

Inv-2054

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
ATCHISON, TOPEKA & SANTA FE RAILWAY

CLAREMONT, CALIF.

MARCH 23, 1936

INVESTIGATION NO. 2054

Summary

Railroad: Atchison, Topeka & Santa Fe
Date: March 23, 1936.
Location: Claremont, Calif.
Kind of accident: Collision
Equipment involved: Passenger train: Motor truck and trailer
Train Number: No. 20
Engine Number: 3721
Consist: 9 cars :Trailer loaded with
Caterpillar tractor shovel
Speed: 30-35 m.p.h. :Stopped or nearly stopped
Track: Tangent for both train and truck. Ascending
grade for east-bound train; descending
grade for south-bound truck.
Weather: Clear
Time: 1:03 a.m.
Casualties: Slight injury to 9
Cause: Failure to provide adequate flag protection for movement of truck and trailer over grade crossing.

June 3, 1936

To the Commission:

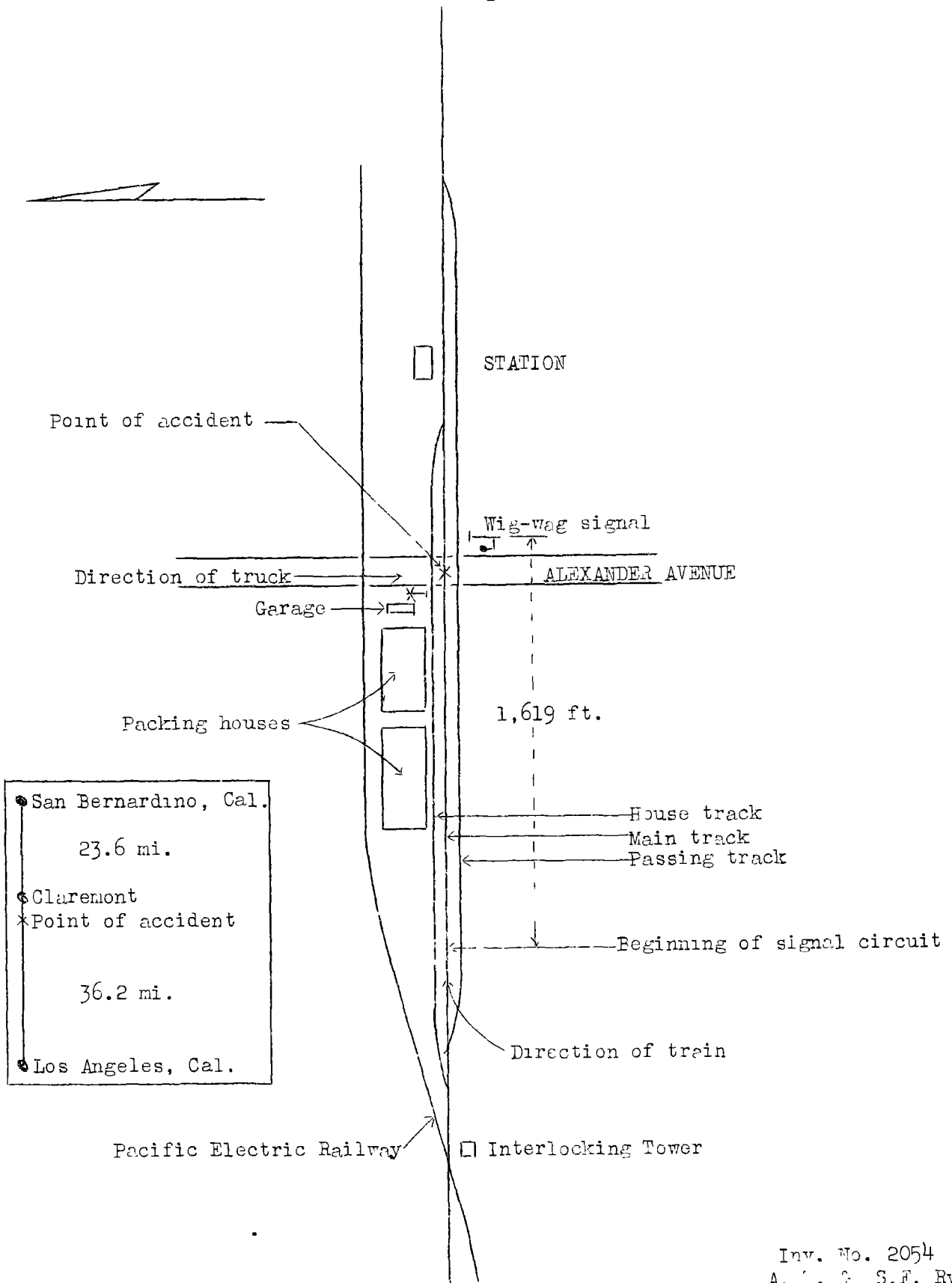
On March 23, 1936, a passenger train on the Atchison, Topeka & Santa Fe Railway struck a motor truck and trailer at a grade crossing at Claremont, Calif., this accident resulting in the injury of 1 passenger and 8 dining-car employees.

