Chapter 4 Railway accident and serious incident investigations

1 Railway accidents and serious incidents to be investigated

<Railway accidents to be investigated>

◎Article 2, paragraph (3), of the Act for Establishment of the Japan Transport Safety Board

(Definition of railway accident)

"Railway accidents" mean serious accidents that falls under any of (1) to (3) and also falls under (4), as defined below.

(1) Accidents occurred during the operation of a train or vehicle (Article 19* of the Railway Business Act)

(2) Train collision, fire, or other accident during the operation of a train or vehicle occurred on dedicated railways

(3) Train collision, fire, or other accident during the operation of a train or vehicle occurred on tramways

(4) Serious accidents prescribed by the Ordinance of the Ministry of Land, Infrastructure, Transport and Tourism (Article 3 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board)

*Train collision, fire, or other accidents during the operation of a train or vehicle, which is prescribed by the Ordinance of the Ministry of Land, Infrastructure, Transport and Tourism (Paragraph 1, Article 3 of the Ordinance on Report on Railway Accidents)

○Article 3 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board (Serious accidents)

1 Accidents listed in items (1) to (3) in Article 3, paragraph 1 of the Ordinance on Report on Railway Accidents

(1) Train collision: An accident in which a train collides or contacts with another train or a vehicle.

(2) Train derailment: An accident in which a train derails (excluding those related to snowplows in operation).

(3) Train fire: An accident in which a train catches fire.

2 Accidents listed in items (4) to (6) in Article 3, paragraph 1 of the same Ordinance, which are listed in any of (a) to (d) below.

(4) Level crossing accident: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a level crossing road.

(5) Accident against road traffic: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a road other than a level crossing road.

(6) Other accidents with casualties: An accident causing injury or fatality in the operation of a train or vehicle.

(a) An accident involving the fatality of any passenger, crew member, etc.

(b) An accident involving five or more casualties with at least one of the casualties dead.

(c) A fatal accident that occurs at a level crossing with no automatic barrier machines.

(d) Accident found to have likely been caused by a railway worker's error in procedure or due to the malfunction, damage, destruction, etc. of vehicles or railway facilities, which resulted in the fatality of a person.

3 Accidents listed in items (2) and (4) to (7) in Paragraph 1, Article 3 of the same Ordinance, which are recognized as particularly exceptional.

(2) Train derailment: An accident in which a train derails

(4) Level crossing accident: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a level crossing road.

(5) Accident against road traffic: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a road other than a level crossing road.

(6) Other accident with casualties: An accident causing injury or death in the operation of a train or vehicle.

(7) Heavy property loss without casualties: An accident in which the operation of a train or vehicle causes damage to property of 5 million yen or more.

4 Accidents equivalent to those listed in items (1) to (7) in Paragraph 1, Article 3 of the same Ordinance occurred in dedicated railways, which are recognized particularly exceptional. (Accidents related to dedicated railways)

(1) Train collision: An accident in which a train collides or contacts with another train or a vehicle.

(2) Train derailment: An accident in which a train derails.

(3) Train fire: An accident in which a train catches fire.

(4) Level crossing accident: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a level crossing road.

(5) Accident against road traffic: An accident in which a train or vehicle collides or contacts with a person or vehicle passing on a road other than a level crossing road.

(6) Other accidents with casualties: An accident causing injury or death in the operation of a train or vehicle.

(7) Heavy property loss without casualties: An accident in which the operation of a train or vehicle causes damage to property of 5 million yen or more.

5 Accidents specified by the public notice of the Japan Transport Safety Board as an accident equivalent to the above 1 to 3 accidents that occurred on tramways (accident under Article 3, Item 5 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board and the situation under Article 4, Item 7 of the same Ordinance) (Accidents related to tramways)

・Article 1 of the public notice stipulating the accident specified in Article 3, Item 5 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board and the situation specified in Article 4, Item 7 of the same Ordinance (Accidents related to tramways)

1 Accidents specified in (1) to (6) in Article 1, Paragraph 1 of the Ordinance for Report of Tram Accidents, etc., which are listed in any of (a) to (c).

(1) Vehicle collision accident: An accident in which a vehicle operating on the main track collides with or contacts with another vehicle.

(2) Vehicle derailment: An accident in which a vehicle operating on the main track derails.

(3) Vehicle fire accident: An accident in which a vehicle operating on the main track catches fire.

(4) Level crossing accident: An accident where a vehicle collides or contacts with a person or vehicle on a level crossing road.

(5) Accident against road traffic: An accident in which a vehicle collides or contacts with a person or vehicle on a road other than a level crossing.

(6) Other accidents with casualties: An accident causing injury or death in the operation of a vehicle.

(a) An accident involving the death of a passenger, crew member, etc.

(b) An accident involving five or more casualties with at least one of the casualties dead

(c) A fatal accident that occurs at a level crossing with no automatic barrier machines

2. Accidents specified in the items (1) to (7) of the same Ordinance, which are recognized as particularly exceptional

(1) Vehicle collision accident: An accident in which a vehicle operating on the main track collides or contacts with another vehicle.

(2) Vehicle derailment: An accident in which a vehicle operating on the main track derails.

(3) Vehicle fire accident: An accident in which a vehicle operating on the main track catches fire.

(4) Level crossing accident: An accident in which a vehicle collides or contacts with a person or vehicle passing on a level crossing road.

