

BUREAU OF SAFETY

REPORT NO. 2012

Railroad: Cleveland, Cincinnati, Chicago &
St. Louis

Date: September 20, 1935

Location: Hillsboro, Ill.

Kind of accident: Train struck automobile; derailed

Train involved: Passenger : Automobile

Train number: C&EI 521

Engine number: 1017

Consist: 7 cars

Speed: 50-80 m.p.h. : Just started

Track: Tangent

Weather: Clear

Time: 4:40 p.m.

Casualties: 5 killed and 16 injured

Cause: Automobile being driven on crossing
in front of train

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT ON THE LINE OF THE CLEVELAND, CINCINNATI, CHICAGO
& ST. LOUIS RAILWAY NEAR HILLSBORO, ILL., ON SEPTEMBER 20,
1935.

October 31, 1935.

To the Commission:

On September 20, 1935, there was a derailment of a Chicago and Eastern Illinois passenger train as a result of striking an automobile at a grade crossing on the Cleveland, Cincinnati, Chicago & St. Louis Railway near Hillsboro, Ill., which resulted in the death of the driver of the automobile, 3 employees and 1 trespasser and the injury of 3 passengers, 4 dining car employees, 6 persons carried under contract and 1 trespasser.

Location and method of operation

This accident occurred on that part of the Illinois Division of the Cleveland, Cincinnati, Chicago & St. Louis Railway, hereinafter referred to as the Big Four, which extends between Pana and Granite City, Ill., a distance of 76 miles, and over which passenger trains of the Chicago and Eastern Illinois Railway are operated. In the vicinity of the point of accident this is a double-track line over which trains are operated by time table, train orders, an automatic block-signal system, and an automatic train-stop system of the intermittent inductive type. The accident occurred on the west-bound main track at Smith's road crossing, located 4,900 feet east of the station at Hillsboro. Approaching this point from the east the track is tangent for more than 1 mile, this tangent extending a distance of approximately 2,200 feet beyond the crossing. The grade for west-bound trains is 0.485 percent descending at the point of accident. The east switch of the west-bound passing track is located 665 feet west of the crossing; this is a facing-point switch for west-bound trains. The maximum authorized speed for passenger trains is 80 miles per hour.

Smith's Road, a dirt highway with cinder surface, crosses the tracks at an angle of $37^{\circ} 30'$; it is straight for a distance of about one-eighth mile on each side of the tracks and at the railway crossing has a meiseite surface, is 20 feet in width and in good condition. Approaching from the south the highway is descending for a distance of 125 feet, practically level for 50 feet and then slightly ascending for 35 feet to the crossing. State Highway No. 16 parallels the railroad on the south and crosses Smith's Road at a point 200 feet south of the crossing.

• Pana, Ill.
26.2 mi.
* Point of accident
0.9 mi.
• Hillsboro
48.9 mi.
• Granite City, Ill.
9.1 mi.
• St. Louis, Mo.

Point of accident

First mark on ties

East passing
track switch

Direction of
C&EI train

Filling station

Direction of automobile

Railroad sign
(State)

340 ft.

Railroad crossing and stop signs.

79 ft.

51 ft.

665 ft.

Westbound main

Eastbound main

State Highway No. 16

Inv. No. 2012
Cleveland, Cincinnati, Chicago
& St. Louis Ry.
Hillsboro, Ill.
Sept. 20, 1935

A standard railroad crossing sign of cross-bar type is located on the east side of Smith's Road, 79 feet south of the center of the crossing; at a point 4 feet west of this sign, mounted on a steel post 4 feet in height, there is a semi-circular metal plate 2 feet in diameter bearing the word STOP painted in black letters on a white background. At a corresponding location on the north side of the crossing there had been erected for the protection of south-bound traffic a similar stop sign, although at the time of the accident the metal plate bearing the word STOP was missing. There is also an advance warning sign, erected and maintained by the Illinois Highway Commission, on the east side of Smith's Road, 340 feet south of the crossing and 90 feet south of State Highway No. 16.

