

BUREAU OF SAFETY

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REPORT NO. 1994

Railroad:	Pennsylvania	
Date:	July 17, 1935	
Location:	Upper Sandusky, Ohio	
Kind of accident:	Collision	
Train involved:	Passenger	: Motor truck
Train number:	No. 59	:
Engine number:	5357	:
Consist:	10 cars	:
Speed:	55-60 mph.	: 5-8 mph.
Track:	Tangent	:
Highway:		: Tangent; flashing lights at crossing
Weather:	Clear, day break	
Casualties:	1 killed; 37 injured	
Cause:	Truck stopped for crossing; immediately after passage of an east-bound train, truck was driven on crossing directly in front of approaching west-bound train.	

## INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN  
ACCIDENT ON THE PENNSYLVANIA RAILROAD AT UPPER SANDUSKY,  
OHIO, ON JULY 17, 1935.

September 18, 1935.

To the Commission:

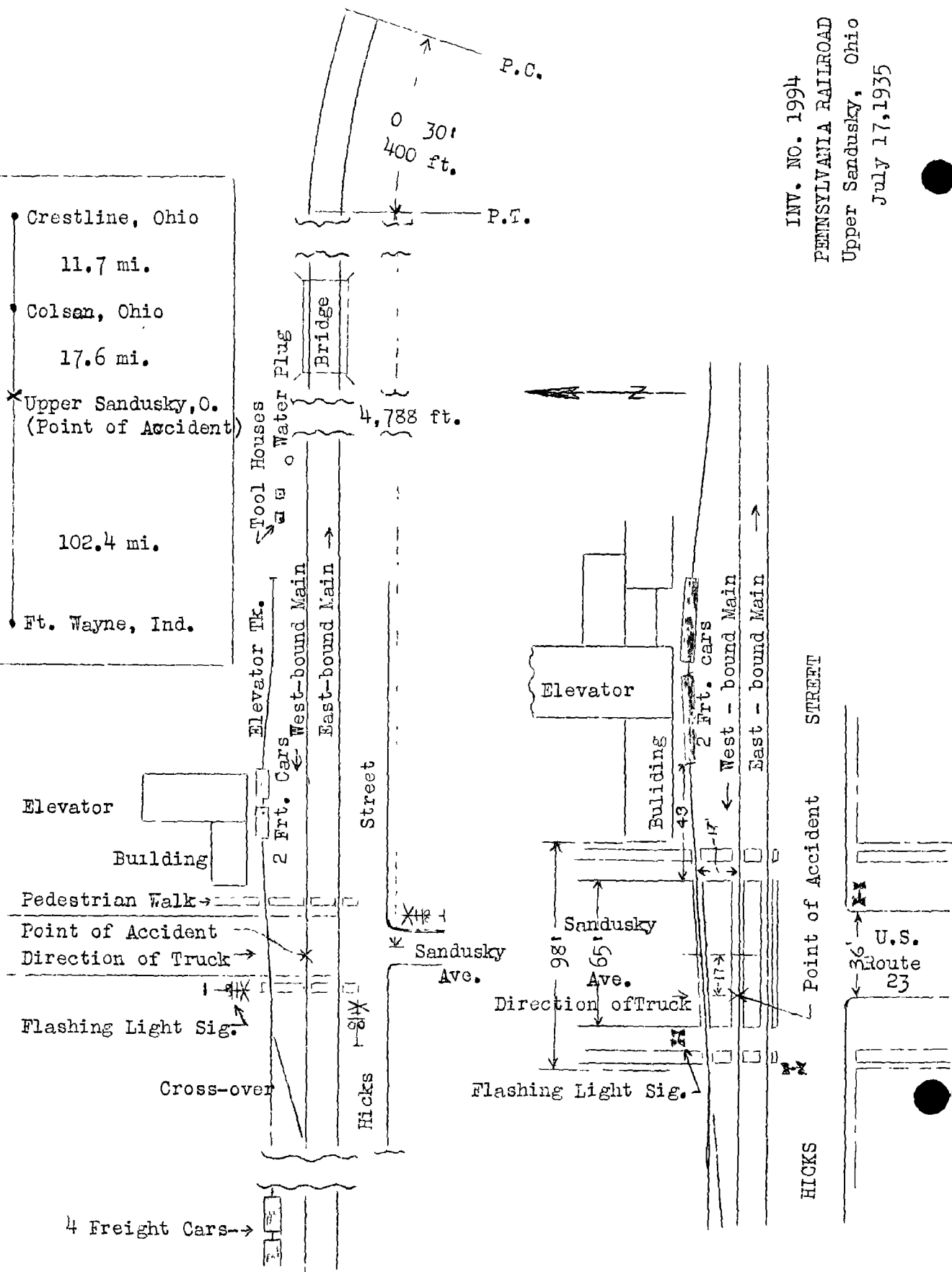
On July 17, 1935, there was a derailment of a passenger train as the result of striking a motor truck at a grade crossing on the Pennsylvania Railroad at Upper Sandusky, Ohio, this accident resulting in the death of 1 railroad employee, and the injury of 27 passengers on the train, 7 dining-car employees, 2 railroad employees, and the driver of the truck. This accident was investigated in conjunction with the Public Utilities Commission of Ohio.