(5) Accident against road traffic: An accident in which a vehicle collides or contacts with a person or vehicle passing on a road other than a level crossing road.

(6) Other accidents with casualties: An accident causing injury or death in the operation of a vehicle.

(7) Heavy property loss accident: An accident in which the operation of a vehicle causes damage to property of 5 million yen or more.

3. The operation of new tramways and shared tramways that are laid other than on the road surface shall follow the items (1) to (3) in Paragraph 1, Article 3 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board.

Railway accidents to be investigated

<table>
<tr><td>Category</td><td>Train collision</td><td>Train derailment</td><td>Train fire</td><td>Level crossing accident</td><td>Accident against road traffic</td><td>Other accidents with casualties</td><td>Heavy property loss without casualties</td></tr>
<tr><td rowspan="2">Railway
[Act 2-3]
(including tramway operated as equivalent to railway)
[Notice 1-3]</td><td colspan="4">All accidents*1
[Ordinance 3-1]</td><td colspan="3">・Accidents involving the death of a passenger, crew member, etc.
・Accidents involving five or more casualties with at least one of the casualties dead
・Fatal accidents that occur at level crossings with no automatic barrier machines
・Accidents found to have likely been caused by a railway worker's error in procedure or due to the malfunction, damage, destruction, etc. of vehicles or railway facilities, which resulted in the death of a person
[Ordinance 3-2]</td><td></td></tr>
<tr><td></td><td colspan="2">Accidents that are particularly rare and exceptional [Ordinance 3-3]</td><td colspan="4">Accidents that are particularly rare and exceptional [Ordinance 3-3]</td></tr>
<tr><td>Dedicated railway</td><td colspan="7">Accidents that are particularly rare and exceptional [Ordinance 3-4]</td></tr>
<tr><td rowspan="3">Tramway
[Ordinance 3-5]</td><td>Train collision</td><td>Train derailment</td><td>Train fire</td><td>Level crossing accident</td><td>Accident against road traffic</td><td>Other accidents with casualties</td><td>Heavy property loss without casualties</td></tr>
<tr><td colspan="6">・Accidents involving the fatality of a passenger, crew member, etc.
・Accidents involving five or more casualties with at least one of the death
・Fatal accidents that occur at level crossings with no automatic barrier machines
[Notice 1-1]</td><td></td></tr>
<tr><td colspan="7">Accidents that are particularly rare and exceptional [Notice 1-2]</td></tr>
</table>

*1 Except for derailment accidents of working snowplows. [Ordinance 3-1] However, accidents that are particularly rare and exceptional are to be investigated. [Ordinance 3-3]

(Note) In the table, “Act” refers to the Act for Establishment of the Japan Transport Safety Board; “Ordinance” refers to the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board; “Notice” refers to the Public Notice by the Japan Transport Safety Board; and the numbers refer to the Article and Item numbers. (*In “Act,” the Article and Paragraph are abbreviated)

<Railway serious incidents to be investigated>

◎Article 2, paragraph (4), item (ii), of the Act for Establishment of the Japan Transport Safety Board (Definition of railway serious incident)

"Railway serious incident" is a situation prescribed by Order of the Ministry of Land, Infrastructure, Transport and Tourism (Article 4 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board), which may obviously cause a railway accident.

○Article 4 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board

*The names of the situations listed in 1 to 6 are abbreviations.

1 "Incorrect management of safety block"
A situation where a train starts moving for the purpose of operating in the relevant block section before completion of the block procedure and another train or vehicle had existed in the zone.

2 "Incorrect indication of signal"
A situation where a signal indicates that a train should proceed even though there is an obstacle in the route of the train or the route of the train is obstructed while the signal indicates that the train should proceed and a train had entered into the route.

3 "Violating red signal"
A situation where a train proceeds regardless of a stop signal, thereby obstructing the route of another train or vehicle and another train or vehicle had entered into the protected area of the signal which protects the zone of the route.

4 "Dangerous damage in facilities"
A situation that causes a malfunction, damage, destruction, etc., of tracks, safety facilities etc., and which caused malfunction, damage, destruction, etc. bearing particularly serious risk of collision or derailment of or fire in a train.

5 "Dangerous trouble in vehicle"
A situation that causes a malfunction, damage, destruction, etc., of running device, braking device, electrical device, coupling device, train protection system etc. of a vehicle, and caused malfunction, damage, destruction, etc., bearing particularly serious risk of collision or derailment of or fire in a train.

6 Any of "Incorrect management of safety block," "Incorrect indication of signal," "Violating red signal," "Main track overrun[*1]," "Violating closure section for construction[*2]," "Vehicle derailment[*3]," "Dangerous damage in facilities," "Dangerous trouble in vehicle," "Heavy leakage of dangerous object[*4]" and "A situation equivalent to the prior 9 items (others)," which is recognized as particularly exceptional.

*1 "Main track overrun" refers to a situation in which a train or vehicle overruns a main track between stations.
*2 "Violating closure section for construction" refers to a situation in which a train runs in a section during construction or maintenance work that should be done by stopping train operation.
*3 "Vehicle derailment" refers to a situation in which a vehicle derails, and includes the following situations;
・A vehicle derailed on a main track.
・A vehicle derailed on a side track and disrupted a main track.
・A vehicle derailed on a side track, and the cause can be attributed to a cause other than the equipment or handling specific to the side track.
*4 "Heavy leakage of dangerous object" refers to a situation in which hazardous materials, explosives,

etc., leak significantly from a train or vehicle.

