

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3712
THE NEW YORK CENTRAL RAILROAD COMPANY
IN RE ACCIDENT
AT LENOX, ILL., ON
AUGUST 6, 1956

- 2 -

SUMMARY

—

Date: August 6, 1956

Railroad: New York Central

Location: Lenox, Ill.

Kind of accident: Derailment

Train involved: Passenger

Train number: 41

Locomotive number: Diesel-electric units 3500 and 4404

Consist: 15 cars

Speed: 42 m. p. h.

Operation: Signal indications

Tracks: Double; tangent; level

Weather: Clear

Time: 11:20 a. m.

Casualties: 17 injured

Cause: Broken truck-frame pedestal leg

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3712

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

THE NEW YORK CENTRAL RAILROAD COMPANY

November 26, 1956

Accident at Lenox, Ill., on August 6, 1956, caused by a
broken truck-frame pedestal leg.

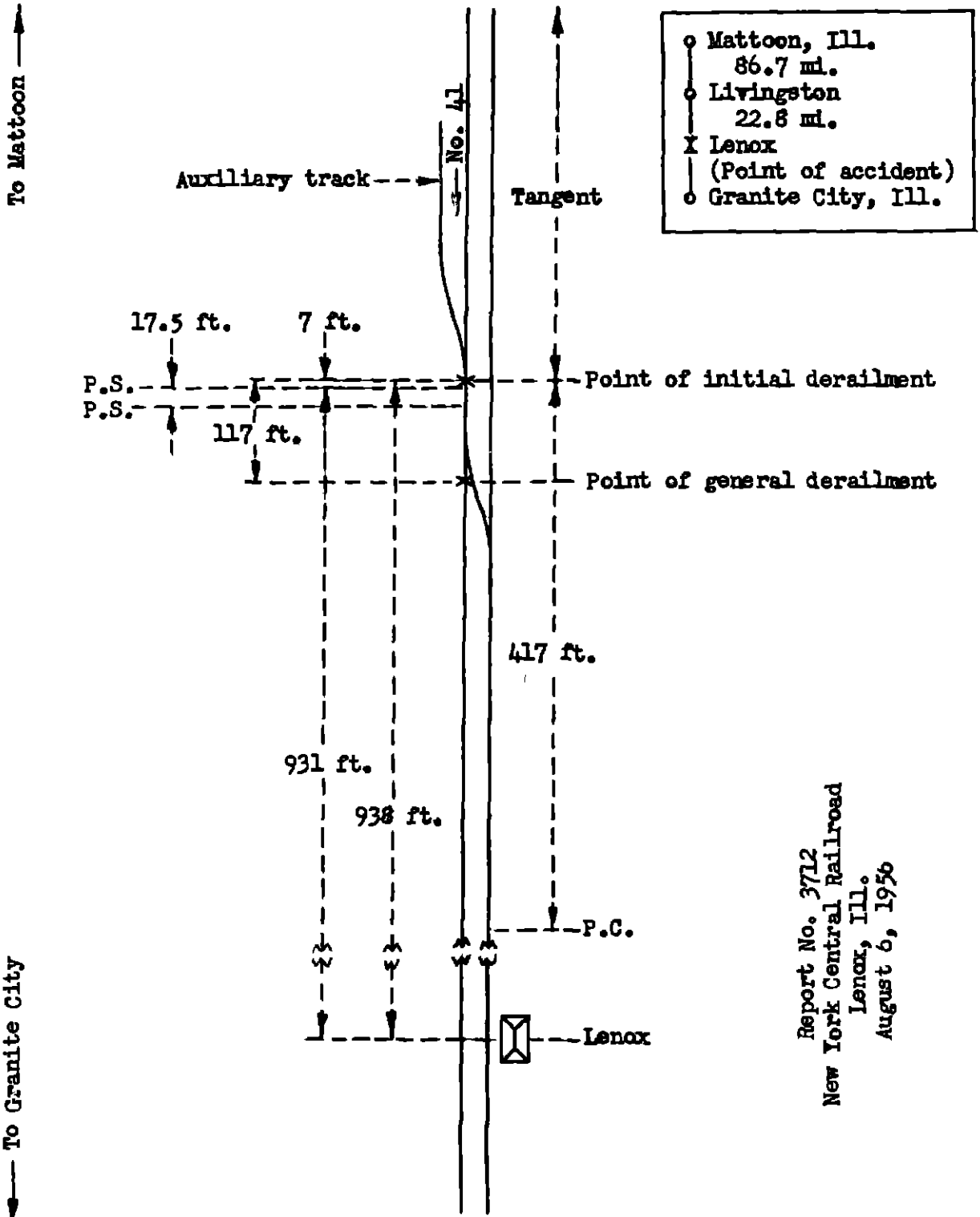
REPORT OF THE COMMISSION¹

CLARKE, Commissioner:

