

NATIONAL TRANSPORTATION SAFETY BOARD
 WASHINGTON, D.C.

ISSUED: May 25, 1983

 Forwarded to:

Mr. Robert Nesbit
 General Manager
 Alameda/Contra Costa Transit District
 508 15th Avenue
 Oakland, California 94606

SAFETY RECOMMENDATION(S)

H-83-17

About 12:12 a.m. P.s.t., on April 7, 1982, several vehicles on westbound California State Route 24 entered the north, No. 3 Bore of the Caldecott Tunnel near Oakland, California. A Honda car driven by an intoxicated driver struck the raised curbs inside the tunnel and came to rest at the left edge of the roadway about one-third of the way through the tunnel. It was struck soon afterward by a following gasoline tank truck and tank trailer and then by an Alameda/Contra Costa (AC) Transit bus which subsequently struck the tank trailer. The busdriver was ejected, and the empty bus continued west, exited the tunnel, and struck a concrete road support pier. The tank trailer overturned, and gasoline was spilled inside the tunnel. A fire erupted and heavy black smoke quickly filled the tunnel. The tank truck and tank trailer, the Honda car, and four other vehicles that had entered the tunnel were completely destroyed by the fire. Seven persons were killed, and two people were treated for minor smoke inhalation. The tunnel incurred major damage. 1/

The California Department of Motor Vehicles (DMV) records indicated that the busdriver had been convicted of two traffic violations--failing to obey a traffic control sign in March 1978, and exceeding the state speed limit (55 mph) in July 1978. Both violations occurred while he was driving a privately owned vehicle. The DMV records also indicated that the busdriver had been involved in two motor vehicle accidents. One occurred in November 1978, while he was operating an AC Transit vehicle. No citation was issued, and AC Transit records indicate that no fault was attributed to the driver. In July 1980, in Oakland, California, the driver's personal vehicle impacted the rear end of a stalled vehicle. No citation was issued at the time; however, the driver's license was suspended because of his failure to prove financial responsibility (California Vehicle Code (CVC) Section 16070). The suspension began on December 14, 1980, and was lifted in January 1982, when the driver established financial responsibility. The suspension specifically exempted the operation of a vehicle owned and insured by another in the course of employment, and the driver continued to operate an AC Transit vehicle during this time. The suspension record was placed in the driver's personnel file.

1/ For more detailed information, read Highway Accident Report--"Multiple Vehicle Collision and Fire, Caldecott Tunnel, Near Oakland, California, April 7, 1982 (NTSB/HAR-83/1).

At the beginning of his employment, the busdriver had received the AC Transit required 250 hours of practical driving instruction and 85 hours of classroom instruction in the safe operation of this type of vehicle. AC Transit records indicated that he had received periodic check rides and had been graded as satisfactory.

The AC Transit District personnel files indicated that during his 5-year employment the busdriver was under periodic doctors care for hypertension and high blood pressure. These files also record that during the past 3 years he had made 20 appointments with physicians or clinics. Fourteen of these appointments were confirmed through contact with the doctors involved and were for either the direct care of hypertension or for symptomatic treatment (gastroenterites, dizzy spells, and fainting spells). Both his 1979 and 1981 company-required, physical examinations revealed blood pressure readings high enough that on both occasions he was advised to consult his own physician regarding treatment for hypertension. During the latter part of 1980, he had recorded blood pressure readings of 150/100 and 180/110. ^{2/} During the 3-year period, and specifically 1981, he showed a significant increase in "miss-outs" at work; AC Transit records indicate that he missed work 40 days in 1981. The dates of missed employment generally coincide with recorded medical visits.

The laws of the State of California require any physician treating a patient with a disorder characterized by losses of consciousness to report that disorder to the local health officer. This health officer must in turn report this to the DMV (Health and Safety Code, Section 410). Physicians performing Medical Certificate examinations must also forward results to the DMV and the employer.

Copies of the busdriver's medical certificate examination reports were forwarded to both the employer and the DMV. However, since the examination revealed conditions within the prescribed limits, neither AC Transit nor DMV pursued the matter any further. During subsequent ^{3/} medical examinations which revealed severe hypertension, the patient complained of dizziness and fainting spells. The only indication in the available medical records that the busdriver's blood pressure was within acceptable limits was on the two occasions he was officially examined for his Medical Certificate, and then it was high enough to cause the examiner to recommend that the driver see his personal physician.

