INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

WHEELING AND LAKE ERIE RAILWAY

UNIONVALE, OHIO

SEPTEMBER 16, 1938.

INVESTIGATION NO. 2293

SUMMARY

Inv-2293

Railroad:	Wheeling and Lake Erie	
Date:	September 16, 1938	
Location:	Unionvale, Ohio.	
Kind of accident:	Head-end collision	
Train involved:	Freight	: Section motor-car
Train number:	No. 70	:
Engine number:	6012	:
Consist:	34 cars, caboose	: Motor-car and push car
Speed:	10-50 m.p.h.	: 7-20 m.p.h.
Operation:	Timetable, train orders and motor-car line-ups.	
Track:	Single, tangent; 1.0 percent descending grade eastward.	
Weather:	Clear	
Time:	8:25 a.m.	
Casualties:	5 injured	
Cause:	Failure of motor-car to clear main track for a freight train or to provide flag protection, on account of over-estimating the running time of the freight train.	

October 27, 1938.

To the Commission:

On September 16, 1938, there was a head-end collision between a freight train and a section motor-car on the Wheeling and Lake Erie Railway at Unionvale, Ohio, which resulted in the injury of a section foreman and four section laborers.

Location and method of operation

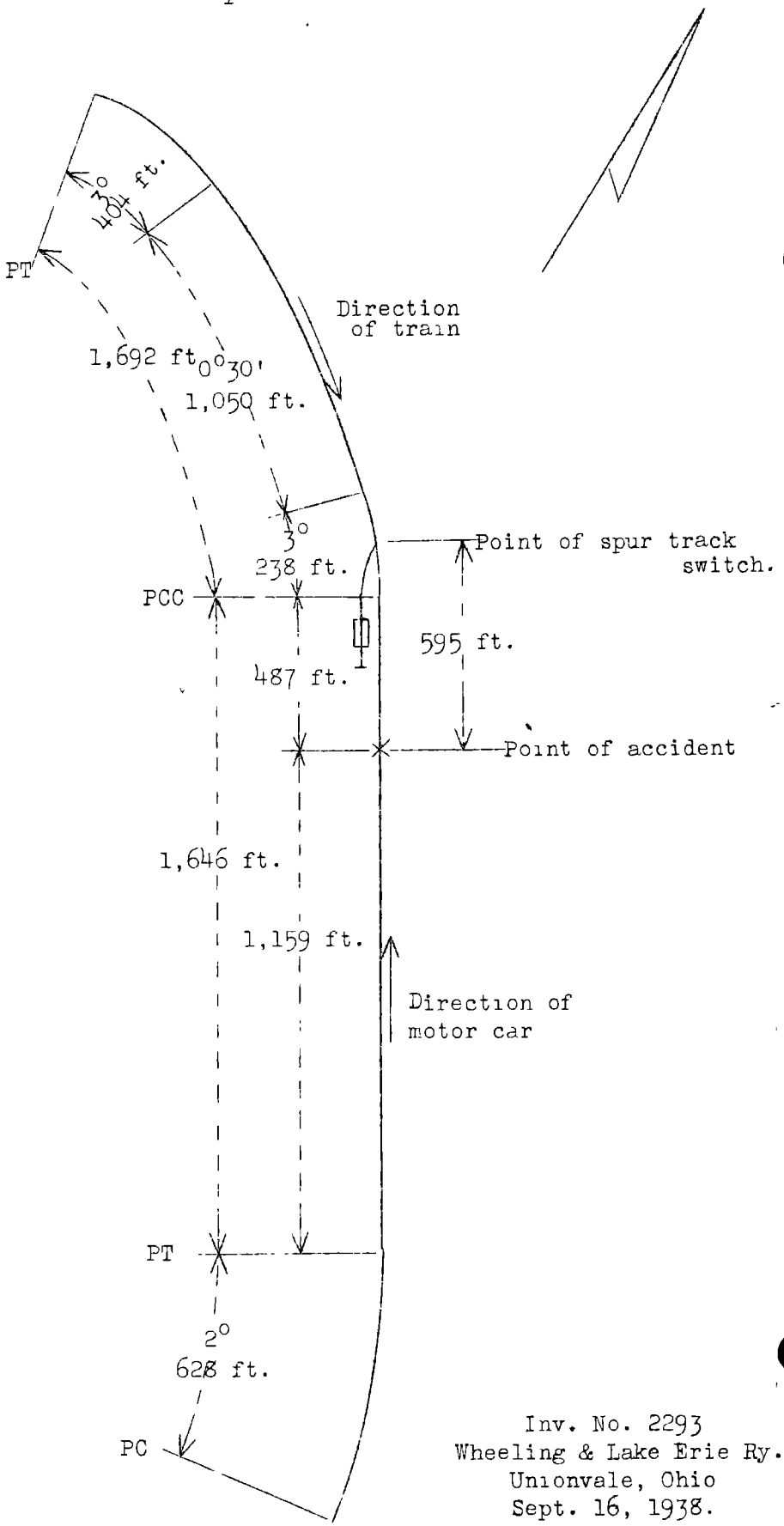
This accident occurred on that part of the Toledo Division designated as the Second District which extends between Brewster, Ohio, and Terminal Junction, Ohio, a distance of 75.7 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being used. At Unionvale a spur track 374 feet in length parallels the main track on the south, entry to which is made through a facing-point switch for east-bound trains. The accident occurred on the main track at a point 595 feet east of this switch. Approaching this point from the west there is a compound curve to the right 1,692 feet in length, varying in curvature from 0°30' to 3°, followed by tangent track for a distance of 1,646 feet. The collision occurred on this tangent at a point 487 feet from its western end. Approaching from the east there is a 2° curve to the left 628 feet in length followed by the tangent on which the accident occurred. The grade is descending eastward for more than four miles to the point of accident and for several miles beyond, being 1.0 percent at the point of accident.