## Location and method of operation

This accident occurred on that part of the Fort Wayne Division extending between Crestline, Ohio, and Fort Wayne, Ind., a distance of 131.7 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time table and an automatic block-signal system. The accident occurred on the west-bound main track at Sandusky Avenue; from north to south Sandusky Avenue crosses first a siding known as the elevator track, then the west-bound main track and then the east-bound main track. Approaching the crossing from the east on the railroad, there is a 0°30' curve to the left 400 feet in length, followed by 4,788 feet of tangent to the crossing, this tangent extending an additional distance of more than 2,500 feet west of Sandusky Avenue. The grade for west-bound trains is 0.38 percent ascending at the point of accident.

At this point Sandusky Avenue forms a part of U.S. route 23; it extends north and south and crosses the tracks at right angles; it is an improved highway, 65 feet wide north of the crossing, surfaced with emulsified asphalt and stone, and is well maintained. The highway is straight for a distance of about  $\frac{1}{2}$  mile on each side of the railroad and is practically level until a point about 100 feet from the center of the main tracks is reached, at which point the approach to the tracks is very slightly ascending, the rise being 16 inches to the level of the main tracks. Pedestrian walks parallel each side of the highway across the tracks. Immediately west

• Crestline, Ohio  
 11.7 mi.  
 • Colson, Ohio  
 17.6 mi.  
 \* Upper Sandusky, O.  
 (Point of Accident)  
 102.4 mi.  
 • Ft. Wayne, Ind.



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 PENNSYLVANIA RAILROAD  
 Upper Sandusky, Ohio  
 July 17, 1935

of the highway there is a crossover which connects the elevator track with the west-bound main track, the west switch of this crossover being a trailing-point switch for west-bound trains, located about 200 feet west of Sandusky Avenue.

The crossing is protected for the full 24-hour period by automatic electric flashing-light signals of the back-to-back type, located on each side of the tracks as well as on a side street which parallels the tracks on the south. The west-bound track circuit control of the signals extends 3,430 feet east of the crossing and when a west-bound train enters upon the circuit at that point the lights start flashing. These signals are mounted on the same mast with and just below the cross-bar sign reading "RAILROAD CROSSING" and another sign reading "DANGER", and were installed on January 1, 1935. The signal for south-bound highway traffic is located between the pedestrian walk and the highway, at the west edge of the highway and 28 feet north of the center line of the west-bound track, the center of the lenses being 7 feet 3 inches above the street. The view of the flashing-light signals is unobstructed. The maximum authorized speed for passenger trains in this vicinity is 75 miles per hour.

