

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE
CENTRAL RAILROAD OF NEW JERSEY

SEWAPEN, N.J.

MARCH 21, 1938.

INVESTIGATION NO. 2261

SUMMARY

Inv-2261

Railroad: Central Railroad of New Jersey
Date: March 21, 1938
Location: Sewaren, N.J.
Kind of accident: Truck struck by train at grade crossing;
train derailed.
Equipment involved: Passenger train : gasoline tank truck
Train number: 3308
Engine number: 783
Consist: 5 cars : tractor hauling tank
trailer
Speed: 60 m.p.h.
Track: Tangent; 0.57 percent ascending grade
for eastbound trains.
Highway: Tangent for 370 feet; crosses the tracks
at an angle of 21° 15'.
Weather: Clear
Time: 8.40 a.m.
Casualties: 2 killed and 8 injured
Cause: Truck being driven upon a railroad
crossing at grade in disregard of flash-
ing light signals; contributing cause
was the failure of the crossing gateman
to lower the gates or to protect the
crossing by hand signals.

April 14, 1938.

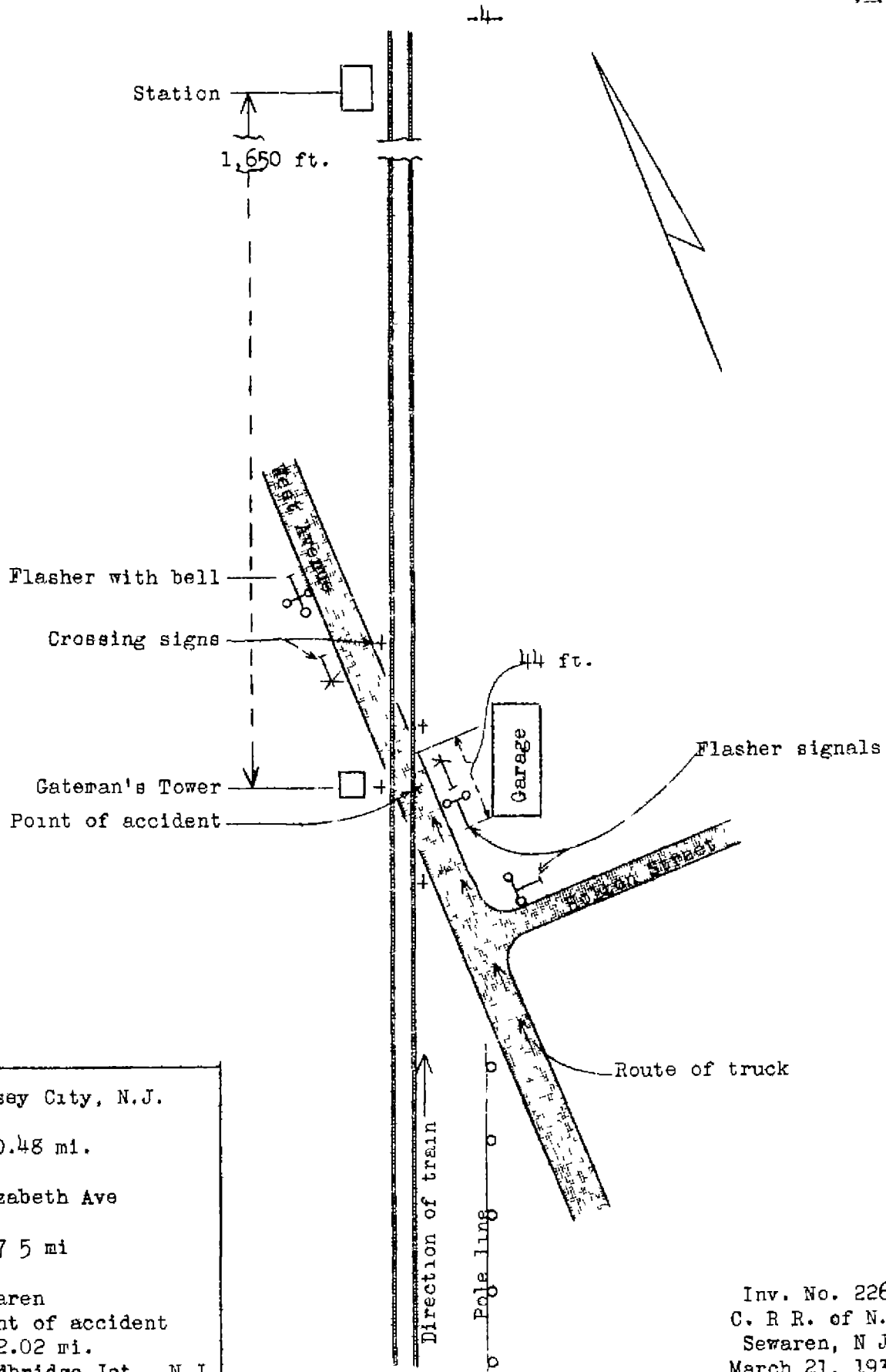
To the Commission:

On March 21, 1938, there was a collision between a passenger train and a gasoline tank truck at a highway grade crossing on the Central Railroad of New Jersey at Sewaren, N.J., which caused the derailment of the passenger train and resulted in the death of two railroad employees and the injury of six passengers on the train, the truck driver and a passenger on a bus standing nearby. The investigation of this accident was made in conjunction with a representative of the Board of Public Utility Commissioners of New Jersey.