The Contra Costa County Coroner's autopsy report on the AC Transit busdriver conducted on April 7, 1982, stated that he died of extensive thermal burns with related external and internal organ damage and possible smoke inhalation. There was no indication of any traumatically induced injuries. His carbon monoxide reading was 4.1 percent saturation ^{4/} and his blood alcohol level (BAL) reading was 0. The

^{2/} Dorland's illustrated Medical Dictionary indicated 140/90 as a definition of hypertension. CFR regulations utilize 160/90 as a limit for driver qualification.

^{3/} U.S. Army Clinic, Letterman Hospital, and four physicians named on AC Transit records.

^{4/} The USAF Safety Kit, 1973, in an opinion authored by major Robert R. McMaken, Chief Aerospace Pathology Branch, AFIP, Washington, D.C., stated that: Values of carboxyhemoglobin saturation of less than 5 percent are usually insignificant, and values of 5 percent to 10 percent may be reached in persons who are exposed to carbon monoxide in quantities commonly found in cigarette smoke. Greater than 10 percent carboxyhemoglobin saturation indicates significant exposure to carbon monoxide. Victims who die in a postcrash fire commonly have carboxyhemoglobin saturation values of 20 percent to 25 percent, but much higher levels may be seen.

examination indicated rather marked atherosclerosis, "with the left anterior descending coronary narrowed beyond approximately 70 percent and the right descending coronary narrowed beyond approximately 80 percent. No areas of complete occlusion were noted."

Based on the evidence available regarding the busdriver's physical condition, the Safety Board believes that AC Transit should review its standards regarding driver physical qualifications with a view to formulating more restrictive standards. The busdriver in this collision had a history of absences from work and substantiated medical problems which had been reported to the company and which may have indicated a need for a more aggressive followup of his qualifications to continue driving.

Inasmuch as the physical standards for drivers, as prescribed by 49 CFR Part 391, are continuing ones (as is also the case for California drivers with Class 1 and 2 licenses 5/) and health can deteriorate rather quickly, it is necessary that the drivers be periodically reexamined to see that their qualifications are maintained and not just achieved on the day of the examination. Employers should be attentive to information received from examining physicians that indicates a potentially debilitating physical condition of an employee and should closely monitor the driver's condition, and, if warranted, should remove him as a driver until he is physically qualified.

Health problems are not the only reason why employers should monitor driver records once drivers are hired and their necessary qualifications have been established. During the Safety Board's investigation of two previous accidents involving transit buses, 6/ a review of the driver records maintained by the company revealed patterns of negligent driving and disclosed that the data were readily available to the company supervisors had they inquired, and that the records contained evidence of previous indications of the same type of behavior as caused this accident. A random check of company-maintained driver records revealed that 15 percent of the company drivers were not legally licensed, and that because of their poor driving records, 30 percent of such drivers would not qualify as intercity busdrivers in interstate transportation. To help transit carriers accomplish this monitoring, the American Public Transit Association (APTA) should study the problem and develop possible solutions to better protect the passengers of the transit transportation system. High qualifications should be required of all drivers of commercial passenger-carrying vehicles, not just of drivers of those vehicles operating in interstate under the Federal Motor Carrier Safety Regulations.

Therefore, the National Transportation Safety Board recommends that the Alameda/Contra Costa Transit District:

Closely monitor the health of drivers with known medical problems, and when their health may adversely affect their ability to safely transport passengers, remove them from duty. (Class II, Priority Action)
(H-83-17)

5/ California Vehicle Code 12804.

6/ Field Accident Investigation Reports LAX-80-F-H012 and LAX-80-F-H016.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations." (P.L. 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendation(s). Therefore, we would appreciate a response from you regarding action taken or contemplated with respect to the recommendation(s) in this letter.

BURNETT, Chairman, GOLDMAN, Vice Chairman, McADAMS, BURSLEY, and ENGEN, Members, concurred in this recommendation.

By: *Patricia A. Goldman*
Jim Burnett
Chairman