The rules of the Public Utilities Commission of Ohio governing motor common carrier transportation companies, effective May 1, 1935, provide that drivers shall, at a point where the clearest view is obtainable, make a complete stop, open the door in order that they may plainly hear, and then look and listen before crossing the tracks of any steam railway. If the view of the track is in any way obstructed, they must leave the truck, to make sure the crossing is safe. It also is required that while crossing the track drivers must drive in low or second gear, and no shift shall be made within twenty-five feet of or upon the crossing.

From the driver's seat of a south-bound vehicle the view of an approaching west-bound train is materially obstructed by a building, 18 feet in height, located 50 feet east of the center line of Sandusky Avenue and 28 feet north of the center line of the west-bound main track, as well as by two tool houses, located 950 feet east of the highway and  $13\frac{1}{2}$  feet north of the center line of the west-bound main track. In addition to this there were two freight cars, coupled, standing on the elevator track east of the crossing with the west end of the west car about 80 feet east of the center line of the highway.

The weather was clear and day was breaking at the time of the accident, which occurred about 4:15 a.m.

### Description

Train No. 59, a west-bound passenger train, known as the Liberty Limited, consisted of 1 combination baggage and passenger car, 1 passenger car, 4 sleeping cars, 1 dining car and 3 sleeping cars, in the order named, all of steel construction, hauled by engine 5357, and was in charge of Conductor Dinklage and Engineman Todd. This train passed Colsan, the last open office, 17.6 miles east of Upper Sandusky, at 4:01 a.m., according to the train sheet, 3 minutes late, and on reaching Upper Sandusky it was derailed as a result of striking a motor truck on the crossing at Sandusky Avenue while traveling at a speed estimated to have been between 55 and 60 miles per hour.

The motor truck involved was a 6-cylinder,  $1\frac{1}{2}$ -ton Chevrolet tractor, 1934 model, hauling an empty semi-trailer, converted from a chain-drive Mack truck, the total length of tractor and trailer being about 30 feet. The truck was owned by L. L. Erskine, Cambridge, Ohio, operated under certificate No. 4721, issued by the Public Utilities Commission of Ohio, and at the time of the accident was being driven by Robert Williams, who was operating under chauffeur's license No. 2670, issued by the Ohio Highway Commission. On arrival at Upper Sandusky the truck stopped at the crossing involved and waited until an east-bound passenger train passed; the driver then started over the crossing south-bound and was traveling at a speed of between 5 and 8 miles per hour when the trailer was struck by Train No. 59.

The tractor was thrown on the east-bound track, stopping about 60 feet west of the crossing, considerably damaged, while the body of the trailer was south of the tracks and west of the crossing, practically destroyed. The rear end of the trailer, including axles and wheels, was carried to the frog of the trailing-point switch of the cross-over, at which point the engine became derailed and subsequently turned over, sliding along the tracks on its right side and striking a cut of four box cars standing on the elevator track west of the crossing, practically destroying two of them, while the other two passed over a derail device and out upon the west-bound main track, the first car running about  $\frac{1}{2}$  mile before it stopped, while the second car was derailed and turned over north of the west-bound track several hundred feet west of the derail device. The engine stopped across and almost at right angles to the tracks at a point 760 feet west of the crossing, while the tender was east of the engine and across both main tracks, upright. With the exception of the rear truck of the last car, all of the cars in the train were entirely derailed, but they remained

coupled and upright and stopped in general line with the tracks. The first two cars passed by the south side of the engine and struck the freight house platform, destroying it.

The first mark of the accident on the track was an indication in the paving material of the highway 17 feet west of the center line of Sandusky Avenue and 16 inches south of the gauge side of the north rail of the west-bound track; this mark enlarged as it progressed westward until it was 2 feet in width at the west side of the paving of the highway and about 2 inches in depth; the pedestrian walk located west of the highway was destroyed, and west of this point there was a mark between the two rails for a distance of about 125 feet to the frog of the switch evidently made by the axle and wheels of the truck trailer. The first marks of the train derailment were at the frog of this switch, a few marks on the ties indicating that the engine was derailed to the south or left, beyond which point the west-bound main track was torn out for a distance of 652 feet and the east-bound main track for a distance of 462 feet.