Location and method of operation

This accident occurred on the Second District of the Los Angeles Division, which extends between San Bernardino and Los Angeles, Calif., a distance of 59.8 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by time table, train orders, and an automatic block-signal system. The accident occurred on the main track at Alexander Avenue, located a short distance west of the station at Claremont. From north to south, Alexander Avenue crosses first a house track, and then the main track and a siding. Approaching the crossing from the west on the railroad, the track is tangent for more than 2 miles, while the grade for east-bound trains is ascending, varying from 0.463 to 1.12 per cent, and is 0.522 at the point of accident.

Alexander Avenue is a paved street running north and south within the limits of Claremont and is straight for several blocks on either side of the tracks, with a maximum descending grade of 3.6 percent for south-bound vehicles, but is practically level over the crossing. This crossing is protected by a combination wig-wag signal and bell, located 24 feet east of the center line of the street and south of the tracks. The control circuit for this signal extends 1,319 feet west of the signal for east-bound movements and 2,152 feet east thereof for west-bound movements. A standard cross-bar sign bearing the words "RAILROAD CROSSING" is located north of the tracks and west of the street. Both signals are of sufficient height and are so located as to afford an unobstructed view on approaching the crossing from the north on Alexander Avenue.

The view to be had of east-bound trains by the driver of a motor vehicle approaching the crossing from the north is restricted by a garage and packing houses located to the right of the avenue and north of the tracks, while there was a refrigerator car on the house track 480 feet west of the crossing. Due to these obstructions, the view to be had of an approaching east-bound train was restricted to a distance of about 275 feet when standing on the highway 45 feet north of the main track. On nearing the crossing the distance a train could be seen was increased gradually and when 24 feet from the main track a train could have been seen a distance of about 800 feet. A man standing



Point of accident

STATION

Wig-wag signal

Direction of truck

ALEXANDER AVENUE

Garage

Packing houses

1,619 ft.

House track

Main track

Passing track

Beginning of signal circuit

Direction of train

Pacific Electric Railway

Interlocking Tower

• San Bernardino, Cal.
23.6 mi.
• Claremont
* Point of accident
36.2 mi.
• Los Angeles, Cal.

Inv. No. 2054
 A. C. & S.F. Ry.
 Claremont, Calif.
 March 23, 1936.

on the crossing, 5 feet north of the north rail of the main track, can see the headlight of an east-bound train for a distance of about $1\frac{1}{2}$ miles.

A single-track line of the Pacific Electric Railway crosses Alexander Avenue at a point 212 feet north of the main track of the Atchison, Topeka & Santa Fe Railway and then curves to the left a short distance west of Alexander Avenue, the tracks of the two railways crossing each other at a point 2,300 feet west of Alexander Avenue. This crossing is protected by interlocking signals and the speed of trains through the plant is restricted to 40 miles per hour.

The weather was clear at the time of the accident, which occurred at 1:03 a.m.

Description

Train No. 20, an east-bound passenger train, consisted of 1 mail car, 2 baggage cars, 1 buffet car, 1 Pullman sleeping car, 1 dining car and 3 Pullman sleeping cars, hauled by engine 3721, and was in charge of Conductor Costello and Engineman McNish. All of the cars were of steel construction with the exception of the second and third cars, which were of steel-underframe construction. This train departed from Pasadena, 26.6 miles from Claremont, at 12:17 p.m., according to the train sheet, 2 minutes late, and struck the trailer of the motor truck at Alexander Avenue while traveling at a speed estimated to have been between 30 and 35 miles per hour.

The truck involved was towing a trailer loaded with a caterpillar tractor shovel, and was being driven by W. McLaughlin, accompanied by General Manager Gotham of the Consolidated Crane Service Company, operators of this equipment, who was driving a Ford coupe. The truck moved southward on Alexander Avenue, Mr. Gotham flagging the crossings of both the Pacific Electric and the Atchison, Topeka & Santa Fe Railways, and was proceeding over the crossing involved at a very low rate of speed when the trailer was struck by Train No. 20.

