INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED AT THE INTERSECTION OF THE TRACKS OF THE TOLEDO TERMINAL RAILROAD AND THE TOLEDO & INDIANA RAILROAD AT VULCAN, OHIO, ON JULY 12, 1927.

August 30, 1927.

To the Commission:

On July 12, 1927, there was a side collision between a switching transfer of the Toledo, Angola & Western Railway and an interurban car of the Toledo & Indiana Railroad at the intersection of the tracks of the Toledo Terminal Railroad and the Toledo & Indiana Railroad, at Vulcan, Ohio, which resulted in the death of three passengers and the injury of nine passengers. This accident was investigated in conjunction with representatives of the Public Utilities Commission of Ohio.

Location and method of operation

This accident occurred at the intersection of the Toledo & Indiana Railroad and what is known as the Toledo, Angola & Western Railway lead track. The Toledo & Indiana Railroad extends between Bryan, Ohio, about 55 miles west of Toledo, and Peckham, which is located near the city limits of Toledo. It is a single track electric line over which trains are operated by time-table and train orders, no block signal system being in use; passenger cars are operated by one-man crews. Trains are operated from Peckham into Toledo for a distance of 4 miles over the tracks of the Community Traction Company. The Toledo, Angola & Western Railway extends between Silica and Vulcan, Ohio, a distance of 8 miles, Vulcan being .3 mile west of Peckham, this is a single track line over which trains are operated for freight service only and are governed by yard rules, no time-table, train orders or block signals being in use. The eastern end of the Toledo, Angola & Western Railway track is located 3 feet 7 inches north of the north rail of the Toledo & Indiana Railroad track, from which point trains are operated over the lead track owned by the Toledo Terminal Railroad.

In this vicinity the Toledo & Indiana track is adjacent and parallel to Dorr Street. Approaching the point of accident from the east the Toledo & Indiana track is tangent for a distance of 1,303 feet, followed by a reverse curve to the north 381 feet in length from which point the track is tangent to the crossing, a distance of about 600 feet, and for a considerable distance beyond. The view northward

is unobscured for a distance of about 350 feet from the crossing. Approaching from the west on the line of the Toledo, Angola & Western Railway the track is tangent for a distance of 1,909 feet followed by a 3° curve to the right 335.8 feet in length, then tangent for a distance of 280 feet, and a 15° 40' curve to the right, the accident occurring on this curve approximately 400 feet from the receiving end. The view of the crossing from trains approaching from the east is materially restricted on account of buildings and structures located on the inside of the last-mentioned curve. The grade of both lines is practically level.

Trains are required by State law to come to a stop within a distance of between 200 and 800 feet of all railroad crossings at grade which are not protected by some mechanical device. There is no mechanical protective device nor are there any stop signs near the crossing on which the accident occurred. Movements of trains over the crossing, however, usually are protected by a flagman stationed at Vulcan.

The weather was clear at the time of the accident, which occurred at about 3.40 p. m.

Description.

Westbound passenger train No. 23 of the Toledo & Indiana Railroad consisted of motor No. 125, of wooden construction with steel underframe, and was in charge of Motorman-Conductor Strohlein. This car left Toledo, 4.3 miles east of Vulcan, at 3.15 p.m., on time, and after receiving a clearance card at Vulcan stopped near the Toledo Terminal crossing at 3.40 p.m., then proceeded across the main track of that line, and while crossing the Toledo, Angola & Western lead track it was struck by a cut of cars being handled by Toledo, Angola and Western engine 100, while traveling at a speed estimated to have been between 10 and 15 miles per hour.

The switching transfer of the Toledo, Angola and Western Railway consisted of 9 cars and a caboose being shoved southward by engine 100, headed northward, and was in charge of Conductor Doherty and Engineman Pollock. These cars were being interchanged to the Toledo Terminal Railroad and at the time of the accident were moving at a speed estimated by the crew in charge at from 6 to 9 miles per hour.

