INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3647

CINCINNATI, NEW ORLEANS AND TEXAS PACIFIC
RAILWAY COMPANY
SOUTHERN RAILWAY SYSTEM

IN RE ACCIDENT

AT SPRING CITY, TENN., ON

AUGUST 22, 1955

SUMMARY

Date:	August 22, 1955	
Railroad:	Cincinnati, New Orleans and Texas Pacific, Southern Railway System	
Location:	Spring City, Tenn.	
Kind of accident:	Collision	
Equipment involved:	Freight train	School bus
Train number:	51	
Locomotive number:	Diesel-electric units 4168, 4428, 4355, and 4159	
Consist:	103 cars, caboose	
Estimated speeds:	50 m. p. h.	4-15 m. p. h.
Operation:	Signal indications	
Track:	Single; tangent, 0.11 percent descending grade southward	
Highway:	Tangent; crosses track at angle of 90°; 6.30 percent ascending grade westward	
Weather:	Partly cloudy	
Time:	3 p. m.	
Casualties:	11 killed; 39 injured	
Cause:	School bus occupying rail-highway grade crossing immediately in front of approaching train	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3647

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

CINCINNATI, NEW ORLEANS AND TEXAS PACIFIC RAILWAY COMPANY

SOUTHERN RAILWAY SYSTEM

September 21, 1955

Accident at Spring City, Tenn., on August 22, 1955, caused by a school bus occupying a rail-highway grade crossing immediately in front of an approaching train.

REPORT OF THE COMMISSION[1]

CLARKE, Commissioner:

On August 22, 1955, there was a collision between a freight train on the Cincinnati, New Orleans and Texas Pacific Railway and a school bus at a rail-highway grade crossing at Spring City, Tenn., which resulted in the death of 11 occupants of the bus, and the injury of the driver and 38 other occupants of the bus.

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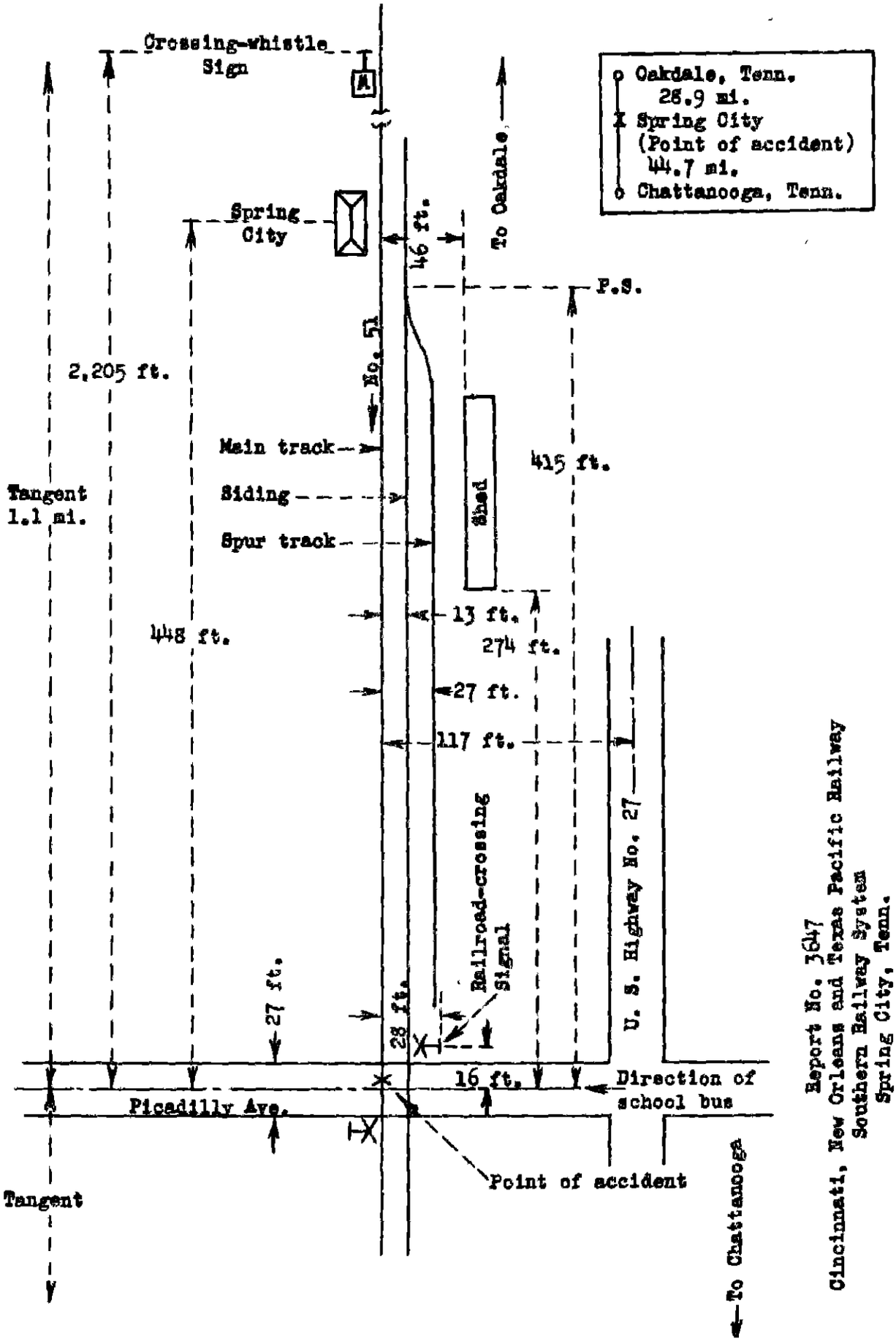
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3847
Cincinnati, New Orleans and Texas Pacific Railway
Southern Railway System
Spring City, Tenn.
August 22, 1955

