

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2927

THE ATCHISON, TOPEKA AND SANTA FE
RAILWAY COMPANY

REPORT IN RE ACCIDENT

AT SANTA ANITA, CALIF., ON

SEPTEMBER 4, 1945

SUMMARY

Railroad: Atchison, Topeka and Santa Fe
Date: September 4, 1945
Location: Santa Anita, Calif.
Kind of accident: Derailment
Train involved: Passenger
Train number: Second 4
Engine numbers: 3732-3723
Consist: 17 cars
Speed: 52 m. p. h.
Operation: Timetable and train orders
Track: Single; tangent; 0.683 percent
descending grade eastward
Weather: Clear
Time: 7:26 p. m.
Casualties: 1 killed; 266 injured
Cause: Failure properly to control speed
of train entering siding

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 2927

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

October 10, 1945.

Accident at Santa Anita, Calif., on September 4, 1945,
caused by failure properly to control the speed
of a train entering a siding.

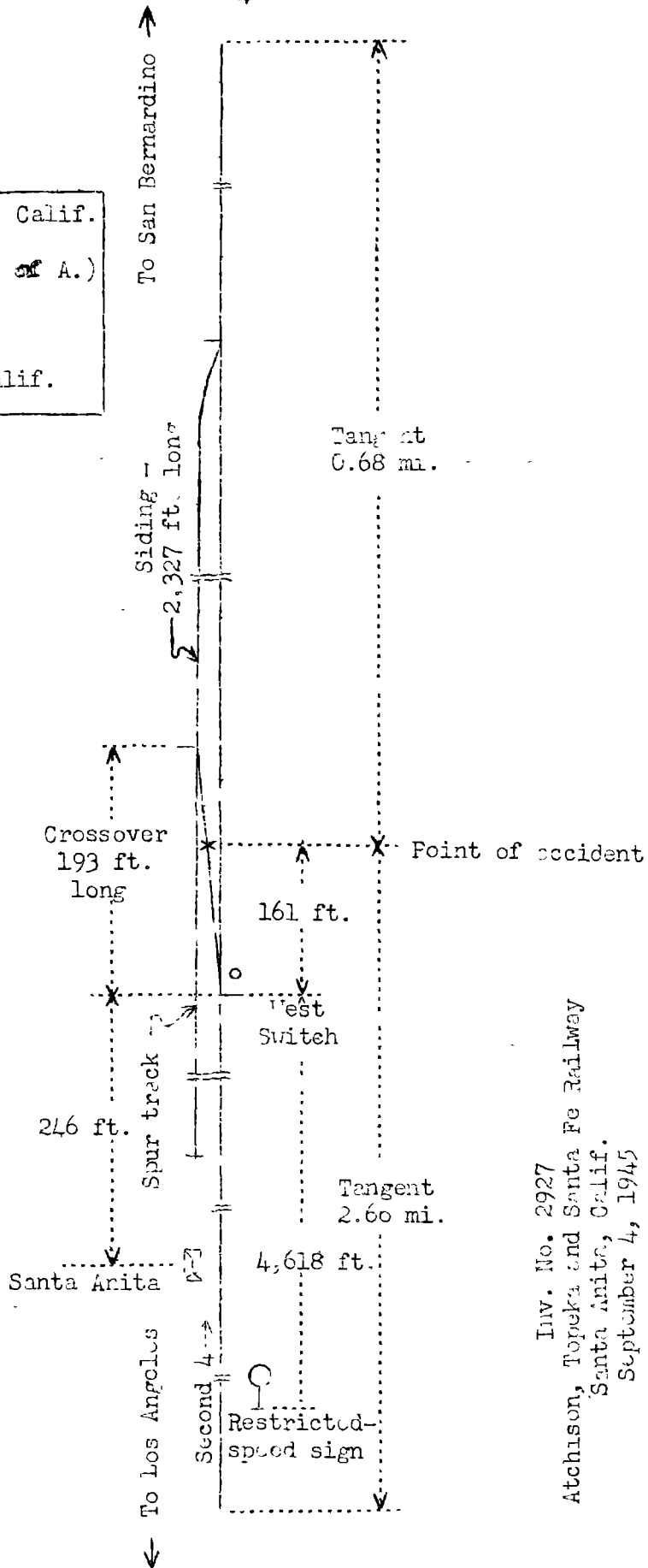
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REPORT OF THE COMMISSION

PATTERSON, Commissioner:

On September 4, 1945, there was a derailment of a passenger train on the Atchison, Topeka and Santa Fe Railway at Santa Anita, Calif., which resulted in the death of 1 employee, and the injury of 252 passengers, 1 railway-express messenger, 1 Pullman employee, 1 news agent, 4 dining-car employees, 5 train-service employees on duty and 2 train-service employees off duty. This accident was investigated in conjunction with a representative of the Railroad Commission of California.