Location and method of operation

This accident occurred on that part of the Central Division designated as the Elizabetport and Perth Amboy Branch which extends between Elizabetport and Perth Amboy, N.J., a distance of 11.49 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders and an automatic block-signal system, supplemented by an automatic cab-signal system. The accident occurred at West Avenue crossing, located approximately 1,600 feet west of the station at Sewaren; in this vicinity the railroad right-of-way extends from southwest to northeast, timetable direction being west and east respectively. From the west the track is tangent for a distance of 1.8 miles to the point of accident, and for a considerable distance beyond. The grade for east-bound trains is 0.5 percent descending for a distance of 1,450 feet, then 0.2 percent descending for 300 feet, followed by 0.57 percent ascending for a distance of 1,700 feet to the point of accident, and for some distance beyond. The maximum speed limit for passenger trains on this branch is 70 miles per hour.

West avenue extends north and south and crosses the tracks at an angle of $21^{\circ} 15'$; it is 20 feet in width and is constructed of asphalt between concrete edges, and has earth shoulders 5 feet in width. Approaching the crossing from the south the highway is tangent for a distance of 370 feet; the grade is approximately 0.57 percent ascending. The crossing is protected 24 hours daily by manually-operated air-actuated crossing gates controlled from a tower located in the northwest angle of the crossing. Two electric lamps are mounted



- Jersey City, N.J.
- 10.48 mi.
- Elizabeth Ave
- 7 5 mi
- Sewaren
- ✕ Point of accident
- 2.02 mi.
- Woodbridge Jct., N J.

Inv. No. 2261
 C. R R. of N.J.
 Sewaren, N J
 March 21, 1938

on the gates, one on each side of the crossing. There are also three automatic highway-crossing flashing light signals, one on each side of the tracks on West Avenue, and one at Holton Street where it enters West Avenue approximately 100 feet south of the crossing. The flashing signals have two lights, one on each side of the pole, 7 feet above the ground. The flashing-light pole on the north side of the crossing is also equipped with a 10-inch vibrating bell. Public Utility road crossing signs, of the cross-bar type, are located on each side of the crossing. There is an annunciator system to warn the gateman in the tower of the approach of trains; it consists of two semaphore indicators, one for east-bound and one for west-bound trains, and also an electric alarm bell. The circuit controlling the operation of the indicator and annunciator in the tower, as well as the automatic flashing light signals and bell, extends on the eastward track to the eastbound home signal at WO Tower, Barber, a distance of approximately 4,026 feet west of West Avenue crossing.

The view of an approaching east-bound train had by the driver of a north-bound vehicle when 110 feet from the crossing is materially obstructed by a row of telegraph poles with many cross arms and wires, and also by a slight bank covered with brush. The view is unobstructed, however, for a distance of 2,425 feet when between points 90 and 75 feet from the south rail of the eastward track, and is clear for a distance of 3,104 feet between points 50 and 30 feet from the crossing.

The motor vehicle laws of the State of New Jersey provide in part that operators of commercial motor vehicles carrying explosive substances or inflammable liquids as a cargo or part of a cargo, shall, before crossing the tracks of any railroad or high speed interurban railroad at grade, bring such vehicles to a full stop and shift gears of the same to a neutral position; such stop to be made not less than fifteen feet nor more than fifty feet from the nearest rail.

The railroad company's special rules for crossing watchmen provide in part:

409(b) The gates must be completely lowered on both sides of the track in ample time before approaching train, engine or motor car reaches the crossing, and must be kept lowered until such train, engine or motor car has passed beyond the crossing, and until sure that no other train, engine or motor car is approaching on any track.

411(b) Crossing watchman will not leave their crossing during their hours of duty except in cases of emergency, and then only after arrangements have been made for the protection of the crossing by securing a relief watchman through the nearest agent, Section Foreman or other employe.

The weather was clear at the time of the accident, which occurred about 8:40 a.m.

Description

No. 3308, an east-bound passenger train, consisted of one Pullman club car and four coaches, all of all-steel construction, hauled by engine 783, and was in charge of Conductor Marston and Engineman Lovell. This train departed from Woodbridge Jct., 1.95 miles from Sewaren, at 8:38 a.m., according to the train sheet, on time, and was derailed after striking a gasoline motor truck on a highway crossing at Sewaren while traveling at a speed estimated to have been 60 miles per hour.

