

Inv-2077

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

MISSOURI-KANSAS-TEXAS RAILROAD

OF TEXAS

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WACO, TEX.

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JULY 5, 1936

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INVESTIGATION NO. 2077

SUMMARY

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Railroad:	Missouri-Kansas-Texas Railroad of Texas
Date:	July 5, 1936
Location:	Waco, Texas
Kind of accident:	Derailment
Train involved:	Freight
Engine number:	50
Consist:	1 car
Speed:	8-12 m.p.h.
Track:	Tangent and level
Weather:	Clear
Time:	6:40 a.m.
Casualties:	2 killed, 1 injured
Cause:	Motor truck tractor and semi-trailer driven into side of train on high- way crossing.

August 20, 1936

To the Commission:

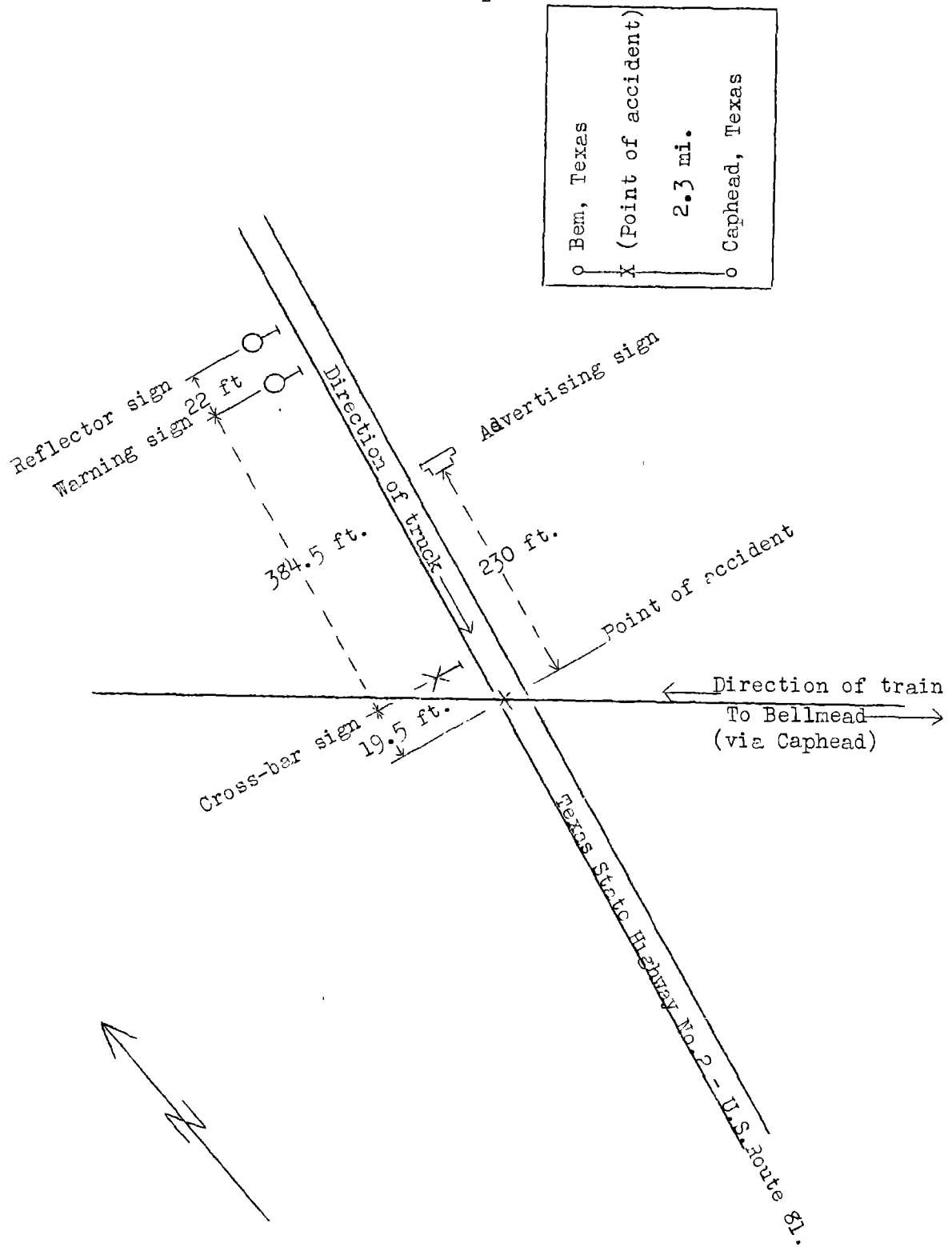
On July 5, 1936, there was a derailment of a transfer train on the Missouri-Kansas-Texas Railroad of Texas as a result of being struck by a motor truck at a highway grade crossing near Waco, Tex., this accident resulting in the death of 1 railroad employee and 1 person riding on the truck and the injury of the driver of the truck.