On August 6, 1956, there was a derailment of a passenger train on the New York Central Railroad at Lenox, Ill., which resulted in the injury of nine passengers and eight dining-car employees.

1

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



Report No. 3712
 New York Central Railroad
 Lenox, Ill.
 August 6, 1956

Location of Accident and Method of Operation

This accident occurred on that part of the Illinois Division extending between Mattoon, Ill., and Granite City, Ill., 114.9 miles. In the vicinity of the point of accident this is a double-track line, over which trains moving with the current of traffic are operated by signal indications supplemented by an intermittent inductive train-stop system. Within interlocking limits at Lenox, Ill., 109.5 miles west of Mattoon, an auxiliary track converges with the westward main track from the north at a trailing-point switch 931 feet east of the interlocking station. The east switch of a facing-point crossover connecting the main tracks is located 17.5 feet west of the auxiliary-track switch. The initial derailment occurred on the westward main track at a point 938 feet east of the interlocking station and 7 feet east of the switch points of the auxiliary-track switch. The general derailment occurred 117 feet west of the point of initial derailment. The track is tangent throughout a considerable distance east of the point of initial derailment and 417 feet westward. The grade is level in the vicinity of the point of accident.

In the vicinity of the point of accident the track structure consists of 127-pound rail, 39 feet in length, laid new in 1945 on an average of 24 ties to the rail length. It is fully tieplated with double-shoulder canted tie plates, spiked with two rail-holding spikes and two plate-holding spikes per tie plate, and is provided with 6-hole 36-inch joint bars and an average of 20 rail anchors per rail length. It is ballasted with crushed limestone to a depth of 18 inches below the bottoms of the ties.

The maximum authorized speed for passenger trains is 85 miles per hour east of Lenox, but it is restricted by signal indications to a maximum of 45 miles per hour within interlocking limits at Lenox.

Description of Accident

No. 41, a west-bound first-class passenger train, consisted of Diesel-electric units 3500 and 4404, coupled in multiple-unit control, one refrigerator-express car, one baggage-dormitory car, three coaches, one dining car, four sleeping cars, one coach, three sleeping cars, and one coach, in the order named. The first car was of conventional all-steel construction, and the other cars were of lightweight construction. All cars except the first were equipped with tightlock couplers. This train departed from Mattoon at

- 6 -

9:33 a. m., 33 minutes late, passed Livingston, Ill., 22.9 miles east of the point of accident, at 11:02 a. m., and while it was moving on the westward main track at a speed of 42 miles per hour the front wheels of the rear truck of the eleventh car were derailed to the south at a point 7 feet east of the switch points of the auxiliary-track switch at Lenox. The rear wheels of this truck, and all wheels of the twelfth to the fifteenth cars, inclusive, were derailed at a point 117 feet west of the point of initial derailment.

The locomotive stopped with the front end 1,635 feet west of the point of initial derailment. No separations occurred between the units of the train. The derailed cars stopped approximately in line with the track. The eleventh car stopped upright, and the twelfth to the fourteenth cars, inclusive, leaned to the north at angles of approximately 15 degrees, 45 degrees, and 15 degrees, respectively. The fifteenth car leaned to the south at an angle of approximately 20 degrees. The trucks and appurtenances below the floor level of the derailed cars were considerably damaged. The track structure was destroyed throughout a distance of 529 feet westward from the point of general derailment.

The weather was clear at the time of the accident, which occurred at 11:20 a. m.

The eleventh car, N.Y.C. 2648, a lightweight steel coach, was built in 1941. It is 84 feet 6 inches long, and its light weight is 125,400 pounds. It is provided with four-wheel trucks. The trucks have a wheelbase of 9 feet and are equipped with cast steel truck frames, 5-1/2-inch by 10-inch journals, and 36-inch wheels. The journals are equipped with roller bearings. Helical springs are provided on truck equalizers and bolsters. Each truck-frame pedestal is provided with a tie strap which is secured to the pedestal by one 3/4-inch bolt at each pedestal leg. The distance between the center-lines of the bolts is 20 inches.