The railroad employee killed was the engineman, while the railroad employees injured were the fireman and conductor.

#### Summary of evidence

Fireman Ritcha stated that the speed of the train had averaged about 70 miles per hour, that he called the indication of the automatic block signal located about 2 miles east of Upper Sandusky, and that Train No. 44, east-bound passed at a point just east of Upper Sandusky. Fireman Ritcha put in a fire and as he was about to get upon his seat box he got a glimpse of the truck on the track about 50 feet in front of his engine, and he estimated the speed to have been between 55 and 60 miles per hour at the time of the accident. Fireman Ritcha said that the air brakes had been tested and worked properly and that he felt them apply immediately before the truck was hit; however, he did not hear the engineman make any outcry, nor did he know whether the engineman was braking on account of the truck or in preparation for the Chesapeake & Ohio Railroad crossing which is located about 2,800 feet west of Sandusky Avenue. Approaching and entering Upper Sandusky the engine whistle had been sounding almost continuously on account of the numerous crossings in that vicinity. Owing to fatal injuries received in the accident, no statement was obtained from Engineman Todd.

Conductor Dinkluge, Brakemen Cooley and Flagman Sherrick were not aware of anything wrong prior to the accident; they estimated the speed to have been about 60 miles per hour.

Conductor Dinklage had talked with the engineman at Crestline, the initial station on this division, 29.3 miles east of Upper Sandusky, and the engineman appeared normal in every respect. The conductor said that there is a 40-mile-per-hour speed restriction over the Chesapeake & Ohio Railroad crossing and that the engineman had started to reduce the speed of the train somewhat in preparation for that crossing before the truck was hit; however, no emergency application was felt prior to the accident. Conductor Dinklage further stated that his own train was upon the track circuit controlling the flashing lights at Sandusky Avenue when it passed east-bound Train No. 44. Brakeman Cooley, who was in the first car about midway on the south side, said that after Train No. 44 had passed he saw that the flashing light signal located on a side street adjacent to Sandusky Avenue, facing him, was working, and when the car in which he was riding went by the crossing, after the truck was hit, the lights on the south side were still flashing. Flagman Sherrick was on the rear end of the last car in his train and he said that his entire train had passed the bridge over Sandusky River, located approximately 2,500 feet east of Sandusky Avenue, and was about eight car lengths west thereof, when Train No. 44 passed.

Engineman Downing, of Train No. 44, stated that while going through Upper Sandusky he noticed that the flashing light signals at Sandusky Avenue were working. He first saw Train No. 59 when it was coming around the curve. The engineman of that train dimmed the headlight, as required, and Engineman Downing dimmed his own headlight about the same time, before reaching the crossing; day was just breaking and headlights still were being used. Fireman Sebasckes was working on the fire and did not notice conditions at Sandusky Avenue crossing. Engineman Downing and Fireman Sebasckes both stated that their own engine passed the engine of Train No. 59 in the immediate vicinity of the water plug, located approximately 1,100 feet east of Sandusky Avenue. Flagman Patterson was on the rear end of the last car in order to exchange signals and he said that the rear end of his own train passed the head end of Train No. 59 between Sandusky Avenue and the water plug, and that the rear ends of both trains passed each other a short distance east of the water plug. Flagman Patterson did not observe whether the flashing light signals at Sandusky Avenue were operating when he passed that point nor did he observe whether the truck involved started over the crossing immediately after his own train passed the highway, but immediately after the rear ends of the two trains passed each other he looked westward and saw the tractor of the truck proceeding over the crossing and wondered whether it would get across the tracks safely; however, on account of his own train getting too far east of the crossing and also due to

smoke trailing down from his own engine and obscuring his view, he did not see the collision.