Location of Accident and Method of Operation

This accident occurred on that part of the railroad extending between Oakdale and Chattanooga, Tenn., 83.6 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by signal indications supplemented by an intermittent inductive automatic train-stop system. The accident occurred on the main track at a point 28.9 miles south of Oakdale and 448 feet south of the station at Spring City, where the railroad is crossed at grade by Picadilly Avenue. At this point a siding parallels the main track on the east. The tracks are spaced 13 feet between track centers. East of the siding a spur track 377 feet in length extends southward from a switch 415 feet north of the center-line of Picadilly Avenue. The main track and the spur track are spaced 27 feet between track centers. At the time of the accident there were four freight cars on the spur track. The south end of the south car was 96 feet north of the center-line of the highway. In this vicinity the railroad extends from northeast to southwest. Timetable directions on the railroad are north and south, and these directions are used in this report. The railroad is tangent throughout a distance of 1.1 miles immediately north of the crossing and a considerable distance southward. The grade is 0.11 percent descending southward at the crossing.

In the vicinity of the point of accident U. S. Highway No. 27 parallels the railroad on the east. The center-line of the highway is 117 feet east of the center-line of the main track. Picadilly Avenue intersects this highway and the railroad at right angles. In the vicinity of the railroad Picadilly Avenue is 27 feet in width and is surfaced with bituminous material. It is tangent throughout a considerable distance on each side of the crossing. The grade for west-bound vehicles is, successively, an average of 0.97 percent ascending a distance of 830 feet, 6.30 percent ascending 50 feet to the crossing, and level over the crossing. A plank is laid on each side of each main-track rail throughout the width of the crossing, and the remaining area of the crossing is surfaced with bituminous material to the level of the tops of the rails.

A railroad-crossing signal of the flashing-light type is located 16 feet north of the center-line of Picadilly Avenue and 28 feet east of the center-line of the main track. This signal consists of a standard cross buck mounted on a mast approximately 11 feet above the level of the highway. The cross buck bears the words "RAILROAD CROSSING" in black letters on a silvery white background. Two hooded red lamps attached to a horizontal bar are mounted on the same mast 6 feet 6 inches above the level of the highway. The lamps are 30 inches apart and are so arranged that the lights will shine in the direction of approaching highway traffic. A sign bearing the numeral "2" and the word "TRACKS" in black on a silvery white background is mounted on the mast above the lamps, and a sign bearing the words "STOP ON RED SIGNAL" in white on a black background is mounted below the lamps. The warning aspect is displayed by the alternate illumination of the lamps when a south-bound train occupies any portion of the main track throughout a distance of 3,025 feet immediately north of the crossing. A similar signal is located in the southwest angle of the intersection. A crossing-whistle sign for south-bound trains is located 2,205 feet north of the crossing.

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. The signal to be repeated or the last sound prolonged until crossing is reached.
* * *	

17. The headlight will be displayed to the front of every train by day and by night. * * *

The maximum authorized speed for freight trains is 60 miles per hour.

Description of Accident

No. 51, a south-bound second-class freight train, consisted of Diesel-electric units 4169, 4428, 4355, and 4159, coupled in multiple-unit control, 103 cars, and a caboose. This train departed from G. F. Tower at Oakdale at 2:20 p. m., 2 hours late, and while moving at a speed of about 50 miles per hour it struck a school bus at the rail-highway grade crossing at Picadilly Avenue, Spring City.

The school bus involved was owned by the driver and was operated under agreement with the Rhea County School Board to transport students to and from an elementary school in Spring City. The chassis was a 1948 model six-cylinder Chevrolet with a load capacity of 1-1/2 tons. It was equipped with dual tires on the rear wheels and with four-wheel hydraulic brakes. The wheelbase was 13 feet 6 inches. The body was of sheet-metal construction and was approximately 18 feet long, 7 feet 6 inches wide, and 5 feet 10 inches high. In addition to the driver's seat it was provided with six seats on each side of a center aisle. It had seating capacity for 36 pupils. The overall length of the bus was approximately 25 feet, and the weight was approximately 5,800 pounds. The bus bore Tennessee license No. 53 D 816. The driver held Tennessee Special Chauffeur License No. 455466. The bus entered the crossing from the east at a speed estimated at from 4 to 15 miles per hour, and while moving over the crossing it was struck by No. 51. At the time of the accident the bus was occupied by the driver and 49 pupils.

