

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3325

THE NEW YORK, NEW HAVEN AND HARTFORD
RAILROAD COMPANY

IN RE ACCIDENT

NEAR BOYLSTON STREET, BOSTON, MASS., ON

APRIL 20, 1950

SUMMARY

Date: April 20, 1950

Railroad: New York, New Haven and Hartford

Location: Boylston Street, Boston, Mass.

Kind of accident: Rear-end collision

Trains involved: Passenger : Passenger

Train numbers: 531 : 813

Engine numbers: Diesel-electric : Diesel-
unit 0771 : electric
units 0738
and 0746

Consists: 8 cars : 10 cars

Estimated speeds: Standing : 5 m. p. h.

Operation: Signal indications

Tracks: Three; tangent; 0.31 percent
descending grade westward

Weather: Raining

Time: 5:28 p. m.

Casualties: 306 injured

Cause: Failure to operate following train
in accordance with signal indication

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3325

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

THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY

June 28, 1950

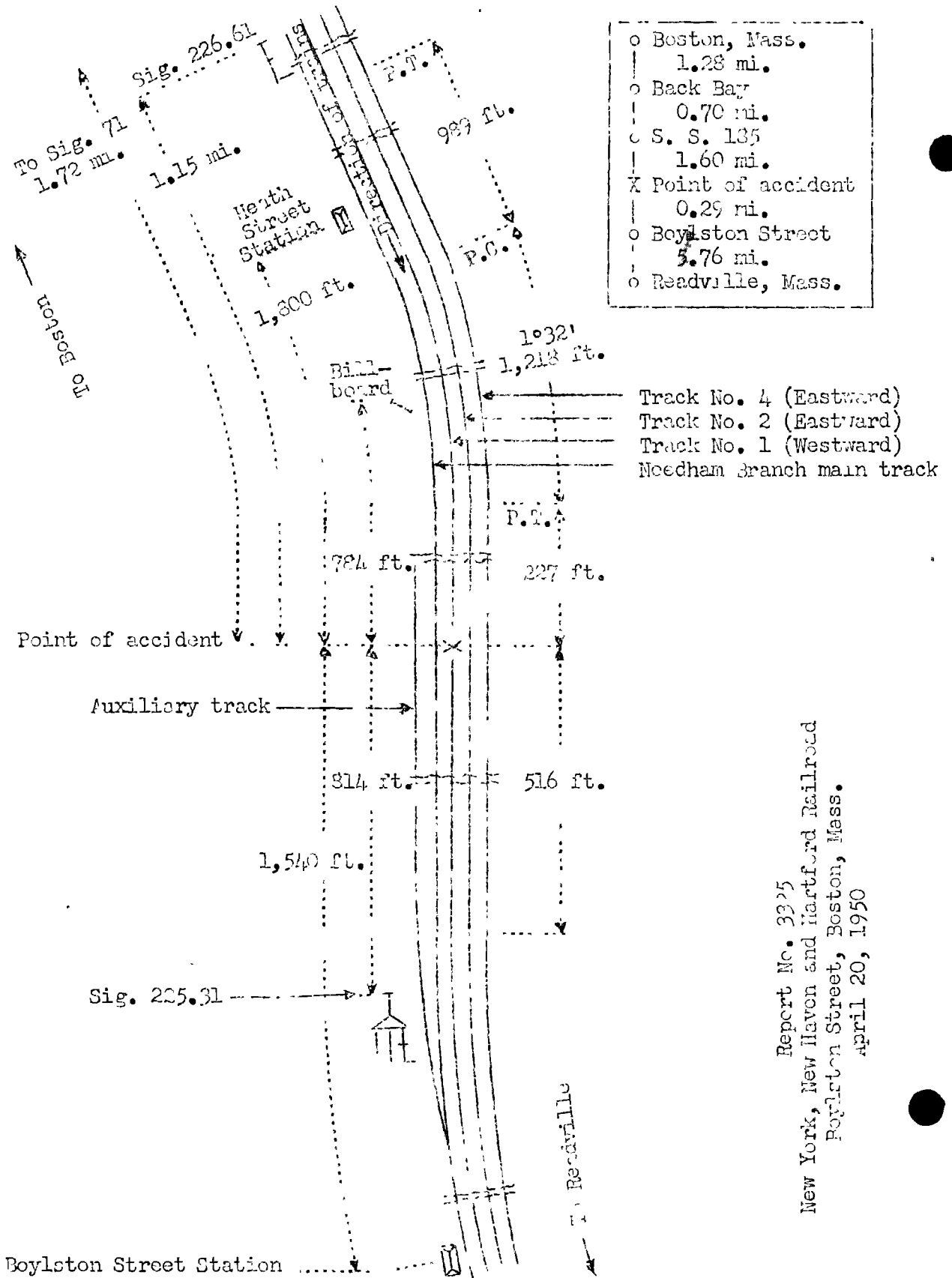
Accident near Boylston Street, Boston, Mass., on April
20, 1950, caused by failure to operate the following
train in accordance with a signal indication.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On April 20, 1950, there was a rear-end collision between two passenger trains on the New York, New Haven and Hartford Railroad near Boylston Street, Boston, Mass., which resulted in the injury of 299 passengers and 7 employees. This accident was investigated in conjunction with representatives of the Massachusetts Department of Public Utilities.

