

1968

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN  
ACCIDENT ON THE PENNSYLVANIA RAILROAD AT WOODBRIDGE, N. J.,  
ON FEBRUARY 21, 1935.

June 12, 1935.

To the Commission:

On February 21, 1935, there was a collision between a passenger train and a motor truck with trailer at a grade crossing of the Pennsylvania Railroad and a street at Woodbridge, N. J., which resulted in the death of 2 employees, and the injury of 6 passengers, 2 employees of the railroad, 1 bystander, and 1 employee of the owners of the truck who was in a following vehicle; 1 of the injured railroad employees died subsequently. The investigation of this accident was held in conjunction with the New Jersey Board of Public Utility Commissioners.

Location and method of operation

This accident occurred on the Perth Amboy and Woodbridge Branch of the New York Division, which extends between DK Block Station, near Rahway, and WC Block Station, near Perth Amboy, N. J., a distance of 5.8 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time table, train orders, and an automatic block-signal system. According to compass directions the railroad runs north and south at this point, but time-table directions are east and west, respectively, and the latter directions are used in this report. There are three tracks at the crossing, there being an industry track about 20 feet south of the main tracks, and the accident occurred on the west-bound main track approximately 150 feet east of the station, where Green Street crosses the tracks. Approaching the crossing from the east on the railroad, there is a 2° curve to the left 320 feet in length, followed by tangent track for a distance of 3,234 feet to the point of accident, and for a short distance beyond that point. The grade is generally descending for west-bound trains, varying from 0.19 to 0.67 percent. The maximum authorized speed for passenger trains is 65 miles per hour.

Green Street crosses the tracks nearly at right angles and is about 70 feet wide at the crossing; it is an improved highway and is surfaced at the crossing with crushed stone and is in good condition; the grade is 2.5 percent ascending when