7 Situations which are specified by the public notice (Article 2 of the Public Notice which defines the accident of Item 5, Article 3 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board and the situation of Item 7, Article 4 of the same Ordinance), as those equivalent to the situations of the items 1 to 6 above occurred on tramways.

・Article 2 of the Public Notice which defines the accident of Item 5, Article 3 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board and the situation of Item 7, Article 4 of the same Ordinance (Serious incident related to tramways)

*The names of the situations listed in 1 to 4 are abbreviations.

1 “Incorrect management of safety system”
A situation where a vehicle is operating on a main track for the purpose of operating in the relevant safety zone before the completion of safety system procedures and another vehicle operating on the main track had existed in the zone.

2 “Dangerous damage in facilities”
A situation that causes malfunction, damage, destruction, etc., of tracks, safety facilities, etc. that disrupts the safety of a vehicle operating on a main track, and caused malfunction, damage, destruction, etc., bearing a particularly serious risk of collision, derailment, or fire in the vehicle operating on the main track.

3 “Dangerous trouble in vehicle”
A situation that causes a malfunction, damage, destruction, etc., of running device, braking device, electrical device, coupling device, etc. of a vehicle, that disrupts the safety of a vehicle operating on a main line and caused malfunction, damage, destruction, etc., bearing a particularly serious risk of collision, derailment, or fire in the vehicle operating on the main track.

4 “Incorrect management of safety system” “Violating red signal[*1],” “Overrun on main track[*2],” “Dangerous damage in facilities,” “Dangerous trouble in vehicle,” “Heavy leakage of dangerous object[*3]” and “A situation equivalent to the prior 6 items (others),” which is recognized as particularly exceptional.

*1 “Violating red signal” refers to a situation in which a vehicle operating on a main track overruns a stop signal and obstructs a course of another vehicle.
*2 “Overrun on main track” refers to a situation in which a vehicle overruns a main track.
*3 “Heavy leakage of dangerous object” refers to a situation in which hazardous materials, explosives, etc., leak significantly from a vehicle.

5 The operation of new tramways and shared tramways that are laid other than on the road surface shall follow the items 1 to 6 in Article 4 of the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board.

Serious incidents to be investigated

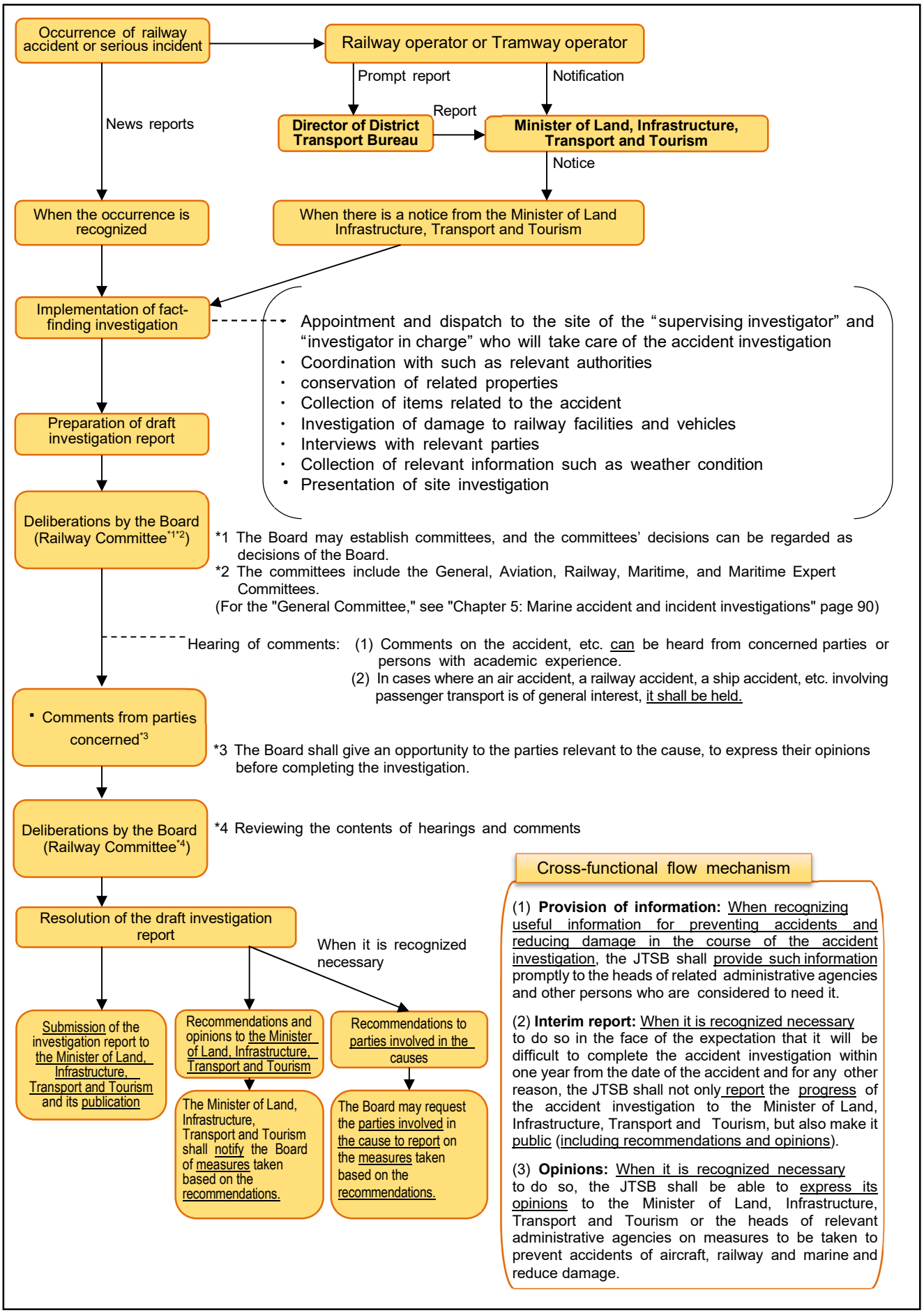
<table>
<tr><td>Category</td><td>Incorrect management of safety block</td><td>· Incorrect indication of signal
· Violating red signal</td><td>Dangerous damage in facilities</td><td>Dangerous trouble in vehicle</td><td>· Main track overrun
· Violating closure section for construction
· Vehicle derailment
· Heavy leakage of dangerous object
· Others</td></tr>
<tr><td rowspan="2">Railway
[Act 2-4-2]
(including tramway operated as equivalent to railway
[Notice 2-5])</td><td colspan="2">Certain conditions such as the presence of another train
[Ordinance 4-1, 4-2, 4-3]</td><td colspan="2">Risk of collision, derailment or fire
[Ordinance 4-4, 4-5]</td><td></td></tr>
<tr><td colspan="5">Incidents that are particularly rare and exceptional [Ordinance 4-6]</td></tr>
<tr><td></td><td>Incorrect management of safety system</td><td>Violating red signal</td><td>Dangerous damage in facilities</td><td>Dangerous trouble in vehicle</td><td>· Main track overrun
· Heavy leakage of dangerous object
· Others</td></tr>
<tr><td rowspan="2">Tramway
[Ordinance 4-7]</td><td>Certain conditions such as the presence of another vehicle
[Notice 2-1]</td><td></td><td colspan="2">Particularly remarkable risk of collision, derailment or fire [Notice 2-2, 2-3]</td><td></td></tr>
<tr><td colspan="5">Incidents that are particularly rare and exceptional [Notice 2-4]</td></tr>
</table>