Operator Smith, on duty at Upper Sandusky tower, at the Chesapeake & Ohio crossing, said Train No. 59 had entered on the annunciator circuit, which extends about 3 miles, before he went down to observe the passage of Train No. 44. While outside the tower he heard the whistle of Train No. 59; after the passage of Train No. 44 he went back inside the tower to record the time of the train and while making this record he heard the crash occasioned by the derailment of Train No. 59. The time interval between the passage of Train No. 44 and the sound of the accident was so short that he thought Train No. 59 must have been close to the crossing when Train No. 44 passed the crossing.

Truck Driver Williams, 25 years old, stated that his truck and another truck of the same company were traveling together, and on arrival at Upper Sandusky they stopped for the crossing involved, as the flashing lights were working, indicating that a train was approaching. In a short time an east-bound train passed, which he thought was a freight train, and the flashing-light signals stopped working; as no indication of danger was displayed by the flashing-light signals he started to drive his truck across the tracks, in low gear, and had nearly passed over the three tracks when the trailer was struck by the west-bound train. Driver Williams said that he had the cab window of the truck open but that he did not hear the engine whistle sounded or the engine bell ringing, nor did he see the train approaching. He said that he had driven over this crossing numerous times prior to the accident, that he had had 8 years' experience driving automobiles and for the past 9 months had been driving a truck for Mr. Erskine. Driver Williams further stated that during the morning of July 15, accompanied by another truck, he drove from Cambridge, Ohio, his residence, to Zanesville, Ohio, a distance of about 24 miles, where both trucks were loaded with oil-well supplies destined for Mt. Pleasant, Mich.; he was allowed 3 days to make the round trip and had instructions from Mr. Erskine to comply with all state laws. Both trucks left Zanesville sometime before noon of July 15 on the north-bound trip and stopped at Marion, Ohio, about 10 or 11 p.m. He slept on the truck, leaving there the next morning about 7:30 a.m., but could not remember what time his truck arrived at or departed from Mt. Pleasant. On the return trip, sometime during the afternoon of July 16, he stopped at Adrian, Mich., for a supply of oil and gasoline, and afterwards both trucks stopped along the highway about 10 miles north of Carey, Ohio, where he again slept on the truck, leaving there early the next morning, proceeding to Carey and



stopping for breakfast, following which both trucks proceeded to Upper Sandusky and the crossing where the accident occurred.

Dwight Baker, 22 years old, driver of the other truck, made statements somewhat similar to those of Driver Williams as to what transpired on the round trip made by both trucks prior to the accident; both trucks left Zanesville about 10 a.m., with his truck following, and they pulled up to the side of the road sometime between 9 and 10 p.m. and slept until between 5 and 6 o'clock the next morning, when they departed, arriving at Mt. Pleasant about 1 p.m. The trucks were then unloaded and they departed from that point on the return trip about 3 p.m., July 16, stopping at Adrian for about 1½ hours, where the supply of oil and gas was replenished and a meal was had, then they left and stopped about 10 miles north of Carey, where they slept on the trucks until 4 a.m. following which they departed, stopping at Carey for breakfast, then leaving there and stopping at the crossing involved at Upper Sandusky, with his own truck in the rear of the first truck. Driver Baker said that after the first train passed, east-bound, the flashing lights stopped working and the first truck started over the crossing in low gear; he had not started his own truck and was standing about 30 feet north of the property line of the railroad when he saw the west-bound train strike the trailer of the first truck, which was moving at a speed between 5 and 8 miles per hour. Driver Baker said that he did not see or hear the approach of the west-bound train and that his view toward the east was obstructed by a building just north of the tracks and east of the highway, and that a truck would have to be driven almost upon the west-bound track before the driver could get a view of an approaching west-bound train, although there was a clear view of the flashing-light signal.