Motor No. 125 was derailed to the south and came to rest on its left side completely demolished. The forward truck of the leading car in the cut of freight cars was derailed, this car coming to rest with its forward end about 35 feet south of the crossing. This car was slightly damaged; none of the other equipment was derailed or damaged.

Summary of evidence.

Motorman-Conductor Strohlein, of train No. 23, stated that as his car approached the Toledo Terminal crossing he stopped his car at a telephone pole located about 115 feet east of the crossing for the purpose of communicating with the dispatcher. He received a clearance ~~XXXX~~ from the dispatcher at 3.39 p.m., and then proceeded and again stopped his car about 12 feet east of the crossing, got off and walked to the first track, the Toledo Terminal main track, looked to the north and did not see any trains, but upon looking southward he observed an engine about one mile distant. He also looked to the north and south on the TA&W track which was then clear within his range of vision but on account of the buildings west of the curve north of the crossing he could not see entirely around it to the straight track. He then returned to his car, crossed over the Toledo Terminal track, and started across the TA&W lead track. He said he did not observe the approaching cut of cars on the TA&W track at any time, from the time his car started he was continuously looking ahead, his attention being attracted by train No. 24 approaching from the opposite direction which was about to enter Johnson's siding, about one-eighth mile west of the crossing, and he wanted to make certain that he would not collide with that car. He said that just prior to the accident he did not hear an engine whistle or a bell ring, did not see a man with a red flag near the track, nor a group of men working on the TA&W track just south of the crossing, nor did he see anyone running towards his car motioning him to stop, he said he heard a passenger scream just about the time the collision occurred. The vestibule of his car had three windows in front, a door on the right side with windows in both upper and lower sections of it, as well as a window on the left side of the vestibule. The front center window was open about 3 inches from the bottom, while the left side window was open about a foot. The time-table meeting point for trains Nos. 23 and 24 is at Vulcan siding located just east of the Toledo Terminal crossing, but Motorman Strohlein said that it had been customary for the past six weeks to meet train No. 24 at Johnson's siding although he was familiar with the rule requiring all trains to meet at time-table meeting points unless otherwise ordered by the dispatcher. He gave as his reason for continuing beyond the scheduled meeting point the fact that both sidings are located within the yard limits at Vulcan, and as he observed train No. 24 entering Johnson's siding at the time he received the clearance order he saw no reason for not proceeding to that point as had been the custom heretofore; he stated, however, that during foggy weather he remained at Vulcan until train No. 24 arrived. Motorman Strohlein stated that during a period of six weeks preceding the date of the accident he had gone over these crossings only once without flag protection, and while he had received no instructions

as to what he should do under such circumstances he thought he was doing what was expected of him as it was in accord with his street car experience. He said he had never reported that he had had to flag over a crossing.

Conductor Doherty, of the TA&W switch crew, stated that upon arrival of his train at Vulcan there was considerable switching to be performed. While this work was in progress he was engaged in checking car numbers, but about 10 or 15 minutes prior to the accident he proceeded to the Dorr Street crossing over the TA&W lead track at a point about 50 feet south of the T&I track for the purpose of flagging highway traffic, he borrowed a red flag from the section foreman who was working near that point. He said it was not customary for members of his crew to protect movements of his train over the T&I crossing but that occasionally some member would warn a T&I motorman that a TA&W train was about to use the crossing. Shortly before the occurrence of the accident he heard a crossing whistle signal blown by the engine of his train and about the same time he observed the leading car approaching around the curve at which time it was about 500 feet from the crossing. The T&I car had been standing near the Toledo Terminal crossing, but shortly after he saw his own train approaching he noticed the T&I car moving towards the crossing, he did not see the motorman of that car while it was standing. He immediately started running towards the interurban car, at the same time yelling to the motorman and also waiving his red flag. He noticed his brakeman, who was riding the leading car of his train, also violently waving stop signals with a red flag, but the motorman of the T&I car failed to heed the warnings of either, the car increasing speed as it came upon the crossing. Conductor Doherty estimated the speed of his train at the time of the accident from 6 to 8 miles per hour while the interurban car was moving 12 or 15 miles per hour. He did not notice his train stop at any time as it approached the crossing and was not aware of any rule in effect requiring trains to come to a stop before crossing the tracks of another railroad at grade. After the accident he tested the air brakes on his train and found the air cut through and the brakes working properly.