(Note) In the table, “Act” refers to the Act for Establishment of the Japan Transport Safety Board; “Ordinance” refers to the Ordinance for Enforcement of the Act for Establishment of the Japan Transport Safety Board; “Notice” refers to the Public Notice by the Japan Transport Safety Board; and the numbers refer to the Article and Item numbers. (*In “Act,” the Article, Paragraph, and Item are abbreviated)

*For details, see each case on the website of the JTSB.

https://jtsb.mlit.go.jp/images/example.pdf (Japanese)

2 Procedure of railway accident/serious incident investigation



3 Statistics of investigations of railway accidents and serious incidents

The JTSB carried out investigations of railway accidents and serious incidents in 2024 as follows:

From 2023, 10 accident investigations were carried over, and 10 were newly launched in 2024. Among these, 7 investigation reports were published in 2024, and 13 accident investigations were carried over to 2025.

Moreover, three railway serious incident investigations were carried over from 2023, and five serious incident investigations were newly launched in 2024. Among these, three investigation report was published in 2024, and five investigations were carried over to 2025.

Among the 10 investigation reports published in 2024, one was issued with recommendations, and none was issued with opinions.

Investigations of railway accidents and serious incidents in 2024

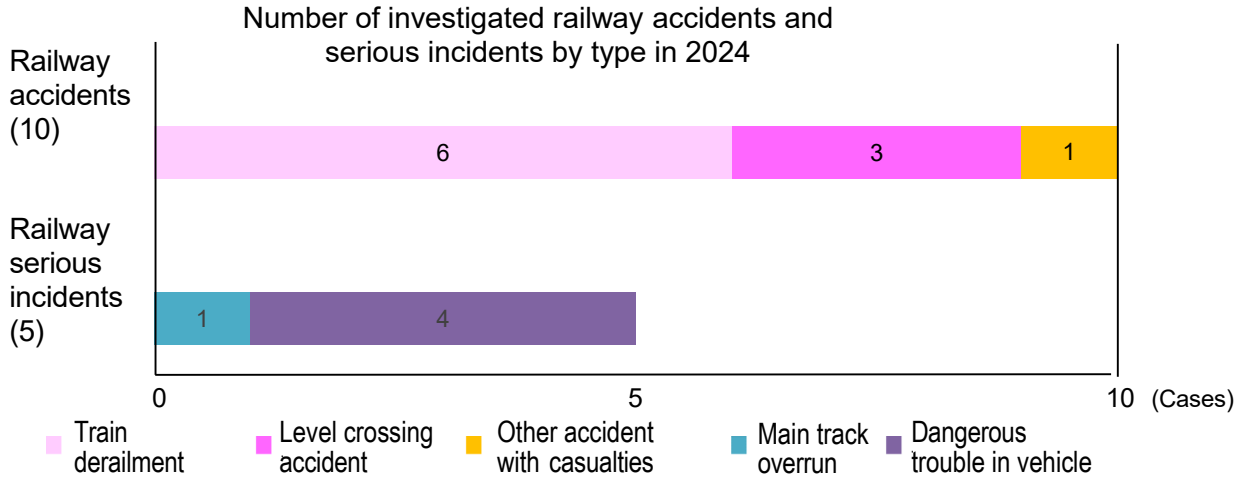
(Cases)

Category	Carried over from 2023	Launched in 2024	Total	Published Investigation reports	(Recommendations)	(Opinions)	Carried over to 2025	(Interim report)
Railway accident	10	10	20	7	(1)	(0)	13	(4)
Railway serious incident	3	5	8	3	(0)	(0)	5	(1)

4 Statistics of investigated railway accidents and serious incidents in 2024

Regarding the number of railway accidents and incidents investigated in 2024, there were 10, a decrease of one from 11 in the previous year, and there were five serious railway incidents, an increase of three from 2 in the previous year.