The truck involved was a Mack tractor, equipped with an enclosed cab, hauling a tank trailer loaded with 4,900 gallons of gasoline; it was owned by the Bennett Oil Company of Hillside, N.J. The overall length of the tractor and trailer was 43 feet; the light weight was 30,900 pounds, and at the time of the accident the total weight of truck and load was 59,000 pounds. The rear axle of the tractor and also the axle of the trailer were equipped with dual wheels. This truck, driven by John Major, was proceeding northward on West Avenue, and while moving over the railroad crossing the rear end of the trailer was struck by No. 3308.

The tractor and trailer were practically destroyed, the gasoline tank exploded and sprayed the locomotive and train with burning gasoline. The trailer tank was thrown to the north of the westward track, fouling that track. The engine truck and first pair of driving wheels were derailed, apparently caused by engaging a rear wheel and the axle of the trailer which were found on the south side of the eastward track opposite the first marks of derailment, 392 feet east of the center of the crossing. The train stopped with the front end of the engine approximately 1,530 feet beyond the crossing. The remainder of the train was not derailed, but it sustained severe damage due to the fire; the front end of the engine and the engine truck were badly damaged, and on all of the cars there were slid flat wheels. A portion of the area adjacent to the crossing was enveloped in flames; a part of the crossing protection control apparatus was destroyed by fire, rendering the installation inoperative.

A Public Service bus standing on West Avenue 50 feet north of the tracks was struck by the truck and was also damaged by fire. In addition, two automobiles standing behind or north of the bus were damaged by fire.

The railroad employees killed were the engineman and the fireman.

Summary of evidence

Conductor Marston stated that the air brakes were tested at their initial terminal and functioned properly en route. He was in the second car and the train was traveling at a speed of about 60 miles per hour. He heard the crossing whistle signal sounded in the usual manner except that the last blast was unusually long; the instant it stopped the collision occurred and immediately afterward the air brakes became applied in emergency.

The statement of Head Brakeman Applegate corroborated that of the conductor.

Flagman Barkelow stated that as soon as the train stopped he started back to flag, but was unable to reach the crossing, due to the explosions and fire. He heard the crossing bell ringing, however, but the flashing light signals were not in operation at that time.

Engineman McPherson, who was deadheading on No. 3308, stated that as soon as the train stopped he went up to the engine; due to the fire he was unable to get into the cab for about 25 or 30 minutes. He then made an examination of the engine cab; the air pump was racing; several steam pipes were broken; the bell ringer valve was open; both brake valves were in running position; the reverse lever was about 3 or 4 inches from center, and the throttle was shut off. The brake pipe was broken off behind the angle cock at the front end of the engine and this would have caused the brakes to apply in emergency. It was possible, however, that the engineman had applied the brakes; inspection showed that an electric light conduit broken off from the headlight switch hung directly in front of the brake valve handle, and it was possible that when the pipe came down it moved the brake handle back to running position.

Crossing Gatenan Laski, on duty from 7 a.m. to 3 p.m. at West Avenue crossing, stated that on the morning of the accident he drove to work in his automobile and parked his car near a garage located in the southeast angle of the crossing, as he intended to

have repairs made to his car at this garage. After the 8:24 train had passed he picked up his flagging equipment and went down the steps of the gateman's shanty to get some drinking water; the garageman then asked him to drive his car into the garage, which he did. He figured that it would be 14 minutes before the next train would arrive. He was in the garage, talking to the garageman, for 12 minutes or more, and as he was leaving the garage he looked at his watch and realized that a train was due and then he heard the whistle signal of the approaching train. A gasoline truck was proceeding northward on West Avenue and was about halfway past him; he went around the rear end of the truck and as he did so he saw that the flashers were working, and he heard the crossing bell ringing. He thought that the truck almost stopped before it proceeded upon the crossing. He was unable to do anything toward preventing the accident as he had left his flags, torpedoes and fusees on the steps of his tower and was unable to reach the tower before the train arrived. He stated that the gates, as well as the indicators in the shanty, were operating properly on the morning of the accident. He had been given a general examination on his duties as a crossing watchman in December, 1937, and in addition he had been examined and instructed weekly by the track foreman.

