INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3689

THE WHEELING AND LAKE ERIE RAILWAY COMPANY
AND
THE NEW YORK, CHICAGO & ST. LOUIS RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT BELLEVUE, OHIO, ON

APRIL 3, 1943

SUMMARY

Railroads:	Wheeling and Lake Erie	New York, Chicago & St. Louis
Date:	April 3, 1943	
Location:	Bellevue, Ohio	
Kind of accident:	Side collision	
Trains involved:	Freight	Freight
Train numbers:	99	First 52
Engine numbers:	6421	724
Consist:	59 cars, caboose	73 cars, caboose
Speed:	Standing	6-8 m. p. h.
Operation:	Timetable and train orders	Timetable and train orders
	Movements over crossing governed by stop signs and tilting-target signal	
Track:	Single; 1° right curve; 0.08 percent descending grade westward	Double; tangent; 0.61 percent descending grade eastward
Weather:	Clear	
Time:	About 6:27 a. m., E. W. T.	
Casualties:	7 injured	
Cause:	Accident caused by failure to provide adequate protection for movements over this crossing	
Recommendation:	That the New York, Chicago & St. Louis Railroad Company and the Wheeling and Lake Erie Railway Company provide approved protection which will give distinctive indications for each route over this crossing	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3689

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

THE WHEELING AND LAKE ERIE RAILWAY COMPANY
AND
THE NEW YORK, CHICAGO & ST. LOUIS RAILROAD COMPANY

May 26, 1943.

Accident at Bellevue, Ohio, on April 5, 1943, caused by failure to provide adequate protection for movements over this crossing.

REPORT OF THE COMMISSION[1]

PATTERSON, Commissioner:

On April 5, 1943, there was a side collision between a freight train of the Wheeling and Lake Erie Railway and a freight train of the New York, Chicago & St. Louis Railroad at Bellevue, Ohio, which resulted in the injury of seven employees. This accident was investigated in conjunction with a representative of the Public Utilities Commission of Ohio.

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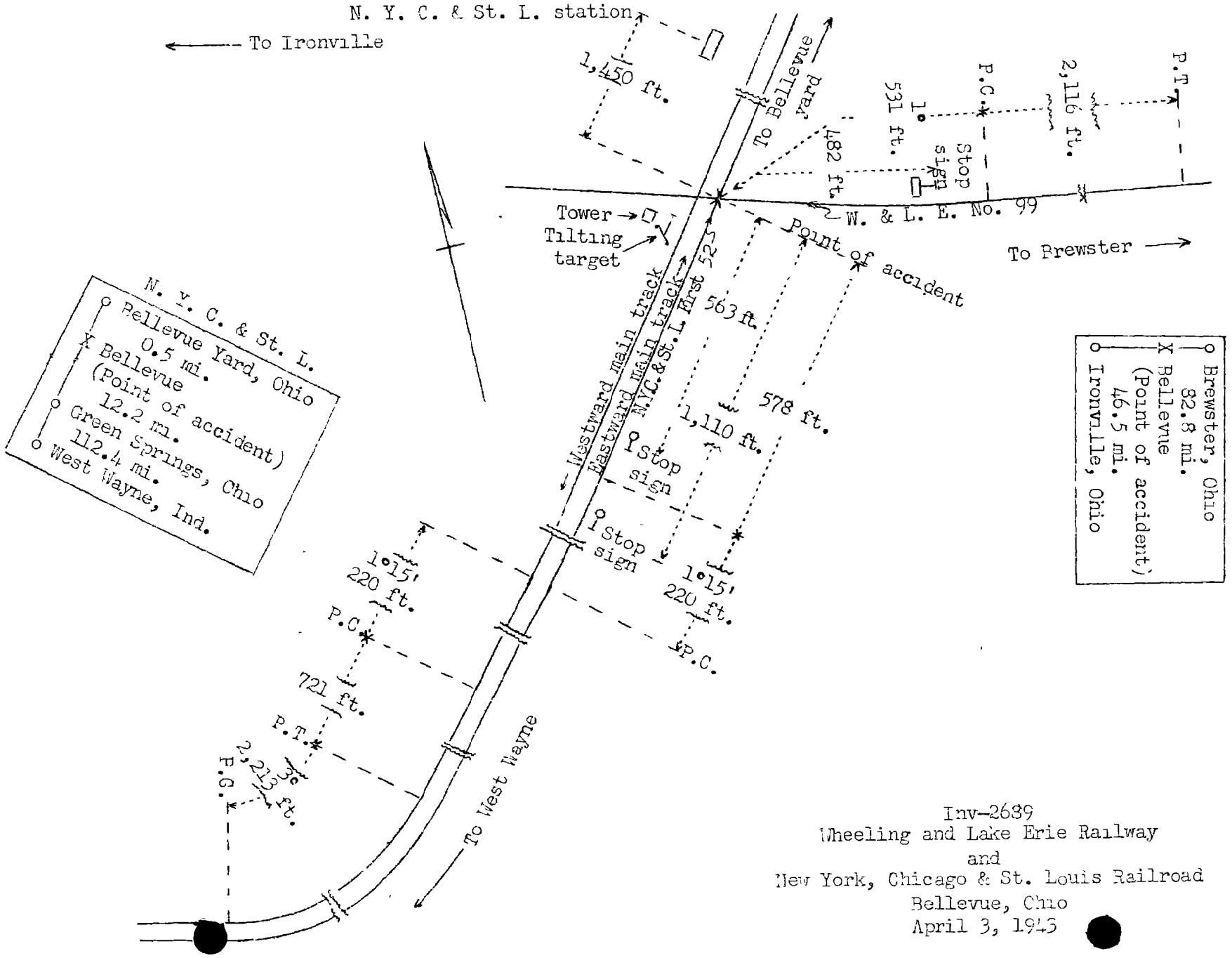
[1]Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.