The breakdown by type of accidents and serious incidents is as follows: The railway accidents consisted of six derailments, three level crossing accidents, and one other accident with casualties. As for railway serious incidents, there were one main track overrun and four dangerous troubles in vehicle.



There were six persons were fatally injured or injured in accidents, five of whom were fatality and one was injured.

The number of casualties (in railway accidents)

(Persons)

2024							
Category	Dead			Injured			Total
	Crew	Passenger	Others	Crew	Passenger	Others	
Casualties	0	0	5	0	1	0	6
Total	5			1			

*The above statistics include incidents under investigation so may change depending on the status of the investigation and deliberation.

5 Summaries of railway accidents and serious incidents which occurred in 2024

The railway accidents and railway serious incidents which occurred in 2024 are summarized as follows.

(Railway accidents)

1	Date and accident type	Railway operator	Line section (location)
	January 18, 2024 Level crossing accident	Kanto Railway Co., Ltd.	Between Mitsuma Station and Minami-Ishige Station on the Joso Line (Ibaraki Prefecture) Heinai 2 Crossing (Class 4 level crossing without a crossing gate or road warning device)
	Summary	See “6 Publication of investigation reports” (No.7 on page 82).	

2	Date and accident type	Railway operator	Line section (location)
	February 13, 202 Train derailment (Level crossing accident)	Central Japan Railway Company	In the premises of Toyokawa Station on the Iida Line (Aichi Prefecture) Suzuyo Crossing (Class 1 level crossing with a crossing gate and road warning device)
	Summary	The driver of this train, while running the section, recognized that a vehicle had stalled at the crossing and initiated an emergency stop, but the train collided with the vehicle. Upon inspecting the site, it was found that the front first axle of its eight axles had derailed to the left side of the direction of travel.	

3	Date and accident type	Railway operator	Line section (location)
	April 6, 2024 Level crossing accident	Joshin Electric Railway Co., Ltd.	Between Maniwa Station and Nishiyamana Station on the Joshin Line (Gunma Prefecture) Tensui Crossing (Class 4 level crossing without crossing gate nor road warning device)
	Summary	The driver of the train recognized a person entering the crossing from the left side of the direction of travel and initiated an emergency stop, but the train collided with the person. The death of the person was later confirmed.	

4	Date and accident type	Railway operator	Line section (location)
	June 20, 2024 Level crossing accident	East Japan Railway Company	Between Sawame Station and Higashi-Hachimori Station on the Gono Line (Akita Prefecture) Haginodai Crossing (Class 3 level crossing without crossing gate, but with road warning device)
	Summary	The driver of the train recognized a vehicle entering the crossing from the right side of the direction of travel and initiated an emergency stop, but the train collided with the vehicle. The death of the person in the vehicle was later confirmed.	

5	Date and accident type	Railway operator	Line section (location)
	July 24, 2024 Train derailment	Japan Freight Railway Company	In the premises of Shin-Yamaguchi Station on the Sanyo Line (Yamaguchi Prefecture)
	Summary	The driver of this train recognized an unusual noise and shaking while running this section, and stopped the train.	

		Upon inspecting the site, it was found that one axle had derailed to the left side of the direction of travel.	
6	Date and accident type	Railway operator	Line section (location)
	September 24, 2024 Train derailment	Hisatsu Orange Railway inc.	In the premises of Nodago Station on the Hisatsu Orange Railway Line (Kagoshima Prefecture)
	Summary	The driver of this train, when entering Notago Station, heard an unusual noise and applied the emergency brake to stop the train. Upon inspecting the site, it was found that the front two axles had derailed to the left side of the direction of travel.	
7	Date and accident type	Railway operator	Line section (location)
	October 4, 2024 Train derailment	Isumi Railway Co., Ltd.	Between Kuniyoshi Station and Kazusa-Nakagawa Station on the Isumi Line (Chiba Prefecture)
	Summary	The driver of this train recognized an unusual noise and shaking while running this section, and initiated an emergency stop to stop the train. Upon inspecting the site, it was found that the first car (third/fourth axles) and second car (all of the four axles) of an eight-axle, two-car train had derailed to the left side of the direction of travel.	
8	Date and accident type	Railway operator	Line section (location)
	November 16, 2024 Train derailment	Japan Freight Railway Company	Between Mori Station and Ishiya Signal Station on the Hakodate Line (Hokkaido)
	Summary	The driver of this train, while running in the section, stopped the train because the emergency brake was activated from the rear. Upon inspecting the site, it was found that four freight cars (the second and fourth of its four axles of the 12th car, the second of the four axles of the 15th car, all the four axles of the 17th car, and the second and fourth of the four axles of the 19th car) had derailed to the right side of the direction of travel, and one freight car (all of the four axles of the 20th car) had derailed to the left side of the direction of travel.	
9	Date and accident type	Railway operator	Line section (location)
	December 10, 2024 Other accidents with casualties	Central Japan Railway Company	In the premises of Takatsuka Station on the Tokaido Line (Shizuoka Prefecture)
	Summary	The driver of this train, while running in the section, recognized a maintenance worker working on the track and initiated an emergency stop, but the train collided with the worker. The death of the maintenance worker was later confirmed.	
10	Date and accident type	Railway operator	Line section (location)
	December 12, 2024 Train derailment	Japan Freight Railway Company	In the premises of Sendai Station on the Kagoshima Line (Kagoshima)
	Summary	The driver of this train recognized shaking while running this section, initiated an emergency stop, and stopped the train. Upon inspecting the site, it was found that one locomotive (all six axles) and two freight cars (the four axles of the first train and three of the four axles of the second train) had derailed.	

