

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3198  
THE PENNSYLVANIA RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR ROBINSON, OHIO, ON  
AUGUST 16, 1948

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SUMMARY

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Railroad: Pennsylvania  
Date: August 16, 1948  
Location: Robinson, Ohio  
Kind of accident: Head-end collision  
Trains involved: Freight : Passenger  
Train numbers: Extra 6995 East : Passenger Extra  
5536 West  
Engine numbers: 6995 : 5536  
Consists: 67 cars, 2 : 13 cars  
caboose  
Estimated speeds: Standing : 7 m. p. h.  
Operation: Signal indications  
Tracks: Three; tangent; level  
Weather: Clear  
Time: 9:45 a. m.  
Casualties: 57 injured  
Cause: Failure to operate Passenger Extra  
5536 West in accordance with  
signal indications

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3198

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

THE PENNSYLVANIA RAILROAD COMPANY

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November 5, 1948

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Accident near Robinson, Ohio, on August 16, 1948, caused  
by failure to operate Passenger Extra 5536 West in  
accordance with signal indications.

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REPORT OF THE COMMISSION<sup>1</sup>

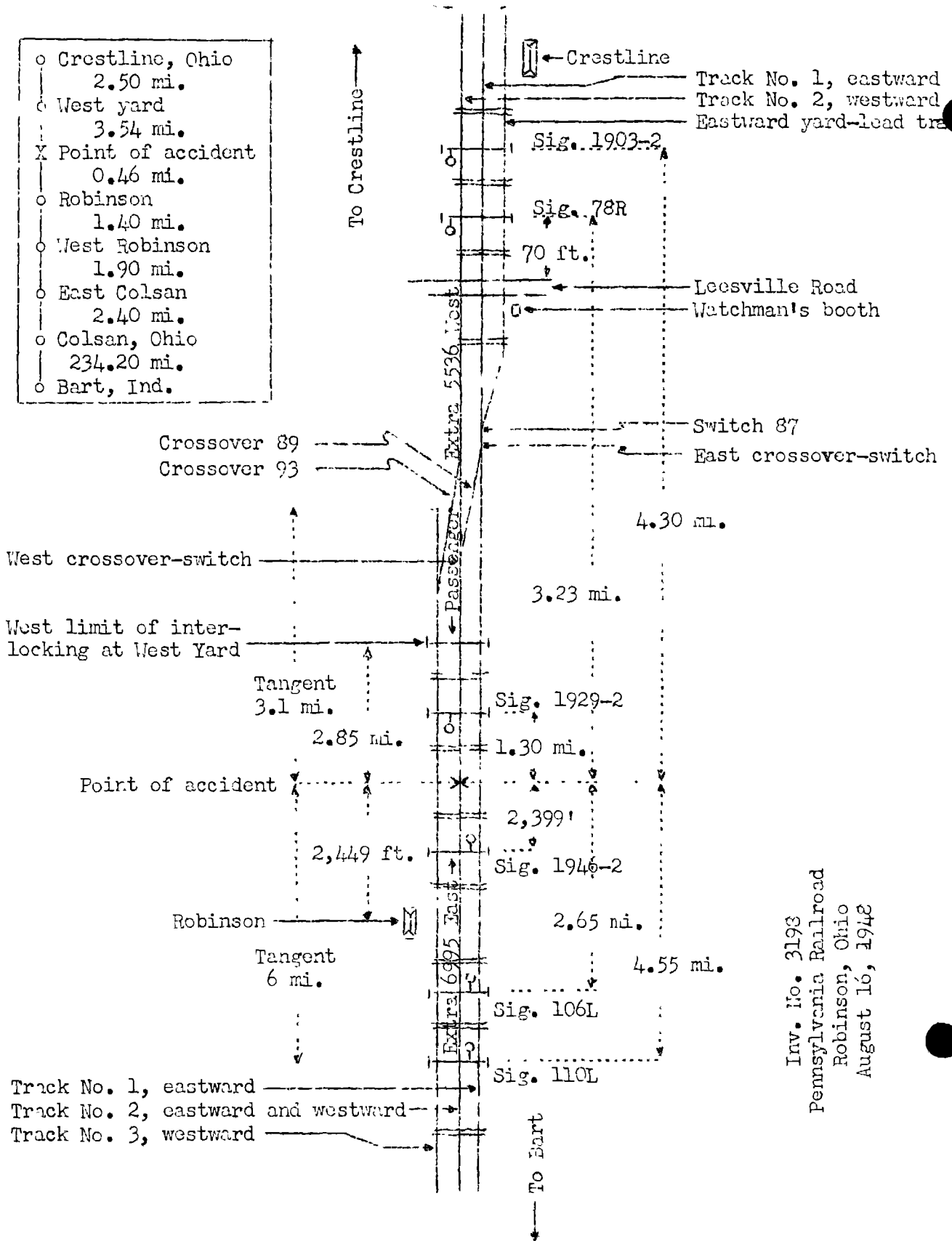
PATTERSON, Commissioner:

On August 16, 1948, there was a head-end collision between a freight train and a passenger train on the Pennsylvania Railroad near Robinson, Ohio, which resulted in the injury of 46 passengers, 7 Pullman employees and 4 train-service employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio.

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<sup>1</sup> 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.

- o Crestline, Ohio 2.50 mi.
- o West yard 3.54 mi.
- X Point of accident 0.46 mi.
- o Robinson 1.40 mi.
- o West Robinson 1.90 mi.
- o East Colsan 2.40 mi.
- o Colsan, Ohio 234.20 mi.
- o Bart, Ind. 234.20 mi.



Inv. No. 3193  
 Pennsylvania Railroad  
 Robinson, Ohio  
 August 16, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Fort Wayne Division extending between Crestline, Ohio, and Eart, Ind., 246.4 miles. Between Crestline and West Yard, 2.5 miles, this is a double-track line, and the tracks are designated from south to north as No. 1, eastward, and No. 2, westward. Within interlocking limits at West Yard this double-track line joins a three-track line extending westward to Colsan, 9.7 miles, and these tracks are designated from south to north as No. 1, eastward; No. 2, eastward and westward, and No. 3, westward. Westward movements from track No. 2 to track No. 3 are made through interlocked crossover 93, and eastward movements from track No. 2 to track No. 1 are made through crossover 89. Eastward movements from track No. 1 to the yard-lead track are made through interlocked switch 87, located 60 feet east of the east switch of crossover 89. Trains moving with the current of traffic on tracks Nos. 1 and 3 between West Yard and Colsan and trains moving in either direction on track No. 2 between West Yard and Colsan, and on tracks Nos. 1 and 2 between Crestline and West Yard, are operated by signal indications. The accident occurred on track No. 2 at a point 2.85 miles west of the interlocking limits at West Yard and 2,449 feet east of Robinson. From the east there is a tangent 5.1 miles to the point of accident and about 6 miles westward. The grade is level.

Automatic signal 1903-2, interlocking signal 78R at West Yard, and automatic signal 1929-2, governing west-bound movements on track No. 2 are, respectively, 4.30 miles, 3.23 miles, and 1.30 miles east of the point of accident. Interlocking signal 110L at East Colsan, 2.40 miles east of Colsan, interlocking signal 106L at West Robinson, 1.40 miles west of Robinson, and automatic signal 1946-2, governing east-bound movements on track No. 2 are, respectively, 4.55 miles, 2.65 miles, and 2,399 feet west of the point of accident. These signals are of the position-light type, continuously lighted, and are mounted on signal bridges. The involved aspects and corresponding indications are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>
110L, 106L	Three amber lights in vertical position.	Proceed.
1903-2, 1946-2	Three amber lights in diagonal position to the right.	Proceed prepared to stop at next signal. Train exceeding medium speed must at once reduce to that speed.

1929-2	Three amber lights in horizontal position over amber marker light.	Stop; then proceed at Restricted speed.
78R	Three amber lights in horizontal position.	Stop.

Interlocking signal 110L at East Colgan, interlocking signal 106L at West Robinson, and interlocking signal 78R, crossovers 93 and 89, and switch 87 at West Yard are remotely controlled from Crestline from a C.T.C. type control-panel. The control-panel is provided with a track diagram, and track occupancy is shown by means of miniature lamps on the diagram. Miniature lamps also are provided on the panel near each operating lever of the machine to indicate that switches are locked either in the normal or reverse position and to indicate that a signal either is displaying an aspect indicating stop or an aspect permitting a train to proceed. A graphic recorder is provided to record the time that a controlled signal is displaying an aspect permitting a train to proceed. Approach and route locking are provided. Circuits are so arranged that the direction of traffic on track No. 2 between West Yard and East Colgan is established by the operator at Crestline. After the direction of traffic is established, it is maintained by a train that is occupying the route.

