

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3211
THE PENNSYLVANIA RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR GNADENHUTTEN, OHIO, ON
OCTOBER 27, 1948

SUMMARY

Railroad: Pennsylvania
Date: October 27, 1948
Location: Gnadenhnutten, Ohio
Kind of accident: Collision
Equipment involved: Passenger train : Motor-truck
Train number: 202 :
Engine number: 3866 :
Consist: 13 cars :
Estimated speeds: 60 m. p. h. : Unknown
Operation: Automatic-block-signal and cab-signal systems
Tracks: Double; tangent; 0.06 percent descending grade eastward
Highway: Tangent; crosses track at angle of 24°30'; 0.31 percent descending grade southward over crossing
Weather: Dense fog
Time: 4:43 a. m.
Casualties: 3 killed; 24 injured
Cause: Motor-truck occupying rail-highway crossing at grade immediately in front of approaching train

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3211

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE PENNSYLVANIA RAILROAD COMPANY

December 31, 1948

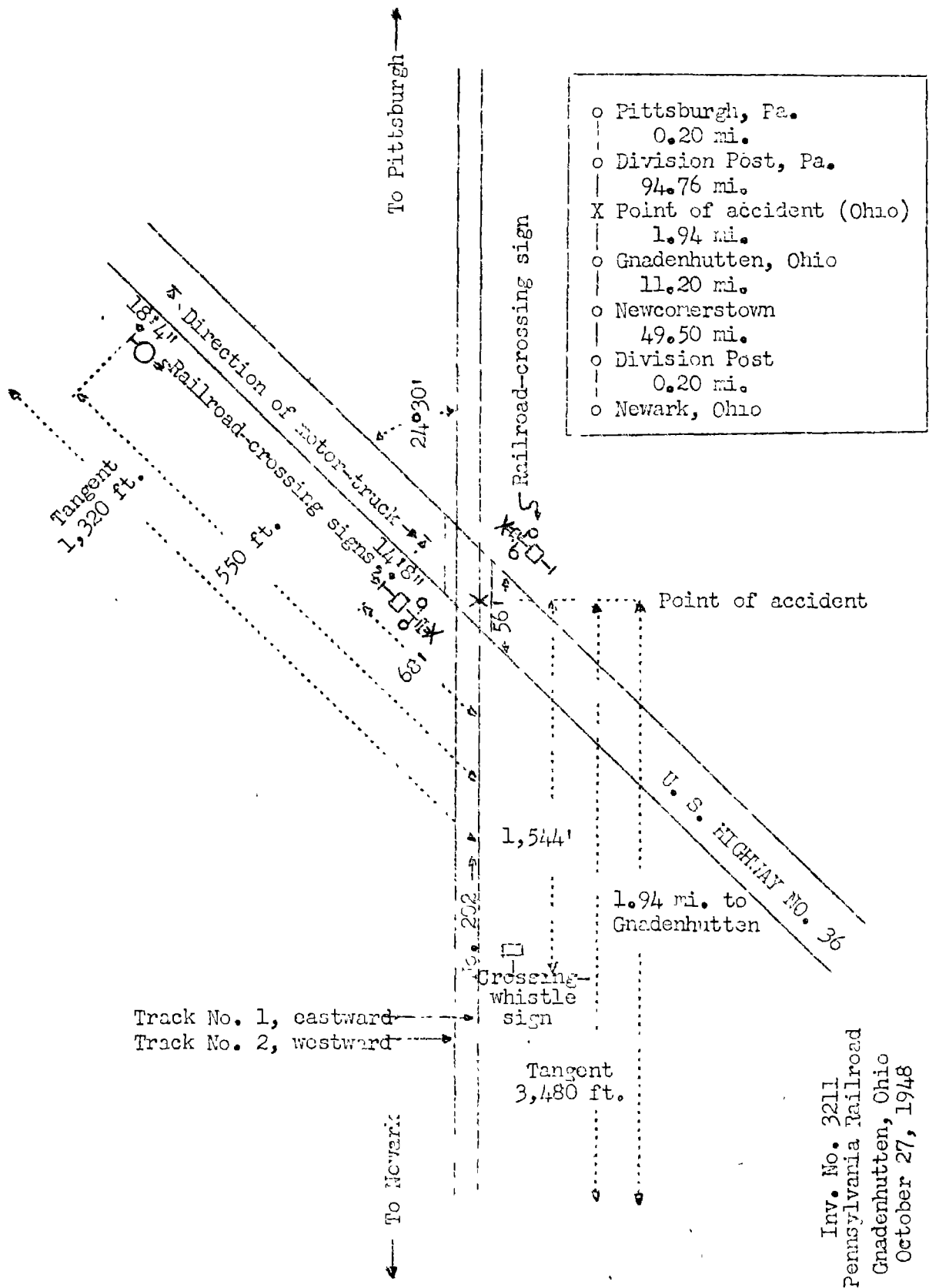
Accident near Gnadenhutten, Ohio, on October 27, 1948,
caused by a motor-truck occupying a rail-highway
crossing at grade immediately in front of an
approaching train.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On October 27, 1948, there was a collision between a passenger train on the Pennsylvania Railroad and a motor-truck at a rail-highway grade crossing near Gnadenhutten, Ohio, which resulted in the death of the driver of the motor-truck and 2 train-service employees, and the injury of 19 passengers and 6 railway-mail clerks. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio.

