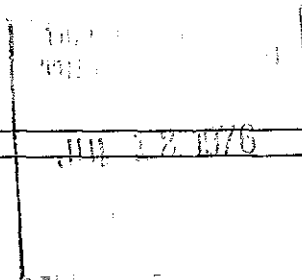


RAILROAD ACCIDENT INVESTIGATION

REPORT NO. 4144



PENN CENTRAL COMPANY

CARDINGTON, OHIO

FEBRUARY 17, 1968

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
Washington, D C 20591

Summary

DATE: February 17, 1968

RAILROAD: Penn Central Company

LOCATION: Cardington, Ohio

KIND OF ACCIDENT: Collision

EQUIPMENT INVOLVED: Passenger train Motortruck

TRAIN NUMBER: 15

LOCOMOTIVE NUMBER: Diesel-electric unit
7510

CONSIST: 1 car

SPEEDS: 79 m p h 10-15 m p h

OPERATION: Signal indications

TRACK: Single; tangent; level

HIGHWAY: Two-lane; tangent; level;
crosses track at angle
of 67°00'

WEATHER: Clear

TIME: 10:10 a m

CASUALTIES: 1 killed; 12 injured

CAUSE: Failure of the truck driver to stop
his vehicle short of the rail-highway
grade crossing and to remain standing
until the train had passed, resulting
in the motortruck striking the side
of the passenger train

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
RAILROAD SAFETY BOARD

RAILROAD ACCIDENT INVESTIGATION

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Synopsis

On February 17, 1968, a motortruck struck a Penn Central Company passenger train at a rail-highway grade crossing near Cardington, Ohio, resulting in death to one train passenger and injury to the truck driver and eleven train passengers

The accident was caused by failure of the truck driver to stop his vehicle short of the rail-highway grade crossing and to remain standing until the train had passed, resulting in the motortruck striking the side of the train locomotive

Location of Accident and Method of Operation

The accident occurred on that part of the Ohio Central Division extending between Burt and Columbus, Ohio, a distance of 57.7 miles. In the accident area this is a single-track line over which trains operate by signal indications of a traffic control system. The carrier's timetable directions are east and west. However, trains move north and south geographically in the accident area. Geographical directions are used in this report in lieu of timetable directions.

The collision occurred on the main track 19.5 miles south of Burt and 2.4 miles south of Cardington, where the main track is crossed at grade by Westfield Township Road No. 25.

Main Track

The track is tangent and practically level throughout a considerable distance north and south of the collision point.

Westfield Township Road No. 25

The road is a two-lane highway paved with bituminous material to a width of 16 feet. It is tangent throughout a considerable distance east and west of the crossing and crosses the main track at an angle of 67°00'. The grade for westbound vehicles is, successively, 0.5 percent descending 150 feet, 5.0 percent ascending 100 feet to the crossing, and level over the crossing.

Crossing

The crossing is 26 feet wide with planking laid alongside both sides of each rail. The remaining area is surfaced with bituminous material.

Crossing Protection

A circular railroad-crossing advance warning sign for westbound highway traffic is adjacent to the north side of Westfield Township Road No. 25, 169 feet east of the crossing.

A crossbuck railroad-crossing warning sign is mounted on a post located adjacent to the north side of the road, 13 feet east of the track centerline.

Crossing Traffic

During the 29-day period immediately preceding the day of the accident, the average daily railroad movement over the crossing was 7.0 trains.

During the 9-hour period beginning 6:50 a.m., March 20, 1968, 27 farm trucks, 9 other trucks, 25 automobiles, and 4 school buses moved over the crossing.

View in Crossing Area

As a westbound vehicle on Westfield Township Road No 25 approaches the main track at a distance of more than approximately 200 feet, the driver has a good view of any southbound train approaching the crossing within a considerable distance. As the vehicle moves closer to the crossing, the driver's view of the track north of the crossing is intermittently obstructed by brush and a few trees along the east side of the railroad. From points on the road about 100, 75 and 50 feet east of the crossing, the trees and brush restrict the driver's view of the track northward to approximately 1,600, 400 and 1,200 feet, respectively. As the vehicle nears the crossing within 50 feet, the driver has an unobstructed view of any southbound train approaching within a considerable distance.