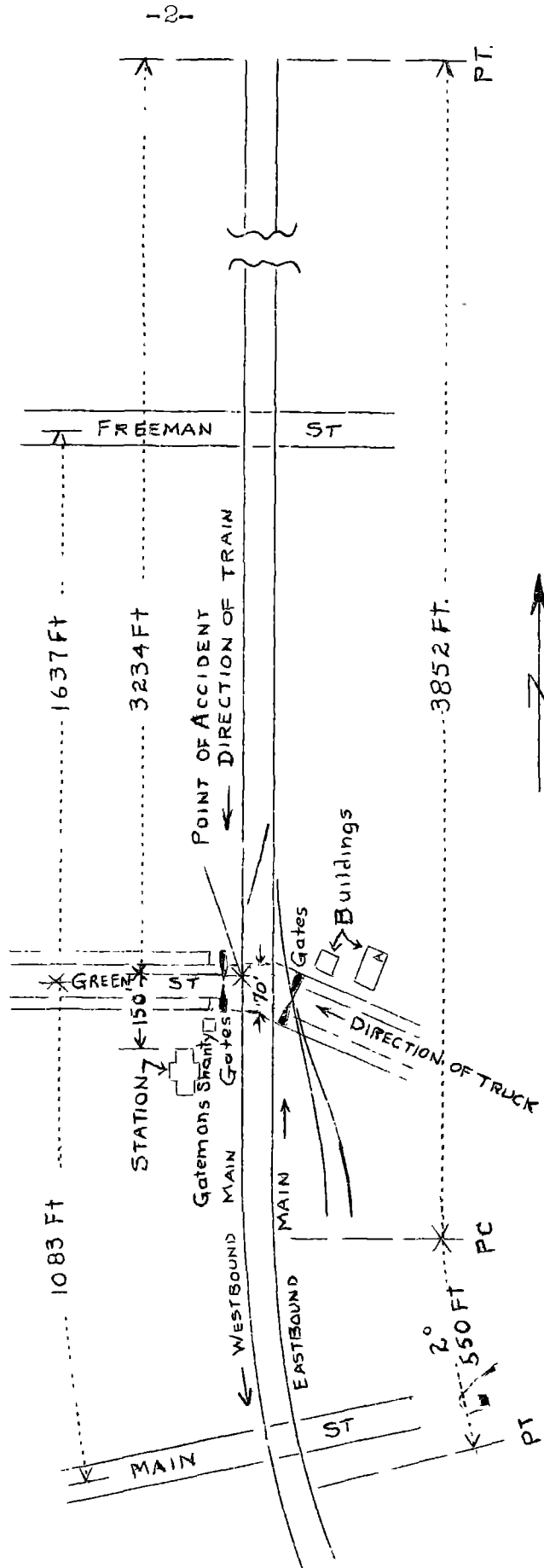
Rahway, N.J.  
DK Block Station

3.5 mi.

Woodbridge

2.3 mi.

WC Block Station  
Perth Amboy, N.J.



Inv. No. 1968  
Pennsylvania Railroad  
Woodbridge NJ  
Feb. 21, 1935

close to the crossing, but is level over the crossing. This crossing is protected by standard crossing signs of the cross-bar type, and by gates which are manually operated from a pedestal at the northwest intersection of the crossing and are in service 24 hours daily. The gate arms extend the full width of the street and are equipped with an electrically-operated red lamp on each arm which is illuminated when the gates are lowered. There is an annunciator system to warn the gateman of the approach of trains, this system consists of two lights and crossing bells in the watchman's shanty, also located near the northwest intersection of the crossing, and the lights are so situated that they can be seen by the watchman even though he is at the gate pedestal; the lights are extinguished and the bells sound continuously when the circuit is occupied, and the tone of the bells is adjusted so as to indicate on which track a train is approaching. The control circuit on the west-bound track is 4,645 feet in length and operates in conjunction with the block-signal system. A law of the State of New Jersey requires the operator of a motor vehicle carrying inflammable liquids to bring the vehicle to a stop and shift gears to neutral position, such stop to be made not less than 15 feet nor more than 50 feet from the nearest rail, before crossing the tracks of a railroad at grade.

The operator of a motor car moving northward on Green Street has a clear view of a west-bound train for a distance of 1,138 feet when he is 40 feet from the south rail of the west-bound track; when 30 feet from it he can see for a distance of 1,998 feet, and when it is 20 feet distant, or less, his view is unobstructed for a distance of 3,584 feet.

It was clear and the visibility was good at the time of the accident, which occurred about 11:25 a.m.

#### Description

Train No. 711, a west-bound passenger train, consisted of 1 combination coach and baggage car and 3 coaches, hauled by engine 5410, and was in charge of Conductor Lane and Engineman Welch. This train passed DK Block Station, 3.5 miles east of Woodbridge, at 11:21 a.m., on time, and collided with the trailer of a truck at Green Street crossing in Woodbridge while traveling at a speed estimated to have been between 55 and 65 miles per hour.

The truck involved was a Mack truck, owned by the Shell Eastern Petroleum Products Inc., and both truck and trailer were loaded with gasoline; the truck was being driven by B. E. Bailey, accompanied by a mechanic, Harry Dewitz. The truck

approached the crossing from the south and stopped, as required by law, then started over the crossing, the gates not being down, and was moving at a low rate of speed when it was struck by Train No. 711. A small service truck, owned by the same company and driven by Joseph Romond, had been following the gasoline truck and was passing the latter truck on the crossing when it was struck by the wreckage.

The trailer carried five compartments, each containing about 500 gallons of gasoline, and the rear compartment was knocked loose from the chassis, the contents immediately catching fire and the flames subsequently setting fire to the contents of the remaining compartments. The gasoline truck eventually was uncoupled from the trailer and was not damaged, but the trailer and service truck were destroyed. The train was not derailed and stopped with its rear end about 1,060 feet west of the crossing, both engine and cars being considerably damaged by fire. The flames spread to adjacent property, destroying the gateman's shanty, and badly damaging the station, crossing gates, and several parked automobiles. Damage also was sustained by the block-signal system and by the catenary system being installed for electric operation. The employees killed were the engineman and the crossing watchman, and the employees injured were the fireman, who died subsequently, and an assistant foreman.