#### Location and method of operation

This accident occurred within yard limits on a track known as the Bellmead Cut-off of the De Leon Division, a single-track line extending between Caphead and Ben, Tex., a distance of 2.3 miles, over which trains are operated by timetable, train orders and yard operating rules, no block-signal system being in use. The accident occurred at the point where the track is crossed at an angle of  $120^{\circ}$  by Texas State Highway No. 2, U.S. Route No. 81; approaching the crossing from the east on the railroad, the track is tangent for more than 1 mile, while the grade is slightly ascending. Under Bulletin No. 28, issued by Superintendent Dobbins, under date of January 15, 1936, it is required that movements over this crossing "must be flagged from both sides of train or cars if handled by yard engines. If blocked by either train or yard movements, crossing must be cut".

Texas State Highway No. 2 has a concrete surface 20 feet in width, and is tangent for several miles on either side of the crossing and practically level in the immediate vicinity of the crossing, although there is a descending grade for about 1 mile approaching the crossing from the north. A reflector sign is located on the west side of the highway 426 feet north of the center line of the crossing, this sign consisting of a black cross on a yellow background, with the letters "RR" outlined by reflector buttons. Twenty-two feet south of this sign there is another sign on the same side of the highway which reads "Dangerous Railroad Crossing 400 Feet Ahead", and at a point 19 feet 6 inches from the center line of the crossing on the same side of the highway there is a crossbar sign of the usual type bearing the words "Railroad Crossing Look Out For the Cars".

In the immediate vicinity of the crossing the ground is generally flat and about on the same level as the highway and the railroad track and there is nothing to obstruct the view to be had by the drivers of south-bound vehicles on the highway except



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a large advertising sign located 53 feet east of the center line of the highway and about 230 feet north of the center of the track; this sign is 33 feet 6 inches in length at its greatest dimension. When just north of the first of the three warning signs, however, or well over 400 feet from the crossing, a person on the highway can see the track to the left of the highway for a distance of 175 feet, and after passing the advertising sign the view is unrestricted for a considerable distance.

Under Section 8 of the highway laws of the State of Texas it is unlawful to operate on the public highways a commercial vehicle as defined in the act, having a gross weight of more than 6,000 pounds, at a speed in excess of 25 miles per hour; it also is provided by Section 5 that no commercial motor vehicle, truck, tractor, trailer or semi-trailer, shall be operated outside of an incorporated city or town with a load exceeding 7,000 pounds on any such vehicle or combination of vehicles, and Section 9 of the same laws provides that any motor vehicle or combination motor vehicles shall be equipped with brakes upon one or more of such vehicles adequate to stop from a speed of 20 miles per hour within 45 feet from the point where the brakes are first applied, and in addition, a penalty is provided by the criminal statutes for the operation of a motor vehicle not provided with adequate brakes, kept in good working order.

The weather was clear at the time of the accident which occurred about 6:40 a.m.

#### Description

The transfer train involved in this accident consisted of engine 50 and 1 tank car, and was in charge of Engine Foreman Moody and Engineman Keith. This train left Bellmead yard about 6:25 a.m., passed Caphead and stopped within 40 feet or less of the east side of State Highway No. 2. It then proceeded, and as the engine was passing over the crossing, the engineman began to increase speed quickly in an endeavor to avoid the accident, but while moving at a speed estimated to have been between 8 and 12 miles per hour the tank car was struck by the approaching truck.