Time and Weather

The accident occurred about 10:10 a m , in clear weather

Maximum Authorized Speeds

The maximum authorized speeds for passenger trains and the motortruck involved in the accident area were 79 and 50 miles per hour, respectively

Circumstances Prior to Accident

Train No. 15

No 15, a southbound first-class passenger train consisting of one road-switcher type diesel-electric unit and one light-weight stainless steel coach, left Cleveland, Ohio, 80 3 miles north of Burt, at 8:30 a m the day of the accident. It passed Cardington about 10:08 a m and, approximately two minutes later, approached the point where Westfield Township Road No 25 crosses the main track at grade 2 4 miles south of Cardington. The engineer and fireman were in the control compartment near the north, or rear, end of the locomotive. The conductor and flagman were in the coach. Both engineers stated that the headlight was lighted, and that the locomotive bell was not ringing due to a malfunction which developed after leaving Cleveland.

Motortruck

As the train approached the crossing, an empty flat-bed motortruck moving westward on Westfield Township Road No 25 also approached the crossing. The driver was the sole occupant

The Accident

Train No. 15

The train approached the crossing at 79 miles per hour, as indicated by the speed recording tape. The engineer stated that he began to sound the locomotive horn when the train

neared the crossing-whistle sign located 1,653 feet north of the crossing, and that he continued to sound the horn throughout the movement of the train to the crossing. During that time, the engineer was unable to see the motortruck approaching the crossing from the east on Westfield Township Road No. 25, due to his position on the west side of the control compartment and the long engine hood in front of the compartment. He was unaware of the motortruck until the fireman called a warning just before the accident.

The fireman first saw the motortruck when it was about 700 feet from the crossing, apparently about the time that the train passed the crossing-whistle sign. He estimated that the truck was moving at a speed of approximately 35 miles per hour when he first saw it, and said the truck continued toward the crossing at unreduced speed until it reached a point a short distance from the track. The fireman felt no concern about the truck during its approach to this point, as he assumed that it would stop clear of the track and wait for the train to pass. However, as the train was about to move onto the crossing, the fireman realized that the truck was nearing the track at unreduced speed and that it could not stop short of a collision with the train. At the same time, he saw the truck begin to reduce speed and also saw dust arising from around its wheels, indicating that the driver had applied the brakes heavily in an effort to stop short of the track. The fireman then called a warning to the engineer, about the time that the train moved onto the crossing, and the engineer promptly applied the brakes. Immediately afterward, as the train was traversing the crossing, the truck struck the locomotive on its left, or east, side about 15 feet from the front end. The fireman estimated that the truck had reduced speed to 10 or 15 miles per hour at the time of the collision.

Motortruck

The driver stated that he could not recall anything concerning the approach of his vehicle to the crossing. However, on the basis of information provided by the train fireman, the motortruck apparently approached the crossing at a speed of approximately 35 miles per hour and the driver neither saw nor heard the train until it was about to enter the crossing, when his vehicle was a relatively few feet from the track. He then applied the truck brakes heavily. This action, however, was taken too late to stop short of the track, resulting in the truck entering the crossing at reduced speed and the collision.

Damages

No. 15

The train was not derailed. The locomotive was slightly damaged, and the coach was considerably damaged.

Motortruck

The motortruck overturned and stopped about 35 feet south of the accident point and 15 feet east of the main track. It was destroyed.

Casualties

The truck driver was injured. One train passenger was killed and eleven other passengers were injured, as a result of the right rear corner of the truck penetrating the side sheeting of the coach.

Post-Accident Examinations

The truck struck the train locomotive on the left side about 15 feet from the front end. The impact spun the truck around, causing the right rear corner of its flat bed to glance off the corrugated stainless-steel sheeting on the left side of the coach, about three feet from the front end. This corner of the truck struck the side sheeting again, at a point about 10 feet from the front of the coach. About four feet farther to the rear, the same corner of the truck penetrated the side sheeting of the coach, and tore a jagged hole lengthwise along the sheeting. The hole was about 24 feet long and extended rearward to approximately the middle of the car. The truck corner penetrated the side sheeting at a level slightly higher than the coach floor and struck about four seats alongside the side windows, dislodging those window seats and adjoining aisle seats. It also struck a side post between two window seats, shearing the post in two immediately below the window sill and wainscot support plate, and causing the broken side post to swing inward with portions of the window sill and wainscot support plate attached to the bottom. The broken side post stopped at a 45-degree angle with the broken off end over one of the dislodged window seats. All the doublepane windows on the left side of the front half of the coach were shattered or broken out completely. Except for the seat and window area adjacent to the hole torn in the side sheeting, the inside of the coach was not damaged significantly.

