

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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INVESTIGATION NO. 3054  
THE LONG ISLAND RAILROAD COMPANY  
REPORT IN RE ACCIDENT  
NEAR MEDFORD, N. Y., ON  
DECEMBER 28, 1946

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SUMMARY

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Railroad.	Long Island
Date:	December 28, 1946
Location:	Medford, N. Y.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	211
Engine number:	3731
Consist:	9 cars
Estimated speed:	40 m. p. h.
Operation:	Timetable, train orders and manual-block system
Track:	Single; tangent; 0.8 percent descending grade westward
Street:	Tangent; passes under bridge at right angles; 4.8 percent descending grade northward
Weather:	Cloudy
Time:	4:50 p. m.
Casualties:	28 injured
Cause:	Kinked track

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 3054

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS  
UNDER THE ACCIDENT REPORTS ACT OF MAY 3, 1910.

THE LONG ISLAND RAILROAD COMPANY

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February 7, 1947.

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Accident near Medford, N. Y., on December 28, 1946,  
caused by kinked track.

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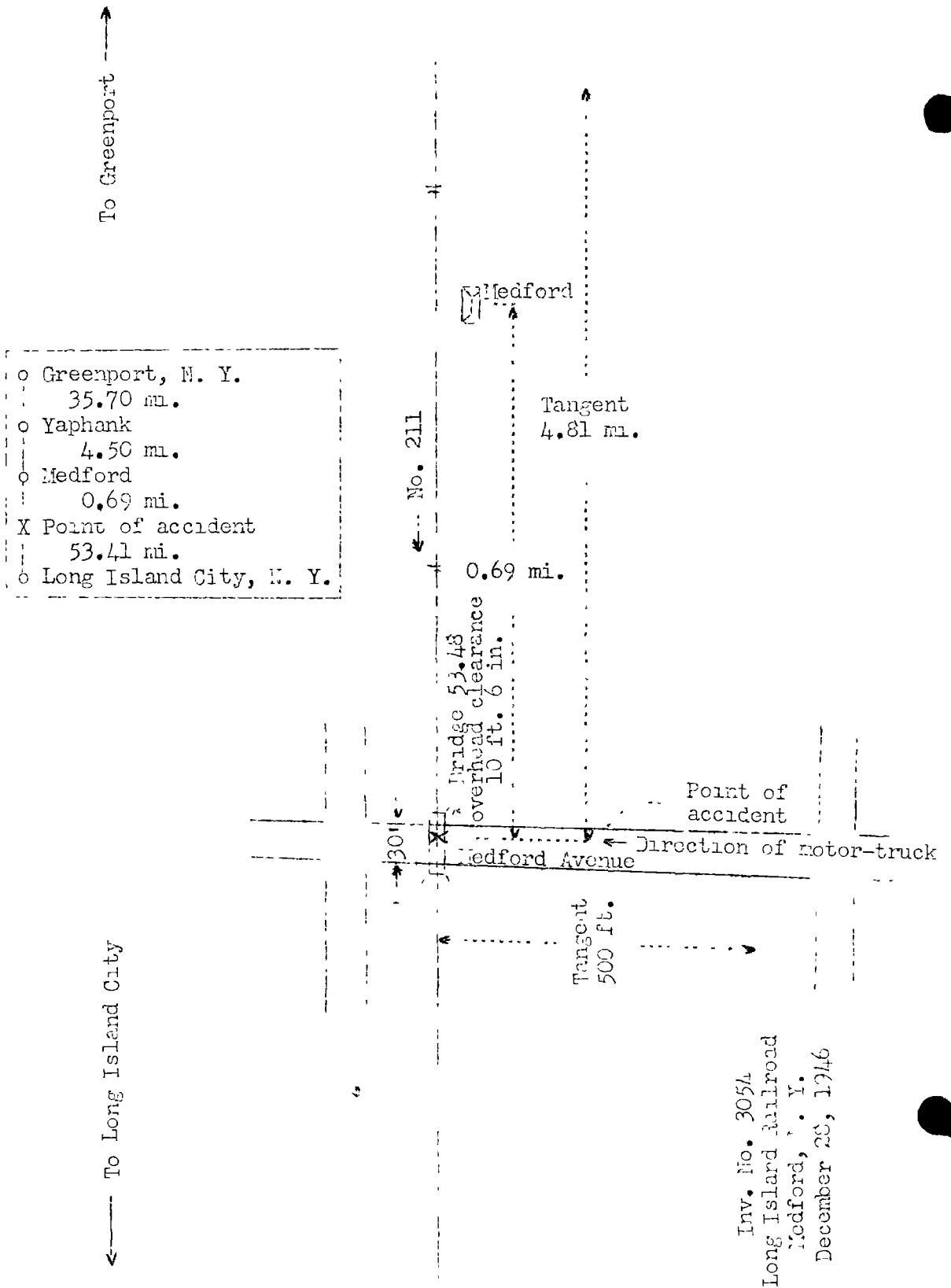
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On December 28, 1946, there was a derailment of a passenger train on the Long Island Railroad near Medford, N. Y., which resulted in the injury of 22 passengers, 1 baggage-mail messenger, and 5 train-service employees.

