

INTERSTATE COMMERCE COMMISSION .

WASHINGTON

INVESTIGATION NO. 2919

THE ATCHISON, TOPEKA AND SANTA FE
RAILWAY COMPANY

AND

THE BALTIMORE AND OHIO CHICAGO TERMINAL
RAILROAD COMPANY

REPORT IN RE ACCIDENT

AT CHICAGO, ILL., ON

AUGUST 6, 1945

SUMMARY

Railroads: Atchison, Topeka : Baltimore and Ohio
and Santa Fe Chicago Terminal

Date: August 6, 1945

Location: Chicago, Ill.

Kind of accident: Side collision

Trains involved: A.T.& S.F. passen-: B.& O. freight
ger

Train numbers: 13 : Extra 5570 North

Engine numbers: Gas-electric M-185: 5570

Consist: Motor-car : 3 cars, caboose

Estimated speed: 5 m. p. h. : 8 m. p. h.

Operation: Signal indications: Signal indications

Track: Double; tangent; : Double; tangent;
0.13 percent de- 0.08 percent
scending grade descending grade
westward northward

Weather: Clear

Time: 2:50 p. m.

Casualties: 1 killed; 6 injured

Cause: Failure to operate Atchison, Topeka
and Santa Fe train in accordance
with crossing-signal indication

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2919

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

THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY
AND
THE BALTIMORE AND OHIO CHICAGO TERMINAL RAILROAD COMPANY

September 26, 1945.

Accident at Chicago, Ill., on August 6, 1945, caused by
failure to operate the Atchison, Topeka and Santa Fe
train in accordance with crossing-signal indication.

REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On August 6, 1945, there was a side collision between a passenger train of the Atchison, Topeka and Santa Fe Railway and a freight train of the Baltimore and Ohio Railroad, being operated on the Baltimore and Ohio Chicago Terminal Railroad, at Chicago, Ill., which resulted in the death of one employee, and the injury of three passengers, one railway-express messenger and two employees. This accident was investigated in conjunction with a representative of the Illinois Commerce Commission.

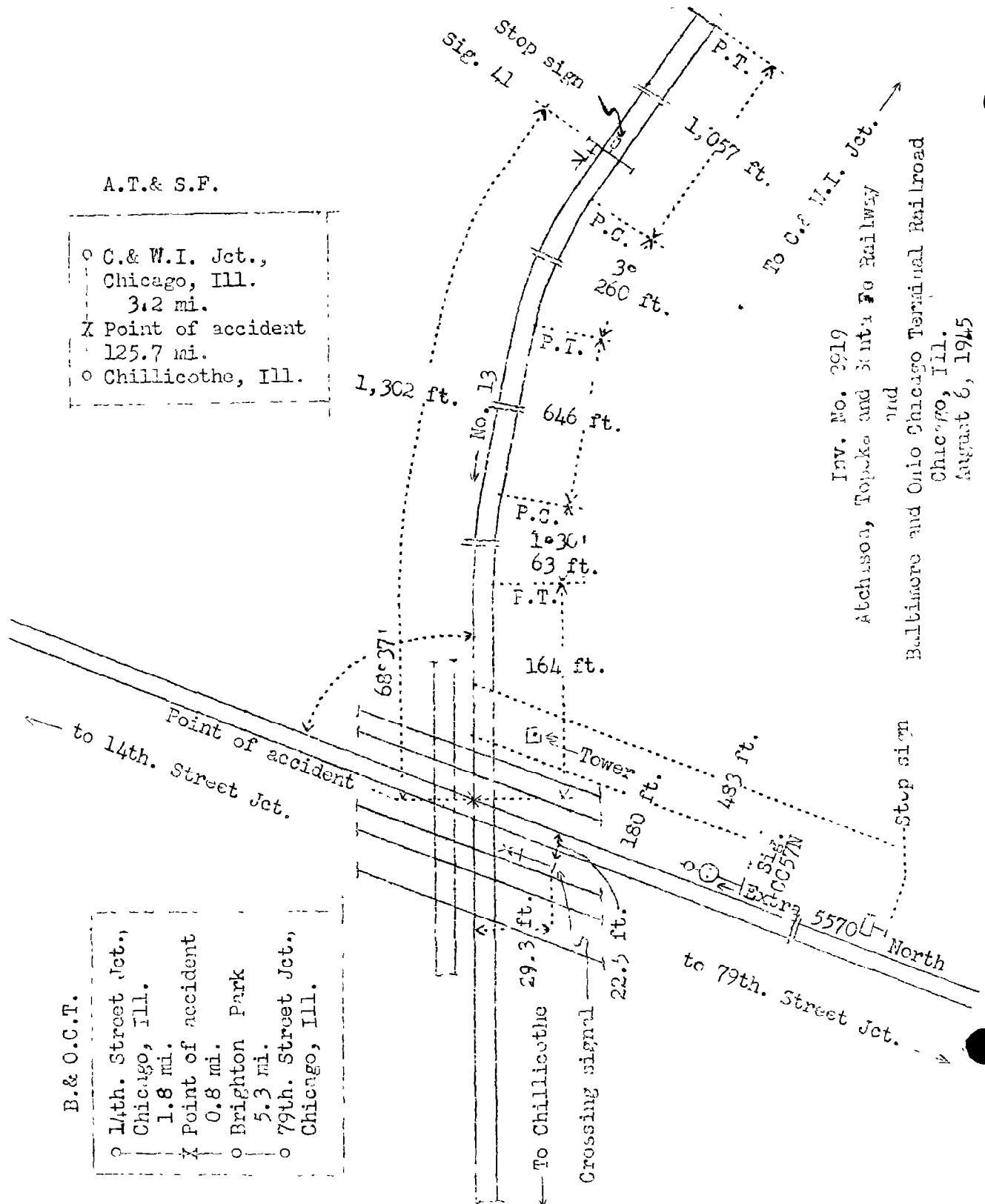
¹Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