The view had of an approaching west-bound train by the driver of a north-bound vehicle is materially obstructed by a filling station located 175 feet east of the center of the highway and 53 feet south of the west-bound main track, as well as by trees and bushes along the right of way east of the filling station. At a point on the highway south of and 200 feet from the east-bound main track a train can be seen for a distance of 365 feet; 50 feet from the track the train can be seen for a distance of 1,500 feet, and when 40 feet from the track the view is unobstructed for 4,000 feet.

The weather was clear at the time of the accident, which occurred about 4:40 p.m.

Description

C. & E.I. Train No. 521, a west-bound passenger train, consisted of 1 horse car, 1 baggage and express car, 1 combination mail and passenger car, 1 chair car, 1 club car, 1 dining car and 1 observation car, all of steel construction, hauled by engine 1017, and was in charge of Conductor Lockhart and Engineman Ebelmesser. This train departed from Pana, 27.1 miles east of Hillsboro, at 4:11 p.m., according to the train sheet, 9 minutes late, passed Nokomis, the last open office, 14.1 miles east of Hillsboro, at 4:24 p.m., still 9 minutes late, and was derailed when it struck an automobile on the crossing at Smith's Road while moving at a speed estimated to have been between 50 and 80 miles per hour.

The automobile involved was a Tudor Ford sedan, 4 cylinder, Model L 1932, owned by Edward L. Dammann, and was being driven by his wife who was the only occupant. The automobile was driven westward on Highway No. 16 and turned northward on Smith's Road, apparently stopping just south of the east-bound

track; then it was started forward but stopped with the front wheels on the west-bound track, after which it appeared to jump forward and was struck in front of the rear wheels.

The automobile was thrown to the right of the track, the rear portion being practically demolished. The rear wheels of the engine truck apparently were derailed by some part of the wreckage and on reaching the frog of the facing-point switch, approximately 614 feet beyond, the engine became entirely derailed. It stopped on its left side partly on the west-bound track, almost in reverse position, 1,160 feet beyond the point of accident; the tender lay along the side of the firebox with practically its entire length beyond the point where the engine stopped. The first car stopped on the west-bound track leaning against the engine; the second car had been thrown across the east-bound track and stopped on the slope of the fill. The remaining cars were derailed but remained upright on the roadbed in general line with the track. The employees killed were the engineman, fireman and road foreman of engines.

Summary of evidence

Conductor Lockhart stated that he was passing through the fourth car of the train when he felt the air brakes applied suddenly, and the train was derailed about the same time. He was unable to say whether the air brakes were applied before or after the engine passed over the crossing, but he said that it was customary for the engineman to apply the brakes in that location preparatory to making a station stop at Hillsboro. He estimated the speed of the train to have been 60 miles per hour or more at the time of the accident.

Flagman Watkins stated that approaching the point of accident he was seated in the smoking compartment of the last car and was observing the speed of the train; he had noted that it was moving a mile in from 45 to 47 seconds. About that time he felt an emergency application of the air brakes followed instantly by the derailment. The air brakes were applied when the rear car was 25 or 30 feet east of the road crossing, after which the train continued about one-half mile before stopping. Baggage-expressman Elliott, who was in the second car of the train, stated that the first intimation he had of anything wrong was when he heard breaking of glass and a grinding noise. He estimated the speed to have been 30 miles per hour shortly before the accident occurred.

Car Inspector Hardaway, employed by the Big Four Railway, stated that at about 4:40 p.m. on the day of the accident he was in the west-bound yard about three-eighths mile west of the crossing, awaiting the arrival of a Big Four local freight train, when his attention was attracted by an engine whistle;

looking eastward he saw Train No. 521 about 450 feet east of the crossing. He also saw an automobile apparently stopped just south of the east-bound track; the automobile then proceeded and stopped again with the front wheels on the west-bound track; it started again and appeared to jump forward after which the engine struck the automobile in front of the rear wheels. As a cloud of dust obscured his view he was unable to see what became of the automobile; the engine continued a distance of about 600 feet, when he saw a rail shoot up in front of it.

