

INTERSTATE COMMERCE COMMISSION
WASHINGTON

INVESTIGATION NO. 3242
THE BALTIMORE AND OHIO RAILROAD COMPANY
REPORT IN RE ACCIDENT
NEAR LEBANON JCT., OHIO, ON
APRIL 6, 1949

SUMMARY

Date: April 6, 1949

Railroad: Baltimore and Ohio

Location: Lebanon Jct., Ohio

Kind of accident: Collision

Equipment involved: Freight train : Motor-truck

Train number: Extra 4265 West :

Engine number: 4265 :

Consist: 28 cars, cabooses :

Estimated speeds: 25 m. p. h. : 30 m. p. h.

Operation: Timetable and train orders

Track: Single; tangent; 0.6 percent descending grade westward

Highway: 1° curve to right; crosses track at angle of 65°15'; 0.6 percent descending grade northward

Weather: Cloudy

Time: 5:23 a. m.

Casualties: 1 killed; 1 injured

Cause: Motor-truck occupying rail-highway grade crossing immediately in front of approaching train

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3242

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

THE BALTIMORE AND OHIO RAILROAD COMPANY

June 15, 1949

Accident near Lebanon Jct., Ohio, on April 6, 1949, caused
by a motor-truck occupying a rail-highway grade
crossing immediately in front of an approaching train.

REPORT OF THE COMMISSION¹

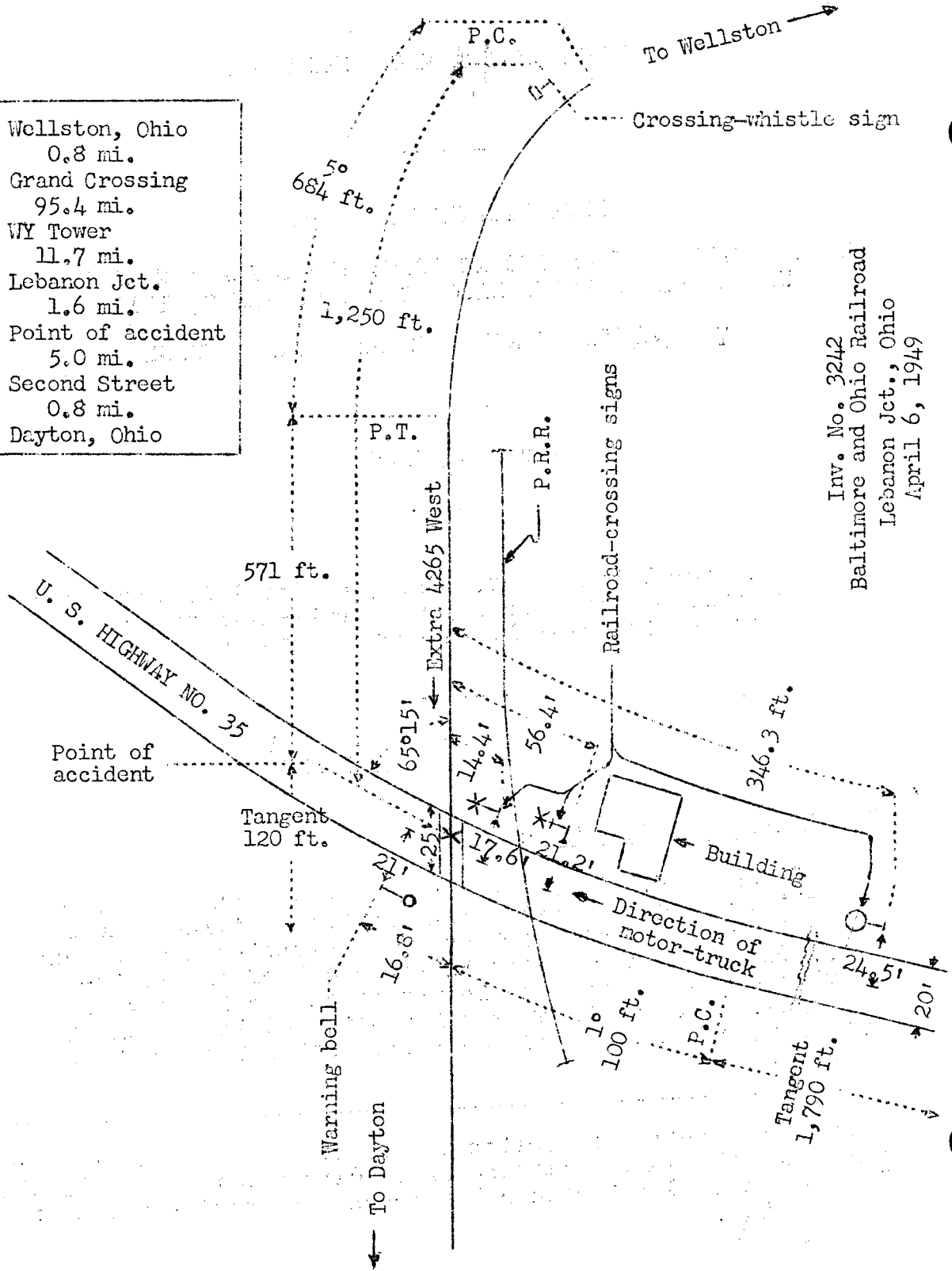
PATTERSON, Commissioner:

On April 6, 1949, there was a collision between a freight train on the Baltimore and Ohio Railroad and a motor-truck at a rail-highway grade crossing near Lebanon Jct., Ohio, which resulted in the death of one train-service employee, and the injury of one train-service employee. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio.

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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.

- Wellston, Ohio
| 0.8 mi.
- Grand Crossing
| 95.4 mi.
- WY Tower
| 11.7 mi.
- Lebanon Jct.
| 1.6 mi.
- X Point of accident
| 5.0 mi.
- Second Street
| 0.8 mi.
- Dayton, Ohio



To Wellston →

..... Crossing-whistle sign

Inv. No. 3242
 Baltimore and Ohio Railroad
 Lebanon Jct., Ohio
 April 6, 1949

U. S. HIGHWAY NO. 35

Point of accident

Tangent 120 ft.

Warning bell

To Dayton

Extra 4265 West

P.O.R.R.

Railroad-crossing signs

Building

Direction of motor-truck

P.C.

Tangent 1,790 ft.

50°
684 ft.

1,250 ft.

571 ft.

65°15'

14°41'

56°41'

346.3 ft.

24.5'

10°
100 ft.

20'

Location of Accident and Method of Operation

This accident occurred on that part of the Toledo Division extending between Grand Crossing, Wellston, and Second Street, Dayton, Ohio, 113.7 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. The accident occurred on the main track at a point 108.7 miles west of Grand Crossing, Wellston, and 1.6 miles west of Lebanon Jct., where the railroad is crossed at grade by U. S. Highway No. 35. The track at this point extends practically north and south, and the highway practically east and west. Timetable directions on the railroad are east and west, and these directions will hereafter be used in this report. From the east on the railroad there is a 5° curve to the left 684 feet in length, and then a tangent 571 feet to the point of accident and 120 feet westward. The grade is 0.6 percent descending westward. In the vicinity of the point of accident a track of the P.R.R. parallels the B. & O. main track on the south at a distance of about 40 feet. U. S. Highway No. 35 intersects the railroad at an angle of 65°15'. This highway is 20 feet wide, and is surfaced with concrete. From the south the highway is practically tangent a distance of 1,790 feet, then there is a 1° curve to the right 100 feet to the point of accident. The grade for north-bound vehicles is, successively, 4.3 percent descending a distance of 900 feet, 2 percent descending 500 feet, and 0.6 percent descending 400 feet to the point of accident. The crossing is 25 feet wide. Timbers 4 inches thick and 10 inches wide are laid on the gage side of each rail throughout the width of the crossing. The remaining area of the crossing between the rails and a 3-foot section on the outside of each rail are surfaced with bituminous concrete. Flangeways 3 inches wide are provided. The surface of the crossing is practically level with the tops of the rails, and it is in good condition.