Due to a high-side gondola standing on the spur track the view had by both the engineman and the motor-car operator was limited to a distance of about 950 feet.

Section motor-cars are operated on line-ups issued by the train dispatcher which indicate the approximate location of trains at the time of issue, but contain no other information. Train crews are not given information concerning movements of section motor-cars.

Rules 4, 11, 12 and 13, governing the use of hand, motor, velocipede and push cars, read in whole or in part as follows:

- Brewster, Ohio
- 26.5 mi.
- Sherrodsville
- 3.4 mi.
- Leesville
- 14.0 mi.
- Jewett
- 3.7 mi.
- Pittsburgh Jct.
- 3.9 mi.
- Nelms
- 0.8 mi.
- Unionvale
- X Point of accident)
- 1.3 mi.
- Kenwood
- 1.4 mi.
- Hurford
- 2.0 mi.
- Adena
- 18.7 mi.
- Terminal Jct., O.



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Rule 4 - Operators shall be examined as to fitness to handle and operate cars by a qualified officer who will furnish each operator with a card indicating that satisfactory examination has been passed. Where cars are used by more than one man, a second operator should also be qualified in the same manner as the regular operator. This card, with a copy of current Time-table and a Standard watch must be in the possession of each operator at all times when on duty.

Rule 11 - Written line-ups from the Train Dispatcher regarding train movements must be obtained at telegraph offices or telephone booths, when possible. Line-ups obtained at telephone booths shall be repeated to the Dispatcher, who will verify as to its correctness. When it is impossible to get line-up from Dispatcher, car should not be operated unless protected by flagging.

Rule 12 - Written line-ups will not relieve Operators from their responsibility of protecting their cars from collision with trains, engines, other motor cars or other obstructions.

Rule 13 - Where vision is limited by obstructions, the operation of cars shall be protected by flagging in both directions *** When operating cars, a lookout shall be maintained in both directions for approaching trains ***.

Telephones for communication with the train dispatcher are located at Kenwood and Hurford, 1.3 and 2.7 miles, respectively, east of Unionvale.