Examination of the motortruck revealed no defective condition of its brake system.

Although statements of the train fireman indicate that the brakes of the motortruck were applied heavily just before the collision, no skid marks were found on the road surface on the east side of the crossing.

Motortruck and Driver

The vehicle was a 1964 International straight truck of the flat-bed type and was powered by a six-cylinder gasoline engine. It had a single rear axle with dual wheels and a hydraulic brake system with a vacuum booster. The flat bed was of all-steel construction, and was 14 feet long and 7½ feet wide. The gross weight of the truck was 9,410 pounds.

The driver, who was the owner of the truck and a self-employed farmer, resided in Ashley, Ohio. He was 38 years old, held valid Ohio Operator's License No. 492867, and had no traffic record of arrests or convictions. He lived in the area where the accident occurred and, according to his statements, was thoroughly familiar with the rail-highway grade crossing involved.

History of Truck Movement

Sometime during the morning of the accident, apparently about 8:00 or 9:00 a m., the driver left his brother's commercial garage at Ashley, Ohio, and drove to Mt. Gilead, Ohio, a distance of approximately 14 miles, to obtain brake linings for a vehicle being serviced in the garage. After purchasing the brake linings, the driver left Mt. Gilead, apparently about 9:45 a m., to return to his brother's garage. About 15 minutes later, he turned his vehicle westward onto Westfield Township Road No. 25 and approached the rail-highway grade crossing. He recalled that the weather was cold and said he probably was driving with the cab windows closed and the cab heater in operation. Other than this, he could not, according to his statements, remember anything concerning the approach of the truck to the railroad crossing.

Ohio Motor Vehicle Laws

Sec. 4511 21 No person shall operate a motor vehicle *** upon any street or highway at a greater speed than will permit him to bring it to a stop within the assured clear distance ahead.

Note: No other Ohio Motor Vehicle Law was significantly applicable to the approach of the motortruck to the railroad crossing.

Train Crew's Hours of Service

According to the railroad carrier's records, the engineer, fireman, and flagman had been on duty 2 hours 10 minutes at the time of the accident, and the conductor had been on duty 1 hour 40 minutes. The engineer, fireman, and conductor had previously been off duty more than 30 hours, and the flagman had been off duty 10 hours 30 minutes.

Analysis of Accident

As the train neared the crossing at 79 miles per hour, the fireman observed the motortruck approaching the track throughout a distance of about 700 feet. Since the locomotive horn was sounding and there was a good view between the train and motortruck, the fireman assumed that the truck driver had seen or heard the approaching train and that he would stop his vehicle short of the crossing and wait for the train to pass. He apparently did not realize that the motortruck was not going to stop before the train was about to enter the

crossing, when the motortruck was approximately 50 feet from the track. He then called a warning and the engineer applied the train brakes, but at that time there was insufficient braking distance for the train to stop or reduce speed before it entered the crossing and was struck on the side by the motortruck. Under the circumstances, neither engineman could have taken any action which would have prevented the accident, after it was realized that the motortruck was not going to stop short of the crossing and wait for the train to pass.

The rapidly approaching train was well within the truck driver's range of vision as his vehicle neared the crossing. As the motortruck passed three points within 100 feet of the track, trees and brush somewhat restricted the driver's view of the track northward. However, due to the proximity of the train to the crossing when the motortruck passed those points, the train remained within the driver's range of vision. Consequently, there does not appear to be anything which would have prevented the driver from seeing the train in sufficient time to realize that he could not safely traverse the crossing without stopping and waiting for the train to pass.