Brakeman Van Glahn, of the TA&W crew, stated that after performing some switching at Vulcan the engine was coupled to the cut of cars to be delivered to the Toledo Terminal Railroad. He had been standing some distance from these cars, but as the leading car passed him he boarded it, before doing so he tested the air and found it coupled up, he then stationed himself on this car near its forward end. When his train had reached a point about 8 or 9 car-lengths from the crossing he noticed the T&I car standing just east

of the crossing but did not see anybody near it. When the car he was riding reached a point about 50 feet from the crossing the T&I car started and realizing a collision was imminent he immediately gave stop signals with his flag, yelled to the motorman of the T&I car and then started towards the rear of the car for his own safety. He said the air brakes were applied just about the time the collision occurred at which time his train was moving at a speed of from 7 to 9 miles per hour. Brakeman Van Glahn did not recall hearing the engine whistle sounded while approaching the crossing but heard the bell ringing. He said from the point where the engine was coupled to the cars, about one mile west of the crossing, no stop was made until after the accident, further stating that it was not the practice to stop before passing over the T&I track as there were no instructions in effect requiring a stop for this crossing.

Brakeman Beck, of the TA&W crew, stated that after the engine was coupled to the cars preparatory to proceeding to the Toledo Terminal yard he cut in the air and then climbed to the roof of the caboose next to the engine for the purpose of transmitting signals to the engineman. At the time the leading car had reached a point about 4 or 5 car-lengths from the crossing he received a "comeback" signal which he relayed to the engineman. When the leading car reached a point about 1 or 2 car-lengths from the crossing he received a stop signal from the brakeman on that car which he immediately transmitted to the engineman, he thought the train continued for a distance of about a car-length before it came to a stop. He said that he heard the regular crossing whistle signal sounded as the train was rounding the curve, also, that it was not the custom to stop before passing over the T&I track but that occasionally a stop was made on account of traffic on that line.

Engineman Pollock, of the TA&W crew, stated that after coupling to the cars the air was coupled, as indicated by the air gauge, and the train started. Upon reaching a point about 25 car-lengths from the crossing he sounded a crossing whistle signal and as his train entered on the curve he reduced speed to some extent, then received a back-up signal from the trainman located on the caboose; he was unable to see the trainman on the leading car. A few seconds later he received a stop signal, at which time he estimated the speed at 6 or 7 miles per hour, he immediately applied the brakes in emergency and said the train moved an additional distance of only 1 or $1\frac{1}{2}$ car-lengths after the brakes were applied. He said no stops were made from the time the cars were picked up until after the accident and that he had no instructions to come to a stop before crossing the T&I track, his understanding being that trains should approach this crossing very cautiously.

The statements of Fireman Huber, of the TA&W crew, brought out no additional facts of importance.

Section Foreman Geiser, stated that he was working on the TA&W lead track between the highway and the T&I track on the day of the accident and shortly before its occurrence Conductor Doherty asked him for his red flag which he handed to the conductor who stationed himself at the intersection of the highway and the TA&W lead track. At about the same time Foreman Geiser said he heard a crossing whistle signal and upon looking up saw a train approaching on the TA&W track about 300 feet north of the crossing. He also noticed at this time the T&I car standing near the crossing but did not see the conductor of that car. He continued with his work but a short time later he heard the conductor yell and as he looked around he saw the T&I car about to pass over the crossing and the leading car of the TA&W train only about one-half car-length from that point. The conductor started towards the T&I car waving his flag while the brakeman riding the leading car in the TA&W train was also waving a red flag.