L. L. Erskine stated that he is engaged in a trucking business, operating on an irregular certificate issued by the Public Utilities Commission of Ohio, and carries liability and property damage insurance. During the time Driver Williams had been in his employ the driver had not had any previous accidents, and he considered him a reliable driver. Drivers are allowed 3 days within which to make the round trip to Mt. Pleasant, Mich., and he insists on drivers complying with all laws and taking their rest whenever necessary or required to do so by law; during the summer months the drivers sleep on the trucks. He did not have any accurate record of their rest periods on this trip, except that he knew they left Zanesville, Ohio, on the north-bound trip at 10 a.m., July 15, and that they left Adrian, Mich., at 9 p.m., July 16, on the return trip.

The highway distance between Cambridge, Ohio, and Mt. Pleasant is 363 miles or a total of 726 miles for the round trip as follows:

NORTH-BOUND  
Cambridge, Ohio  
24 miles  
Zanesville, Ohio  
205 miles  
Adrian, Mich.  
24 miles  
Jackson, Mich.  
110 miles  
Mt. Pleasant, Mich.  
- - - - -  
363 miles, total.

SOUTH-BOUND  
Mt. Pleasant, Mich.  
134 miles  
Adrian, Mich.  
82 miles  
Carey, Ohio  
11 miles  
Upper Sandusky, Ohio  
130 miles  
Cambridge, Ohio  
- - - - -  
363 miles, total

William Schlotzhauer stated that he was about half a city block north of the crossing when the accident occurred, having tried to get a ride on the trucks in question, and was walking southward on the west sidewalk toward the crossing to watch the trains as they passed. He heard a train whistle from each direction and said that both trucks pulled up to the crossing and stopped, side by side, and the flashing lights were working; as soon as the east-bound train passed, the truck nearest the pedestrian walk on the west side of the highway started across the tracks, but the other truck remained standing, then Schlotzhauer heard the engine whistle sounded on the west-bound train and realized that a collision was imminent; the flashing lights were still working and had been working all of the time.

Master Mechanic Brower and Road Foreman of Engines Burchiel inspected the engine shortly after the accident but nothing was found that could have contributed to the accident. Car Inspector Harbaugh stated that a terminal test had been made of the air brakes at Crestline and that they worked properly.

Supervisor of Telegraph and Signals Wallace stated that the flashing-light signals involved are track-circuit controlled and operate in both normal and reverse directions on both tracks. The last check of their operation was made during the afternoon of the day prior to the accident, at which time they worked properly, and he said that there never had been a failure in this entire installation since it was placed in service in January, 1935, while it is so designed that in the event of a failure of the relays in the control circuits the flashing lights would work continuously. Supervisor Wallace also said that provided Train No. 59 was on the track circuit before Train No. 44 passed Sandusky Avenue, as indicated by the state-

ments of the railroad employees, the flashing lights would operate continuously and there would not be any interval when the lights would stop flashing until after both trains had passed over the crossing.

#### Discussion

According to the evidence, the truck involved in this accident stopped for the crossing on account of the fact that the flashing lights were operating, indicating that a train was approaching, and after the east-bound train passed over the crossing the truck was immediately started, in low gear, and was moving over the tracks at a speed of from 5 to 8 miles per hour when it was struck by Train No. 59. The truck driver claimed that after the passage of the east-bound train the flashing-light signals at the crossing stopped working, and in this statement he was supported by the driver of another truck of the same company which was following the truck involved in the accident. If the flashing lights stopped operating, however, the rear end of Train No. 44 must have cleared the crossing before the head end of Train No. 59 entered upon the track circuit control 3,450 feet east of the crossing. The statements of several members of the crews of the two trains are definite that Train No. 59 was on the circuit before Train No. 44 cleared the crossing; in fact, they indicate that the engines passed each other at a point somewhere in the vicinity of 1,500 feet east of the crossing, and if this were the case then the rear end of Train No. 44 was not more than 700 feet beyond the crossing while the head end of Train No. 59 was more than 1,900 feet beyond the beginning of the circuit controlling the signals; in other words, based on the approximate point at which the engines passed each other, it would have been necessary for Train No. 59 to have been traveling nearly three times as fast as Train No. 44 in order for Train No. 59 to have entered upon the circuit after Train No. 44 cleared the crossing. It is to be noted also that at a speed of 60 miles per hour a train would consume approximately 39 seconds in traveling the distance of 3,450 feet and if the truck involved in this accident had started to move over the crossing before Train No. 59 entered upon the circuit and caused the lights to resume flashing, then this time interval would have given the truck ample opportunity to clear the crossing before Train No. 59 reached it. The statements of the crews as to the location of their respective trains is corroborated by the statements of the operator on duty in the tower, who said Train No. 59 was on the annunciator circuit before he went outside to observe the passage of Train No. 44, and he estimated that the time interval between the passage of Train No. 44 and the sound of the crash was such that Train No. 59 must have been close to the