#### Summary of evidence

Conductor Lane stated that the train was traveling at a speed of about 55 miles per hour approaching Woodbridge when he felt a service application of the brakes, followed very closely by an emergency application. He did not remember hearing a highway crossing whistle signal sounded when approaching Green Street, felt no impact of a collision, and did not know the train had struck a gasoline truck until after it stopped, although there was a blast of intense heat and the train passed through flames.

Baggage master Daly did not recall hearing a crossing signal sounded but said he heard several consecutive blasts of the whistle, indicating danger, and the brakes were applied about 2 seconds afterwards; he estimated the speed at the time of the brake application at 65 miles per hour. Head Brakeman Raidy heard several short blasts of the whistle, followed almost immediately by an application of the brakes and then there was a crash, followed by a burst of flame. Rear Brakeman Meyer felt a service application of the brakes and then they were applied in emergency, the crash occurring about the time the latter application was made. He had heard the whistle

sounded for a street crossing located some distance east of Green Street but did not hear it sounded for the latter street.

East of Green Street there are two whistle boards for west-bound trains, one being 2,915 feet distant and serving both Green Street and Freeman Street, the latter being 1,647 feet east of Green Street, while the other whistle board is less than 200 feet east of Green Street and governs the crossings at Main Street and Berry Street, both of which are west of Green Street. Watchwoman Baszarab, who was on duty at Freeman Street, said she heard Train No. 711 sound a crossing whistle signal when approaching that street and again after passing it and before reaching Green Street. Crossing Watchman Conroy, on duty at Main Street, 1,003 feet west of Green Street, stated that on account of section men working on the east-bound track at Main Street he had kept his gates lowered most of the time and that they were down when Train No. 711 approached, at which time the annunciator bell started to ring and the lights went out, and on looking towards the east he saw the train approaching but did not see Crossing Watchman Shannon at Green Street and the gates at that point were not down. Automobiles were passing over the crossing and a large truck and trailer were approaching the tracks from the South; he did not know whether the truck stopped before it moved upon the crossing, as his view was obstructed by buildings, but he saw the truck passing over the crossing at a speed of about 5 miles per hour and then a smaller truck attempted to pass it. The large truck had just cleared the west-bound main track when the trailer was struck by the train, followed immediately by an explosion and fire. Crossing Watchman Conroy had last seen the watchman at Green Street at the time that watchman lowered his gates for a train at 10:26 a.m.

Track Supervisor Kerstetter stated that in order to repair the track at Main Street crossing on the morning of the accident it was necessary to divert highway traffic via Green Street for about 4 hours and he instructed his assistant to notify Crossing Watchman Shannon at Green Street to this effect. He saw Shannon about 1 hour prior to the accident and gave him a hand signal that traffic would be diverted over his crossing and the watchman, who appeared to be normal at that time, acknowledged his signal. Supervisor Kerstetter further stated that according to the records, Watchman Shannon had been employed in that capacity for about 16 years; he did not know how long this watchman had been at Green Street but said he had been there during Supervisor Kerstetter's assignment to this territory, a period of about 1½ years. The supervisor's assistant, Frank Aikman, said he complied with the supervisor's instructions about

notifying Watchman Shannon, and when he gave Watchman Shannon the information, about 10:15 a.m., the watchman seemed to be in normal condition.

Engineman Masterson, who was riding on the train at the time of the accident, went forward and took charge of the engine; he found the throttle closed, the brake-valve in emergency position, the reverse gear in backward motion, and the sand lever in open position. He released the brakes and they worked properly but he did not move the train due to brake rigging being down. Road Foreman of Engines Hipkins examined the engine at the scene of accident and found it damaged by the collision and the resultant fire. The brakes on the cars were tested with another engine before the train was moved and were found to be in operating condition. After the train departed there was a pile of sand on the track where the engine had been standing and he traced sand on the rails as far back as 200 feet east of Green Street.