The above information is subject to change depending on the progress of the investigation.

(Railway serious incidents)

1	Date and accident type	Railway operator	Line section (location)
	January 5, 2024 Dangerous trouble in vehicle	Kumamoto City Transportation Bureau	Between Kotsukyoku-mae Tram Stop and Misotenjin-mae Tram Stop on the Suizenji Line (Kumamoto Prefecture)
	Summary	See “6 Publication of investigation reports” (No.3 on page 78).	

2	Date and accident type	Railway operator	Line section (location)
	February 23, 2024 Dangerous trouble in vehicle	Kumamoto City Transportation Bureau	Between Daniyamamachi Tram Stop and Urusanmachi Tram Stop on the Kami-Kumamoto Line (Kumamoto Prefecture)
	Summary	While the train was running between the tram stops, it stopped due to a lack of operational power. The driver checked the vehicle and found the middle door open. When checking the dashcam on board the vehicle, it was confirmed that the door had opened while it was travelling between tram stops.	
3	Date and accident type	Railway operator	Line section (location)
	April 15, 2024 Main track overrun	Minami-aso Railway Co., LTD.	In the premises of Tateno Station on the Takamori Line (Kumamoto Prefecture)
	Summary	The driver of this train, while entering Tateno Station, applied the brakes but did not slow down and proceeded for about 300 m, stopping spontaneously.	
4	Date and accident type	Railway operator	Line section (location)
	September 2, 2024 Dangerous trouble in vehicle	Kumamoto City Transportation Bureau	In the premises of Shinsuizenji Tram Stop on the Suizenji Line (Kumamoto Prefecture)
	Summary	The driver stopped the tram immediately after departing the tram stop, as the driver confirmed that the middle door on the left side of the direction of travel had opened. In addition, no passengers fell out of the vehicle through the open doors.	
5	Date and accident type	Railway operator	Line section (location)
	November 6, 2024 Dangerous trouble in vehicle	Iyo Railway Co., Ltd.	Between Keisatsusho-mae Tram Stop and Katsuyamacho Tram Stop on the Jonan Line (Ehime Prefecture)
	Summary	The driver stopped the tram immediately after departing the tram stop, as the driver confirmed that the front door on the left side of the direction of travel had opened while the train was running. In addition, no passengers fell out of the vehicle through the open doors.	

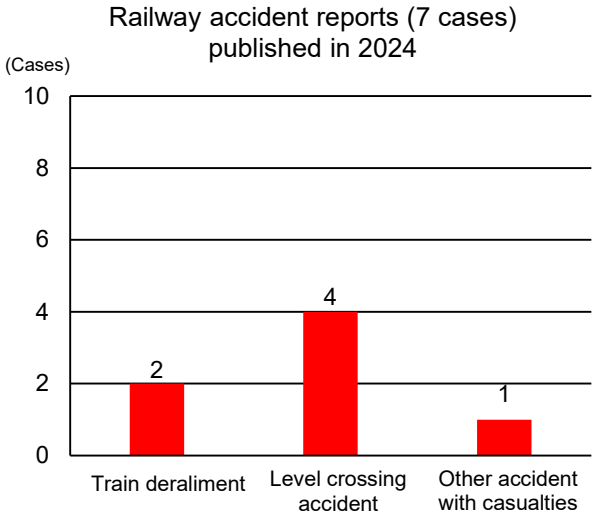
The above information is subject to change depending on the progress of the investigation.

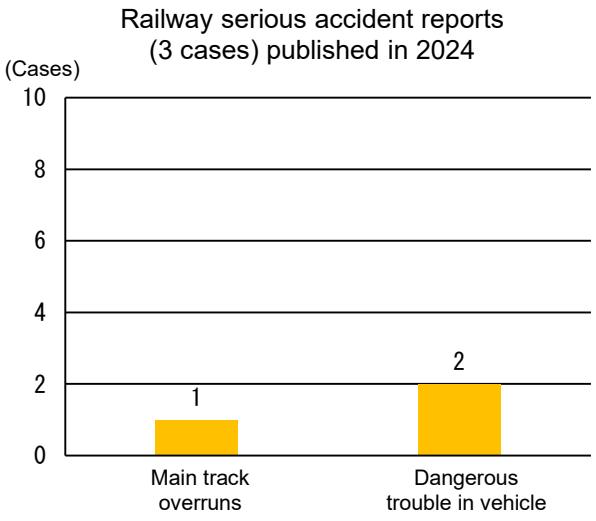
6 Publication of investigation reports

The number of investigation reports of railway accidents and serious incidents published in 2024 was 10, consisting of seven railway accidents and three serious incidents.