The motor vehicle involved was owned and operated by the Jackson-Strickland Transportation Company of Oklahoma City, Okla., and consisted of a truck tractor hauling a semi-trailer and was en route from Oklahoma City to San Antonio, Tex., in charge of Driver Burge. The tractor was a 6-cylinder, 1½-ton Chevrolet, 1935 model, with an enclosed cab and was equipped with dual wheels on rear axles, while the semi-trailer also had dual wheels and was loaded with 38 crates of steel shelving, weighing 10,213 pounds,

the combined weight of tractor and loaded trailer being about 18,000 pounds. This vehicle left Oklahoma City at 2 p.m., July 4, according to the driver, and arrived at Dallas, Tex., about 9:30 p.m., departing from that point about 2 a.m., July 5, and collided with the tank car on the crossing north of Waco while traveling at a speed believed to have been about 35 miles per hour.

The force of the impact knocked the tank car off its trucks and turned it over on its left side parallel with the track; the car trucks were derailed but remained upright. The truck tractor stopped across the highway with its head end near the center of the highway, following the north rail of the track, and its rear end over the west side of the highway, while the trailer stopped on the east side of the highway with its front end under the rear of the tractor. Only slight damage was sustained by the tank car, but the truck tractor and trailer were badly damaged. The employee killed was a car inspector riding on the tank car, while the person on the truck who was killed was a hitch hiker riding on the motor vehicle.

#### Summary of evidence

Engine Foreman Moody, who was on the right side of the front footboard of engine 50, said his engine stopped about 35 or 40 feet east of the highway, and after observing that the only vehicle approaching the crossing was a south-bound truck, which at that time was a long distance away, he gave his engineman a proceed signal. This signal was answered with two blasts of the whistle and the train started ahead; when the front end of the engine had about reached the center of the highway, at which time the truck was about 100 feet distant, Engine Foreman Moody remarked that he did not think the truck was going to stop, and at the same time the engineman opened the throttle wide in an attempt to clear the crossing. The engine foreman thought the speed of the truck was about 60 miles per hour when the driver appeared to apply the brakes and also to turn the truck to the left, but the trailer swerved around and the driver then turned the truck back to the right in an attempt to straighten out the trailer, and crashed into the tank car. Engine Foreman Moody thought the speed of the train was about 5 miles per hour when he first realized that the truck was not going to stop, and about 8 or 10 miles per hour when the accident occurred.

Enginemen Keith thought the truck was from 1/4 to 1/2 mile distant when he stopped for the crossing. As the engine was entering upon the crossing he again looked up the highway, saw that the truck was approaching rapidly and sounded a crossing whistle signal; he then looked ahead to see if there was anything

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on the interurban track which is 141 feet beyond the crossing, glanced back at the truck as the engine was passing over the west side of the highway, and then opened the throttle wide. He thought the speed of his train was between 10 and 12 miles per hour and that the truck was traveling at a little less than 50 miles per hour at the time of the accident; he also expressed the opinion that the truck had ample time in which to stop after the engine started over the crossing. The statements of the fireman and three switchmen added nothing of importance.

Truck Driver Burge said he left Dallas about 2 a.m. and that, after traveling about 5 miles, he was delayed for 30 minutes on account of carburetor trouble, being assisted by a young man picked up at that point who wanted a ride and who was with him at the time of the accident. A stop for breakfast, at which time he had some coffee, was made at Hillsboro, Tex., about 34 miles north of Waco at 4 a.m. It was raining when he departed from Hillsboro but it stopped before he had gone very far, although the windshield wiper was still in operation as he approached the point of accident. According to his statements he was about 400 feet from the crossing when he saw that there was a railroad track ahead of him, and when about 75 feet from the track, traveling at a speed of about 35 miles per hour, he suddenly saw what he said was an engine with two or three cars moving across the highway. He applied the brakes on his vehicle and turned to the left, but he said the pavement was wet from recent rain and that the brakes did not seem to hold very well, the trailer swinging the truck around nearly sideways and then pushing it into the tank car. The truck driver said he did not see either of the warning signs about 400 feet from the crossing and was unable to explain why he did not see the transfer train in time to stop. Truck Driver Burge further stated that he was in Oklahoma City on that Friday and also Friday night and was thoroughly rested when he left there at 2 p.m. Saturday, July 4; he also said that after arriving at Dallas at 9:30 p.m. he went to bed in the company's warehouse at that point, arising about 1:30 a.m. When approaching the point of accident he had good vision ahead for about a mile and he was wide awake, not feeling at all drowsy. It also appeared from the truck driver's statements that the truck was equipped with mechanical brakes and the trailer with air brakes; that drivers have strict instructions not to exceed 35 miles per hour and that he was careful to keep within that limit. He also said that while there is no rule requiring a brake test before starting a trip it was his practice to make a running test as soon as he had started in order to try out the brakes and he said that they were operating properly on this trip.