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

#### DEFINITIONS

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#### Speeds

Medium Speed--Not exceeding one-half the speed authorized for passenger trains but not exceeding 30 miles per hour.

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Restricted Speed--Not exceeding 15 miles per hour prepared to stop short of train, obstruction or switch not properly lined and to look out for broken rail.

# Opposing and Following Movement of Trains by Block Signals

261. On portions of the railroad and on designated tracks so specified on the time-table, trains will be governed by block signals whose indications will supersede the superiority of trains for both opposing and following movements on the same track.

Note--Approved requisites for signal system, to provide control of trains by signal indication in lieu of time-table authority and train orders, must be observed.

509. A train or engine must stop clear of a block signal indicating Stop. A train or engine must not pass a Stop-signal except when authorized by Clearance Card (Form C), train order or special instructions. When a train or engine is stopped by a Stop-and-proceed signal, it may then proceed at restricted speed.

Timetable special instructions read in part as follows:

## OPPOSING AND FOLLOWING MOVEMENT OF TRAINS BY BLOCK SIGNALS

2602. Rules 261, \* \* \* in effect:

	Track	Between	And
Main Line	No. 2	Colson	West Yard
	No. 1 and	West Yard	Crestline
	No. 2		

\* \* \*

## AUTOMATIC BLOCK SYSTEM

2901. Rules 501 to 512 inclusive are in effect on portions of the Division as follows:

For movements with the current of traffic.

	Track	Between	And
	* * *		
Main Line	No. 1, No. 2 and No. 3	Colson	West Yard
	No. 1 and No. 2	West Yard	Crestline
	* * *		

For movements against current of traffic.

	Track	Between	And
Main Line	No. 2	Colsan	West Yard
	No. 1 and	West Yard	Crestline
	No. 2		

The maximum authorized speed is 75 miles per hour for passenger trains and 50 miles per hour for freight trains.

#### Description of Accident

Extra 6995 East, an east-bound freight train, consisted of engine 6995, 67 cars and 2 cabooses. This train entered track No. 2 at Colsan, passed signals 110L and 106L, each of which indicated proceed, passed signal 1946-2, which indicated proceed-prepared-to-stop-at-next-signal, and after an emergency application of the brakes, stopped at a point 2,399 feet east of signal 1946-2. Immediately thereafter, the engine was struck by Passenger Extra 5536 West.

Passenger Extra 5536 West, a west-bound passenger train, consisted of engine 5536, 1 baggage car, 6 sleeping cars, 1 baggage car, and 5 sleeping cars, in the order named. All cars were of all-steel construction. This train departed from Crestline at 9:33 a. m., passed signal 1903-2, which indicated proceed-prepared-to-stop-at-next-signal, passed signal 78R, which indicated stop, passed signal 1929-2, which indicated stop-then-proceed, and while moving at a speed of about 7 miles per hour it struck Extra 6995 East.

Engine 6995, its tender, and the front truck of the first car were derailed but remained upright and in line with the track. The engine and tender were considerably damaged and the first car was slightly damaged. The front truck of the first car of Passenger Extra 5536 West was derailed. The engine and tender were badly damaged. The first car telescoped the tender and was badly damaged. The ninth, tenth, eleventh, and thirteenth cars were slightly damaged.

The conductor, the brakeman, and the flagman of Passenger Extra 5536 West, and the front brakeman of Extra 6995 East were injured.

The weather was clear at the time of the accident, which occurred about 9:45 a. m.



### Discussion

About 7:20 a. m. on the day of the accident, the operator of the interlocking at Colsan communicated with the operator at Crestline to determine over which track to route three eastward trains, the last of which was Extra 6995 East. The operator at Crestline instructed the operator at Colsan to route the three trains eastward on track No. 2 and the operator at Crestline immediately established the eastward direction of traffic on that track from East Colsan to West Yard, and reversed crossover 89 and switch 87 at West Yard for eastward movement from track No. 2 to the eastward yard-lead track. The first two of the three trains were operated between East Colsan and West Yard and thence to the eastward yard-lead track over this route. The direction of traffic was maintained eastward and the route from track No. 2 to the eastward yard-lead track was not changed when Extra 6995 East entered track No. 2 at Colsan interlocking at 9:29 a. m.

