



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 30, 2004

In reply refer to: H-04-26

Honorable Jeffrey W. Runge, MD
Administrator
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

On July 16, 2003, about 1:46 p.m. Pacific daylight time, a 1992 Buick LeSabre, driven by an 86-year-old male, was westbound on Arizona Avenue, approaching the intersection of Fourth Street, in Santa Monica, Los Angeles County, California. At the same time, a 2003 Mercedes Benz S430 sedan, occupied by a driver and front-seat passenger, was also westbound on Arizona Avenue and had stopped for pedestrians in a crosswalk on Fourth Street at the intersection with Arizona Avenue. The Buick struck the left rear corner of the Mercedes, continued through the intersection, and drove through a farmers' market, striking pedestrians and vendor displays before coming to rest. As a result of the accident, 10 people were fatally injured, and 63 people received injuries ranging from minor to serious. The Buick driver and both Mercedes occupants were uninjured.¹

The National Transportation Safety Board determined that the probable cause of this accident was the failure of the Buick driver to maintain control of his vehicle due to his unintended acceleration. Contributing to the severity of the accident was the lack of a barrier system to protect pedestrians in the Santa Monica Certified Farmers' Market area from errant vehicles.

The accident vehicle was not equipped with an event data recorder (EDR), nor was it required to be. Had the accident vehicle been equipped with an EDR, the recorder would probably have collected valuable information about this accident. Driver and witness statements indicate that an unintended acceleration, initiated by pedal misapplication, most likely led to the accident. However, precise information about the Buick driver's actions before and during the collision with the Mercedes is unavailable. Similarly, the driver's precise actions—for example, whether he steered, braked, or accelerated—while traversing the farmer's market are not known. Additionally, how the vehicle was finally brought to a stop cannot be determined. While preliminary observations suggested that the driver's age or medical condition might have contributed to the accident, no age-related or medical factors were identified during the

¹ For additional information, read National Transportation Safety Board, *Rear-End Collision and Subsequent Vehicle Intrusion Into Pedestrian Space at Certified Farmers' Market, Santa Monica, California, July 16, 2003*, Highway Accident Report NTSB/HAR-04/04 (Washington, DC: NTSB, 2004).

investigation. As a result, determination of the cause of the accident driver's actions had to be based on analysis of the limited investigative information, such as witness statements, available. Therefore, the Safety Board concluded that, had the accident vehicle been equipped with an EDR, a significantly higher level of science could have been applied to assessing and understanding the driver's behavior, as well as its contribution to this accident and the broader issue of unintended acceleration.

As in most accidents, the role of human factors in the Santa Monica accident could not be definitively determined or completely understood. By providing more comprehensive data on driver performance and behavior, EDRs assist safety researchers, accident investigators, and automotive designers in developing effective means for preventing similar occurrences. Better information about driver inputs and responses helps researchers understand whether certain brake and throttle geometry relationships affect the accident rate and whether certain drivers are at higher risk for performance-related accidents.

In addition, by providing prompt and impartial crash-related information, EDRs benefit law enforcement personnel, who are responsible for determining the facts and circumstances of highway accidents. Manufacturers can also use such data to improve vehicle design and to assist in the diagnosis of vehicle systems. EDR data have value for the health care community, which can base on-site injury triage decisions on more accurate and complete information, and assist in the deployment of appropriate emergency services by triggering automated systems that alert responders to the nature of an incident. Private vehicle owners have access to EDR information on how their vehicles have been operated and whether vehicles have been in previous crashes. Thus, vehicle EDRs provide qualitative and quantitative information critical to improving highway safety.

Recent integration of the event recording function with the crash detection and deployment functions of automotive air bag system controls has provided a hitherto unavailable source of unbiased, factual information. Some U.S. vehicle manufacturers have integrated limited event recording capability into their products by including this functionality in the vehicle's air bag control system. However, the parameters recorded and the manner in which the data are accessed are not uniform. Through years of experience with EDRs in the aviation, rail, and marine modes of transportation, the Safety Board and the transportation industry have learned a great deal about the effective integration and use of recording technology. Establishing industry standards for recording in these modes has been critical to effective EDR implementation. Industry standards ensure consistency and compatibility and prevent the unnecessary and inefficient proliferation of multiple formats and configurations.

The National Highway Traffic Safety Administration (NHTSA), the Institute of Electrical and Electronics Engineers, and the Society of Automotive Engineers have efforts under way that provide a standardized platform to build upon, thereby ensuring that the benefits of EDRs can be realized quickly and efficiently for all light-duty vehicles. NHTSA's recently announced notice of proposed rulemaking regarding EDR standards for light-duty vehicles is a welcome step forward and is necessary to ensure the timely and efficient implementation of EDR technology into the highway transportation system. In that notice of proposed rulemaking, NHTSA has indicated that it does not propose to require that newly manufactured vehicles be equipped with EDRs. It has also predicted that 65 to 90 percent of new vehicles will be equipped with EDRs. The Safety Board is concerned that, unless installation of EDRs is mandatory, collection of national crash data will be incomplete. Effectively developing and establishing highway safety

policy is dependent on accurate information about the causes of accidents. Collection of only partial fleet information could undermine the implementation of the most appropriate and cost-effective highway safety countermeasures. Therefore, the Safety Board concluded that NHTSA's proposed rulemaking on standards governing voluntary, rather than mandatory, installation of EDRs in light-duty vehicles will not result in obtaining the maximum highway safety benefits from this technology.

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

Once standards for event data recorders are developed, require their installation in all newly manufactured light-duty vehicles. (H-04-26)

The Safety Board also issued safety recommendations to the Federal Highway Administration and the city of Santa Monica, California.

Please refer to Safety Recommendation H-04-26 in your reply. If you need additional information, you may call (202) 314-6177.

Chairman ENGLEMAN CONNERS, Vice Chairman ROSENKER, and Members CARMODY, HEALING, and HERSMAN concurred in this recommendation.

By: Ellen Engleman Connors
Chairman