A.T. & S.F.

- C. & W.I. Jct., Chicago, Ill. 3.2 mi.
- X Point of accident 125.7 mi.
- Chillicothe, Ill.

B. & O.C.T.

- 14th. Street Jct., Chicago, Ill. 1.8 mi.
- X Point of accident 0.8 mi.
- Brighton Park 5.3 mi.
- 79th. Street Jct., Chicago, Ill.



Inv. No. 2919

Atchison, Topeka and Santa Fe Railway

and

Baltimore and Ohio Chicago Terminal Railroad

Chicago, Ill.

August 6, 1945

To C. & W.I. Jct.

Point of accident
to 14th. Street Jct.

to 79th. Street Jct.

Location of Accident and Method of Operation

This accident occurred at an intersection of a line of the Atchison, Topeka and Santa Fe Railway and the Baltimore and Ohio Chicago Terminal Railroad, hereinafter referred to, respectively, as the A.T. & S.F. and the B. & O.C.T. The crossing is located on that part of the Illinois Division of the A.T. & S.F. designated as the First District and extending westward from C. & W.I. Jct., Chicago, to Chillicothe, Ill., 128.9 miles, and on that part of the B. & O.C.T. extending northward from 79th Street Jct. to 14th Street Jct., Chicago, 7.9 miles. The crossing is 3.2 miles west of C. & W.I. Jct. and 6.1 miles north of 79th Street Jct. In the vicinity of the point of accident both are double-track lines, over which trains moving with the current of traffic are operated by signal indications. Trains of the Baltimore and Ohio Railroad, hereinafter referred to as the B. & O., are regularly operated over the line of the B. & O.C.T. At the crossing the main tracks of the A.T. & S.F. and two tracks of another line intersect the main tracks of the B. & O.C.T. and five tracks of two other lines at an angle of 68°37'. The accident occurred at the intersection of the westward main track of the A.T. & S.F. and the northward main track of the B. & O.C.T. From the east on the A.T. & S.F. there are, in succession, a tangent 1,057 feet in length, a 3° curve to the left 260 feet, a tangent 646 feet, a 1°30' curve to the left 63 feet, and a tangent 164 feet to the point of accident and a considerable distance westward. The grade is 0.13 percent descending westward. The B. & O.C.T. main tracks are tangent throughout a considerable distance immediately south of the crossing and some distance northward. The grade is 0.08 percent descending northward.