Inv-2639
Wheeling and Lake Erie Railway
and
New York, Chicago & St. Louis Railroad
Bellevue, Ohio
April 3, 1943

Location of Accident and Method of Operation

This accident occurred at an intersection of the Wheeling and Lake Erie Railway and the New York, Chicago & St. Louis Railroad, hereinafter referred to, respectively, as the W. & L. E. and the N. Y. C. & St. L. Bellevue is located on that part of the Toledo Division of the W. & L. E. which extends between Brewster and Ironville, Ohio, 129.3 miles, and on the Ft. Wayne Division of the N. Y. C. & St. L., which extends between West Wayne, Ind., and Bellevue Yard, Ohio, 125.1 miles. In the vicinity of the point of accident the W. & L. E. is a single-track line over which trains are operated by timetable and train orders. There is no block system in use. In the immediate vicinity of the point of accident, the N. Y. C. & St. L. is a double-track line over which trains are operated by timetable and train orders. The east end of an automatic block-signal installation is 905 feet west of the point of accident. The tracks of these lines intersect at an angle of about 70°, and the crossing is located 1,450 feet west of the N. Y. C. & St. L. station at Bellevue. Time-table directions on both railroads are east and west. The W. & L. E. track extends east and west and the N. Y. C. & St. L. tracks extend northeast and southwest. The accident occurred within yard limits on both lines at the intersection of the W. & L. E. main track and the N. Y. C. & St. L. eastward main track. Approaching from the east on the W. & L. E. there is a tangent 2,116 feet in length, which is followed by a 1° curve to the right 531 feet to the crossing. Approaching from the southwest on the N. Y. C. & St. L. there are, in succession, a 3° curve to the left 2,215 feet in length, a tangent 721 feet, a 1°15' curve to the right 220 feet, a 1°15' curve to the left 220 feet and a tangent 578 feet to the point of accident. At the crossing the grade for west-bound W. & L. E. trains is 0.08 percent descending, and for east-bound N. Y. C. & St. L. trains, 0.61 percent descending.