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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.



Inv. No. 3054  
Long Island Railroad  
Medford, N. Y.  
December 28, 1946

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Greenport and Long Island City, N. Y., 94.3 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders and a manual block system. The accident occurred on the main track 40.89 miles west of Greenport and 0.69 mile west of the station at Medford, where the railroad spans Medford Avenue at Bridge 53.48. From the east on the railroad there is a tangent extending 4.81 miles to the point of accident and a considerable distance westward. The grade is 0.8 percent descending westward.

In the immediate vicinity of the point of accident the track is laid on an earthen fill, the maximum height of which is about 10 feet. The track structure consists of 100-pound rail, 39 feet in length, laid on 20 treated ties to the rail length. It is fully tierplated, single spiked, provided with 4-hole angle bars, 4 rail anchors per rail length, and is ballasted with crushed rock to a depth of 6 inches.

Bridge 53.48, constructed in 1907, is an open-deck steel-girder type span, 38 feet 8 inches long. The superstructure consists of two girders 54 feet 9 inches long. The girders are 2 feet 6 1/2 inches high and are constructed with top and bottom cover plates 16 inches by 1/2 inch, four sole plates and four bearing plates 2 feet by 1 foot 8 inches by 3/4 inch, and eight anchor bolts 1-1/4 inches by 1 foot 3 inches. The girders are supported at right angles by abutments which are 5 feet 6 inches in width and 10 feet 6 inches in height above the top of the level of the street. The girders rest on bridge seats which are 2 feet 9 inches wide. The distance between the inner faces of the abutments is 30 feet. The deck consists of 34 ties, 8 inches by 3 inches by 10 feet, spaced 13 inches center to center, and secured to the girders. The bridge is provided with 80-pound steel inner guard-rails and 5 by 8-inch timber outer guard-rails. The outer face of each girder bears the words, in white letters: "OVERHEAD CLEARANCE 10 FT 6 IN."

Medford Avenue passes under Bridge 53.48 practically at right angles. The highway is about 30 feet wide and is surfaced with asphaltum. The highway is tangent throughout a distance of about 500 feet immediately south of the bridge and some distance northward. The grade for north-bound vehicles is 4.8 percent descending.

The maximum authorized speed for passenger trains is 65 miles per hour.