Extra 6995 East approached the point where the accident occurred at a speed of 25 or 30 miles per hour. The engineer and the fireman were maintaining a lookout ahead from their respective positions in the cab, and two brakemen were in the brakeman's booth on the tender. The brakes of this train had been tested and had functioned properly en route. Signals 110L and 106L indicated proceed. When the engine passed signal 1946-2, which indicated proceed-prepared-to-stop-at-next-signal, the engineer initiated a service brake application to comply with the signal indication. Immediately thereafter, both the engineer and the fireman observed Passenger Extra 5536 West approaching on track No. 2. The engineer then moved the brake valve to emergency position, and the train was stopped before the collision occurred.

After a terminal air-brake test had been completed, Passenger Extra 5536 West departed from Crestline on track No. 2 at 9:33 a. m. The speed was about 50 miles per hour as the train approached signal 1903-2. The engineer was maintaining a lookout ahead from the right side of the engine but the fireman was engaged in other duties which prevented him from maintaining a lookout ahead. The other members of the crew were in various locations throughout the train. Before the engine passed signal 1903-2, the engineer made a running test of the brakes. The brakes operated properly and the speed was reduced to about 40 miles per hour. The engineer said that signal 1903-2 indicated proceed and that, although he had difficulty in determining the aspect of signal 78R because

of the angle at which the sun was shining on the signal, this signal also indicated proceed. He said that a speed of about 40 miles per hour was maintained as the train approached signal 1929-2, which indicated proceed-prepared-to-stop-at-next-signal, and that after the engine passed that signal both he and the fireman observed Extra 6995 East approaching on track No. 2. The engineer said a brake application was not initiated; however, until his engine was at least 3,000 feet west of signal 1929-2, at which point the brakes were applied in emergency. The speed was reduced to about 7 miles per hour when the collision occurred. The fireman said that he did not observe the aspect displayed by signals 1903-2, 78R, or 1929-2.

After the accident it was found that the west switch of crossover 89 had been trailed through in the reversed position by Passenger Extra 5536 West, the last train to be operated over that switch. Before the two trains were moved from the point of accident, the controlling relays for establishing the direction of traffic on track No. 2 between East Colson and West Yard were in position for east-bound traffic, and were being maintained in that position by occupancy of the track circuit in which the accident occurred. After track No. 2 was cleared, it was closed to traffic for a period of about 17 hours while tests of the signal system were made by forces of the Telegraph and Signal Department, all of which indicated that the system was functioning as intended. After track No. 2 was returned to operation, the signals involved were kept under constant observation for a period of about 30 hours, and the control machine at Crestline for a period of about 45 hours, during which periods they functioned as intended. The graph of the recorder on the control machine at Crestline indicated that prior to the accident the last operation of signal 78R occurred about 20 minutes before Passenger Extra 5536 West departed from Crestline, and this operation was for a westward train routed from track No. 2 to track No. 3 at West Yard through crossover 93, and this train was not operated over the west switch of crossover 89.

Leesville Road crosses track No. 2, among other tracks, at grade about 70 feet west of interlocking signal 78R. This crossing is protected by crossing gates operated either automatically by an approaching train or manually by a crossing watchman stationed at the crossing. For automatic operation, the westward approach circuit on track No. 2 extends 4,200 feet in approach to signal 78R, but this approach circuit is

by-passed and the gates do not operate automatically when signal 78R is indicating stop. The crossing watchman on duty at the time of the accident said that the gates did not operate automatically upon the approach of Passenger Extra 5536 West but that they did operate automatically for movements approaching the crossing prior to the time Passenger Extra 5536 West passed over the crossing and after the accident occurred. Two members of a maintenance-of-way force, working in the vicinity of signal 1903-2, said that this signal indicated proceed-prepared-to-stop-at-next-signal when Passenger Extra 5536 West approached it.

Inasmuch as the direction of traffic on track No. 2 was established and was being maintained for eastward movements, the west switch of crossover 89 was trailed through by Passenger Extra 5536 West when that switch was in position for signal 78R to indicate stop only, the graph of the recorder on the control machine at Crestline indicated that prior to the accident the last operation of signal 78R occurred about 20 minutes before Passenger Extra 5536 West departed from Crestline, and the crossing gates at Leesville Road did not operate automatically upon the approach of Passenger Extra 5536 West, it is apparent that signal 78R indicated stop for Passenger Extra 5536 West.

Cause

It is found that this accident was caused by failure to operate Passenger Extra 5536 West in accordance with signal indications.

Dated at Washington, D. C., this fifth  
day of November, 1948.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.