Movements over the crossing are governed by a tilting-target signal located in the southwest angle of the intersection, 42 feet south of the W. & L. E. track and 10 feet west of the westward N. Y. C. & St. L. track. This signal is manually operated by a lever located in the W. & L. E. telegraph office, located in the southwest angle of the crossing. The blade of the target is 8 feet long and 1 foot wide, mounted on a mast, and is 25 feet above the level of the rail. The middle portion and each end is painted red, and the remaining portions are painted white. The target is equipped with a red electric-light bulb at each end for night signals. The aspects and indications of this signal are as follows:

Aspects		Indications
Day	Night	
Vertical	Two red lights in vertical position	W. & L. E. trains may cross
Horizontal	Two red lights in horizontal position	N. Y. C. & St. L. trains may cross
Diagonal (Neutral position)	Two red lights in diagonal position	All trains stop

On the W. & L. E. a stop sign for west-bound trains is located 482 feet east of the crossing. The N. Y. C. & St. L. is crossed at grade by the tracks of two other railroads at points 800 and 228 feet west of the W. & L. E. track, and stop signs for east-bound trains are located 1,110 and 563 feet west of the crossing.

Central War Time is used on the N. Y. C. & St. L. and Eastern War Time on the W. & L. E. Eastern War Time is used throughout this report.

Operating rules of both lines read in part as follows:

> 98. Trains must approach * * * railroad crossings at grade, * * * prepared to stop, unless the * * * signals are right and the track is clear. Where required by law, trains must stop.

Time-table special instructions of the N. Y. C. & St. L. read in part as follows:

> 8. GENERAL INSTRUCTIONS.
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> * * *
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> (d) All members of train and engine crews must, when practicable, communicate to each other by its name the indication of all signals affecting the movement of their train.
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> * * *
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> 24. RAILROAD GRADE CROSSINGS AND JUNCTIONS.
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> * * *

(a) All trains or engines must come to a full stop before crossing any railroad at grade, except when protected by interlocking, not less than 200 feet nor more than 800 feet from such crossing * * * and will not proceed over such crossing until proper signal is displayed and route is clear.

(b) At railroad crossings governed by * * * tilting target, trains after they come to a stop will, when * * * target is placed for them to proceed, give two long blasts of the whistle, before proceeding. After this signal has been sounded the position of the * * * targets must not be changed until the train has stopped or passes over the crossing.

(c) Red lights at night indicate position of * * * targets.

* * *

Time-table special instructions of the W. & L. E. read in part as follows:

155. At Railroad Crossings and Junctions at grade, not interlocked, all trains will come to a full stop, not nearer than (200) two hundred feet, nor further than (800) eight hundred feet from the crossing, and shall not cross until signaled to do so, or until the way is clear, * * *

A bulletin issued by the W. & L. E. on December 17, 1941, reads in part as follows:

All Operators Bellevue Tower:

* * *

In order to overcome any serious accident, wish you would please see that target is returned to neutral position as soon as possible after the departure of trains, and the target must not be taken away from any road and given to another road without being returned to neutral and you should be assured that there is no other train on the same line approaching the target before it is returned to neutral.

* * *

Description of Accident

No. 99, a west-bound second-class W. & L. E. freight train, consisted of engine 6421, 9 loaded and 50 empty cars and a caboose. This train departed from Brewster, 82.8 miles east of Bellevue, at 1:05 a. m., according to the dispatcher's record of movement of trains, 35 minutes late, and stopped at the N. Y. C. & St. L. crossing about 6:20 a. m. After a west-bound N. Y. C. & St. L. freight train passed over the crossing, the tilting-target signal displayed proceed for movement on the W. & L. E., and No. 99 proceeded upon the crossing, stopped with the engine standing on the N. Y. C. & St. L. eastward main track, and immediately afterward it was struck by N. Y. C. & St. L. First 52.