According to his statements, the truck driver could not recall anything relating to the approach of his vehicle to the crossing. His statements, however, as well as the prevailing cold weather conditions, indicate that the cab windows of the truck were closed and that the cab heating device was in operation. Assuming this was the case, there is a possibility that the noise emanating from the truck motor and heater prevented the driver from hearing the locomotive horn before his vehicle and the train were in proximity of the crossing. Consequently, inability of the truck driver to hear the locomotive horn while approaching the track at a safe distance may have been a casual factor in the accident. It could not be determined why the truck driver failed to see the rapidly approaching train in sufficient time to avoid the accident. However, it is apparent that he approached the crossing without being sufficiently alert to the danger inherent at such rail crossings and without taking adequate precautionary measures to determine whether a train was approaching. Had he been alert and approached the crossing with due caution, he no doubt would have seen or heard the closely approaching train in sufficient time to stop short of the track and thus avoid the accident.

Findings

1 The train approached the crossing in accordance with applicable rules of the carrier, except that the locomotive bell was not ringing because of a malfunction which developed en route. This malfunction had no significant bearing on the accident.

2 After the train fireman realized that the motortruck was not stopping short of the crossing, neither engineman could take any action which would have prevented the accident.

3 The truck driver neither saw nor heard the train before his vehicle and the train were within a relatively few feet of the crossing

4 The rapidly approaching train was visible to the truck driver as his vehicle neared the crossing within a distance of approximately 700 feet. It could not be determined why he failed to see the train in sufficient time to stop short of the crossing and wait for the train to pass

5 In all probability the cab windows of the motor-truck were closed and the cab heating device was in operation. Because of the closed windows and noise from the truck motor and cab heating device, the locomotive horn may not have been audible to the driver until his vehicle was within a relatively few feet of the crossing. This may have been a casual factor in the accident

6 Because of his apparent failure to look and listen for an approaching train, the driver did not become aware of the train until it was too late for him to stop his vehicle short of the track, resulting in his vehicle striking the passenger train as it traversed the crossing

Cause

This accident was caused by failure of the truck driver to stop his vehicle short of the rail-highway grade crossing and to remain standing until the train had passed, resulting in the motortruck striking the side of the passenger train *

Dated at Washington, D C , this 27th
day of March 1969
By the Federal Railroad Administration
Railroad Safety Board

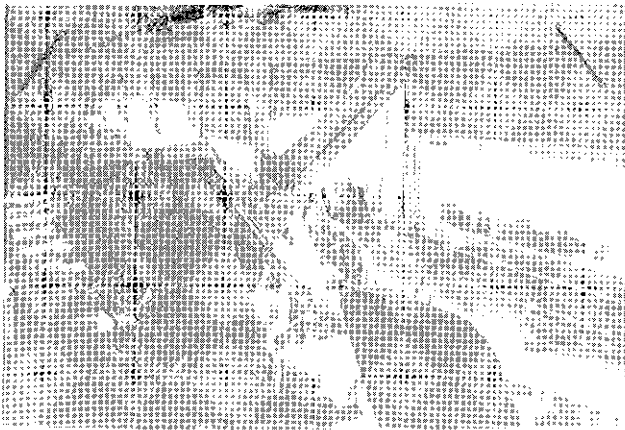
Bette E Holt
Acting Executive Secretary

(SEAL)

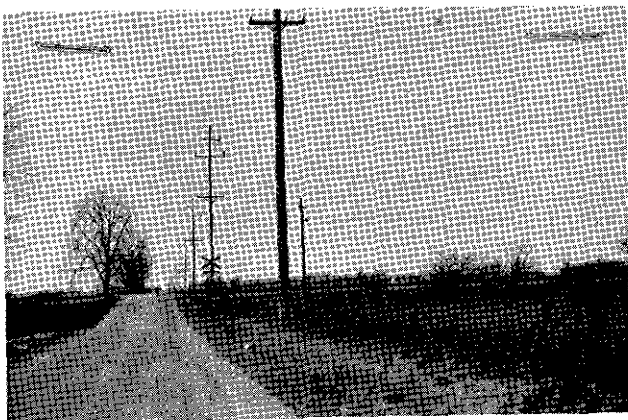
*The Federal Railroad Administration has no jurisdiction over railroad operating rules; track structures; bridges, rail-highway grade crossing protection; track clearances; consist of train crews; qualification or physical condition of railroad employees; running and draft gear on cars, or the construction of cars except those appurtenances within the jurisdiction of the Safety Appliance Acts and the Power Brake Law of 1958.