Agent-Watchman Railing, stationed at Vulcan, stated that in addition to the station work he is required to protect the crossings of the TA&W lead track, the Toledo Terminal and the New York Central Railroads, the latter two crossings being located 37 feet and 705 feet, respectively, east of the TA&W crossing. He first observed train No. 23 standing east of the New York Central crossing; he then lined the derail for the movement of the T&I car over that crossing, remaining at the New York Central crossing while the car proceeded to Vulcan station and came to a stop. He did not see the motorman leave the car at that point, on account of the curve in the T&I track between these points, his first knowledge of an accident was when he heard the crash. He said there were derails on the T&I track provided for the protection of movements over the TT and TA&W crossings, but they were not in serviceable condition and it was his duty to protect such movements by flag. Flagman Railing gave as his reason for remaining at the New York Central crossing that trains Nos. 23 and 24 are supposed to meet just east of the Toledo Terminal crossing, that his period of duty ends at 3.40 p.m., and the flagman who relieves him always has come on the latter train and protects the movement of these trains over the crossings; in case he did not arrive at that point in time, Flagman Railing said it was his duty to provide protection. This arrangement had been the practice for trains Nos. 23 and 24 only, all other movements being protected according to instructions.

Flagman Jolley, who was to relieve Flagman Railing at Vulcan, stated that on the date of this accident he rode on train No. 24 to Johnson's siding, a short distance west of Vulcan station, and opened the switch to enable that train to take siding for train No. 23. He said that when trains Nos. 23 and 24 met at Vulcan siding it was his practice first to protect the eastbound movement over the TA&W and TT crossings and then to protect the westward movement of train No. 23 over the same crossings the other flagman would protect the movement of both trains over the NYC crossing; however, if these trains met at Johnson's siding, it was the duty of the other flagmen to protect the movement of train No. 23 over all three crossings. He said he had heard that the car operators sometimes flagged their own trains over these crossings if no flagmen was there, but he had never seen it done.

Dispatcher Brown, who was on duty at the time of the accident, stated that Vulcan siding is the time-table meeting point for trains Nos. 23 and 24, but that as Johnson's siding is also within the yard limits at Vulcan he thought the crews of these trains, due to there being no superiority of trains by direction in effect, could operate under yard limit rules and pass at either of these sidings if they so desired. He said that during foggy weather these trains would pass at the scheduled meeting point providing they could not get in touch with the dispatcher, but at other times if train No. 24 had not arrived at Johnson's siding train No. 23 could proceed to that point, it being possible to see opposing trains between these points.

Conclusions.

This accident was caused primarily by the failure of Motorman Strohlein to ascertain definitely that the way was clear for the movement about to be made, and by the failure of Crossing Flagman Railing to afford protection. A contributing cause was the failure of the crew of the switching transfer to come to a stop within the prescribed limits provided by law before proceeding over a railroad crossing at grade.

Motorman Strohlein said that before attempting to cross the tracks of the Toledo Terminal Railroad he brought his car to a stop east of these crossings, left it and walked to the first crossing, and the only evidence of a train in the vicinity was an engine on the Toledo Terminal main track about a mile south of the crossings. He then returned to his car, which required about two minutes, started it and from that time until the accident occurred he continuously looked straight forward and did not observe the approaching cut of cars on the TA&W track nor

did he see stop signals being given by members of the crew of that train or hear their shouts of warning. From the point where this car stopped east of the TT crossing to the point of accident was a distance of not more than 50 feet, and when Motorman Stronlein started his car the approaching cars on the TA&W tracks must have been in plain view. Motorman Strohlein was unable to offer any reasonable explanation and it is impossible to account for his failure to see the approaching cars, or to see the flag signals given by two TA&W employees, one on the car to his right and the other on the street crossing to his left. Had he been alert and maintaining a proper lookout when he started over this crossing he could have avoided the accident.