Howard Carlock, operator of a gasoline filling station located southeast of the crossing, stated that he was seated at the east side of the building when he heard the train whistle; there were two or three blasts of the whistle followed by one long blast which continued until the engine had passed over the crossing. He did not notice whether the engine bell was ringing. He estimated the speed of the train at from 50 to 55 miles per hour. He was not aware of the accident until several minutes later when informed of its occurrence.

Superintendent Glidden, of the C. & E. I. Ry., stated that in his opinion some part of the automobile lodged beneath the rear wheels of the engine truck and caused their derailment. Both wheels apparently became derailed at the same point, one riding on the ties about 12 or 14 inches from the gauge side of the left rail and the other on the tie plates on the outside of the right rail, continuing to the switch where the engine became entirely derailed. Superintendent Glidden stated that the crossing was in good condition; it had been rebuilt recently with a combination of rock and a substance resembling asphalt or tarvia. Although this dirt highway leads to the city, he termed it a by-way or unimportant road, as State Highway No. 16 is paved and provides a much better route.

Superintendent of Motive Power Kinnaird, of the C. & E. I. Ry., stated that he observed scratch marks on 7 or 8 ties immediately west of the crossing, which led diagonally from the left rail to the right rail. Beginning at a point 23 ties west of the crossing there was a flange mark of the left wheel on the ties 6 or 7 inches from the rail; the flange mark of the right wheel was on the edge of the tie plates.

Edward L. Dammann, husband of the deceased driver of the automobile, stated that his wife was in good health and that her hearing and eyesight were good. She left home about 4 p.m. on the day of the accident to visit her mother. He said that his wife had driven westward on Highway No. 16 to Smith's Road, then naturally westward over Smith's crossing. The automobile had been purchased in July, 1935, having been overhauled by the company from whom it was purchased, and the motor and brakes were in good condition. Mrs. Dammann had considerable experience in

driving a Model T Ford since 1916, but had not driven an automobile for about a year prior to July, 1935, because of the poor mechanical condition of the Model A Ford which was being used during that time, and having driven the Model T Ford for some time, she disliked driving a gear shift car. Since the purchase of the Model L car in July, however, she had resumed driving and had driven this car an average of three or four times a week. Sometime previously his wife's sister was involved in an automobile grade crossing accident; since that time his wife was unusually cautious in crossing railroads and it had been her practice to stop the car before crossing the tracks. Mrs. Dammann was thoroughly familiar with the conditions at the crossing involved, having passed over it many times during the last year.

Smith's Road is a secondary dirt road near which are located Lake Hillsboro and a country club and during certain periods of the summer season the traffic over this highway is heavier than normal. A 24-hour check of vehicles and trains passing over the crossing involved was made shortly after the accident. From 7 a.m. to 7 p.m. 5 trucks, 25 automobiles, 12 passenger trains and 10 freight trains moved over the crossing; of these vehicles only 2 of the trucks and 8 of the automobiles stopped before entering upon the crossing. From 7 p.m. to 7 a.m. 19 automobiles, 2 trucks, 13 passenger trains and 9 freight trains passed over the crossing; of these vehicles only 9 automobiles stopped before moving over the crossing. No busses used this crossing during this 24-hour period.

The intersection of Smith's Road and Highway No. 16 is located about 200 feet east of the railroad crossing where the 24-hour check of traffic was made. It was particularly noticeable that while only 19 of the 51 vehicles stopped before crossing the railroad, the drivers of all vehicles stopped in obedience to the State Highway Stop sign before entering Highway No. 16.

Discussion

The driver of the automobile was familiar with the crossing. While she had had many years' experience in driving a Model T Ford, she had only a limited experience in operating a gear shift car; although it can not be ascertained definitely, the evidence indicated that she may have had difficulty in shifting gears; the statement of the only eye-witness of the accident was to the effect that the automobile was stopped south of the first track, then started forward and stopped again with the front wheels on the west-bound track, then appeared to jump forward and was struck by the train.

Conclusion

This accident was caused by an automobile being driven upon a railroad crossing at grade directly in front of an approaching passenger train.

Respectfully submitted,

W. J. PATTERSON,

Director.