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.



- o Boston, Mass. 1.28 mi.
- o Back Bay 0.70 mi.
- o S. S. 135 1.60 mi.
- X Point of accident 0.29 mi.
- o Boylston Street 5.76 mi.
- o Readville, Mass.

Track No. 4 (Eastward)
 Track No. 2 (Eastward)
 Track No. 1 (Westward)
 Needham Branch main track

Report No. 3325
 New York, New Haven and Hartford Railroad
 Boylston Street, Boston, Mass.
 April 20, 1950

Boylston Street Station

Location of Accident and Method of Operation

This accident occurred on that part of the Boston Division extending between Boston and Readville, Mass., 9.63 miles. In the vicinity of the point of accident this is a 3-track line, over which trains moving with the current of traffic are operated by signal indications. From south to north the main tracks are designated as Nos. 4 and 2, eastward, and No. 1, westward. The accident occurred on track No. 1 at a point 3.58 miles west of Boston and 1,540 feet east of the station at Boylston Street. Throughout a distance of 1.89 miles east of Boylston Street a single-track line designated as the Needham Branch parallels track No. 1 on the north. From the east there are, in succession, a tangent 989 feet in length, a 1°32' curve to the right 1,218 feet, and a tangent 227 feet to the point of accident and 516 feet westward. From the east the grade is, successively, 0.32 percent ascending 2,280 feet, level 100 feet, 0.2 percent ascending 600 feet, and 0.31 percent descending 700 feet to the point of accident.

Semi-automatic signal 71 and automatic signals 226.61 and 225.31, governing west-bound movements on track No. 1, are located, respectively, 1.72 miles east, 1.15 miles east, and 814 feet west of the point of accident. Signal 71 is of the two-arm semaphore type, and signals 226.61 and 225.31 are of the one-arm semaphore type. These signals display three aspects, and are continuously lighted. The aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
71	Diagonal- over- horizontal	Proceed preparing to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach signal.
226.61	Diagonal	Proceed preparing to stop at next signal. Train exceeding medium speed must at once reduce to that speed.	Approach signal.
226.61 225.31	Horizontal	Stop; then proceed in accordance with Rule * * * 509a.	Stop and proceed signal.

Signal 71 is controlled from an interlocking at S.S. 185, 1.89 miles east of Boylston Street. The controlling circuits of signals 71 and 226.61 are so arranged that, when the block of signal 226.61 is occupied and the lever controlling signal 71 is in position for the signal to display an aspect to proceed, signal 71 indicates Approach and signal 226.61 indicates Stop and Proceed.

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

DEFINITIONS.

RESTRICTED SPEED.--A speed not exceeding 15 miles per hour prepared to stop short of train, engine, obstruction, or switch not properly lined and to look out for broken rail.

11. A lighted fusee on or near the track of an approaching train or engine is a stop signal * * *

14. ENGINE WHISTLE SIGNALS.

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

SOUND

INDICATION

* * *

(c) -- o o o Flagman protect rear of train.

* * *

35. The following signals will be used by flagmen:
(A red flag,
Day signals (Torpedoes and fusees.

* * *

99. When a train stops or is delayed, under circumstances in which it may be overtaken by a following train, the flagman must go back immediately with stop signals, a sufficient distance to insure full protection, and will there place two torpedoes on the rail two rail-lengths apart on the engineman's side. He will remain at this point until recalled.

If a following train is within sight or hearing before the flagman has reached a point insuring full protection, he must, at once, place two torpedoes on the rail, and at night or in foggy or stormy weather, or where the view is obscured, he will in addition, display a lighted fusee, and continue toward the following train, displaying stop signals, until it is met.

* * *

Should the speed of a train be reduced under circumstances in which it may be overtaken, either day or night, a lighted fusee must be dropped off at intervals to warn following trains.

509a. On two or more tracks when a train or engine is stopped by a stop and proceed signal, unless a more favorable indication is immediately displayed, it may proceed at once at restricted speed.