A circular railroad-crossing advance-warning sign, 2.35 feet in diameter, is located to the right of the direction of north-bound highway traffic, 24.5 feet east of the center-line of the highway and 346.3 feet south of the crossing. This sign is mounted on a mast 8.3 feet above the level of the highway, and bears two diagonal lines intersecting at right angles and the letters "RR" in black on a yellow background. The letters and the lines are outlined by colorless reflector buttons. A P.R.R. standard cross-buck railroad-crossing sign is located to the right of the direction of north-bound traffic, 21.2 feet east of the center-line of the highway, and 56.4 feet south of the center-line of the B. & O. track. This sign

is mounted on a mast 11.6 feet above the level of the highway and bears the words "RAILROAD CROSSING" in black on a white background. A sign 4 feet in width and 11 inches in height bearing the word "DANGER" in black on a white background is mounted on the same mast, 8.6 feet above the level of the highway. A B. & O. cross-buck railroad-crossing sign is located to the right of the direction of north-bound traffic, 17.6 feet east of the center-line of the highway, and 14.4 feet south of the center-line of the track. This sign is mounted on a mast 7.5 feet above the level of the highway and bears the words "RAILROAD CROSSING" in white reflectorized letters on a black background. Two sodium floodlights are suspended over the crossing, 25 feet above the level of the highway. A warning bell 1.5 feet in diameter is mounted on a mast 10 feet above the level of the highway, 21 feet west of the center-line of the highway, and 16.8 feet north of the center-line of the track. The control circuit of the bell is so arranged that this bell sounds when a west-bound train occupies any portion of the main track throughout a distance of 1,459 feet immediately east of the crossing. A crossing-whistle sign for west-bound trains is located 1,250 feet east 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 crossing at grade. To be prolonged or repeated until crossing is reached.

* * *

17. The headlight will be displayed to the front of every train by night * * *.

* * *

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

31. The whistle must be sounded at designating posts, where required by rule or law, and to prevent accident.

* * *

The maximum authorized speed for the train involved was 30 miles per hour.

Description of Accident

Extra 4265 West, a west-bound freight train, consisted of engine 4265, a 2-8-2 type, 28 cars and a caboose. This train passed WY Tower, the last open office, 13.3 miles east of the point of accident, at 4:30 a. m., and while moving at an estimated speed of 25 miles per hour it struck a motor-truck on a rail-highway grade crossing 1.6 miles west of Lebanon Jct., and was derailed.

The vehicle involved was a tractor and a semi-trailer of the van type, owned by the Goss Trucking Co., Indianapolis, Ind., and operating under contract with Carolina Motor Express Lines, Inc., Indianapolis, Ind. The driver, who was the sole occupant, held Indiana chauffeur's license No. 26105. The tractor was a 1948 Autocar Diesel-powered 6-cylinder Model DC-100-TN, and bore Indiana license No. 1466. It was equipped with dual tires on the rear wheels, Bendix-Westinghouse air-operated brakes on all wheels, and a hand-operated brake on the propeller shaft. It was provided with an enclosed steel cab. The semi-trailer was a Trailmobile Model 662 of all-steel construction, equipped with tandem axles at the rear, dual tires on each wheel, and Westinghouse air-operated brakes on all wheels. It bore Indiana license No. 1443. At the time of the accident the cargo consisted of merchandise weighing 29,137 pounds. It was loaded at Indianapolis, Ind., and was en route to Roanoke, Va. The total weight of the tractor, semi-trailer and cargo was 51,637 pounds. The total length of the tractor and semi-trailer, coupled, was 43 feet 4 inches. This vehicle was moving northward on U. S. Highway No. 35 at an estimated speed of 30 miles per hour when it entered upon the crossing and was struck by Extra 4265 West.

The engine, the tender, the first to the seventh cars, inclusive, and the front truck of the eighth car of Extra 4265 West were derailed. The engine stopped in reverse direction, on its left side, and on the north side of the track, with the rear end of the engine 158 feet west of the point of accident. The tender, which remained coupled to the engine, stopped on its left side, across the track and

at right angles to it. Both the engine and the tender were badly damaged. The first 7 cars stopped in various positions on or near the track. The second, third and fourth cars were destroyed, and the first, fifth, sixth and seventh cars were damaged. The eighth car stopped in line with the track and was slightly damaged.

The tractor stopped against the concrete guard-railing of a bridge, 26.1 feet north of the center-line of the track and 17.8 feet west of the center-line of the highway, and was considerably damaged. The semi-trailer was broken loose from the tractor and was demolished.