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.

- o San Bernardino, Calif.
44.5 mi.
- X Santa Anita (P. of A.)
2.2 mi.
- o Lamanda Park
13.1 mi.
- o Los Angeles, Calif.



Inv. No. 2927
 Atchison, Topeka and Santa Fe Railway
 Santa Anita, Calif.
 September 4, 1945

Location of Accident and Method of Operation

This accident occurred on that part of the Los Angeles Division which extends between Los Angeles and San Bernardino, Calif., 59.8 miles, a single-track line in the vicinity of the point of accident, over which trains are operated by timetable and train orders. There is no block system in use. At Santa Anita, 15.3 miles east of Los Angeles, a siding 2,327 feet in length parallels the main track on the north. A spur track connects with the west end of the siding at the clearance point and extends 380 feet westward. Entry to the siding at the west end is made through a facing-point crossover 193 feet in length. The west switch of the crossover is 246 feet east of the station. The accident occurred on the crossover 161 feet east of the west switch. The main track is tangent throughout a distance of 2.66 miles immediately west of the west crossover-switch and 0.68 mile eastward. The grade is 0.683 percent descending eastward.

The structure of the west end of the crossover consists of a No. 10 turnout, having a curvature of $6^{\circ}05'14''$, a spring-type frog 16.5 feet in length, the angle of which is $5^{\circ}43'29''$, 110-pound rails and switch-points, and a 12-foot guard rail having two clamps. The structure of the east end of the crossover consists of a No. 8 turnout, having a curvature of $9^{\circ}30'20''$, a rigid-type frog 12.5 feet in length, the angle of which is $7^{\circ}09'10''$, 90 pound rails and switch-points, and a 9-foot guard rail. The crossover is laid on about 115 switch ties. No superelevation is provided. The distance between the center-lines of the main track and the siding is 15 feet. The switch-stand of the west switch of the crossover is of the hand-throw, intermediate-stand type, and is provided with a red circular target 18 inches in diameter. The center of the target is 5 feet 11-1/4 inches above the ties, and about 6 feet south of the gage side of the south rail of the main track. A red reflector lens 5-3/8 inches in diameter is attached to the switch-stand 1 foot 1-15/16 inches above the center of the target. When the switch is lined for entry to the siding the target and the reflector lens are at right angles to the track.

A temporary signal consisting of a metal disc 18 inches in diameter, which bore the word "SLOW" in black letters on a yellow background, and a lighted yellow lantern were displayed on a mast about 4.5 feet high on the south side of the track and 4,618 feet west of the west crossover-switch.

Operating rules 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.

10. COLOR SIGNALS.

	COLOR.	INDICATION.
(a)	Red.	Stop.
(b)	Yellow.	Proceed at restricted speed, * * *

* * *

10(A). A restricted speed signal shall be displayed on each side of structure or track over which speed of trains shall be reduced. When so displayed trains must not exceed fifteen miles per hour, or the rate of speed specified by train order or bulletin, until rear of train shall have passed a green signal which will indicate the point at which usual speed may be resumed.

* * *

14. ENGINE WHISTLE SIGNALS.

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

	SOUND.	INDICATION.
(a)	o	Apply brakes. Stop.

* * *

873. When more than one engine is used in a train, brakes must be operated from the leading engine, automatic brake valves on all except the engine from which brakes are operated must be cut out, * * *

Time-table special instructions read in part as follows:

SPEED LIMITATIONS

* * *

Maximum speed permitted through * * * main track turnouts and crossovers--15 MPH; * * *

The maximum authorized speed for the train involved was 70 miles per hour.

Description of Accident

At Los Angeles, the crew of Second 4, an east-bound first-class passenger train, received copies of train order No. 3 reading as follows:

Effective Ten Naught One 1001 AM Tuesday
Sept 4th main track will be out of service
between switches at Santa Anita.
Siding will be used instead of main track.
Switches will be lined and locked for
movement through siding.