Supervisor of Telegraph and Signals Kirsh stated that on the morning of February 21, prior to the arrival of Train No. 711, the lights and bells of the annunciator system at Green Street were checked and found to be in working order. He made another check after the accident; the case containing the apparatus had been destroyed but on going to Main Street crossing he found the annunciator system in operation, the annunciators at both crossings being on the same circuit. He then returned to Green Street, attached a new control relay to the wires, and determined that the apparatus must have been functioning properly at the time of the accident.

Conductor Kane, in charge of Extra 1043, a work train, said this train was occupying the east-bound track in the vicinity of the station at Genasco, 1 mile west of Woodbridge, and that some of the cars had been east of signal W-236 continuously after 10:30 a.m. This signal is at the beginning of the annunciator circuit for east-bound trains, and the cars in the work extra therefore would have caused the bells indicating the presence of an east-bound train on the circuit to ring continuously at the crossings at Main Street and Green Street. Watchman Conroy, however, said the lights in his shanty which gave information concerning east-bound trains remained lighted, indicating there was no train on the circuit, and he did not remember hearing the east-bound bell ringing.

B. E. Bailey, driver of the gasoline truck, stated that he came to a full stop south of the railroad crossing and looked in both directions; he did not see any train approaching while the gates were up and the watchman was standing in front of his shanty looking toward the truck, consequently Driver Bailey shifted to

low gear and proceeded. Just as the front wheels of the truck reached the west-bound track he observed a train approaching from the East and about the same time his helper called his attention to it. Realizing that he could not stop in time to prevent an accident, he increased the speed in an effort to get over the crossing, but there was a sudden tug of the truck and an instant later he saw flashes of fire and then knew that the trailer had been struck by the train. He stopped immediately and got off and attempted to uncouple the trailer, but the intense heat prevented him from doing so. As soon as the fire department had subdued the flames sufficiently, his assistant uncoupled the trailer and drove the truck to a point of safety. Driver Bailey said that just after seeing the approaching train he glanced to the left and saw the watchman standing in front of his shanty holding up his hand as a stop signal for a following car and he then heard a sharp blast of the watchman's whistle, but the watchman did not give him a signal at any time. William Crozier, of the Pennsylvania Railroad police, quoted Driver Bailey as saying that when his vehicle reached the west-bound track, and he had seen the train, he saw the watchman running and blowing his whistle.

The statements of Harry Dewitz practically corroborated those of Driver Bailey. When the truck stopped preparatory to crossing the tracks he looked in both directions along the track but could not see very far on account of adjacent buildings; he saw the watchman standing in front of the shanty facing them, however, but said the watchman did not give any signals and did not go near the gate controls. After the fire was under control he observed the charred body of a man lying face downward a few feet from the track and a short distance west of the location of the shanty.

Joseph Romond stated that he was driving a one-half ton pick-up truck of the Shell Company and was following the gasoline truck. When the truck stopped at the crossing he stopped his machine behind it and then followed it when it started across the tracks. The watchman then ran out of his shanty and blew a whistle, whereupon Romond swerved his car to the left and was passing the trailer when the train struck it and then something struck his own machine and threw it into the station driveway. He heard neither the whistle nor bell of the engine before the accident occurred. Plant Engineer Zehrer, also of the Shell Company, had been stopped at a traffic signal one block from the crossing; he witnessed the occurrence of the accident and said he did not hear the train whistle for the crossing.

Pasquale Montazzoli, proprietor of a shoe repair shop located on the east side of Green Street and approximately 85

feet south of the west-bound track, stated that he was working near the front window of his shop and observed the gasoline truck stop in front of the building; he did not see the smaller truck. After the gasoline truck started he paid no further attention to it until he heard an explosion and saw flames, and on looking toward the tracks he saw that the gates had not been lowered.