First 52, an east-bound second-class N. Y. C. & St. L. freight train, consisted of engine 724, 72 loaded cars and 1 empty car and a caboose. This train departed from West Wayne, 124.6 miles west of Bellevue, at 2:30 a. m., according to the dispatcher's record of movement of trains, 2 hours 30 minutes late, passed Green Springs, 12.2 miles west of Bellevue and the last open office, at 6:08 a. m., passed the stop signs west of the crossing involved without stopping, passed the tilting-target signal, which displayed stop for movements on the N. Y. C. & St. L., and while moving at an estimated speed of 6 to 8 miles per hour it collided with No. 99. The brakes of First 52 had been tested and had functioned properly en route.

The target can be seen from the left side of an east-bound engine on the N. Y. C. & St. L. throughout a distance of 1,688 feet immediately west of the crossing, but the boiler of the engine obscures the view from the right side throughout the last 854 feet. From the left side of a west-bound engine on the W. & L. E. and from the right side of an east-bound engine on the N. Y. C. & St. L., the view of an approaching train moving on either line is restricted to 150 feet, because of buildings adjacent to the tracks. An east-bound engine approaching on the N. Y. C. & St. L. can be seen from the telegraph office 950 feet.

The W. & L. E. engine stopped, badly damaged, on its right side across the eastward main track of the N. Y. C. & St. L. The tender was derailed, but remained practically upright and in line with the W. & L. E. track. The N. Y. C. & St. L. engine stopped, slightly damaged, with its front end suspended on the W. & L. E. engine, and all wheels except the trailer-truck wheels were above the rails.

It was clear and dark at the time of the accident, which occurred about 6:27 a. m.

The employees injured were the engineer, the fireman and the front brakeman of No. 99, and the fireman, the conductor, the swing brakeman and the flagman of First 52.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing on the W. & L. E. was 31.6 trains, and on the N. Y. C. & St. L., 50.5 trains.

Discussion

The rules governing operation on the lines involved provide that when a train is approaching a railroad crossing at grade it must be prepared to stop unless the signals indicate proceed and the track is clear. At a railroad crossing governed by a target signal, trains must stop not less than 200 feet and not more than 800 feet from the crossing. In addition, the rules of the N. Y. C. & St. L. provide that when a train stops at a crossing controlled by a target signal, two long blasts of the engine whistle must be sounded before the train proceeds over the crossing. After the whistle has been sounded the position of the target must not be changed until the train is clear of the crossing.

The crossing involved is protected by a three-position tilting target controlled by operators. The blade in vertical position displays proceed for the W. & L. E., in horizontal position it displays proceed for the N. Y. C. & St. L., and in diagonal position it displays stop for both roads. Before the operator changes the position of the target from proceed for one route to proceed for the other, he must display the target in diagonal position.

About 6:23 a. m., a west-bound N. Y. C. & St. L. freight train proceeded over the crossing and the target was in horizontal position, which was a proceed indication for that line. W. & L. E. No. 99 stopped at the stop sign about 4 minutes before the accident occurred. Soon after the rear of the west-bound N. Y. C. & St. L. train was clear of the crossing, the target was changed to vertical position, which indicated proceed for movement on the W. & L. E. No. 99 proceeded and had attained a speed of about 4 or 5 miles per hour when the engineer observed the approach of N. Y. C. & St. L. First 52, an east-bound freight train. Becoming aware that a collision was imminent, the engineer of No. 99 moved the brake valve to emergency position and stopped the engine on the eastward main track of the N. Y. C. & St. L., and the accident occurred immediately afterward.