### Description of Accident

The motor-vehicle involved consisted of a truck and trailer, owned by a resident of Westbury, N. Y. The driver, who was the sole occupant, held New York chauffeur's license No. 5893842. The motor-truck was a 1937, Mack model, and bore New York license No. 251-933. It was equipped with dual tires on the rear wheels, air brakes on all wheels, a mechanically operated emergency hand brake, and was provided with an enclosed steel cab. The motor-truck was hauling a 1943, Fruehauf model trailer designed for transporting heavy machinery. The trailer bore New York license No. 74857. It was provided with two assemblies of 2 wheels each at the front end and one assembly of eight wheels at the rear end, and was equipped with air brakes on all wheels. At the time of the accident the cargo of the trailer consisted of a caterpillar-type tractor equipped with a semi-erect A-frame and a grader blade at the front end. The total weight of the motor-truck, the trailer and the cargo was 54,505 pounds. The overall height of the trailer and cargo was 12 feet 4 inches. This vehicle was moving northward on Medford Avenue at an estimated speed of 20 miles per hour when the upper portion of the cargo of the trailer struck the south girder of Bridge 53.48. The force of the impact displaced the bridge and track structure.

No. 211, a west-bound first-class passenger train, consisted of engine 3731, a 4-6-2 type, two baggage cars, one baggage-mail car, one passenger-baggage car and five coaches, in the order named. All cars were of steel construction. This train departed from Yaphank, the last open office, 4.5 miles east of Medford, at 4:40 p. m., on time, and while it was moving on Bridge 53.48 at an estimated speed of 40 miles per hour the engine, the first three cars and the front truck of the fourth car were derailed.

The engine and tender stopped on their right sides about 25 feet north of the track and practically in line with it, with the front of the engine 190 feet west of the point of derailment. The first car stopped upright, across the track and at an angle of about 65 degrees to it. The second car stopped practically upright, about 10 feet south of the track and at an angle of about 18 degrees to it. The third car stopped upright, on the roadbed and in line with the track. The engine, the tender and the first two cars were badly damaged, and the remainder of the equipment was somewhat damaged.

The engineer, the fireman, the conductor, the brakeman and the flagman were injured.

The weather was cloudy and it was dusk at the time of the accident, which occurred about 4:50 p. m.

### Discussion

No. 211 was approaching Bridge 53.48 at a speed of about 40 miles per hour in territory where the maximum authorized speed was 35 miles per hour. The headlight was lighted brightly, and the enginemen were maintaining a lookout ahead. The first these employees knew of anything being wrong was when the engine was a short distance east of the bridge and the engineer observed that the track was out of normal alignment. He immediately moved the brake valve to emergency position, but the derailment occurred before the speed of the train was materially reduced. The brakes of No. 211 had been tested and had functioned properly en route.

The investigation disclosed that about 10 minutes prior to the time the derailment occurred a motor-truck, which was hauling a trailer loaded with a caterpillar-type tractor and moving northward on Medford Avenue, approached Bridge 53.48. The overhead clearance of the bridge was 10 feet 6 inches and the overall height of the trailer and its cargo was 12 feet 4 inches. The vehicle was moving at a speed of about 20 miles per hour and, because of insufficient clearance, the upper portion of the tractor struck the south girder of the bridge. The driver was unfamiliar with the route, and he said he was not aware that there was insufficient clearance for the vehicle to pass under the bridge, until the vehicle was a short distance south of the bridge. He said he attempted to stop the vehicle by the use of the air brakes, but the air hose between the truck and the trailer had become disconnected and no action of the air brakes resulted. Then he made an unsuccessful attempt to stop the vehicle by the use of the emergency hand brake. The driver said that he examined the bridge and the track immediately after the impact occurred, but did not observe that the track and the bridge had been forced out of proper alignment, and he took no action to provide protection for approaching trains.

Subsequent examination disclosed that the anchor bolts had been sheared between the bearing plate and the bridge seat at each end. The span was displaced laterally northward 23 inches at the east end and 17 inches at the west end. This displacement resulted in a sharp deflection to the right in the track, beginning at a point about 50 feet east of the east end of the bridge. The curvature of the deflected portion of

the track was so sharp that the pressure of the wheels on the left side of the engine against the left rail caused this rail to be canted outward sufficiently for the right wheels to drop inside the right rail, and then the general derailment followed.

Cause .

It is found that this accident was caused by kinked track.

Dated at Washington, D. C., this seventh day of February, 1947.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.