¹
Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv. No. 3211
 Pennsylvania Railroad
 Gnadenhutten, Ohio
 October 27, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Panhandle Division extending between Division Post, Newark, Ohio, and Division Post, Pittsburgh, Pa., 157.4 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by automatic-block-signal and cab-signal indications. The main tracks are designated from south to north as track No. 1, eastward; and track No. 2, westward. The accident occurred on track No. 1 at a point 1.94 miles east of the station at Gnadenhuetten, where the railroad is crossed at grade by U. S. Highway No. 36. The main tracks are tangent throughout a distance of 3,480 feet immediately west of the crossing, and 2,830 feet eastward. The grade is 0.06 percent descending eastward.

U. S. Highway No. 36 intersects the railroad at an angle of $24^{\circ}30'$, and is surfaced with macadam to a width of 25 feet. The highway is tangent throughout a distance of 1,320 feet immediately north of the crossing and 1,056 feet southward. The grade for south-bound vehicles varies between 0.70 percent and 2.57 percent ascending 450 feet, then it is 0.31 percent descending 50 feet to the crossing and about 50 feet southward. The crossing is 56 feet wide, and the distance from the north rail of track No. 2 to the south rail of track No. 1 is 39 feet. Timbers 8 inches by 8 inches are laid on each side of each rail throughout the width of the crossing. The remaining area of the crossing between the rails and between the tracks is surfaced with asphaltum. Flangeways $1\text{-}3/4$ inches wide are provided. The surface of the crossing is practically level with the tops of the rails and is in good condition.

A circular railroad-crossing advance-warning sign, 2 feet 4 inches in diameter, is located to the right of the direction of south-bound traffic, 18 feet 4 inches west of the center-line of the highway, and 550 feet north of the crossing. This sign is mounted on a mast 2 feet 10 inches above the level of the highway, and bears two diagonal lines intersecting at right angles and the letters "R.R." in black on a yellow background. The letters and the lines are outlined by colorless reflector buttons. A standard cross-buck railroad-crossing sign is located to the right of the direction of south-bound traffic, 14 feet 8 inches west of the center-line of the highway, and 68 feet north of the center-line of track No. 1. This sign is mounted on a mast

10 feet 6 inches above the level of the highway and bears the words "RAILROAD CROSSING" in black on a white background. A sign bearing the numeral "2" over the word "TRACKS", both of which are outlined by colorless reflector buttons on a black background, is mounted immediately below the cross-buck sign. A horizontal bar is mounted on the mast below the cross-buck sign and 8 feet 2-3/4 inches above the level of the highway. Two hooded red lights, 6 inches in diameter, are attached back-to-back to each end of this bar. These lamps are arranged to be illuminated alternately. A rectangular sign 22-1/2 inches high by 25-1/2 inches long is mounted on the mast 3 feet 8-1/4 inches above the level of the highway and bears the words "STOP ON RED SIGNAL," each letter of which is outlined by colorless reflector buttons on a black background. A similar railroad-crossing sign is located in the southeast angle of the intersection and both are arranged for automatic operation upon the approach of a train. The control circuit of the flashing-light signals on track No. 1 extends 3,510 feet west of the crossing. When an approaching train occupies any portion of this circuit, the red lamps light alternately at a rate between 30 and 45 times per minute, thus presenting 4 lighted red lamps towards each direction of traffic. A crossing-whistle sign for east-bound trains is located 1,544 feet west of the crossing.