Bus Driver Ruzskai stated that he was operating his bus southward on West Avenue and had stopped the bus approximately 50 feet from the tracks and about 3 or 4 feet from the flasher signal. As he opened the door to listen for a train the flashers started to operate, and the bell to ring. He closed the door and looked in each direction; to the right he could see smoke but could not see a train. When the flashers had been working about 3 or 4 seconds he saw a tank truck approaching from the south; this truck stopped south of Holton Street, and as it did so the crossing gateman came around from behind it. When the gateman was about opposite the truck driver the gateman made a slight wave with his right hand which appeared to be a proceed signal. The gateman did not look at the truck driver, but ran across West Avenue toward the approaching train. The truck started toward the crossing and the truck driver sounded the horn, apparently to warn traffic moving in the opposite direction, as an automobile was approaching behind his bus. Driver Ruzskai saw that the train was approaching rapidly, and he sounded the horn of his bus and waved his hand to the truck driver to stop and pointed to the approaching train, but the truck continued upon the crossing and was about two-thirds over the track when the train struck the trailer tank from 6 to 10 feet from the rear end. The truck was thrown against the bus and caused considerable damage due to fire. Bus Driver Ruzskai further stated that he

could not tell whether the truck driver saw the motion of the gateman's hand or whether he looked up the track. The truck driver's view was unobstructed, however, and he could have seen the approaching train if he had looked. The last Driver Ruzskai saw of the gateman was when he was a few feet west of West Avenue and south of the tracks. He thought that his bus had been standing at the crossing about 1½ minutes when the accident occurred.

LeRoy Stanley, of the Auto Marine Garage, located at the southeast corner of the crossing, stated that he did not remember how long Gateman Laski remained in the garage on the morning of the accident, and that he did not hear the crossing bell when the gateman departed. The first he knew of the accident was when he heard the crash, and the explosion which followed blew open the garage doors; several windows were broken and fire started on the outside of the building.

Mr. Bennett, of the Bennett Oil Company, stated that Driver Major had been in his employ for several years, and that he was a careful, competent employee who had never had any accidents. Because of this he was driving the most valuable piece of equipment the company owned.

Truck Driver Major, age 45, held a New Jersey driver's license, and has had a license for the past 20 years. Information from the New Jersey Motor Vehicle Bureau shows no record against him. Driver Major was badly burned as a result of the accident and was taken to the Perth Amboy hospital; his condition was such that he was not permitted to be interviewed.

A joint statement of employees of the signal department of the railroad company sets forth that all of the crossing protection control apparatus, including automatic block signal A-181, located at the northeast corner of the crossing, was destroyed by the fire, with the exception of the two indicators and annunciator in the gateman's tower, the three sets of flashing light signals, one crossing bell, and the storage battery at the flashing light signal on the north side of the tracks. The controlling wires, however, were so fused that the crossing bell continued to operate from the storage battery until disconnected. That part of the crossing protective system that was not destroyed was examined by Assistant Supervisor of Signals Smith and Supervisor of Signals Larson on the afternoon of the day of the accident and found to be installed in accordance with the plans and to be functioning as intended.

Observations of the Commission's Inspectors

A traffic check at West Avenue crossing for a 24-hour period showed a total of 5,133 motor vehicles and 69 train movements. The maximum number during an hourly period was 517 vehicles between 7 and 8 a.m., while the next highest number was 369 between 8 and 9 a.m. Between the hours of 6 a.m. and 6 p.m. a total of 160 oil trucks passed over this crossing. Observation of all oil trucks which stopped from 65 to 110 feet from the crossing showed that it took from 23 to 33 seconds to start the trucks and clear the rails.

Discussion

Crossing Gateman Laski left his tower at least 12 minutes before the occurrence of the accident and went to a garage located in the opposite or southeast angle of the crossing to see about repairs to his automobile. He remained in the garage until immediately before the occurrence of the accident and therefore was not at his post to lower the gates as No. 3308 approached. As he left the garage the truck was proceeding northward on West Avenue and was about halfway past him. He ran around the rear end of the truck with the intention of going to his tower but he was unable to reach it before the accident occurred.

The fact that the crossing gates were not lowered may have misled the truck driver; however, the evidence indicates that the flashing light signals were operating, the automatic warning bell was ringing, the driver of a south-bound bus which was standing on the opposite side of the crossing gave warnings and the crossing signal whistle was sounded by the approaching train, yet the truck driver failed to heed any of these warnings. The New Jersey motor vehicle law requires motor vehicles carrying inflammable liquids to stop not less than 15 feet nor more than 50 feet from the nearest rail. The evidence indicates that the truck stopped more than 100 feet from the crossing and at that point the view westward along the tracks is considerably restricted. Compliance with the motor vehicle law, however, would have resulted in affording the truck driver a clear view of the approaching train for more than 3,000 feet. The truck driver was too seriously burned to be interviewed at the time of this investigation.

Conclusion

This accident was caused by a gasoline tank truck being driven upon a railroad crossing at grade in disregard of

flashing light signals, a contributing cause was the failure of the crossing gateman to lower the gates or to protect the crossing with hand signals.

Respectfully submitted,

W. J. PATTERSON,

Director.



100