Second 4 consisted of engines 3732 and 3723, of the 4-8-2 type, two baggage cars, three coaches, one chair car, two coaches, one dining car, one dormitory-coach and seven tourist sleeping cars, in the order named. The first, sixth and seventh cars were of steel-underframe construction and had side sheathing of steel, and the remainder of the cars were of all-steel construction. This train departed from Los Angeles at 6:35 p. m., 5 minutes late, passed Lamanda Park, 2.2 miles west of Santa Anita and the last open office, at 7:22 p. m., 10 minutes late, passed the restricted-speed sign, located 4,618 feet west of the west crossover-switch at Santa Anita, and while moving at a speed of 52 miles per hour, as indicated by the tape of the speed recorder, it entered the west crossover-switch and the engines, the first to sixth cars, inclusive, and the front truck of the seventh car were derailed.

The first engine and its tender stopped on their right sides north of the siding and parallel to it, with the front end of the engine 281 feet east of the point of derailment. The second engine stopped at the rear of the first engine, across the siding and at an angle of 15 degrees to it, and leaned to the north at an angle of 30 degrees. The tender of the second engine stopped at the rear of its engine and at right angles to it. The first to sixth cars, inclusive, stopped in various positions across the track and north of the siding, and the wreckage of these cars was contained within a distance of 240 feet. The first, third, fourth and fifth cars were demolished, and the engines and the second and sixth cars were badly damaged.

It was dusk at the time of the accident, which occurred about 7:26 p. m.

The engineer of the first engine was killed. The fireman of the first engine, the engineer and the fireman of the second engine, the helper conductor and the front brakeman were injured.

Discussion

The investigation disclosed that at the time of the accident a bridge, located 518 feet east of the west crossover-switch, was being repaired and the main track between the west crossover-switch and the east siding-switch at Santa Anita was out of service. Train-order instructions were issued to all trains that the main track was out of service and that trains would proceed through the siding. The switches of the crossover and the east siding-switch were lined and locked for movement on the siding, and the switch-points were spiked in that position. Restricted speed signs were placed to the east and the west of

the switches. The sign governing east-bound movements was placed on the south side of the main track and 4,618 feet west of the west crossover-switch. This sign required the speed to be reduced to not exceeding 15 miles per hour and to be so controlled that the train could be stopped short of a switch not properly lined. The maximum authorized speed through the crossover was 15 miles per hour.

Train-order instructions covering the use of the siding at Santa Anita were delivered to the crew of Second 4 about 1 hour before the accident occurred. As this train was approaching Santa Anita the speed was about 58 miles per hour, as indicated by the tape of the speed recorder. The brakes of this train, which were in the charge of the engineer of the first engine, had functioned properly at all points where used en route. The members of the train crew were in various locations throughout the cars of the train. They understood the provisions of the train order, and that their train was required to be operated at a speed not exceeding 15 miles per hour through the crossover and the turnout of the east siding-switch. The maximum safe speed through the crossover was about 30 miles per hour. The train was derailed to the left on a 9°30'20" curve to the right. The speed at the time of derailment was 52 miles per hour. The members of the train crew said they did not realize that the speed of their train was not being reduced in accordance with the requirements until the brakes were applied in emergency a few seconds prior to the derailment. The engineer of the first engine was fatally injured in the accident, and the fireman was so seriously injured that he could not be questioned during this investigation. The engineer of the second engine said that when his engine was about 6,500 feet west of the crossover he observed that no reduction in the speed was being made, and he sounded the whistle signal for the engineer of the first engine to apply the brakes. Several seconds elapsed without any response to the signal, and he sounded the signal a second and a third time. Then the air gauge indicated that a brake-pipe reduction of about 6 pounds had been made, and he assumed the engineer of the first engine was taking action to reduce the speed for entering the siding. However, since the application did not properly control the speed, he sounded the whistle a fourth time. He was preparing to move the brake-valve cut-out cock to open position, so he could apply the brakes in emergency, when he observed the gauge indicate that the brakes were applied in emergency. Immediately afterward the engines entered the crossover and the derailment occurred. After the accident there was no condition found that would prevent the proper application of the train brakes.

Cause

It is found that this accident was caused by failure properly to control the speed of a train entering a siding.

Dated at Washington, D. C., this tenth day of October, 1945.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL)

Secretary.