The maximum authorized speed for all trains is 50 miles per hour and for motor-cars towing push cars, 15 miles per hour.

The weather was clear at the time of the accident which occurred at 8:25 a.m.

Description

No. 70, an east-bound third-class freight train, consisted of 9 loaded and 25 empty freight cars and a caboose, hauled by engine 6012, and was in charge of Conductor Slates and Engineman Adams. This train left Sherrodsville, 3.4 miles east of

Leesville, at 7:34 a.m., according to the train sheet, 1 hour 54 minutes late, passed Pittsburgh Junction, the last open office, at 8:18 a.m., 1 hour 33 minutes late, and at Unionvale, located 22.4 miles east of Leesville, collided with section motor-car No. 174 while traveling at a speed variously estimated to have been between 10 and 50 miles per hour.

West-bound section motor-car No. 174, towing an empty push-car, was in charge of Section Foreman Capers who received a line-up at Adena stating that No. 94 was at Jewett and No. 70 about Leesville; this line-up was sent at 7:37 a.m.

According to statements of members of the section crew, the motor-car left Adena, 4.7 miles east of Unionvale, at 7:37 a.m., proceeded to Hurford and cleared for No. 94, left that point about 8:10 a.m., passed Kenwood about 8:15 a.m., and, while running at a speed variously estimated at from 7 to 20 miles per hour, collided with No. 70.

The motor-car was demolished and the debris was scattered along the track for a distance of about 750 feet where the train stopped, with parts of the motor-car under the locomotive and on its pilot. The push-car was thrown from the track at a point about 135 feet east of the point of accident.

Summary of evidence.

Engineman Adams stated that the brakes were tested prior to starting the trip and functioned properly en route. He held no train orders or information regarding the movement of the motor-car. As he rounded the curve immediately west of the point of accident he sounded the whistle for Unionvale, and shortly afterwards saw the motor-car about 35 or 40 car lengths distant on the tangent track. He thought the motor-car would stop, but approaching nearer, where the view was better, he saw it at a point about 600 feet distant moving toward the train, at which time the speed of the train was about 30 miles per hour. He immediately made an emergency application of the brakes, opened the sanders and reversed the engine, reducing the speed to about 10 or 12 miles per hour at the time of impact. He said the speed of the motor-car just prior to the impact was greater than that of the train. The weather was clear at the time of the accident. Engineman Adams estimated the running time from Leesville to Unionvale with a half-tonnage train at about 45 minutes and with a full tonnage train at not less than 1½ hours.

Fireman Markham stated that he could not see the motor-car until it was about 20 or 25 car lengths distant; it was then traveling toward the train at a speed of at least 20 or 25 miles per hour, and it was traveling at a speed of about 20 miles per hour when it struck the train, at which time there was no one on it. The speed of the train was about 20 miles per hour when the emergency application was made and it was reduced to about 15 miles per hour at the time of the accident. The emergency application was effective and the train ran about 15 car lengths after the accident which occurred at 8:25 a.m.

Brakeman Piper, who was sitting behind the fireman on the seat-box when approaching the point of accident, stated that he first saw the motor-car about 15 car lengths distant traveling toward the train at a speed of 15 or 20 miles per hour and the motor-car was traveling about 20 miles per hour at the time of the impact. The speed of the train was about 30 miles per hour when the brakes were applied and about 20 or 25 miles per hour at the time of collision.

The statements of Conductor Slates and Flagman Hayes contributed no additional information of value.