Miss Carpenter, an eye witness, said she heard the engine whistle while it was standing a short distance east of the cross-

ing and then saw it start ahead. Looking northward on the highway she saw the truck approach at what appeared to be a high rate of speed, not in excess of 40 miles per hour; she was unable to estimate the distance between the truck and the crossing at that time, but also said she could have stopped an automobile with normal brake power within the distance available; subsequent measurement indicated that the truck was 1,485 feet from the crossing when she first saw it.

Mrs. M. E. Rappe, another eye witness said she saw the train stop for the crossing, heard the whistle and saw it start ahead, and then she noticed the truck approaching the crossing at a speed between 30 and 40 miles per hour, and in her opinion the speed did not decrease before the accident occurred. Subsequent measurements showed that the truck was 822 feet from the crossing when she first saw it.

Freight Checker Griggs, located at Dallas, said he was on duty the night of July 4 and checked the freight arriving on truck 2 about 9:30 p.m., in charge of Driver Burge. Freight for Galveston and several other points was unloaded, and he thought the truck departed about 11:30 p.m., but was not certain about the time because he had no watch and there was no clock in the warehouse, while the driver failed to register out of that point; he did not think Driver Burge had a watch and said he ascertained the time of the arrival of truck 2 by calling the Western Union Telegraph Company.

Secretary-Treasurer Strickland of the Jackson-Strickland Transportation Company is the operating manager of this company at Houston. He stated that Driver Burge was mistaken in saying that the trailer was equipped with air brakes; neither trailer 102 nor truck 2 were equipped with vacuum brakes; trailer 102 had been attached to truck 6 on account of certain loading conditions and trailer 106 was coupled to truck 2 on the trip on which this accident occurred. This trailer was equipped with a vacuum brake, but this brake was not connected with the truck, with the result that there was no operative brake on the trailer. Mr. Strickland also stated that it was not the practice of his company to make tests to ascertain whether braking power is adequate, but said that highway patrol officers checked trucks for brakes, lights and overloading regulations. With respect to speed Mr. Strickland stated that with a load of 10,213 pounds the permitted speed for such a combination of truck, tractor and load was 25 miles per hour and that all drivers were instructed not to exceed speed restrictions. Driver Burge had been in the employ of this company about 4 months; he made two student trips between Houston and Dallas and had been an extra driver prior to driving truck 2 as a regular line driver for about 1 month prior to the accident.

Air Brake Supervisor Vergan of the Missouri-Kansas-Texas Railroad said that on examining the truck tractor and trailer



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after the accident he found that the tractor was equipped with mechanical brakes and the trailer with vacuum brakes, the trailer having a 5-inch brake cylinder with a cross shaft for distribution of the braking force to the rear wheels, but the connecting rod between this cross shaft and each cam brake lever was missing, with indications that it had been missing for some time; the necessary piping and hose connection also were missing. Examination of the tractor showed that it was not equipped with the manifold connection and actuating valve or the necessary piping and hose connection used between the actuating valve and the trailer unit. The windshield was dirty, not having been cleaned except on that portion where the windshield wiper had operated, thus restricting the driver's view to either side of the highway. Mr. Vergan further stated that with a combination of the types of vehicles involved in this accident, equipped with the proper brake facilities, transporting a similar load, a stop could be made within a distance of 65 feet from a speed of 35 miles per hour, but with braking power on the truck tractor only, it would require 90 feet at a speed of 20 miles per hour and about 297 feet at 35 miles per hour. Mr. Vergan also stated that in timing the movement of trucks for a distance of approximately 1 mile, approaching the crossing from the north, it was found that many of them covered this distance in from 55 to 60 seconds.