Movements over the crossing on either line are governed by a four-arm two-position semaphore-type signal mounted on a mast located 29.3 feet south and 22.5 feet west of the intersection of the A.T. & S.F. westward main track and the B. & O.C.T. northward main track. The semaphore arms governing east-bound and west-bound movements over the crossing are 24 feet 8 inches above the tops of the rails, and the semaphore arms governing north-bound and south-bound movements are 33 feet 1 inch above the tops of the rails. The signal is in the charge of an operator-leverman and is controlled from a tower located in the southeast angle of the intersection. The involved day aspects and corresponding indications of the signal are as follows:

<u>Aspect</u>	<u>Indication</u>
Upper arms, 60 degrees	Proceed
Lower arms, horizontal	Stop

The controlling levers of this signal are provided with mechanical locking so arranged that when the lever controlling the arms governing north-bound and south-bound movements is in position for the signal to indicate proceed for this route, the lever controlling the other arms will be locked in position for the signal to display stop for east-bound and west-bound movements.

Automatic signal 41, governing west-bound movements on the A.T. & S.F. westward main track, is located on an overhead bridge 1,302 feet east of the point of accident. This signal is of the three-position, upper-quadrant, semaphore type, and is approach lighted. Automatic signal CC57N, governing north-bound movements on the B. & O.C.T. northward main track is 180 feet south of the point of accident. This signal is of the color-position-light type and is approach lighted. The involved aspects, indications and names of these signals are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
41	Horizontal, with number plate	Stop--Then proceed * * *	Stop and Proceed Signal.
CC57N	White light over two red lights in horizontal position	Stop, then proceed at restricted speed until entire train passes next signal.	Stop and Proceed.

The controlling circuits of these signals are so arranged that when the crossing signal displays stop for movements on the A.T. & S.F. and proceed for movements on the B. & O.C.T., signal 41 will display stop-then-proceed, and if the block north of signal CC57N is occupied signal CC57N will display stop-then-proceed.

Stop signs governing west-bound movements on the A.T. & S.F. and north-bound movements on the B. & O.C.T. are, respectively, 1,304 feet east and 483 feet south of the crossing.

Operating rules of both railroads read in part as follows:

DEFINITIONS.

* * *

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

98. Trains must approach * * * railroad crossings at grade, * * * prepared to stop, unless * * * signals indicate proceed, and track is clear. * * *

The maximum authorized speed for the B. & O. train was 40 miles per hour and for the A. T. & S. F. train, 60 miles per hour.

Description of Accident

No. 13, a west-bound first-class A. T. & S. F. passenger train, consisted of gas-electric motor-car M-185. The motor-car was of steel construction. This train departed from C. & W. I. Jct. at 2:20 p. m., 1 hour 6 minutes late, stopped 1,304 feet east of the crossing at the stop sign and signal 41, which displayed stop-then-proceed, and then proceeded. The crossing signal displayed stop for No. 13, but this train entered upon the crossing and while moving at an estimated speed of 5 miles per hour it was struck by B. & O. Extra 5570 North.

Extra 5570 North, a north-bound B. & O. freight train, consisted of engine 5570, 3 cars and a caboose. This train passed Brighton Park, 0.8 mile south of the point of accident, at 2:44 p. m., stopped 483 feet south of the crossing at the stop sign, then proceeded, passed signal CC57N, which displayed stop-then-proceed, passed the crossing signal, which displayed proceed, and while moving at an estimated speed of 8 miles per hour it struck A. T. & S. F. No. 13.

The force of the impact moved the motor-car of No. 13 about 30 feet northward, and the left side of the railway post office compartment was crushed inward about 3 feet. The fuel tanks of the motor-car were ruptured, gasoline became ignited, and the interior of the motor-car and the engine of Extra 5570 North were badly damaged by fire.

The weather was clear at the time of the accident, which occurred about 2:50 p. m.

The brakeman of No. 13 was killed, and the engineer and the conductor were injured.