This carrier's operating rules read in part as follows:

14. Engine Whistle Signals

Note--The signals prescribed are illustrated by "o" for short sounds; "___" for longer sounds. * * *

SOUND	INDICATION
* * *	
(1) ___ — o ___	Approaching public crossings at grade, to be prolonged or repeated until crossing is reached, unless otherwise provided; * * *

* * *

30. The engine bell must be rung * * * while approaching and passing public crossings at grade * * *

Sec. 6307-60 of the Motor Vehicle Laws of Ohio,
Revision of December 30, 1947, read in part as follows:

Driving Across Grade Crossings; Signal Devices;

* * *

* * * No person shall drive a vehicle across
a railroad grade crossing when:

(a) A clearly visible electric or mechanical
signal device gives warning of the immediate
approach of a train;

* * *

The maximum authorized speed for the passenger train was
70 miles per hour.

Description of Accident

No. 202, an east-bound first-class passenger train,
consisted of engine 3866, a 4-6-2 type, two box-express
cars, three express-baggage cars, one baggage-mail car,
one baggage-mail-express car, one passenger-baggage car,
one coach, three sleeping cars and one passenger-baggage
car, in the order named. The ninth car was of lightweight
high-tensile steel construction, and the remainder of the
cars were of conventional carbon-steel construction. This
train passed Newcomerstown, the last open office, 13.14
miles west of the point of accident, at 4:30 a. m., 22
minutes late, and while moving on track No. 1 at an estimated
speed of 60 miles per hour it struck a motor-truck on a
grade-crossing 1.94 miles east of Gnadenhutzen and was
derailed.

The vehicle involved was a tractor and semi-trailer
of the open-deck type, owned by the driver and operating
under contract with Lattavo Brothers, Inc., Canton, Ohio. The
driver, who was the sole occupant, held Pennsylvania operator's
license No. 1133114. The tractor was a 1948 Brockway 6-cylinder
Model 260XW, and bore, among others, Pennsylvania license
Y387B. The tractor was equipped with single wheels on the
front axle, dual wheels on each end of the rear axle, and
air-operated brakes on all wheels. It was provided with
an enclosed steel cab. The semi-trailer was equipped with
tandem axles at the rear spaced 49 inches between centers,
dual wheels at each end of each axle, and air-operated brakes

on all wheels. It bore Pennsylvania license B224. At the time of the accident the cargo consisted of 648 sheets of sheet steel. The total length of the tractor and semi-trailer, coupled, was 39 feet 6 inches. The total weight of the tractor, semi-trailer and cargo was 81,920 pounds. The cargo was loaded at the Dravosburg, Pa., plant of the Carnegie-Illinois Steel Corporation, and was destined to Port Columbus, Ohio. This vehicle, moving southward on U. S. Highway No. 36, stopped short of the crossing, then entered upon the crossing, passed over track No. 2 and was passing over track No. 1 when it was struck by No. 202.

The tractor was torn loose from the semi-trailer and stopped, badly damaged and headed north, in the southeast angle of the intersection at a point about 15 feet south of track No. 1 and 35 feet east of the center-line of the highway. The semi-trailer stopped about 40 feet east of the point of collision and 10 feet north of the center-line of track No. 2, and was demolished.