Discussion

No. 41 was moving at a speed of 42 miles per hour, as indicated by the tape of the speed-recording device of the locomotive, when the derailment occurred. The engineer and the fireman were in their positions in the control compartment at the front end of the locomotive. An assistant road foreman of engines was also in the control compartment. The conductor was in the second car, the assistant conductor was in the fifth car, and the flagman was in the rear car. The

members of the train crew said that prior to the time of the accident the cars in which they were located had been riding smoothly. The first the crew knew of anything wrong was when the derailment occurred.

Examination of the track structure after the accident occurred disclosed that the wooden rails of a track motor-car set-off located north of the westward main track and 285 feet east of the point of initial derailment were damaged by dragging equipment. Pieces were torn from both rails of the set-off outward from the north rail of the westward main track to points 13-1/2 inches and 12-3/4 inches, respectively, on the east and west rails of the set-off. A dragging mark was found on the frog of the auxiliary-track turnout. A heavy dragging mark was found on the gage side of the north stock rail of the auxiliary-track turnout at a point 12 feet 9 inches north of the north closure rail. This mark extended westward throughout a distance of 24 feet 4 inches. The first flange mark was found on the head of the south stock rail of the auxiliary-track turnout at a point 7 feet east of the switch point. This mark crossed the rail within a distance of approximately 3 feet 6 inches. West of this mark, flange marks on the rail-brace bolts south of the south stock rail and on the switch rods and clips south of the north switch rail indicated that a pair of wheels had derailed to the south. These wheels had been diverted to the south at the east turnout of the crossover. The general derailment occurred immediately west of the frog.

Examination of the equipment after the accident occurred disclosed that the front and rear pedestal legs of the right front pedestal of the rear truck of N.Y.C. 2648, the eleventh car, had broken at points approximately 6 inches and 4-1/2 inches, respectively, from the bottom of the pedestal and were missing from the truck frame. The portions of the rear pedestal leg and the liner remaining on the truck frame were bent toward the rear.

The pedestal tie strap was found between the switch rails of the east crossover-switch. It was separated from the pedestal legs. The broken pieces of the pedestal were found on the north side of the track in the vicinity of this switch. The tie-strap bolts were not found.

Examination of the fractured surfaces of the broken pieces of the pedestal disclosed that practically the entire areas of the breaks were new. The front of the outside flange of the front pedestal leg bore a heavy impact mark

2-1/2 inches above the bottom of the pedestal. This mark was approximately 5/16 inch deep, 1/2 inch long, and 1/4 inch wide. The surface of the outside flange below this mark bore a lighter impact mark covering an area of approximately 7/8 square inch. The flange was bent outward, and the rear portion of the pedestal leg was torn vertically approximately 3 inches at a point about 3 inches from the outside of the outside flange. The tie strap was bent out of line 3 inches longitudinally and 1/2 inch laterally. One end of the tie strap bore an indentation at a bottom corner 1/4 inch deep covering an area of approximately 1 square inch, and an indentation 1-1/2 inches long across the face near the center of the tie strap. The tie-strap hole at this end was elongated longitudinally 1/8 inch.

The marks on the front pedestal leg indicate that it was struck by some object with sufficient force to break the leg. The object was not found. Either the rear tie-strap bolt was loose at the time the leg was broken or it worked loose after the leg was broken and permitted the front end of the tie strap to drop sufficiently to come in contact with the track structure. Apparently the front wheels of the truck were derailed as a result of wedging action when the front end of the tie strap came in contact with the gage side of the north stock rail at the auxiliary-track switch. When this occurred the rear pedestal leg and both tie-strap bolts were broken, as indicated by the fact that the tie strap and the broken pieces of both pedestal legs were found a short distance west of the switch.

The equipment of No. 41 was last inspected at Mattoon, and the inspectors took no exceptions to the condition of the equipment.

Cause

This accident was caused by a broken truck-frame pedestal leg.

Dated at Washington, D. C., this twenty-sixth day of November, 1956.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,
Secretary.