According to data furnished by the railroad, gas-electric motor-car M-185, built in 1931, was of conventional, all-steel, plate, girder, post and sill construction. It was 80 feet in length, weighed 141,000 pounds, and consisted of a control-power compartment, a railway post office compartment, a baggage-express compartment and a passenger compartment. The car was powered by a 400-horsepower gasoline motor and an electric generator. Fuel was supplied from three tanks having a total capacity of 500 gallons. The fuel tanks were located under the

floor and between the trucks. The car was provided with schedule 6RC brake equipment having a safety control feature. The control station was on the right side of the power compartment.

Discussion

About 2:40 p. m., the operator-leverman placed the levers in control of the crossing signal in position for the signal to display stop for east-bound and west-bound movements and proceed for north-bound and south-bound movements over the crossing. About 10 minutes later, No. 13, a west-bound A.T. & S.F. passenger train moving over the crossing on the A.T. & S.F. westward main track, was struck by Extra 5570 North, a north-bound B. & O. freight train moving on the B. & O. C. T. northward main track. Under the rules, the stop indication displayed by the crossing signal required No. 13 to stop short of the crossing and not to proceed until the signal displayed a proceed indication or proper authority from the operator-leverman had been received.

Extra 5570 North stopped at the stop sign, located 483 feet south of the crossing, then proceeded and was moving at a speed of about 8 miles per hour when the collision occurred. The first the enginemen of Extra 5570 were aware of anything being wrong was when the engine was a short distance south of the A.T. & S.F. westward main track. Then the engineer saw the front end of the motor-car of No. 13 moving on the crossing, and he immediately moved the brake valve to emergency position, but the collision occurred before his train could be stopped. The engineer of Extra 5570 North said that his train was not stopped at signal CC57N, because this signal was only a short distance north of the stop sign, and that it had been the practice to stop only at the stop sign when the crossing signal displayed proceed and signal CC57N displayed stop-then-proceed for north-bound trains, as in this case.

The crew of No. 13 consisted of an engineer, a conductor and a brakeman. The brakes of this train had been tested and had functioned properly. As this train was approaching the crossing the engineer was maintaining a lookout ahead from the control compartment, and the conductor and the brakeman were in the passenger compartment. Soon after No. 13 had proceeded from the stop sign, a switchtender in the vicinity observed that the crossing signal was displaying stop for No. 13. He gave signals with a yellow flag for No. 13 to reduce speed and called to the engineer that the signal was displaying stop. The engineer said he did not hear the warning called by the switchtender. He thought the signals given by the switchtender were to govern the movement of a yard engine which was occupying a track immediately north of the A.T. & S.F. main tracks. The engineer of No. 13 did not see the stop indication displayed by the crossing signal until the motor-car was about 35 feet east

of the crossing. Then he moved the brake valve to emergency position in an attempt to stop short of the crossing. However, the train was not stopped; and the speed was about 5 miles per hour when the motor-car obstructed the B. & O.C.T. northward main track. There was no condition of the motor-car of No. 13 that distracted the engineer's attention or obscured his vision. Visual tests disclosed that the crossing signal could be seen from the control compartment of a west-bound motor-car throughout a distance of approximately 1,400 feet immediately east of the crossing.

The investigation disclosed that about 250 gallons of gasoline remained in the fuel tanks of motor-car M-185 at the time of the collision. In previous reports involving equipment of this character, the Commission has directed attention to the hazard to passengers and employees when there is a quantity of gasoline on a railway motor-car, and to the disastrous consequences when gasoline becomes ignited as a result of an accident. In six such accidents during the 5 years prior to this accident, 54 persons were killed and 94 injured, and most of the casualties were caused by burning gasoline. In the present case it appears that none of the casualties resulted from burning gasoline. However, had any person been trapped in the motor-car death would have resulted from fire and gases. In view of the hazards involved in the use of gasoline on similar equipment, conversion to a type of equipment using other fuel should be promptly effected.

Cause

It is found that this accident was caused by failure to operate the A.T. & S.F. train in accordance with a crossing-signal indication.

Dated at Washington, D. C., this twenty-sixth day of September, 1945.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.