

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3321

THE ATCHISON, TOPEKA AND SANTA FE
RAILWAY COMPANY

IN RE ACCIDENT

NEAR PRINCETON, KANS., ON

APRIL 19, 1950

SUMMARY

Date: April 19, 1950

Railroad: Atchison, Topeka and Santa Fe

Location: Princeton, Kans.

Kind of accident: Collision

Equipment involved: Passenger train : Motor-truck

Train number: 212 :

Engine number: Diesel-electric :
unit 14

Consist: 6 cars :

Estimated speeds: 75 m. p. h. : 18 m. p. h.

Operation: Timetable, train orders and
automatic block-signal system

Track: Single; tangent; 0.21 percent
descending grade eastward

Highway: Tangent; crosses track at angle of
76°; 0.35 percent descending grade
southward

Weather: Clear

Time: 12:21 p. m.

Casualties: 46 injured

Cause: Motor-truck occupying rail-highway
grade-crossing immediately in front
of approaching train

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3321

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

June 6, 1950

Accident near Princeton, Kans., on April 19, 1950, caused
by a motor-truck occupying a rail-highway grade-
crossing immediately in front of an approaching
train.

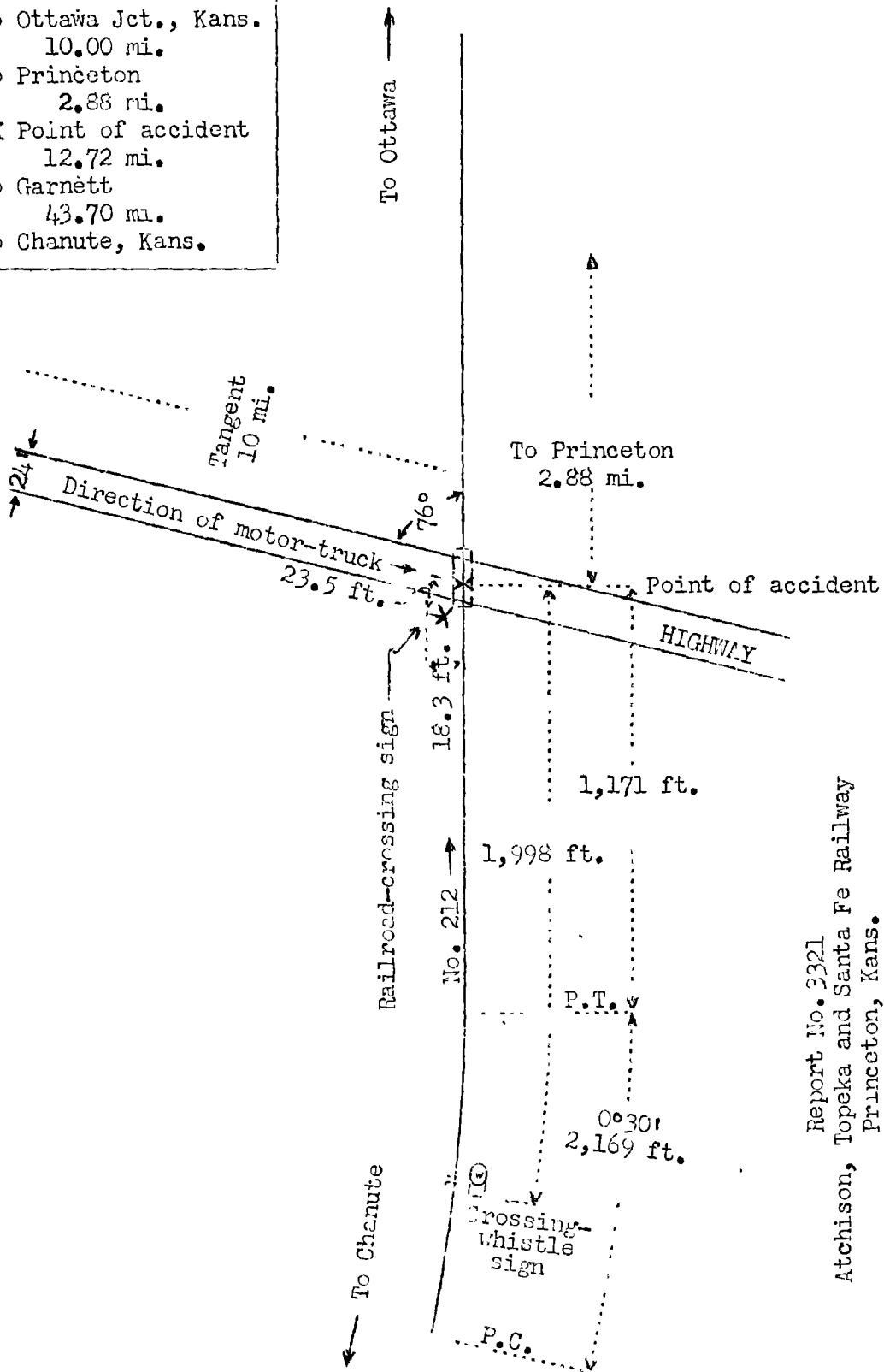
REPORT OF THE COMMISSION¹

PATTERSON, Commissioner:

On April 19, 1950, there was a collision between a
passenger train on the Atchison, Topeka and Santa Fe Rail-
way and a motor-truck at a rail-highway grade-crossing
near Princeton, Kans., which resulted in the injury of the
driver of the motor-truck, 40 passengers, 1 dining-car
employee, 1 coach attendant, 1 parlor-car attendant and
2 train-service employees.

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

- Ottawa Jct., Kans.
- | 10.00 mi.
- Princeton
- | 2.88 mi.
- X Point of accident
- | 12.72 mi.
- Garnett
- | 43.70 mi.
- Chanute, Kans.



Report No. 2321
 Atchison, Topeka and Santa Fe Railway
 Princeton, Kans.
 April 19, 1950

Location of Accident and Method of Operation

This accident occurred on that part of the Eastern Division extending between Chanute and Ottawa Jct., Kans., 69.3 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 an automatic block-signal system. The accident occurred on the main track at a point 56.42 miles east of Chanute and 2.88 miles west of the station at Princeton, where the railroad is crossed at grade by a secondary highway. The railroad at this point extends practically north and south, and the highway practically east and west. Timetable directions on the railroad are east and west, and these directions will hereafter be used in this report. From the west on the railroad there is a 0°30' curve to the left 2,169 feet in length and then a tangent 1,171 feet to the point of accident and a considerable distance eastward. The grade for east-bound trains varies between 0.05 percent and 0.63 percent descending throughout a distance of 4,400 feet, and then it varies between 0.03 percent and 0.49 percent ascending 931 feet to the point of accident, and is 0.21 percent ascending at that point. The highway intersects the railroad at an angle of 76°. It is approximately 24 feet wide and is surfaced with gravel. From the north the highway is tangent throughout a distance of approximately 10 miles to the point of accident. The grade for south-bound vehicles is 1.35 percent descending throughout a distance of 200 feet, then 0.35 percent descending 100 feet to the crossing. The crossing is 32 feet wide. It is solidly planked between the rails. Flangeways varying in width from 2 inches to 2-1/4 inches are provided. Planking 17-1/2 inches in width is provided outside each rail. The planks are beveled downward throughout a distance of 6 inches at each end of the crossing. The surface of the crossing is level with the tops of the rails.

A standard cross-buck railroad-crossing sign is located to the right of the direction of south-bound highway traffic, 23.5 feet west of the center-line of the highway and 18.3 feet north of the center-line of the track. This sign bears the words "RAILROAD CROSSING" in 9-inch black letters on a white background. The center of the cross-buck is 9.3 feet above the level of the tops of the rails. The mast bears the words "LOOK OUT FOR THE CARS" in 4-inch black letters on a white background. There is no advance-warning railroad-crossing sign for south-bound vehicles. Crossing-whistle signs for east-bound trains are located 1,998 feet and 960 feet west of the crossing. The second crossing-whistle sign is for the next rail-highway grade-crossing east of the crossing where the accident occurred.

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

14. Engine Whistle Signals

Note:-The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds.

* * *

SOUND

INDICATION

* * *

(1) — — o —

Approaching public crossings at grade, * * * to be prolonged or repeated until crossing is reached.

* * *

30. The engine bell must be rung * * * while approaching and passing public crossings at grade * * *.

A bulletin dated January 1, 1950, reads as follows:

The headlight will be displayed to the front of every train by night and in addition, to the front of every Diesel or Gas-Electric powered train by day.

The motor vehicle laws of Kansas do not require motor-trucks of the type in this accident to stop before they enter a rail-highway grade-crossing, unless such crossing is designated by a stop-sign.

The maximum authorized speed for the passenger train was 79 miles per hour.

Description of Accident

No. 212, an east-bound first-class passenger train, consisted of Diesel-electric unit 14, one mail-express car, one passenger-luggage car, one coach, one dining car, one coach and one parlor-observation car, in the order named. The first and the fourth cars were of conventional all-steel construction. The other cars were of lightweight stainless-steel construction and were equipped with tightlock couplers. This train departed from Garnett, the last open office, 12.72 miles west of the point of accident,

at 12:07 p. m., 10 minutes late, and while moving at a speed of 75 miles per hour it struck a motor-truck on a rail-highway grade-crossing 2.88 miles west of the station at Princeton.