Inspection of the truck tractor and semi-trailer by the Commission's inspectors showed the brake equipment to be substantially as described by the air brake supervisor. A check also was made of motor traffic on the highway for a 24-hour period which showed that it amounted to 3,944 vehicles, consisting of 3,331 automobiles, 591 trucks and 22 busses. The peak period was between 6 and 7 p.m., when there were 273 vehicles, while there were 137 during the hour corresponding to that in which this accident occurred. On the railroad, a check of the records for the 30-day period preceding the date of the accident showed an average of 6.7 train movements per day.

#### Discussion

Both the highway and the railroad are tangent for 1 mile or more approaching the crossing in the direction in which the train and motor vehicle were moving at the time of the accident; after passing an advertising sign located about 230 feet from the track the driver of a motor vehicle has an unrestricted view of an approaching west-bound train. Notwithstanding these favorable conditions, however, and notwithstanding the fact that the engine and 1 car attached to it came to a stop within 30 or 40 feet of the crossing, at which point they could have been seen by the driver when several hundred feet distant from the crossing, the

driver of the truck for some unexplained reason failed to see the engine and the car until within 75 feet of the crossing when, according to his statements, he saw an engine and 2 or 3 cars moving over the crossing, and then the driver said his speed was about 35 miles per hour and that he was unable to stop on account of the wet pavement, and the fact that the brakes on his vehicle did not seem to hold properly.

Statements of several witnesses varied as to the speed of the truck, ranging all the way from 30 to 60 miles per hour, but the statements of the eye witnesses would indicate that there was no particular reason why the truck could not have stopped, provided it had been equipped with adequate brakes and the driver had been maintaining a proper lookout. Examination of the motor equipment after the accident, however, showed that the trailer did not have operative brakes, although it did have some of the equipment necessary for the operation of a vacuum brake system. It also is clear that the motor vehicle was being operated well in excess of the permissible 25 miles per hour for a vehicle of this type and that the load was nearly 50 percent in excess of that permitted by the state highway laws, it is extremely doubtful whether the brake equipment was adequate to meet the requirements of law. There also is a question as to whether the driver at the time of the accident had been on duty the maximum time permitted under the state laws, and the fact that he did not see the warning signs along the side of the highway or realize that there was anything wrong until he saw the engine on the crossing only 75 feet distant, coupled with the further fact that he thought there were 2 or 3 cars attached to the engine instead of the 1 car which actually was the case, would make it appear that he was dozing or for some other reason was not fully alert or paying proper attention to his driving.

The conditions developed in this investigation again direct attention to the lack of a proper regard for safe operation which is displayed by many commercial users of the public highways. The Commission has been investigating accidents of this character for many years, and it is no uncommon experience to encounter violations of laws which, had they been obeyed, probably would have resulted in preventing the particular accident under investigation. In the present case the provisions of the state highway laws as to speed and weight of load were ignored. There probably was a violation of law with respect to braking power, and there is a question as to whether the driver, through lack of adequate rest, was in proper physical condition to drive a truck.

The failure to enforce and obey local laws and regulations has been discussed on several occasions, and accidents of the kind here in question may be expected to continue until responsible authorities realize that their duties call for strict enforcement of laws at all times and under all conditions.

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The crew in charge of the train involved did not comply with the bulletin instructions that movements over the crossing in question must be flagged from both sides of a train.

Inasmuch as the driver of the motor vehicle did not see the engine until he was only about 75 feet from the crossing, it is probable that he would not have seen a flagman, but this does not excuse the failure of the crew in charge of the movement of the train to see to it that someone got off and went out on the highway for the purpose of flagging approaching highway traffic.

Conclusion\*

This accident was caused by a truck tractor and semi-trailer being driven into the side of a train while it was passing over a highway crossing at grade.

Respectfully submitted,

W. J. PATTERSON,

Director.