Section Foreman Capers, in charge of the section on which the accident occurred, stated that his section consists of 10 miles of main track. He secured a line-up from the operator at Adena where his car house is located, and with six laborers he departed westward at 7:37 a.m. with a push-car in tow. The line-up stated that No. 94 was at Jewett and No. 70 about Leesville. He proceeded to Hurford where he cleared for No. 94. Leaving Hurford at 8:10 or 8:11 a.m., he proceeded toward Unionvale, passing Kenwood about 8:15 a.m. Approaching the point where the collision occurred he was looking ahead but the freight car on the spur track restricted his view and when he first saw the approaching train it was 400 or 500 feet distant, traveling at a speed of about 45 or 50 miles per hour; the speed of the motor-car at this time was 8 or 9 miles per hour. He applied the brake but could not stop and they all jumped off while the motor-car was traveling about 7 or 8 miles per hour. He said that the train ran about 800 or 900 feet after the collision, that the weather was clear and that the accident occurred about 8:25 a.m. When he left Hurford he estimated he had 30 minutes or more to go to Unionvale for No. 70; he did not communicate with the dispatcher either at Hurford or at Kenwood to ascertain the location of No. 70. He assumed that No. 70 would not make express-train speed but

would travel like it usually did when more time was consumed for various reasons at points en route. He also said that he did not know the distance from Leesville to Unionvale, the consist of No. 70, or its probable running time between those points. He felt perfectly safe and within his rights in proceeding westward on the line-up he had received. He stated that line-ups are obtained from operators or from the dispatcher by telephone; movements from a point where neither is available are made under flag protection. A line-up indicates the location of trains at the time of issue only, and it was his understanding that when a line-up indicates that no train is close it is his authority to proceed without flag protection, but when a train is close he always flags around curves, and if, according to his judgment, the running time is insufficient for him to reach his objective he must protect the movement of the motor-car. He has never been criticized for delay in waiting in the clear for an expected train to pass. Foreman Capers also stated that he was instructed on the rules governing the movement of track cars in 1925; he had no knowledge of the issuance of, and had never received a copy of, the rules relating thereto which were made effective January 10, 1931, and he had no current timetable in his possession and had never received one; however, he had a watch. He said that the motor-car involved weighed about one-half ton and it required 3 men about five minutes to set it off at a platform or road crossing.

Section Laborer Merriman corroborated the testimony of Section Foreman Capers in all essential details relative to the movement of the motor-car from Adena to the point of accident. He stated that he was not looking ahead just prior to the accident. The speed of the motor-car was about 12 miles per hour when he first saw the approaching train about 200 feet distant which was traveling at a speed of about 40 miles per hour, the speed of the motor-car had been reduced to about 8 miles per hour when the collision occurred. He did not know the distance from Leesville to Unionvale but estimated the running time of a train between these points at from 40 minutes to 1 hour, depending on its consist. He was instructed on the rules governing the operation of motor-cars in 1929 and has a card authorizing him to perform this duty but he had no knowledge of, and had never received a copy of, the rules issued January 10, 1931. He did not have a copy of the current timetable nor a watch in his possession.

Section Laborer Lunsford stated that the motor-car was traveling at a speed of 8 or 10 miles per hour just prior to the collision. When he first saw No. 70 it was at a point about 500 feet distant, approaching at a speed of 40 or 45 miles per hour. The brake was applied on the motor-car, reducing the speed somewhat.

Section Laborer Henthorne stated that he was first warned of the approaching train by a shout from one of the men. The speed of the motor-car at that time was about 15 or 20 miles per hour. The foreman immediately applied the brake, following which they jumped from the car. The speed of the motor-car had been reduced to about 8 miles per hour at the time of the collision. He was not expecting No. 70 at that time because it usually consumes 1 to 1½ hours to travel from Leesville to Unionvale.

Section Laborer Gallo stated that he first saw the approaching train at a point about 400 feet distant, its speed being about 40 or 45 miles per hour at that time and the motor-car was traveling at a speed of about 10 miles per hour.

Roadmaster Renz stated that he took charge of the district involved in May, 1932. The rules governing the use of hand, motor, velocipede and push-cars were revised and made effective January 10, 1931. He had never instructed Foreman Capers on these rules as he assumed that this had been done previously. In his opinion Foreman Capers was sufficiently acquainted with the rules in regard to the operation of motor-cars. He said a line-up is good only until the motor-car is outside the car house and foremen have been instructed that it does not relieve them of responsibility to look out for trains. Nevertheless he stated that section foremen are given line-ups at points where there are facilities for communication and they can move without flag protection provided the dispatcher informs them no trains are near; where means of communication with the dispatcher is not available they must make all movements under flag protection. Section foremen are familiar with the ordinary running time of trains. In this case, without detailed information as to the movement of No. 70, the section foreman should have been governed by the shortest possible running time of that train between Leesville and Unionvale, which was 30 or 35 minutes, and at the expiration of this interval he should have inquired as to its location.