The vehicle in the collision was a tractor and a semi-trailer owned and operated by G. W. McGrath, Ottawa, Kans. The driver, who was the sole occupant, held Kansas driver's license M263-275-887-724. The tractor was a 1947 Super White, 6-cylinder, gasoline-powered, model WB2T and bore Kansas 1950 license No. T21-598. It was provided with a steel enclosed cab. It had a wheel base of 145 inches, was equipped with dual tires on the rear wheels, and was equipped with air brakes on all wheels. The semi-trailer was a 1947 LaCrosse Low Boy type with a flat bed 8 feet wide and 21 feet long. It was equipped with dual tires on each wheel. All wheels were equipped with air brakes controlled from the cab of the tractor. It bore Kansas 1950 license No. 1932. The cargo consisted of a caterpillar-type bulldozer weighing 32,000 pounds. The total length of the tractor and the semi-trailer, coupled, was 35 feet. The total weight of the tractor, semi-trailer and cargo was 49,000 pounds. The vehicle was en route to Ottawa, Kans. This vehicle was moving southward on the highway at an estimated speed of 18 miles per hour when it entered the crossing and was struck by No. 212.

No. 212 was derailed to the right but all units of the train stopped upright. There were no separations between the units of the train. The front end of the Diesel-electric unit stopped 610 feet east of the point of accident, with the front end 15 feet and the rear end 33 feet south of the center-line of the track. The cars stopped in line and the rear end of the rear car was on the roadbed. The Diesel-electric unit was badly damaged. The first four cars were considerably damaged and the fifth and the sixth cars were slightly damaged. The track was destroyed throughout a distance of 380 feet east of the crossing.

The tractor stopped 22 feet east of the point of accident and 45 feet south of the track. It was badly damaged. The semi-trailer was torn loose from the tractor and stopped 22 feet north of the track and 80 feet east of the point of accident. The bulldozer stopped 24 feet north of the track and 50 feet east of the point of accident. It was demolished.

The flagman and the brakeman of No. 212 were injured.

The weather was clear at the time of the accident, which occurred at 12:21 p. m.

During the 30-day period preceding the day of the accident, the average daily movement over the crossing was 7.96 trains. During the 24-hour period beginning at 12:01 a. m., May 3, 1950, 59 automobiles, 40 trucks and 2 buses passed over the crossing.

Diesel-electric unit 14 was equipped with a retractable coupler at the front end. The coupler was so arranged that when not in use it was covered by a shield. The pilot was of sheet construction and reinforced at the bottom by channel irons. Braces extending from the lower part of the pilot to the engine frame on each side were provided.

Discussion

As No. 212 was approaching the point where the accident occurred the speed was 75 miles per hour. The headlight was lighted brightly. The enginemen were maintaining a lookout ahead from their respective positions in the control compartment at the front of the Diesel-electric unit and the members of the train crew were at various locations throughout the cars of the train. The brakes of this train had been tested and had functioned properly when used en route. The enginemen said that, when the Diesel-electric unit was about 2,000 feet west of the point where the accident occurred, the engineer began to sound the grade-crossing whistle-signal on the pneumatic horn. The last blast of the crossing whistle-signal was prolonged and was being sounded when the accident occurred. When No. 212 entered the tangent 1,171 feet west of the point of accident, the enginemen observed that a motor-truck was approaching the crossing from the north. The fireman left his seat preparatory to making an engine-room inspection but he remained in the control compartment of the unit and called a warning to the engineer when the motor-truck failed to stop before it reached the crossing. The engineer said that he initiated an emergency brake application when the Diesel-electric unit was about 70 feet west of the crossing.

The driver of the motor-truck said that the speed of the motor-truck was reduced to about 18 or 20 miles per hour a short distance north of the crossing. The brakes of the tractor and semi-trailer functioned properly, and the driver said that they were used to reduce the speed as it approached the crossing. He said that he thought he looked in each direction for an approaching train before the truck entered the crossing. However, he did not see the train or hear the grade-crossing whistle-signal sounded.

An employee of the owner-operator of the motor-truck preceded the tractor and semi-trailer in an automobile at a distance of about 300 feet. While he was driving over the crossing he saw the approaching train about 3,200 feet west of the crossing. However, he took no action to warn the driver of the motor-truck that the train was approaching. From a point 200 feet north of the crossing on the highway the driver of a south-bound vehicle has an unobstructed view of the track west of the crossing throughout a distance of 1,347 feet. From a point 25 feet north of the crossing the view is unobstructed throughout a distance of 3,210 feet.

Cause

It is found that this accident was caused by a motor-truck occupying a rail-highway grade-crossing immediately in front of an approaching train.

Dated at Washington, D. C., this sixth
day of June, 1950.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,
Secretary.