The train was not derailed and stopped with the engine 441 feet beyond the crossing, the front end of the engine and the left side being considerably damaged, while the first four cars received minor damage. The trailer and shovel were knocked to the north or left side of the track, while the boom and dipper of the shovel were on the right side about 90 feet east of the point of collision. The truck remained on the south side, practically undamaged.

Summary of evidence

Engineman McNish, of Train No. 20, stated that after pass-

ing through the interlocking plant at a speed of about 40 miles per hour he opened the throttle and was traveling at a speed of 45 or 50 miles per hour when he saw something on the track 300 or 400 yards ahead of him. Knowing that he could not stop before reaching the crossing, and thinking that the object was a gasoline truck, it was his intention to hit it as hard as possible in order to avoid the danger of burning up the train. He then saw that it was a shovel and applied the air brakes in emergency, at which time he was about 250 yards from the crossing. At the time of the accident the truck and trailer had stopped, while the speed of the train was between 30 and 35 miles per hour. Engineman McNish further stated that the engine bell had been ringing continuously after leaving Pasadena, that the headlight was burning, and that the wig-wag signal at the crossing was operating, but that he did not see any lights on the trailer; he also said that he had sounded a crossing whistle signal on approaching the interlocking plant, and again when 400 or 500 yards from Alexander Avenue, but he did not sound it after that time as he was too busy stopping the train.

Fireman Whittier, of Train No. 20, stated that as soon as the engineman completed sounding the crossing whistle signal, about 300 or 400 yards from the crossing, he saw a truck and trailer start over the crossing, moving at a very low rate of speed. He called a warning to the engineman, closed the oil valve, and got down behind the boiler, and was unable to say whether the truck stopped prior to the collision.

Truck Driver McLaughlin stated that Mr. Gotham preceded the truck as they moved southward on Alexander Avenue. Mr. Gotham flagged him across the Pacific Electric Railway and then proceeded to the Santa Fe tracks and flagged that crossing, leaving it about the time the truck reached the first track. Driver McLaughlin started over the crossing in compound low gear, moving at a speed of about $1\frac{1}{2}$ miles per hour; the wig-wag signal was not operating when he started over the tracks and he said that he did not look in both directions, but when the truck was on the main track the signal started to operate, with the bell ringing and the red light burning, and on looking to the right he saw the headlight of the approaching train, 100 or 200 feet distant, and heard the engine whistle and also the brakes being applied. Driver McLaughlin said he was operating the truck in compound low gear on account of the descending grade, that he did not shift gears, and that the motor did not stall, the vehicle being in motion at the time the accident occurred.

General Manager Gotham, of the Consolidated Crane Service Co., stated that after parking his car about 50 feet north of the Santa Fe tracks he walked over to the crossing and looked in both directions but could not see any trains and the wig-wag was not

operating; he gave a proceed signal to the truck driver and started back to his car about the time the truck reached the first track. General Manager Gotham heard the engine whistle and the brakes apply when the engine was about 75 feet from the crossing and said the engine struck the back end of the trailer, while after the collision he saw that the wig-wag was operating. Mr. Gotham was not familiar with this crossing and stated that under such circumstances it was the custom to flag crossings; he also said that the truck was equipped with 2 headlights and a tail light, and that the trailer had 2 tail lights and 2 reflectors, with a green clearance light on each corner.

Night Watchman Goyette, employed at the packing house west of Alexander Avenue, stated that he was at the west end of it when he heard the engine whistle for the interlocking tower. He then walked a distance he estimated to have been about 200 feet to the southeast corner of a shed connected with the packing house; this shed was of open construction, with the boards spaced 4 inches apart, and he looked out and saw the truck and trailer approach the tracks at a speed of 3 or 4 miles per hour, the vehicle then being about 30 feet from the main track. Watchman Goyette again heard the whistle sounded and he watched the truck and wondered why it did not increase speed in order to get over the crossing, but when the shovel was on the main track the truck appeared to stop and then the train struck it. After the accident he talked with a man, who evidently was the truck driver, and the man said that his motor died.

Superintendent Fluhr stated that for many years it has been the practice on this division when there is a movement of power shovels or other heavy equipment to be made over railroad crossings, for those making such movements to contact the local representatives of the railroad, in order that they may be made under proper protection either by the use of a flagman or by the issuance of train orders.

