

Log H-123

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 16, 1977

Forwarded to:
Mr. John Ingram
President
Chicago, Rock Island and Pacific
Railroad Company
332 South Michigan Avenue
Chicago, Illinois 60604

SAFETY RECOMMENDATION(S)
H-77-31

At 5:05 p.m. on July 1, 1976, near Des Moines, Iowa, a westbound Chicago, Rock Island and Pacific Railroad Company freight train struck an automobile that had slowed but did not stop for the flashing signal lights at a grade crossing. All five persons in the automobile were killed. ^{1/}

The accident occurred at the East 56th Street crossing, about 1 1/2 miles west of Des Moines. The National Transportation Safety Board determines that the probable cause of this accident was the failure of the automobile driver to stop short of the railroad track in response to the flashing signal lights and her failure to determine if it was safe to cross the track. This car was one of several that approached the crossing and that was operated by a driver who did not plan to stop in response to the signals alone. A car in front of the accident vehicle was almost struck by the train.

The Safety Board's investigation of this accident found that there was a slow order, in effect since 1974 on the track in the area, that restricted train speeds to 30 mph or less, and that it was not unusual for train speeds to be 10 mph through the crossing. The approach track circuits for the crossing signal lights began 3000 feet east and 2500 feet west of the crossing. At the time of track circuit installation,

^{1/} For more detailed information about this accident read "Railroad/Highway Accident Report - Collision of a Chicago, Rock Island and Pacific Railroad Company Freight Train With An Automobile, Des Moines, Iowa, July 1, 1976" (NTSB-RHR-77-2).

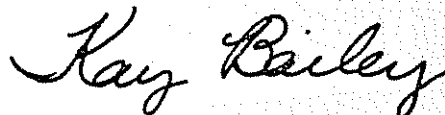
the track speed limit was 60 mph and the track circuit was not modified when the slow order was imposed. These conditions result in flashing signal warning times of between 1.1 to 3.3 minutes in length before a train arrives at the crossing. The Association of American Railroads' recommended practices for automatic crossing signals include: "On tracks where trains operate at a speed of 20 mph or higher, the signals shall operate for not less than 20 seconds before (the) arrival of any train on such track;" and "Where the speeds of different trains on a given track vary considerably under normal operation, special devices or circuits should be installed to provide reasonably uniform notice in advance of all movements over the crossing." ^{2/}

Compared to the recommended minimum warning period of 20 seconds, these warning times would seem to be a relatively long period and could contribute to driver disregard of the full intent of the signals. Long warning times at this crossing did not prove to be a factor in this accident, especially regarding the driver that just missed colliding with the train. However, modification of the approach track circuitry at this crossing to reduce warning time and make these times more uniform would seem to be appropriate.

Drivers who are conditioned to expect longer warning times at all crossings might be affected adversely by a significant reduction in warning time. The driver of the automobile that was almost struck by the train attempted to cross the track even though she had seen the signals operate for at least 25 seconds. Therefore, modifications should not be done without consideration of driver expectations regarding signal times at this and nearby locations, and drivers should be alerted to the fact that a modification has been made. As a result of these observations, the National Transportation Safety Board recommends that the Chicago, Rock Island and Pacific Railroad:

Modify the approach track circuit at the East 56th Street crossing to reduce crossing warning times and make these warning times more uniform and consistent with current train operating speeds and current driver expectations regarding warning times at this and nearby locations. (Class II, Priority Action) (H-77-31)

McADAMS, HOGUE, and KING, Members, concurred in the above recommendation. BAILEY, Acting Chairman, did not participate.



By: Kay Bailey
Acting Chairman

^{2/} "Recommended Practices for Railroad-Highway Grade Crossing Warning Systems," Bulletin No. 7, published by the Communication and Signal Section, Association of American Railroads, 1974.