The front brakeman was killed, and the engineer was injured.

The weather was cloudy at the time of the accident, which occurred at 5:23 a. m.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing was 5.9 trains. During the 24-hour period beginning at 12:01 a. m., April 13, 1949, 6,599 automobiles, 863 trucks and tractors, and 78 other vehicles including 40 passenger buses passed over the crossing.

Engine 4265 was equipped with a short-shank pivoted engine-pilot coupler arranged in a pocket casting on the pilot beam, and a foot board on each side of the coupler. It was not equipped with a pilot.

Discussion

As Extra 4265 West was approaching the crossing where the accident occurred, the speed was about 25 miles per hour and the throttle was closed. The headlight was lighted brightly. The enginemen were maintaining a lookout ahead from their respective positions in the cab of the engine. The front brakeman was seated on the brakeman's seat on the left side of the cab of the engine, and the conductor and the flagman were in the caboose. The brakes of this train had been tested and had functioned properly when used en route. The enginemen said that when the engine was in the vicinity of the crossing-whistle sign the engineer sounded the grade-crossing whistle-signal and completed the last blast at the crossing, and that during that time the engine bell was ringing. Because of track curvature, the view of the crossing is restricted to 1,005 feet from the left side of

the cab of a west-bound engine, and to 547 feet from the right side. A vehicle approaching the crossing from the south is not visible from the cab of a west-bound engine until the vehicle passes a building which is in the southeast angle of the crossing, about 90 feet south of the track and 39 feet east of the highway. The fireman said that when the engine was approximately 130 feet east of the crossing he observed that the motor-truck was approaching from the south at a speed apparently too high for it to be stopped short of the crossing. He called a warning to the engineer, who moved the brake valve to position for emergency application. The collision occurred a few seconds later.

The driver of the motor-truck said that the speed of the motor-truck was approximately 30 miles per hour as it was approaching the crossing. The brakes of the tractor and of the semi-trailer had been tested before departure from Indianapolis and had functioned properly when used en route. They were last used at a traffic signal located 3,032 feet south of the crossing. The window on the left side of the cab was open. When the motor-truck was approximately 200 feet south of the crossing, the driver placed the brake valve in position for brake application in preparing to stop the motor-truck before it entered the crossing. He then discovered that the pressure in the air brake system had become depleted to the extent that the air brakes were inoperative. From this location, the view of the track east of the crossing is restricted to a distance of 150 feet by the building which is located southeast of the crossing. Up to this time the driver did not hear the warning bell at the crossing, or the grade-crossing whistle-signal of Extra 4265 West. Immediately after the driver attempted to apply the brakes, he heard the engine-whistle signal of Extra 4265 West, and observed the approach of that train. Because the motor-truck could not be stopped short of the crossing by the use of the hand brake, the driver accelerated the engine in an attempt to cross the track before the train reached the crossing, but the semi-trailer was struck on the crossing.

The air-brake system of this tractor is equipped with an air-pressure gauge mounted on the instrument panel in the cab. The recommended working pressure is 85-105 pounds. The system is provided with an audible low-pressure indicator

adjusted to give warning by automatically sounding an electrical buzzer when the air pressure falls below 50 pounds. The electrical circuit of this buzzer is provided with a fuse. The driver said that soon after the accident occurred he found this fuse to be burned out, and said this condition rendered the low-pressure warning system inoperative. He had tested the warning system at Indianapolis about 5 hours before the accident occurred.

An inspection of the air-brake system of the tractor after the accident disclosed that the rear air reservoir was broken loose from its fastenings, the air hose between the tractor and the semi-trailer were torn off, and there was a small hole in the copper service line at the tractor-trailer hose coupling. It could not be determined whether this hole existed prior to the accident. However, in the opinion of the shop foreman of the motor carrier its size would not permit sufficient leakage of air to render the air-brake system inoperative. No other defect in the air-brake system of the tractor was found. The semi-trailer was demolished in the collision, and no test of its air-brake system could be made. The warning bell at the crossing was damaged during the derailment, and it could not be determined whether this bell was sounding during the approach of Extra 4265 West.

Cause

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

Dated at Washington, D. C., this fifteenth day of June, 1949.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,

Secretary.