The gasoline truck involved in this accident was 28 feet 7 inches in length, with a light weight of 16,100 pounds and an allowable load of 13,900 pounds; the trailer, 26 feet 7 inches in length, had a light weight of 13,800 pounds and an allowable load of 16,200 pounds. These figures indicate that the combined length of the two units, exclusive of the coupling, was 55 feet 2 inches, with a maximum gross weight of 60,000 pounds, this weight being divided practically equally between the two units. At the time of the accident the truck was carrying 2,223 gallons of gasoline, with 2,476 gallons of gasoline in the trailer, or a total of 4,699 gallons. An employee of the Shell Company said he participated in a test made several days subsequent to the accident with the same truck and driver and a slightly smaller trailer, in which the driver was directed to duplicate his performance in stopping and proceeding over the crossing, and it was stated that the test showed 17.3 seconds were consumed from the time the truck started until the trailer cleared the tracks. No statements by the Shell Company's employees were obtained by the Commission's representatives other than those which were made to the local authorities and the statements mentioned in this report as having been made by Messrs. Bailey, Dewitz, Romond, and Zehrer, are based on what they told those authorities.

#### Discussion

The crossing involved in this accident is protected by gates with an annunciator system to warn the gateman of the approach of trains, and the rules provide that the gates must be completely lowered in ample time before an approaching train or engine reaches the crossing, and must be kept lowered until such train or engine has passed and until the watchman is sure that no other train or engine is approaching. The evidence, however, showed that the gates were not lowered and that the gasoline truck and trailer, after stopping as required by law, entered upon the crossing and that the driver had no knowledge of anything wrong until the front end of his vehicle was on the track on which the train was approaching. Some of the evidence was to the effect that the watchman ran out of his shanty at this particular moment and began blowing his whistle as a warning, while other evidence indicated that he was standing outside and gave no warning. In either event, however, the fact remains that the gates were not lowered and apparently no other steps were taken to warn the



driver of the gasoline truck before it started over the crossing.

It can not be stated definitely from the evidence whether the track circuit on the east-bound track had been occupied for approximately 1 hour prior to the accident, thus causing the bell indicating the presence of a train on that track to ring continuously and in that way interfere possibly with the hearing of the watchman when the bell for the west-bound track began to ring as Train No. 711 approached. In addition to a bell for each track, however, there also were lights which would become extinguished when a train was approaching and serve as further information as to which track an approaching train was occupying. The watchman on duty at Green Street crossing was an experienced man with a good record and had been employed at this point for a considerable period of time, while the length of the annunciator circuit was sufficient to give him ample time in which to stop traffic and lower the gates, which had been in working order; under these circumstances it is impossible to say why such action was not taken.

An unrestricted view of an approaching west-bound train can not be had from the highway until after a north-bound vehicle has passed a small building on the right side of the highway. At a point 40 feet from the south rail of the west-bound track, however, an approaching train can be seen when 1,138 feet distant, and when 30 feet from the rail the range of vision is 1,998 feet. It is apparent, therefore, that had either Driver Belden or the mechanic who was with him glanced to the east after stopping and then starting toward the crossing, they could have seen the approaching train in ample time for the slowly-moving gasoline truck to be brought to a stop. According to their own statements, however, they did not see the train until the front end of the vehicle was on the track and then there was not time enough to clear the crossing before the train reached it.

The fact that the gates were not lowered as the truck approached and started over the crossing unquestionably led Driver Belden to think that there was no train approaching; the crossing watchman was killed as a result of this accident, and the reason for his failure to operate the gates could therefore not be determined. However, even though the gates were not lowered the view of the track was such that the approaching train could have been seen by the driver of the truck in time to have averted this accident.

### Conclusions

This accident was caused by failure of a crossing watchman to lower the gates at a railroad crossing at grade when a train was approaching.

### Recommendations

The highest possible degree of care should be exercised in connection with the operation of trucks loaded with explosive or highly inflammable materials. When approaching a railroad crossing at grade, it should be positively determined that it is safe to proceed before entering upon the crossing; not only should an unusually careful lookout be maintained but if it cannot otherwise be determined whether it is safe to proceed, vehicles of this character should be permitted to be operated over crossings only upon signals of a man on the ground at the crossing. The possible consequences of accidents of the character of that here under investigation are so terrible that all possible precautions to prevent them should be taken.

Respectfully submitted,

W. J. PATTERSON,

Director.