

**RAILROAD ACCIDENT INVESTIGATION**

**Report No 3762**

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LOUISVILLE AND NASHVILLE RAILROAD COMPANY

GUTHRIE, KY

JUNE 29, 1957

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**INTERSTATE COMMERCE COMMISSION**

**Washington**

## SUMMARY

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DATE	<b>June 29, 1957</b>	
RAILROAD	<b>Louisville and Nashville</b>	
DIVISIONS	<b>Evansville</b>	<b>Louisville</b>
LOCATION	<b>Guthrie, Ky</b>	
KIND OF ACCIDENT	<b>Side collision</b>	
TRAINS INVOLVED	<b>Passenger</b>	<b>Freight</b>
TRAIN NUMBERS	<b>11</b>	<b>121</b>
LOCOMOTIVE NUMBERS	<b>Diesel electric units 604 and 612</b>	<b>Diesel-electric units 806, 703, and 812</b>
CONSISTS	<b>12 cars</b>	<b>30 cars, caboose</b>
ESTIMATED SPEEDS	<b>35 m p h</b>	<b>6 m p h</b>
OPERATION	<b>Interlocking</b>	
TRACKS	<b>Single, tangent, level</b>	<b>Single, tangent, 0 70 percent descending grade southward</b>
WEATHER	<b>Clear</b>	
TIME	<b>4 45 p m</b>	
CASUALTIES	<b>6 killed, 21 injured</b>	
CAUSE	<b>Failure to operate Louisville Division train in accordance with signal indications</b>	

INTERSTATE COMMERCE COMMISSION

REPORT NO 3762

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

LOUISVILLE AND NASHVILLE RAILROAD COMPANY

October 22, 1957

Accident at Guthrie, Ky , on June 29, 1957, caused by failure to operate the Louisville Division train in accordance with signal indications