Breaking them down by type, the railway accidents contained two train derailment accidents, four level crossing accidents, and one other accident with casualties while the railway serious incidents contained one main track overrun and two dangerous troubles in vehicle.

The number of casualties was 17, consisting of four fatalities and 13 injuries.





The investigation reports on railway accidents and serious incidents published in 2024 are summarized as follows.

Railway accident investigation reports published in 2024

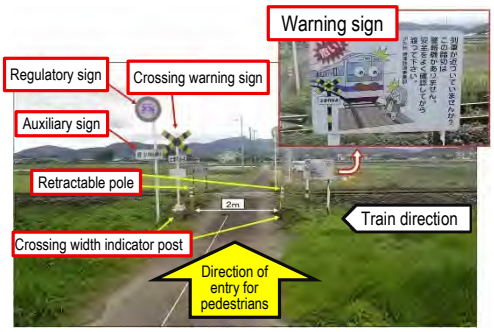
<table>
<tr><td rowspan="3">1</td><td>Date of publication</td><td>Date and accident type</td><td>Railway operator</td><td>Line section (location)</td></tr>
<tr><td>February 26, 2024</td><td>March 16, 2022
Train derailment</td><td>East Japan Railway Company</td><td>Between Fukushima station and Shiroishizao station, Tohoku Shinkansen, Shiroishi City (Miyagi Prefecture)</td></tr>
<tr><td>Summary</td><td colspan="3">The train started from Fukushima station with 5 minutes late than the scheduled. The train stopped due to the urgent brake automatically triggered by a power failure on the overhead catenary when it was traveling between Fukushima station and Shiroishizao station at a speed of approximately 154 km/h
After the train stopped, the driver felt the shaking of a large earthquake, and when he checked the train from inside and outside after the shaking stopped, he found that several cars had derailed.
As a result of the subsequent investigation, 60 of the 68 axles had derailed. In addition, 10 of the 60 derailed axles were in a condition in which the deviation preventing guides, etc. installed on the cars were climbing over the rails.
There were 75 passengers, one driver and four conductors on board, in which six passengers were injured.
At around 23:36:33 on the same day, a magnitude 7.4 earthquake with an epicenter off the coast of Fukushima Prefecture occurred, with a maximum seismic intensity of 6 Upper on the Japanese scale. About two minutes before the quake, a foreshock of magnitude 6.1 occurred, with a maximum seismic intensity of 5-lower on the Japanese scale.

*1"deviation preventing guide" means a guide installed under the journal box of the bogie to contact the rail after derailment to prevent the car from deviating too far from the rail in the event of a derailment of Shinkansen train due to an earthquake or other event. Also referred to as L-shaped car guide, etc.

  </td></tr>
</table>

	Probable causes	It is highly probable that this accident, derailments of the train, was caused by the earthquake motion from the earthquake that occurred at 23:36:33 on March 16, 2022, which had its epicenter off the coast of Fukushima Prefecture. It is possible that the process leading to the derailment have been the rolling of the car body caused by the strong shaking of the track surface due to the earthquake motion, which caused the left or right wheel to lift up and over the rail, leading to the derailment (rocking derailment). In addition, the rolling of the car body caused excessive deformation of the air springs, resulting in air spring air loss, it is possible that which have contributed to the derailment. With regard to the deviation preventing guide or the rail guard mounting arm was off and deviated from the rail on some of the wheelsets, it is likely there are following possibilities: Continued seismic motion after the derailment caused the deviation preventing guide, which was preventing the deviation, to climb over the rails and deviate, or the deviation of the deviation preventing guide occurred after the rail guard mounting arm or gear box fell on the rail at the time of derailment. In this accident, it is probable that the earthquake, which occurred approximately 2 minutes before, triggered the system to stop the train early enough, the train had already stopped at the time of derailment, and that the many deviation preventing guides and other devices functioned to prevent the train from deviating too far from the track, thereby preventing the damage from spreading. *2"Rocking derailment" refers to, in case the track vibrates vertically or laterally due to an earthquake etc., a derailment due to the wheel set vibration in the roll direction along with a violent lateral vibration. Specifically, one wheel remains in contact with the rail, while the other wheel lifts off the rail, next the wheel that is in contact with the rail slides along the rail, the wheel set moves laterally, then the flange of the wheel that coming down rides on the rail, or off the rail and derails. *3 The "rail guard mounting arm" here refers to a device installed under the journal box of the bogie for mounting rail guard (a device installed just in front of the wheel at the front end of the train to eliminate obstacles that may interfere with running safety), ceramic jetting device (a device that jets ceramic powder between the wheel and rail as adhesion improvement materials), etc.	
	Safety actions	As Shinkansen trains are designed to run at high speed, in the event of a derailment and further deviation, it is assumed that significant damage will occur, so safety should be ensured to the maximum extent possible through countermeasures to prevent derailment and deviation, and further upgrading for the countermeasures should be considered and implemented to prevent derailment and deviation of Shinkansen trains in light of the recent accident. In addition, in this accident, although many deviation preventing guides and other devices were functioning to prevent the car from deviating significantly from the track, some of them were not working as expected, and deviations occurred. Particularly, wheel sets with the rail guard mounting arm installed also include leading axles of a train. The leading axle of a train is not restrained by a coupled car, so, if the train derails and deviates while in running, there is a possibility that the deviation will be significant, and the damage will be extensive. Therefore, it is desirable to conduct sufficient deliberations in the future and implement effective countermeasures that minimize deviations. Further, this accident was the train derailment and/or deviation due to the strong shaking of the track surface on the viaduct or other structure, and countermeasures to suppress vibration by improving cars and structures are considered effective, therefore, it is desirable to continue to promote research and technological development in order to implement these measures.	
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-1-1.pdf (Japanese)		