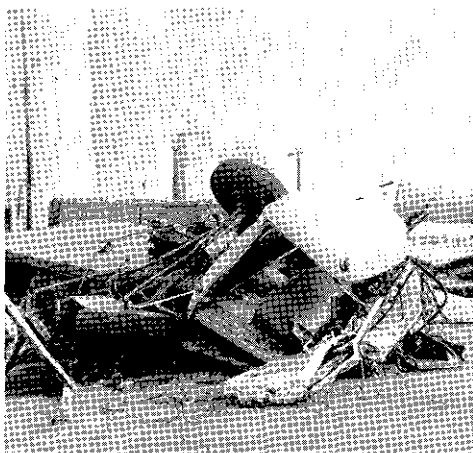
Portion of hole torn in side sheeting of train coach.



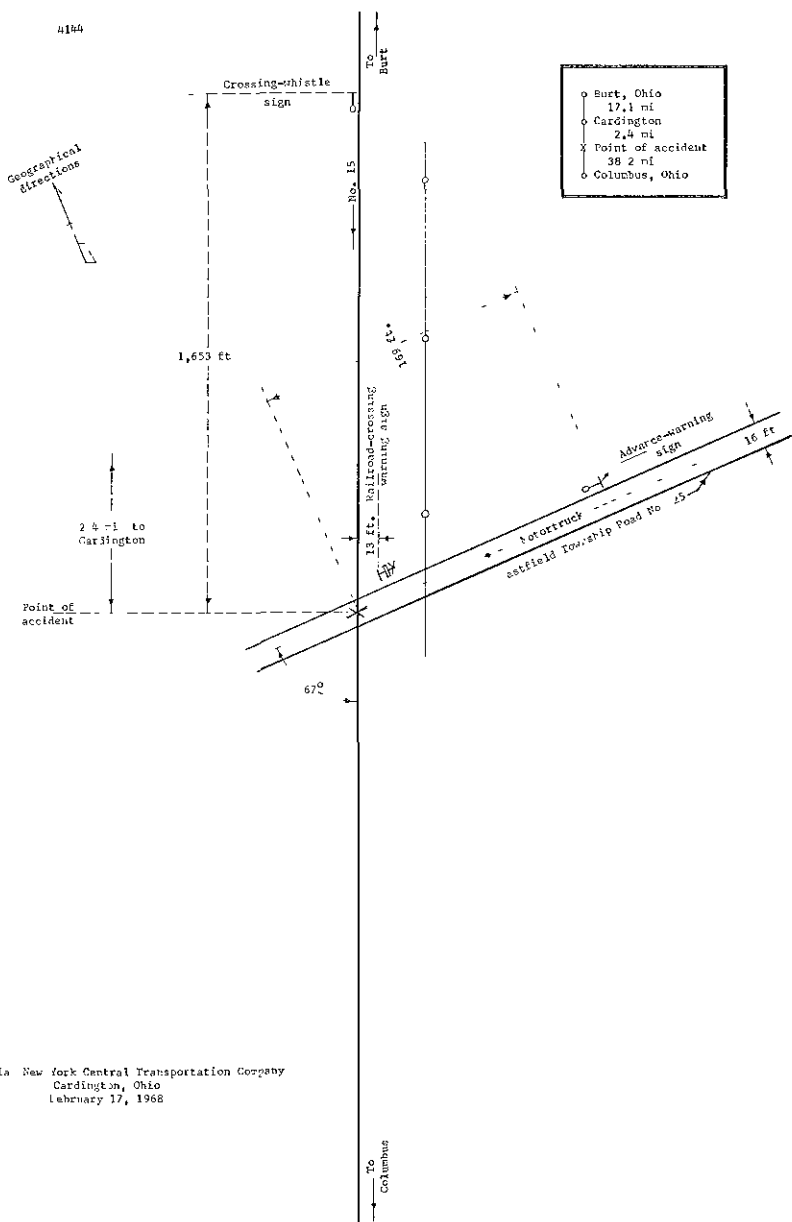
Interior view of damage to coach. Ground adjacent to coach visible through hole in side sheeting below window at right center.



Truck driver's view of crossing from distance of 300 feet. Train approached crossing from the right.



Motortruck (after removal from railroad right-of-way).



51 Asia New York Central Transportation Company
 Cardington, Ohio
 February 17, 1968