crossing when Train No. 44 passed it. With respect to the operation of the lights, the brakeman on Train No. 59 said he saw the flashing lights operating when his train passed over the crossing while an eye witness said the flashing lights were working when the accident occurred; in addition, it is to be noted that the flashing-light installation, the operation of which had been checked on the preceding day, was so designed that in the event of a failure of the relays in the control circuit the lights would flash continuously, and examination at the time of the Commission's investigation showed that there was no defect about the wiring or other appurtenances connected with the operation of the signals. In view of the above evidence it is apparent that the lights were operating when the truck started over the crossing and that they were not observed by the driver of the truck.

Under the rules of the Public Utilities Commission of Ohio governing motor common carrier transportation companies it is required that truck drivers stop where the best view can be obtained, but if the view is in any way obstructed then a truck driver is required to leave the truck in order to make sure that it is safe to cross. In this particular instance the view of an approaching west-bound train to be had by the driver of a south-bound vehicle was very much obstructed, so much so in fact that it would be necessary for the front end of a truck to foul the west-bound track before a clear view could be obtained; notwithstanding this condition, it is evident in this case that the truck driver did not leave his truck for the purpose of making sure that it was safe to pass over the crossing, and observation made by the Commission's representatives developed the fact that very few south-bound trucks stopped at the crossing, regardless of the restricted view; it also was found that the average loaded truck, south-bound, used from 12 to 15 seconds in clearing the west-bound track after making a stop at the flashing-light signal on the north side of the tracks.

Particular attention is called to the hours of service of Driver Williams, of the truck involved in this accident, and also of Driver Baker, in charge of the truck which was following Driver Williams. Driver Williams started from Cambridge, Ohio, on the morning of July 15 and drove to Zanesville, a distance of 24 miles, where both trucks were loaded for the trip to Mount Pleasant, Mich., an additional distance of 339 miles; both drivers slept that night on their trucks by the roadside and on the morning of July 16 proceeded to Mount Pleasant, where the trucks were unloaded and then started back, stopping at Adrian, 134 miles from Mount Pleasant, and then continuing to within 10 miles of Carey, which is 88 miles from Adrian, where they again slept on their trucks. It is not clear when this last stop was made, but the owner of the trucks said he had

information that they left Adrian at 9 p.m. and between that time and the time of the accident, 4:15 a.m., July 17, the trucks traveled 99 miles including time out for breakfast at Carey and time for such sleep as was obtained on their trucks; from the above, it appears that Driver Williams had traveled nearly 600 miles in less than 48 hours and slept two nights on his truck, the second night's sleep apparently being of very short duration. It is doubtful whether men working under such conditions are in the mental or physical condition which is necessary in order to permit them to operate with safety in present day traffic on the highways of the country.

#### Conclusions

This accident was caused by a motor vehicle being driven upon a highway crossing at grade directly in front of an approaching train.

#### Recommendations

The following recommendations are made:

1. That adequate steps be taken by responsible authorities to enforce rules and regulations having to do with the precautions required to be taken by drivers of motor vehicles before passing over railroad crossings at grade.
2. That adequate measures be adopted and enforced by motor transportation companies and by proper authorities to make certain that the drivers of motor trucks do not work unreasonably long hours, and that opportunity is afforded for adequate rest after periods on duty.

Respectfully submitted,

W. J. PATTERSON,

Director.