Engineer Maintenance of Way and Structures Roderick stated that the rules governing the operation of motor-cars require protection of motor-cars at all times even when the operators have line-ups; however, if a line-up indicated that no trains were near and the time was ample, protection by flag would not be necessary. Foremen are instructed not to take chances of any kind. In estimating the time necessary for motor-car movements against opposing trains foremen are instructed to base their estimate on the maximum speed of the train plus an additional speed of 10 miles per hour for a safety margin. On the trip on which the accident occurred the section foreman should have based his assumption of the running time of No. 70 on its maximum speed between Leesville and Unionvale which in that particular case would have been not more than 30 minutes for the distance of 23 miles. He said that the weight of the motor-car involved was 970 pounds and that of the push-car was 400 pounds.

Dispatcher Breymaier, who issued the line-up for the motor-car involved, stated that he did not know whether a line-up is authority for movement of a track car; it indicates only the approximate location of the trains specified therein at the time of issue. The motor-car operator may move as far as he thinks safe on the information given; in this sense it is authority for such movement; however, a line-up is not in effect for a definite length of time. When he issued the line-up involved No. 70 was west of Leesville. The line-up should have indicated to Foreman Capers that No. 70 would follow No. 94 in about 20 minutes and he should have called the dispatcher for further information as to its location before leaving Hurford. Foreman Capers was not given details on which to base the estimate of the running time of No. 70; the dispatcher is not required to furnish such information to operators of motor-cars, and he doubted that they would be able to analyze and use it if it were furnished. Trains are not given copies of line-ups. Motor-car movements are not carried on the train sheet and line-ups issued on his tour of duty are not transferred to the dispatcher relieving him. He said that if track-car movements were made by train orders it would increase by two-thirds the number of train orders issued, require additional telegraph operators and it would be necessary for all track-car operators to be qualified on the operating rules.

Superintendent of Transportation Parrish stated that line-ups give only the location of trains. Train crews get no information regarding the line-ups and their movements are not restricted thereby. Motor-car operators are expected to move

on the information given in the line-ups. If the operator estimates that trains are sufficiently distant he can proceed without flag protection except when rounding curves or at any point where the vision is obscured. This protection is safe if he does not over-estimate the running time of the train. If for any reason a motor-car operator is unable to leave a point due to lack of definite information as to the location of a train he should ask for another line-up; at points where communication with the dispatcher is not available he should make all movements under flag protection. The section foreman involved in this case has difficulty in speaking the English language, and lacks knowledge of train operation; nevertheless he has had many years of service and experience on this railroad and is probably able to closely estimate the running time of trains on his section. In this case, in accordance with his instructions, he should have estimated the speed of No. 70 at approximately 50 miles per hour in estimating its running time. The movement of motor-cars by train orders would be safer but it would slow up the movement of freight traffic and require additional dispatchers. Rule 14 of the current rules, which states, "Heavily loaded cars must be protected by flagging", is intended to cover a push-car or motor-car so heavily loaded with material that it cannot be removed from the track.

In the thirty-day period preceding the day of the accident, according to a statement furnished by the officials, there were 451 trains operated over this territory, none of which were passenger trains. There were 478 motor-car movements made on line-ups, 73 of which were made between Pittsburgh Jct. and Adena.

