer continued through a 61-foot depressed earthen median and into the westbound lanes, where it collided with a 1997 Chevrolet Blazer. The tractor-semitrailer then continued across the travel lanes and came to rest in a wooded area on the north side of I-40. The State trooper in the THP vehicle was killed, and the Chevrolet driver was seriously injured.

The National Transportation Safety Board determines that the probable cause of this accident was the driver's incapacitation, owing to the failure of the medical certification process to detect and remove a medically unfit driver from service. Contributing to this accident were the lack of planning and coordination between the Tennessee Department of Transportation, its contractors, and the Tennessee Highway Patrol regarding work zone projects; the lack of traffic control training, specific to highway work zone operations, provided to Tennessee Highway Patrol officers; and the failure of the Tennessee Department of Transportation and its contractors to protect all work zone personnel and road users.

Law enforcement personnel are typically trained to perform short-term traffic control functions for specific events. These functions include providing enforcement and traffic control support at accident scenes, at intersections with malfunctioning or missing traffic control devices, in work zones, when escorting permitted (oversize) vehicles, and during special events that generate heavy traffic. However, the Safety Board found that the THP officers lacked the guidance and training necessary to provide safe and effective traffic control for the unique situations found in long-term work zone environments. Work zone operations are not covered in THP General Order 405, which governs traffic direction and control.

As part of its investigation, the Safety Board conducted a limited survey of the police work zone training practices in Maryland, Delaware, Connecticut, and New Jersey. Among those surveyed, only New Jersey had officers who are trained in Part VI of the *Manual on Uniform Traffic Control Devices* (MUTCD) and other traffic control safety standards. New Jersey State Police assigned to the construction unit are authorized to enforce the rules and regulations governing traffic control and safety in highway work areas. The officers may even inspect construction sites to ensure that contractors comply with the traffic control plans established for their projects. According to the supervising engineer of the New Jersey Department of Transportation Office of Capitol Project Safety, having trained officers patrolling New Jersey work zones has resulted in more uniform implementation of traffic control plans, better control of construction projects, and increased safety for workers and the traveling public.

Instruction and training similar to that given to the New Jersey construction unit would have benefited the THP officers assigned to the milling operation in Jackson. Prior to the milling

operation, the Dement Construction Company foreman advised the THP officers that the operation would involve a “mobile lane closure.” By this, he meant that all of the construction vehicles would be positioned on the shoulder of the highway and that traffic control efforts would be directed toward informing motorists ahead of time of the operation and keeping them away from the shoulder and a safe distance from the milling operation. Although the construction foreman indicated that he did not intend that the THP close the right lane, the phrase “mobile lane closure” could easily be construed to mean “close the lane.” “Mobile lane closure” is not a term used in the MUTCD, nor was a mobile operation mentioned in the Jackson traffic control plan. Yet, the THP did not ask for clarification and proceeded to position their vehicles behind the construction vehicles in an unsafe manner. The Safety Board concludes that had the THP officers received work zone traffic control training, they may have asked the construction foreman for clarification on the traffic control strategy to be used that day. The Safety Board further concludes that had the THP officers received work zone traffic control training, they would have realized the hazards of positioning their vehicles in the lane behind the highway construction vehicles.

Since the Jackson accident, the THP has worked with the Federal Highway Administration (FHWA) to develop training programs on MUTCD traffic control strategies for its supervisors and officers. The Safety Board supports the efforts of the THP and the FHWA to reduce work zone-related accidents through training. This effort places Tennessee in the forefront on the work zone training issue because, as the FHWA’s survey on the use of uniformed police officers indicates, three-fourths of responding State agencies do not have a program in place or under development to train police officers on work zone safety standards. New Jersey has adopted such a training program and believes that it has contributed to the implementation of more uniform traffic control plans and better controlled construction projects and has also led to a significant reduction in work zone-related fatalities.

Therefore, the National Transportation Safety Board recommends that the National Sheriffs’ Association, the International Association of Chiefs of Police, and the American Association of State Highway and Transportation Officials:

Work with the Federal Highway Administration to develop a model training program for law enforcement personnel that addresses highway work zone safety. At a minimum, the training program should incorporate material from Part VI of the *Manual on Uniform Traffic Control Devices* and information concerning procedures and terminology typically used by highway engineers in establishing and evaluating work zone operations. (H-02-06)

The Safety Board also issued safety recommendations to the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Tennessee Department of Transportation. In your response to the recommendation in this letter, please refer to H-02-06. If you need additional information, you may call (202) 314-6607.

Chairman BLAKEY, Vice Chairman CARMODY, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

By: Marion C. Blakey
Chairman