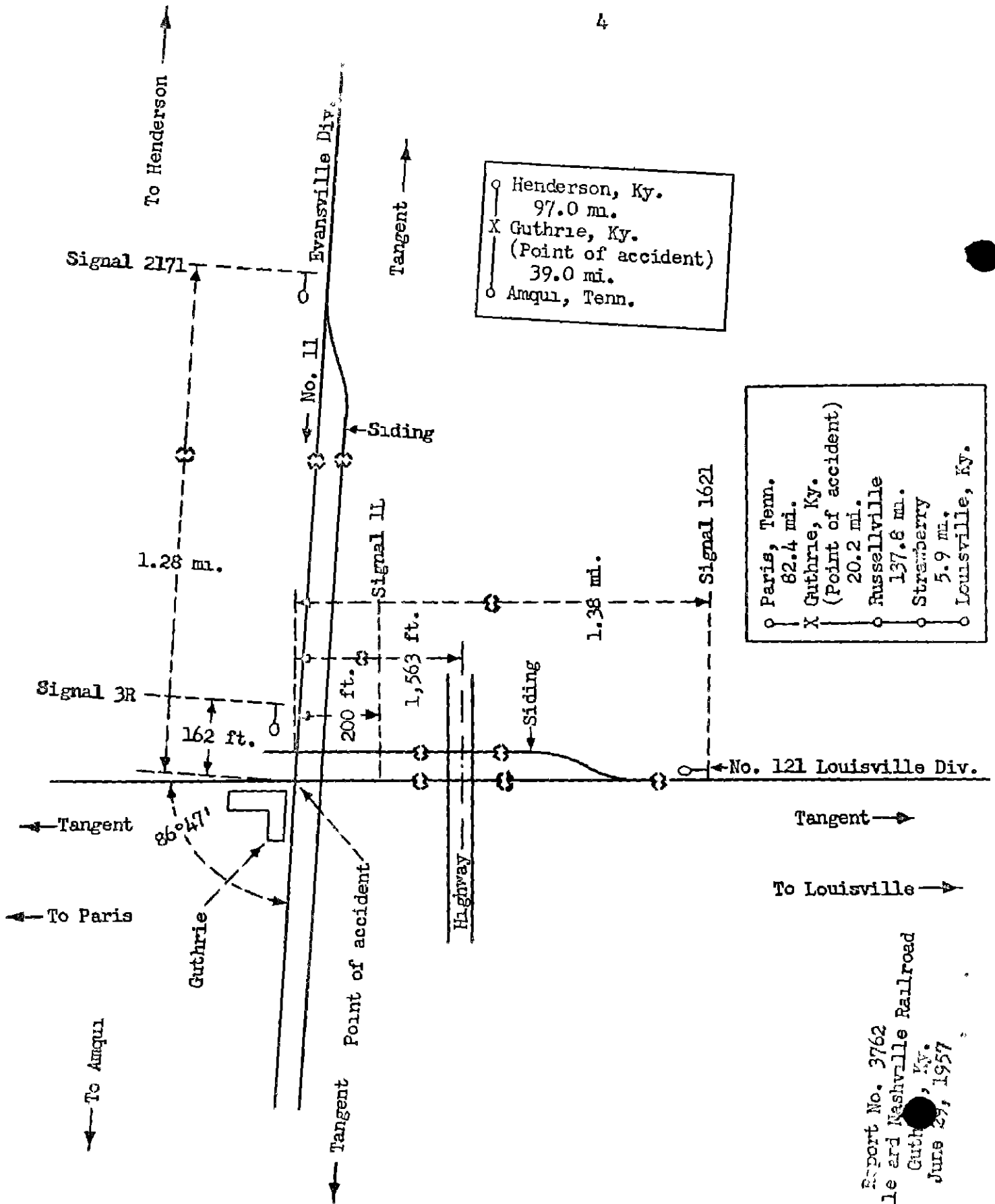
REPORT OF THE COMMISSION<sup>1</sup>

*TUGGLE, Commissioner*

On June 29, 1957, there was a side collision between a passenger train on the Evansville Division and a freight train on the Louisville Division of the Louisville and Nashville Railroad at Guthrie, Ky , which resulted in the death of 3 passengers, 1 train-service employee, 2 dining-car employees, and the injury of 12 passengers, 1 train-service employee, and 8 dining-car employees

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<sup>1</sup> Under authority of section 17 (2) of the *Interstate Commerce Act* the above-entitled proceeding was referred by the Commission to Commissioner Tuggle for consideration and disposition



○ Henderson, Ky.  
 97.0 mi.  
 X Guthrie, Ky.  
 (Point of accident)  
 39.0 mi.  
 ○ Amqui, Tenn.

Paris, Tenn.  
 82.4 mi.  
 X Guthrie, Ky.  
 (Point of accident)  
 20.2 mi.  
 Russellville  
 137.6 mi.  
 Strawberry  
 5.9 mi.  
 Louisville, Ky.

Report No. 3762  
 Louisville and Nashville Railroad  
 Guthrie, Ky.  
 June 27, 1957

### Location of Accident and Method of Operation

This accident occurred within yard limits at the intersection of the Evansville and Louisville Divisions at Guthrie, Ky. In the vicinity of the point of accident south-bound trains by timetable directions move southeast on the Evansville Division and southwest on the Louisville Division by compass directions. Timetable directions are used in this report. The accident occurred on that part of the Evansville Division extending between Henderson, Ky., and Anson, Tenn., 136.0 miles, and on that part of the Louisville Division extending between Louisville, Ky., and Paris, Tenn., 246.3 miles. Guthrie is 97.0 miles south of Henderson and 163.9 miles south of Louisville. The lines intersect at an angle of 86° 47'. At Guthrie, sidings parallel the main tracks of the Evansville and Louisville Divisions on the east and west, respectively. A highway crosses the tracks of the Louisville Division at grade. The center-line of the highway is located 1,563 feet north of the intersection. In the vicinity of the point of accident the Evansville Division is a single-track line over which trains are operated by signal indications. The track is tangent throughout a distance of over 3 miles immediately north of the point of accident and a considerable distance southward. The grade is practically level at the point of accident. In the vicinity of the point of accident the Louisville Division is a single-track line over which trains are operated by timetable and train orders. There is no block system in use. The track is tangent throughout a distance of over 1.5 miles immediately north of the point of accident and a considerable distance southward. The grade for south-bound trains is, successively, practically level 4,000 feet, a vertical curve 800 feet, 1.04 percent descending 500 feet, 1.18 percent descending 1,600 feet, and an average of 0.70 percent descending 400 feet to the point of accident.