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

Description of Accident

No. 531, a west-bound passenger train, consisted of Diesel-electric unit 0771 and eight coaches. All cars were of all-steel construction. This train departed from Boston at 5:10 p. m., 2 minutes late, passed S.S. 185, the last open office, at 5:16 p. m., 3 minutes late, passed signal 226.61, which indicated Approach, and stopped at signal 225.31, which indicated Stop and Proceed. About 4 minutes later the rear end was struck by No. 813.

No. 813, a west-bound passenger train, consisted of Diesel-electric units 0738 and 0746, coupled in multiple-unit control, one baggage car, eight coaches, and one baggage car, in the order named. The coaches were of all-steel construction and the baggage cars were of steel-underframe construction. This train departed from Boston at 5:14 p. m., on time, passed signal 71, which indicated Approach, passed S.S. 185 at 5:21 p. m., on time, and stopped at signal 226.61, which indicated Stop and Proceed. It then proceeded westward, passed the flagman of No. 531, passed a lighted red fusee, and while moving at an estimated speed of 5 miles per hour it struck the rear end of No. 531.

No. 531 was moved westward approximately 40 feet by the force of the impact. A separation occurred between the seventh and the eighth cars. The rear vestibule of the rear car was considerably damaged. The rear truck of the third car was derailed to the north. The front end of the first Diesel-electric unit of No. 813 was considerably damaged, and the second car was slightly damaged.

The conductor and three ticket collectors of No. 531 and the baggageman and two ticket collectors of No. 813 were injured.

It was raining at the time of the accident, which occurred at 5:28 p. m.

Discussion

As No. 531 was approaching the point where the accident occurred, the enginemen were in the control compartment at the front of the Diesel-electric unit, the flagman was in the rear vestibule of the rear car, the baggageman was near the rear end of the rear car, and the other members of the train crew were in various locations throughout the cars of the train. Signal 226.61 indicated Approach, and the speed of the train was reduced to comply with this indication. As the train approached signal 225.31, which indicated Stop and Proceed, the enginemen observed a train standing on track No. 1 west of the signal and a flagman near the signal giving stop signals. No. 531 stopped with the rear end 814 feet east of signal 225.31. When the train stopped, the engineer sounded the engine-whistle signal for the flagman to protect the rear of the train. The flagman said that he threw off a lighted red fusee when the speed of the train was reduced. Immediately after the train stopped, he alighted from the rear end of the rear car and proceeded eastward to provide flag protection. As he passed the fusee, which was about 200 feet east of the rear end of his train, he heard the sound of an approaching west-bound train, and soon afterward he observed the approach of No. 813. He ran eastward in the center of track No. 1, and gave stop signals with a red flag until the signals were acknowledged by the engineer of No. 813. He said that the brakes of No. 813 were applied when the train passed him. Both the flagman and the baggageman thought that the flagman had proceeded to a point about 600 feet east of the rear of his train.

No. 813 stopped at signal 226.61, which indicated Stop and Proceed, and then proceeded into the occupied block. The brakes of this train had been tested and had functioned properly when used en route. As the train was approaching

the point where the accident occurred, the enginemen were maintaining a lookout ahead from the control compartment at the front of the first Diesel-electric unit, and the members of the train crew were in various locations throughout the cars of the train. The enginemen estimated that the speed was between 20 and 25 miles per hour. After the train entered the curve to the right immediately east of the point of accident, the enginemen's view of the track ahead was obstructed by a billboard, 19 feet high, located north of and adjacent to the track and 784 feet east of the point of accident. As the train approached the vicinity of the billboard, the enginemen observed a train ahead, but they were unable to see the fusee or the flagman of No. 531 until the front of their train passed the billboard. When they observed the fusee, the engineer immediately initiated an emergency brake application. They estimated that the speed of the train was reduced to about 5 miles per hour when the collision occurred.

The enginemen of No. 813 understood that the indication of signal 226.61 required their train to be operated through the block at restricted speed, and the engineer said he thought that the train was being so operated that it could be stopped within his range of vision. However, when the enginemen first observed the preceding train they assumed that it was occupying the Needham Branch, and the engineer did not immediately take action to stop his train. In this vicinity No. 813 frequently overtakes and passes No. 951, a west-bound passenger train which operates over the Needham Branch. Because the enginemen of No. 813 were accustomed to overtaking No. 951 in this territory, they did not realize that track No. 1 was obstructed until they observed the fusee. The engineer then was unable to stop his train short of the rear end of No. 531. The enginemen said they thought the flagman of No. 531 was in the vicinity of the fusee about 200 feet east of the rear end of the preceding train when they first observed him.

Cause

It is found that this accident was caused by failure to operate the following train in accordance with a signal indication.

Dated at Washington, D. C., this twenty-third day of June, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.