Observations of the Commission's Inspectors

A check made by the Commission's inspectors of the train sheets for a period of thirty days prior to the date of the accident, with respect to the performance of No. 70 between Sherrodsville, the nearest office to Leesville, and Adena, the nearest office to Unionvale, a distance of 30.5 miles, developed that this schedule was annulled three times and on the remaining 27 days the time consumed was as follows:

On 1 day less than 1 hour (52 minutes),
On 5 days from 1 hour to 1½ hours,
On 11 days from 1½ hours to 2 hours,
On 7 days from 2 hours to 2½ hours,
On 2 days from 2½ hours to 3 hours, and
On 1 day more than 3 hours (3 hours 17 minutes).

Discussion

According to the line-up which the section foreman received at Adena at 7:37 a.m., No. 94 was at a point 13.1 miles and No. 70 at a point 27.1 miles west thereof. The motor-car cleared for No. 94 at Hurford and left there about 8:10 a.m., at which time the foreman estimated that he had at least 30 minutes more in which to clear No. 70 at Unionvale, 2.7 miles westward. This indicates that he thought he had not less than 1 hour 3 minutes in which to go from Adena to Unionvale, whereas only 48 minutes elapsed between the time the line-up was sent and the time of accident. He did not know the distance between these points and he had no timetable in his possession, none having been issued to him even though he was required by the rules to have one. He did not have in his possession information concerning the tonnage and the work en route of No. 70, which would enable him to arrive at a reasonably accurate estimate, rather than a mere guess, of the running time of that train. His only means of estimating the time No. 70 would consume between Leesville and Unionvale was what he had observed during many years of track service on this railroad. The motor-car left Hurford about 33 minutes after the line-up was received and the accident occurred 48 minutes after the line-up was received. Since the accident occurred only 595 feet from the point the section foreman intended to clear, it is apparent that he would have cleared for No. 70 not much in excess of 50 minutes after the line-up was received. The officials were not in agreement with each other as to the amount of time the section foreman should have estimated for No. 70 to use from Leesville to Unionvale. The roadmaster said it should have been computed at from 30 to 35 minutes, which he said was the shortest possible running time; the engineer maintenance of way and structures said the train should have been regarded as traveling at a rate of 50 miles per hour with 10 miles per hour added as a safety margin, and estimated a maximum of 30 minutes; the superintendent of transportation said that the estimate should have been based upon a speed of 50 miles per hour. Prorating the time consumed by No. 70 between Sherrodsville and Adena for the distance of 22.4 miles between Leesville and Unionvale, during the thirty-day period preceding the day of the accident, it appears that on one day No. 70 consumed about 35 minutes, on five days from 44 minutes to 1 hour 7 minutes, and on eleven days from 1 hour 7 minutes to 1 hour 29 minutes; on the remaining 10 days the time consumed was greater than 1 hour 29 minutes. The section foreman could have called at Hurford or at Kenwood for another line-up but he thought the line-up already in his

possession was sufficient to allow him to reach Unionvale in ample time.

According to the evidence the section foreman was examined in 1925 on the rules for the operation of hand, motor, velocipede and push cars; these rules were revised in 1931, but he had not been examined on the revised rules. According to the interpretation of the revised rules by the officials, motor-cars are permitted to operate according to information contained in line-ups but the interpretation was not uniform with respect to how long they were effective and the authority conferred, the roadmaster stating they were good only until the motor-car is outside the car house and that in case of an accident the responsibility lies with the operator of the motor-car; other officials gave a more liberal interpretation to the effect that flagging was not required where the line-ups indicate no train is near. On this road train crews do not receive copies of line-ups, and the only restriction on the train involved in this accident was the maximum speed limit of 50 miles per hour. The motor-car and push-car involved weighed 970 pounds and 400 pounds, respectively; even though manned by the foreman and six laborers, several minutes are required to remove these vehicles from the track at the most favorable places.

Conclusion

This accident was caused by failure of a motor-car to clear the main track for a freight train or to provide flag protection, on account of over-estimating the running time of the freight train.

Recommendation

It is recommended that responsible officials of this railroad adopt a method of operation for motor-cars which will provide more definite safeguards, and that both employees engaged in such operation and officers be thoroughly instructed relative thereto.

Respectfully submitted,

W. J. PATTERSON

Director.