Movements over the crossing are governed by interlocking signals. Semi-automatic signals 2171 and 3R, governing south-bound movements on the Evansville Division, are located, respectively, 1.28 miles and 162 feet north of the intersection. Automatic signal 1621 and semi-automatic signal 1L, governing south-bound movements on the Louisville Division, are located, respectively, 1.38 miles and 200 feet north of the intersection. These signals are of the search-light type. Aspects applicable to this investigation and the corresponding indications and names are as follows:

Signal	Aspect	Indication	Name
2171 3R	Green- over-red	PROCEED	CLFAR
1621	Yellow	PREPARE TO STOP AT NEXT SIGNAL TRAIN EXCEEDING MEDIUM SPEED MUST AT ONCE REDUCE TO THAT SPEED.	APPROACH
1L	Red-over- red	STOP	STOP.

The interlocking signals are controlled from the station at Guthrie located in the angle of the intersection west of the Evansville Division main track and east of the Louisville Division main track. Signal 2171 is also part of a traffic-control system controlled by a train controller at Evansville. When the traffic-control system and the interlocking are lined for south-bound movements on the main track of the Evansville Division, signals 2171 and 3R indicate Proceed, signal 1621 indicates Prepare-to-stop-at-next-signal, and signal 1L indicates Stop. Indication, route, and time locking are provided.

This carrier's operating rules:

98 Trains must approach + + + + + in advance of the + + + + + if possible, unless the switches are properly locked + + + + + and + + + + + of + + + + +.

663 Trains or engine units must stop at + + + + + signal without receiving + + + + + signals. Engineers and trainmen must not proceed on + + + + + signals until they are fully informed of the situation, the movement must then be made at + + + + + + + + + +.

DEFINITIONS

Medium Speed - Overhaul maximum authorized speed at point involved, not exceeding forty miles per hour.

The maximum authorized speed for the passenger train was 70 miles per hour, but it was restricted to 35 miles per hour throughout the interlocking. The maximum authorized speed for the freight train was 45 miles per hour.

Description of Accident

No. 11, a south-bound first-class passenger train, consisted of diesel-electric units 604 and 612, coupled in multiple-unit control, one dormitory-baggage car, two sleeping cars, one dining car, one tavern car, one sleeping car, and six coaches, in the order named. These cars were of light-weight construction and were equipped with tightlock couplers. This train departed from Evansville, Ind., 109.4 miles north of Guthrie, at 2:48 p. m., 3 minutes late passed Henderson at 3:05 p. m., 4 minutes late passed signal 2171, and 3R, which indicated Proceed, and while moving over the intersection at Guthrie at a speed of approximately 35 miles per hour the side of the first car was struck by No. 121.

No. 121, a south-bound second-class freight train, consisted of diesel-electric units 806, 703, and 812, coupled in multiple-unit control, 30 cars, and a boogie. This train departed from Strawberry, Ky., 158.0 miles north of Guthrie, at 12:13 p. m., 3 hours 42 minutes late, departed from Russellville, Ky., the last open office 20.2 miles north of Guthrie, at 4:23 p. m., 3 hours 26 minutes late passed signal 1621, which indicated Prepare-to-stop-at-next-signal, passed signal 1L, which indicated Stop, and while moving at a speed of about 6 miles per hour it struck the side of the first car of No. 11.

No. 11 stopped with the front end of the locomotive 678 feet south of the intersection. There were no separation between the units of the train. The first to the fifth cars, inclusive, and the front truck of the seventh car were derailed and tipped upright approximately 10 feet and on the track structure. The fourth car was destroyed, the first and the fifth cars were badly damaged, the second, the third, and the sixth cars were considerably damaged, and the seventh car was slightly damaged. The first and second diesel-train unit of No. 121, on derailed and separation occurred between the unit. The first unit stopped on its right side. The front and rear ends of this unit were, respectively, 98 feet and 147 feet south of the intersection, and 15 feet and 50 feet east of the Louisville Division main track. The front end of the second unit struck the side of the fourth car of No. 11. This unit stopped on its left side with the front end on the Evansville Division track structure and the rear end of the Louisville Division track structure. No other equipment of the train was derailed. The first and the second diesel-electric units were badly damaged and the third unit was slightly damaged.

The engineer of No. 121 was killed. The conductor of No. 11 was injured.