Flagman employed by the Toledo and Indiana Railway Company are stationed at this point to protect the movement of T&I cars over the several railroad crossings. In this instance Flagman Railing, who was on duty, depended upon the flagman who was to relieve him to protect this movement, without knowing definitely that the relieving flagman was on hand for that purpose. The relieving flagman did not arrive in time to protect the movement, the result being that there was no flagman at this point when train No. 23 started across the TT and TA&W crossings. Had Flagman Railing properly performed his duty, this accident undoubtedly would have been prevented.

The time-table meeting point of T&I trains Nos. 23 and 24 is at Vulcan siding located east of the Toledo Terminal crossings, and the rules provide that "all trains will meet as shown on the time-table unless otherwise ordered by the train dispatcher"; but it had been the practice on numerous occasions in the past to meet at Johnson's siding located west of these crossings, which was the contemplated meet on the day of the accident. It appeared that operating officers were aware of this practice and that it had at least their tacit approval. However, had train No. 23 remained at Vulcan for train No. 24, Flagman Jolley who was relieving Flagman Railing would have been in position to protect the movement of train No. 23 over the TT and TA&W crossings, and this accident would no doubt have been prevented.

It is obvious that a motorman of a one-man car cannot provide adequate flag protection for a movement of this character. Between the time Motorman Strohlein went to the crossing to see whether or not a train was approaching on the opposing tracks, and the time he returned to his car and started it toward the crossing, conditions had materially changed, the TA&W transfer had come into view only a short distance away, and until that train either stopped or passed over the crossing it was not safe for the T&I car to start. While under the circumstances Motorman Stronlein should have seen the approaching cars, a flagman at the crossing undoubtedly would have done so in time to prevent the accident. Under bulletin instruc-

tions issued in 1907, a motorman was forbidden to move his car over these railroad crossings at Vulcan until the conductor had gone ahead and operated the derail. The use of the derail at this point was discontinued in 1925, when flagmen were stationed there and one-man cars are now operated, but it does not appear that specific instructions were issued to motormen as to what should be done in case of the absence of the flagman. There are approximately 44 train movements daily over the T&I Railway, 6 over the TA&W and 24 over the TT, at this point. To prevent a recurrence of this accident measures should be taken promptly to insure that all movements over these crossings are properly protected by flag, and it is believed that the installation of interlocking or other protective devices at these crossings is warranted.

The statements of the crew of the switching transfer were to the effect that their train did not stop from the time it picked up the cars, about a mile away, to be delivered to the Toledo Terminal Railroad, until after the accident occurred. Their train approached the crossing at a speed estimated by them at from 6 to 9 miles per hour. Brakeman Van Glahn estimated the car on which he was riding had reached a point about 50 feet from the crossing at the time he saw the T&I car start toward the crossing, he immediately gave stop signals which were acted upon promptly, and although the train was stopped in a distance of two car-lengths or less it was too late to avert the accident. Had this train been brought to a stop before passing over this crossing as required by State law, this accident probably would not have occurred. However, the crew stated they had no knowledge of such law or requirement.

The investigation disclosed that the officials of both railroads were apparently lax in properly instructing their trainmen with regard to the operation of trains. The T&I Railroad has a book of operating rules, but Motorman Strohlein had never been examined while in the employ of this company; movements of trains were made according to customs and practices which have prevailed for a considerable length of time, some of which were contrary to the rules which were in effect. The TA&W railroad has no book of operating rules or time card, and keeps no record of train movements, having only one train crew in road service. Special instructions had been issued to protect movements over the highway just south of the T&I crossing, but none of the employees involved in this accident had ever been examined to ascertain if they knew what rules or special instructions were in effect.

The employees involved were experienced men; at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully,
W. P. BORLAND,
Director.