The engine, the tender and the first to ninth cars, inclusive, of No. 202 were derailed. The engine stopped in reverse direction, on its right side, and at an angle of about 30 degrees to the tracks, with the front of the engine 96 feet south of the center-line of track No. 1 and 326 feet east of the center-line of the highway. The tender was torn loose and stopped on its right side across track No. 2 and at right angles to it, at a point 1,195 feet east of the crossing. The engine and tender were practically destroyed. Separations occurred at each end of the first to sixth cars, inclusive. The ninth car only was equipped with tightlock couplers. The first car stopped on its left side, across tracks Nos. 1 and 2 and at an angle of 15 degrees to them, with its front end 510 feet east of the crossing. The second car stopped upright, 65 feet south of track No. 1 and several feet east of the engine. The third car stopped against the engine and was parallel to it. The fourth car stopped on its left side, on track No. 1, and immediately to the rear of the first car. The fifth car stopped upright and at right angles to the tracks, with one end against the engine and the other end against the fourth car. The sixth car stopped upright and at an angle of 75 degrees to the tracks, with the front end against the front of the engine and the rear end on track No. 1. The seventh to ninth cars, inclusive, stopped upright and in line with track No. 1, with the front of the seventh car and the rear of the ninth car, respectively, 306 feet and 72 feet east of the point of accident. The second, third and fifth cars were destroyed, the fourth and sixth cars were badly damaged, and the remainder of the derailed cars were slightly damaged.

The engineer and the fireman were killed.

There was a dense fog at the time of the accident, which occurred about 4:43 a. m.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing was 58.3 trains. During the 24-hour period beginning at 7 a. m., November 10, 1948, 1,660 automobiles, 18 buses, 679 motor-trucks, and 64 trains passed over the crossing.

Engine 3866 was equipped with a fabricated steel-plate deflecting pilot of the unit type, designed with a central pocket for the reception of a drop-type retractable coupler. At the time of the accident the coupler was retracted in dropped position, and was secured in the coupler pocket.

Discussion

No. 202 was approaching the crossing at U. S. Highway No. 36 at an estimated speed of 60 miles per hour, in territory where the maximum authorized speed for this train was 70 miles per hour. The members of the train crew were in various locations throughout the train. The first these employees knew of anything being wrong was when the brakes were applied in emergency. The collision and the derailment occurred immediately afterward. The brakes of this train had been tested and had functioned properly en route.

At the time of the accident a dense fog prevailed, and visibility was restricted to about 150 feet. It could not be determined when the enginemen first became aware that a collision with the motor-truck was imminent, as both were killed in the accident. Apparently, a lookout was being maintained, because a nearby resident heard the engine whistle being sounded for several seconds before the collision occurred. Examination of engine 3866 after the accident disclosed that the air-operated bell-ringer control valve was open, the headlight switch was in position for illumination, the automatic brake valve was in emergency position, and the throttle was in fully open position. The sander valve was closed.

The crossing was protected by an advance warning sign, standard cross-buck signs, and an automatic flashing-light warning signal located on either side of the crossing to the right of each direction of traffic. An east-bound train approaching the crossing on track No. 1 at a speed

of 60 miles per hour actuates these flashing-light signals during a period of about 40 seconds. The driver and a student driver of a bus said that their bus was stopped about 150 feet north of the crossing and closely to the rear of the motor-truck involved, which was then standing at the crossing. They said that immediately afterward, although the flashing-light signals were operating, the motor-truck started, proceeded slowly, and entered upon the crossing when the headlight of the approaching train was about 150 feet west of the crossing.

The driver-owner of the motor-truck was a driver of 11 years experience. The investigation disclosed that on March 24, 1948, he was given a physical examination and was found fit to perform service as a truck driver. The tractor had been in use 11 months and was in good condition. The semi-trailer had been rebuilt about 10 days prior to the accident. The driver's log was consumed by fire following the collision. However, the investigation disclosed that the driver was off duty at Pittsburgh, Pa., 90 miles east of the point of accident, between 1:30 a. m., October 26, 1948, and 11:45 p. m., the same date. At the time of the accident he had been on duty 4 hours 58 minutes.

The laws of the state of Ohio governing operation of motor vehicles require that any motor vehicle must not proceed across a railroad grade crossing when a clearly visible electric or mechanical signal warns of the immediate approach of a train. The driver was fatally injured in the accident, and therefore it could not be determined why he disregarded the warning given by the flashing-light signals.

Cause

It is found that this accident was caused by a motor-truck occupying a rail-highway crossing at grade immediately in front of an approaching train.

Dated at Washington, D. C., this thirty-first day of December, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.