As First 52 was approaching Bellevue, the speed was about 45 miles per hour, the headlight was lighted and the engine was being operated by an assistant road foreman of engines. He made an 18-pound brake-pipe reduction, then when the speed was about 10 miles per hour, he released the train brakes, but held the engine and tender brakes applied. When the engine was about 800 feet west of the W. & L. E. crossing, the speed was about 2 miles per hour and the assistant road foreman of engines, observing that the target indicated proceed for N. Y. C. & St. L. trains, released the engine and tender brakes, opened the throttle, sounded two long blasts of the engine whistle, gave the charge of the engine to the assigned engineer, and prepared to get off the engine. The engineer, the fireman and the front brakeman also observed and communicated to each other that the target indicated proceed for trains on the N. Y. C. & St. L. At that time a west-bound N. Y. C. & St. L. train was proceeding over the crossing. The speed of First 52 increased to about 8 miles per hour at a point about 250 feet west of the crossing and the engineer was unable to see the target because the boiler obscured his view. The fireman was engaged in duties on the deck of the engine, the assistant road foreman of engines was preparing to alight from the engine and the front brakeman, who was on the left side of the cab, was the only person on the engine in position to maintain constant observation of the target. When the engine was about 150 feet from the crossing the engineer observed that No. 99 would obstruct the crossing in front of his engine, and warned the members of the crew that a collision was imminent, then jumped from the side window of the cab. As he jumped, he reached for the automatic brake valve but missed it and applied the engine and tender brakes instead. The speed was not appreciably reduced before the collision occurred. The front brakeman said that he last observed the position of the target when his engine was about 250 feet west of the crossing, then his attention was distracted by exchanging signals with the flagman of the west-bound N. Y. C. & St. L. train, the caboose of which was opposite his engine at that point. The first he was aware of anything being wrong was when the engineer called a warning.

Under the rules, First 52 was required to stop at some point between 200 and 800 feet west of the W. & L. E. crossing. The investigation disclosed that, in numerous instances, crews of N. Y. C. & St. L. trains failed to comply with this provision. The engineer and the assistant road foreman of engines said that the speed is usually controlled at a point about 2,000 feet west of the W. & L. E. crossing so that if the W. & L. E. target, or targets controlling movements over two other railroads located 800 and 228 feet west of the W. & L. E., indicate stop for movements on the N. Y. C. & St. L., trains

can be stopped short of a highway grade crossing. If all targets indicate proceed for N. Y. C. & St. L. movements, these indications are acknowledged by two long blasts sounded on the engine whistle, the train proceeds over these crossings and no other stop is made. Both understood that trains are required to stop twice in the distance between the highway grade crossing and the W. & L. E. crossing, but it is not customary to stop trains more than once in the territory involved. In this instance, the train did not stop in compliance with any stop sign. However, the engineer considered it to be as safe, where the speed was properly controlled, as when stops are made at stop signs. Nevertheless, the rules required the N. Y. C. & St. L. train to stop at stop signs before proceeding, and then to be prepared to stop short of the crossing unless the signals indicated proceed and the way was clear. The engineer was unable to see the target in question throughout a considerable distance immediately west of the crossing.

The operator said that after the west-bound N. Y. C. & St. L. freight train was clear of the crossing about 250 feet, he looked westward but did not see First 52 approaching. He changed the target to diagonal position about 5 seconds, then placed it in vertical position for movement on the W. & L. E. He understood that the route should not be taken from one line after the signal has been acknowledged, but he did not hear the engine whistle of First 52 sound such acknowledgment. Prior to the time of the accident there was no specific interval during which the target was required to remain in neutral position; however, a bulletin issued 5 days after this accident occurred specifies that the target must be kept in diagonal position during a period of 45 seconds before changing the route from one line to the other.

This investigation disclosed that an operator could change the route from one line to the other regardless of track occupancy or time element. If the tilting target had been so arranged that after an approaching train had accepted the proceed indication the operator could not change the signal to display proceed for the other route, or if signals had been provided which would give distinctive indications for each route over the crossing, this accident would have been averted.

Cause

It is found that this accident was caused by failure to provide adequate protection for movements over this crossing.

Recommendation

It is recommended that the New York, Chicago & St. Louis Railroad Company and the Wheeling and Lake Erie Railway Company provide approved protection which will give distinctive indications for each route over this crossing.

Dated at Washington, D. C., this twenty-sixth day of May, 1943.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.