No. 51 stopped with the front of the locomotive about 3,400 feet south of the point of accident. The front of the locomotive was slightly damaged. The bus was struck near the rear end. It stopped 20 feet west of the track and 30 feet south of the center-line of the highway. The body was demolished.

The weather was partly cloudy at the time of the accident, which occurred about 3 p. m., Central Standard Time.

During the 30-day period preceding the day of the accident the average daily movement over the crossing was 18.6 trains. During the 24-hour period beginning at 8 a. m., August 24, 1955, 3,794 motor vehicles passed over the crossing.

Discussion

As No. 51 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from the control compartment at the front of the locomotive, the front brakeman was in the control compartment at the rear of the locomotive, and the conductor and the flagman were in the caboose. The brakes of the train had been tested at Oakdale and had functioned properly. The headlight was lighted. The engineer said he looked at the speed-indicating device as the train was approaching Spring City. The speed at that time was 50 miles per hour, and he thought the train continued to move at approximately the same speed. The enginemen said that the engineer sounded the grade-crossing whistle signal for a crossing located 425 feet north of the station at Spring City and that he continued to sound the horn as the locomotive moved between that crossing and Picadilly Avenue. The bell on the locomotive was ringing during this time. The enginemen said that when the locomotive was in the vicinity of the south end of the station they saw the school bus approaching the crossing from the east. They said the bus was moving at a speed at which it appeared that it could be stopped at any time. When the bus crossed the siding and

it became apparent that it would not stop short of the main track the engineer made an emergency application of the brakes. The engineer thought that at this time the locomotive was about 50 feet north of the crossing. The collision occurred before the speed of the train had been reduced. The engineer said that the flashing-light warning signals at the crossing were in operation as the locomotive approached.

When the accident occurred the school bus was transporting pupils from the elementary school in Spring City to their homes. The pupils were from 6 to 12 years of age. The bus entered Picadilly Avenue at a point about 900 feet east of the railroad. The driver said that a traffic signal at the intersection of U. S. Highway No. 27 and Picadilly Avenue was displaying an aspect to proceed, and he passed this intersection without stopping. He said that the flashing-light warning signals were not in operation as the bus approached the railroad. He said that he stopped the bus before crossing the tracks and that he did not see or hear an approaching train. He then proceeded eastward. As the bus passed the cars on the spur track his view toward the north was obstructed, and he said that he did not see the train until the bus was crossing the main track. He then attempted to increase the speed of the bus, but he was unable to clear the crossing in time to avert the accident. He had recently purchased the bus and had begun driving it to and from the school at the beginning of the school term on August 15. He had had no previous experience as a bus driver.

A witness to the accident said that he had stopped for the traffic signal at the intersection of U. S. Highway No. 27 and Picadilly Avenue and was in this location when the accident occurred. He estimated that the bus was moving at a speed of about 15 miles per hour when it crossed U. S. Highway No. 27, and he said that it continued on to the tracks without stopping. Another witness thought that the bus entered the crossing at a speed of from 4 to 6 miles per hour. He did not see the bus until it was closely approaching the crossing. Several persons who were in the vicinity said that the grade-crossing whistle signal was

sounded as No. 51 was approaching the crossing. Two pupils who were in the bus at the time of the accident were interviewed by the Commission's inspectors. They said that the flashing-light warning signals were in operation and that they saw and heard the approaching train as the bus moved toward the tracks. They said they warned the driver before the bus entered the crossing and he replied that he intended to cross ahead of the train. They said the bus was not stopped before it entered the crossing.

The flashing-light warning signal in the southwest angle of the intersection was struck and knocked down when the accident occurred. The signal in the northeast angle of the intersection was found to be operating properly after the train stopped. Inspection and tests of the signal system disclosed no condition which would have caused an improper operation or failure of the signal. A south-bound train moving at a speed of 50 miles per hour causes the signal to display the warning aspect during a period of approximately 40 seconds before the train reaches the crossing.

After the accident occurred observations were made to determine the distance at which the driver of a west-bound vehicle can see an approaching south-bound train. As a vehicle approaches the crossing from the east, the driver's view of the track north of the crossing is obstructed by a small shed located 46 feet east of the track and 274 feet north of the crossing. After the vehicle passes this shed the driver can obtain a view of an approaching train throughout the length of the tangent north of the crossing provided the area east of the spur track is clear of other vehicles. When there are cars on the spur track, a driver's view of the track north of the crossing is obstructed as he passes the end of this track. After a vehicle reaches a point 21 feet east of the center-line of the main track the driver has an unobstructed view of the track north of the crossing.

Cause

This accident was caused by a school bus occupying a rail-highway grade crossing immediately in front of an approaching train.

Dated at Washington, D. C., this twenty-first day of September, 1955.

By the Commission, Commissioner Clarke.

(SEAL)

HAROLD D. McCOY,

Secretary.