The motor vehicle involved in this accident consisted of a G.M.C. 5-ton truck, 1923 model, equipped with 3 axles and 8 wheels. The driver's cab had a windshield in front but was open on each side, and over the rear pair of axles there was a bolster or saddle upon which was mounted a swivel-plate connection. The trailer was of low-hung home-made construction, with four wheels at the rear end, and was constructed of steel shapes welded and forming a bed on which to transport heavy equipment; it had a vertical offset at the front end which was connected to the swivel plate on the rear of the truck by means of horizontal pins. The over-all length of truck and trailer was 34 feet 4 inches, and the truck weighed 11,650 pounds, the trailer 10,000 pounds, and the shovel it was carrying weighed about 46,000 pounds, or a

combined weight of 67,650 pounds.

A check of motor traffic over the crossing showed that a total of 2,851 vehicles passed over it within a 24-hour period. The only vehicles that stopped before crossing the tracks were passenger busses, and gasoline trucks and trailers, such vehicles being required by law to stop at railroad crossings; of the remaining vehicles, there were less than 2 percent that slowed down on approaching the crossing, and this occurred only when the wig-wag signal was operating and the bell ringing. During this same period a total of 15 trains and 1 light engine passed over the crossing.

Discussion

The evidence indicates that the general manager of the company handling the shovel preceded the truck in an automobile, and that he parked it about 50 feet from the crossing and then walked over to the tracks; not seeing a train approaching in either direction he signaled the driver of the truck to proceed, and started back to his automobile about the time the truck reached the first track of the crossing. The driver of the truck said the wig-wag signal was not operating and he did not look for approaching trains until he had reached the main track, moving at a speed of about $1\frac{1}{2}$ miles per hour; then he saw the signal, heard the bell, and saw the train close to the crossing. The evidence was conflicting as to whether the truck was moving or had stopped when the accident occurred.

The distance from the first rail of the house track to the center of the main track is approximately 17 feet, while the distance from the front end of the truck back to within 5 feet of the rear of the trailer was approximately 29 feet, or a combined distance of 46 feet. Using this latter distance as a base, it is evident that after the front end of the truck reached the first rail of the crossing, moving at a speed of $1\frac{1}{2}$ miles per hour, it would take about 21 seconds for the rear portion of the trailer to reach the center of the main track. Assuming that the speed of the train was as high as 50 miles per hour and that this rate of speed continued up to the moment of impact, which was not the case, then the train could not have been more than 1,550 feet distant when the truck reached the first rail of the crossing; allowance for a lower rate of speed would reduce this distance proportionately. Under such circumstances it is clearly evident that had the general manager in charge of this highway movement remained at the crossing, instead of signaling the truck driver to proceed and then returning to his automobile, he could have seen the train in ample time to give warning of its approach.

The east-bound control circuit for the wig-wag signal extended only 1,619 feet west of the signal, or not more than 1,600 feet from the center of the crossing. Again using a speed of 50 miles per hour for the passenger train, it would enter the control circuit and start the signal operating only about 22 seconds before reaching the crossing. The statement of the truck driver that the signal had not started to operate when he started over the crossing ties in very well with this estimate, and makes it clear that adequate protection for slowly-moving vehicles is not provided at this point in case the train involved is moving at a comparatively high rate of speed.

The record does not indicate that the railway company had any knowledge of the movement of the heavy machinery involved in this accident. Not only is it difficult and often impossible in making such movements to avoid any danger that may arise suddenly, but there also is the ever-present danger of stalling or breaking down on a crossing, or having to stop on account of other highway traffic or because the lading has shifted. The possibility of such contingencies makes it necessary that every reasonable precaution be taken in order to insure that such movements may be made in safety. These movements are not of frequent occurrence and it would be a simple matter, once the railroad company were notified, for it to take such steps as might be necessary to avoid an accident of the character here in question.

Conclusion

This accident was caused by the failure of General Manager Gotham, in charge of the movement of the machinery involved, to remain at the crossing and provide adequate protection for the movement when passing over the tracks of the railway.

Recommendations

It is recommended that when heavy machinery or other cumbersome or slowly-moving freight is to be transported over the highways, those in charge of such movements arrange to give ample notice to any railway company involved in order that it may take such steps as may be necessary to permit such movements to pass over railway grade crossings in safety.

Respectfully submitted,

W. J. PATTERSON,

Director.