The weather was clear at the time of the accident, which occurred at 4 45 p m

The diesel-electric units of No 121 were equipped with 24RL brake equipment The regulatory devices were adjusted to maintain a maximum main reservoir pressure of 140 pounds and brake-pipe pressure of 90 pounds The first unit of the locomotive was equipped with a speed-recording device but the device was not provided with a speed-recording tape

### Discussion

As No 11 was approaching the point where the accident occurred the enginemen were in the control compartment of the first diesel-electric unit The conductor was in the first car and the flagman was in the rear car Signals 2171 and 3R indicated Proceed The speed of the train was reduced to about 35 miles per hour to comply with the speed restriction at the interlocking The engineer said that as the train approached the intersection he observed the operators at the station moving away from the track in a manner which indicated to him that something was wrong with the train He initiated an emergency application of the brakes The collision occurred immediately afterward The fireman said that he observed No 121 after it had passed signal 1L He estimated that the speed of that train was about 6 miles per hour when the collision occurred

As No 121 was approaching the point where the accident occurred the engineer, the fireman, and the front brakeman were in the control compartment of the first diesel-electric unit, and the conductor and the flagman were in the caboose The fireman, who was promoted to the position of engineer on February 2, 1951, was operating the locomotive The brakes of this train had been tested and no exceptions were taken to the condition of the brake equipment No difficulty was experienced in controlling the speed of the train en route Signal 1621 indicated Prepare-to-stop-at-next-signal The fireman said that the speed of the train was about 55 miles per hour approaching the signal and that he initiated a service brake application before the train passed the signal He said that he released the brakes when the speed of the train was reduced to about 25 miles per hour at a point approximately 600 feet south of the signal The throttle was in No 3 position at that time As the train was approaching signal 1L the fireman received instructions from the conductor by radio to stop the train at signal 1L instead of the customary stopping point immediately north of the highway crossing The conductor said that when switching operations were to be performed at Guthrie it was his practice to stop the train at signal 1L provided the train was of such length that the rear of the train would be south of the highway after the train stopped Signal 1L can first be seen from the control compartment of a south-bound locomotive at a point 4,974 feet north of the signal The fireman said that the signal indicated Stop He said that he made an 8-pound brake pipe reduction when the train was about 2,000 feet north of signal 1L but the brakes did not appear to function properly He estimated that the speed of the train was 25 miles per hour at that time He said that when the train was about 1,200 feet north of the signal he applied the brakes in emergency, closed the throttle, and operated the sanding valve The engineer called a warning to the fireman The fireman and the brakeman alighted before the collision occurred The fireman said that the speed of the train was about 8 miles per hour when the collision occurred The brakeman said he thought that the brakes were applied in emergency at a point about 600 feet north of signal 1L He estimated that the speed of the train at that time was about 15 miles per hour and that it was reduced to about 6 miles per hour when the collision occurred The conductor said he thought that the train was about 500 feet north of the signal when the brakes became applied in emergency and that the speed of the train at that time was about 15 miles per hour The flagman said that he observed the brake-pipe gauge in the caboose after the fireman made the 8-pound brake-pipe reduction and it indicated that brake-pipe pressure was then between 70 and 75 pounds He said that he was closely observing the location of the locomotive conductor to

notify the engine crew by radio when the caboose was south of the highway crossing. He said that the brakes became applied in emergency when the rear of the train was about 800 feet north of the highway crossing. He estimated that the speed of the train at that time was about 15 miles per

11

The statements of the members of the crew are conflicting regarding the speed and the location of the train at the time the brakes became applied in emergency. However, it is apparent from their statements that the fireman was mistaken and that the emergency brake application was made at a point nearer signal 1L than he estimated.

The brake cylinders and brake pipes of the first two diesel-electric units of No. 121 were damaged as a result of the accident. The undamaged brake equipment of the first unit was tested after plugging broken pipes and it was found to function properly. The control and relay valves of the second unit were removed and applied to another unit of the same type and were found to function properly. The brake equipment of the third unit functioned properly. The brake equipment of the cars of No. 121 was tested and it was found that the brakes of the ninth car were cut out, and that the brake-cylinder piston travel of seven cars and the caboose was excessive, measuring 10 inches or more. As a result, the brakes of only about 75 percent of the cars of the train were in proper condition at the time of the accident. Although no exceptions were taken when the brakes were tested at Strawberry, it is apparent that the brakes of the ninth car were cut out and that excessive brake-cylinder piston travel existed at that time.

Under the rules of the carrier, after No. 121 passed signal 1621 it was required to be operated at medium speed and in such manner that the train could be stopped before passing signal 1L.

#### Cause

This accident was caused by failure to operate the Louisville Division train in accordance with signal indications.

Dated at Washington, D. C., this twenty-second day of October, 1957

By the Commission, Commissioner Tuggle

(SEAL)

HAROLD D. McCOY,  
Secretary