



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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**Date:** December 16, 2003

**In reply refer to:** H-03-28

Honorable Stacey Murphy  
Mayor  
City of Burbank  
275 East Olive Avenue  
Post Office Box 6459  
Burbank, California 91510-6459

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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 the need for additional safety features at the North San Fernando Boulevard-North Buena Vista Street grade crossing. The recommendation is derived from the Safety Board's investigation of the January 6, 2003, Burbank, California, highway-rail grade crossing accident<sup>1</sup> and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the Safety Board has issued five safety recommendations, one of which is addressed to the city of Burbank, California. 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 our recommendation.

On January 6, 2003, about 9:30 a.m. Pacific standard time, eastbound Metrolink commuter train 210 struck a Ford F-550 crew cab, stake bed truck at the North Buena Vista Street grade crossing in Burbank, California. Upon impact, the truck's fuel tank was compromised, releasing fuel and resulting in a postcrash fire that consumed the stake bed, which remained at the crossing, while the truck's cab, which was not on fire, continued eastward with the train. The train derailed and came to a stop about 1,300 feet east of the crossing. The cab and second cars of the train came to rest on their sides; the remaining two cars and the locomotive remained upright. The truckdriver was fatally injured. Of the train's 59 passengers and 2

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<sup>1</sup> For additional information, read National Transportation Safety Board, *Collision Between Metrolink Train 210 and Ford Crew Cab, Stake Bed Truck at Highway-Rail Grade Crossing in Burbank, California, on January 6, 2003*, Highway Accident Report NTSB/HAR-03/04 (Washington, DC: NTSB, 2003).

crewmembers, 32 sustained injuries; 1 passenger, who was treated and then released from a local hospital, died 15 days later from internal injuries that were probably sustained during the accident.

The National Transportation Safety Board determined that the probable cause of this accident was the design of the traffic signals' railroad hold interval, which displayed a flashing red arrow for the eastbound North San Fernando Boulevard left turn lane, improperly implying that, after stopping, the truckdriver was permitted to make a left turn onto North Buena Vista Street. Contributing to the accident was the lack of a raised median at the crossing that would have obstructed the path used by the truckdriver to make the left turn.

To enter northbound North Buena Vista Street, the accident driver drove around the west end of the crossing's automatic gate while making a shallow left turn. Since the gate extended across both northbound lanes of the roadway, the driver briefly operated his truck on the wrong side of the yellow double centerline pavement markings, but the turn was not a difficult or unusual one to execute. Unless traffic or a barrier prevents it, a shallow left turn may be easier for a driver to execute than the wider turning maneuver demanded by the intersection geometry.

Use of raised medians for the centerline approaches to grade crossings is often an effective way to discourage gate running. These medians are barriers several inches high that are intended to prevent or discourage drivers from violating the traffic laws regarding railroad grade crossing signals and automatic gates. At the accident intersection, raised median barriers could also be useful in restricting shallow turns, thus forcing motorists to encounter the grade crossing gates.

The design for the 2002 reconstruction of the accident intersection included raised medians on the north side of the crossing, but the medians did not extend to the immediate vicinity of the crossing. If a raised median were extended to this point, it would have to be discontinued upon reaching the "dynamic envelope"<sup>2</sup> of the tracks, leaving about a 16-foot gap between the end of the median and the tracks. Even so, it would provide a barrier sufficient to discourage gate running. The Safety Board concluded that if the design of the accident crossing and roadway had included a raised median that extended from the crossing to the end of the double yellow centerlines just south of the tracks, the accident driver might have been discouraged from attempting to cross that median to execute a shallow turn, thus avoiding the lowered gate. While an extended median would have to be broken for the "dynamic envelope" of the tracks, it would still present a physical and visual barrier to drivers and deter them from traveling on the wrong side of the yellow centerlines on North Buena Vista Street.

Therefore, the National Transportation Safety Board recommends that the city of Burbank, California:

Install a raised median or other barrier system at the North San Fernando Boulevard-North Buena Vista Street grade crossing that extends from the crossing to the end of the double yellow centerlines south of the tracks. (H-03-28)

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<sup>2</sup> The *Manual on Uniform Traffic Control Devices 2000* defines *dynamic envelope* as the clearance required for the train and its cargo overhang due to any combination of loading, lateral motion, or suspension failure.

The Safety Board also issued safety recommendations to the California Department of Transportation, the National Committee on Uniform Traffic Control Devices, the National Committee on Uniform Traffic Laws and Ordinances, the Federal Highway Administration, the American Association of State Highway and Transportation Officials, the Institute of Transportation Engineers, and the Transportation Research Board. In your response to the recommendation in this letter, please refer to H-03-28. If you need additional information, you may call (202) 314-6177.

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

*Original Signed*

By: Ellen G. Engleman  
Chairman