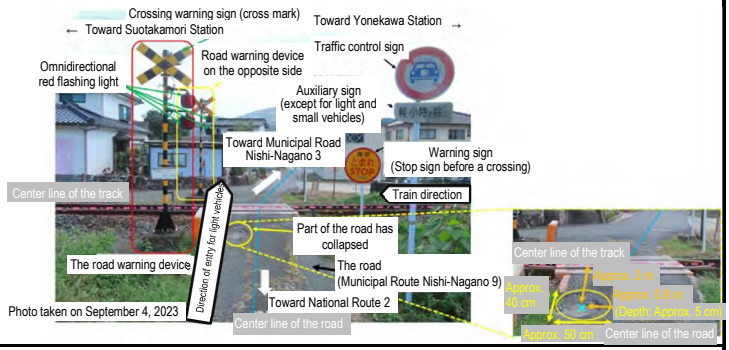
2	Date of publication	Date and accident type	Railway operator	Line section (location)
	March 28, 2024	July 2, 2023 Level crossing accident	Kyushu Railway Company	Between Ogi Station and Kubota Station on the Karatsu Line (Saga Prefecture) Niju-no-Tsubo Crossing (Class 4 level crossing without crossing gate nor road warning device)

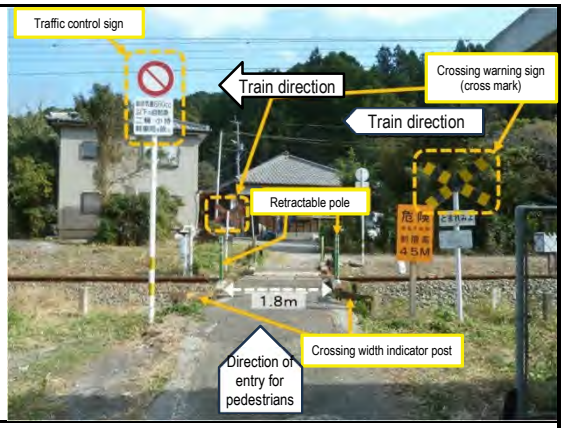
	Summary	While running at approximately 76 km/h between Ogi Station and Kubota Station, the driver of the train recognized a pedestrian running in the direction of the crossing from the left side of the direction of travel (front, back, left, and right are based on the train's direction) at a point approximately 35 m in front of the Niju-no-Tsubo Crossing (Class 4 level crossing). The driver immediately sounded the horn, and initiated an emergency stop, but the train collided with the pedestrian and went approximately 260 meters past the crossing before stopping. The fatality of the pedestrian was later confirmed. 
	Probable causes	It is highly probable that this accident occurred because a pedestrian entered the Niju-no-Tsubo Crossing, a Class 4 level crossing that does not have a crossing gate or a road warning device, while the train was approaching, resulting in a collision. The pedestrian probably entered the crossing while the train was approaching because he did not notice the approaching train. However, the details could not be clarified as the pedestrian was deceased.
	Safety actions	It is desirable to abolish Class 4 level crossings without crossing gates or road warning devices. If abolition is impossible, crossing gates should be installed to upgrade them to Class 1 level crossings. In addition, until abolition or upgrading to Class 1 level crossings is implemented, it is recommended that various safety measures for Class 4 level crossings be promoted, such as strengthening traffic regulations and installing warning signs. Furthermore, it is desirable that the Company, Ogi City, and Ogi Police Station of Saga Prefecture strive to raise safety awareness among pedestrians at the crossing to ensure that safety checks are carried out by stopping temporarily in front of the crossing.
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-1-2.pdf (Japanese only)

3	Date of publication	Date and accident type	Railway operator	Line section (location)
	July 25, 2024	June 2, 2023 Train derailment	Tosa Kuroshio Tetsudo (Railway) Co., Ltd.	Between Ariigawa Station to Tosa Shirahama Station, Nakamura Line (Kochi Prefecture)

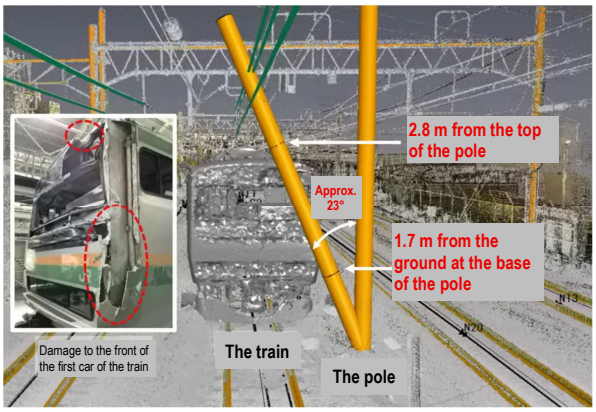
	Summary	The train departed from the station approximately 30 minutes later than the scheduled time because of heavy rain. After entering the 7th Shirahama Tunnel, the driver of the train noticed some mud and sand on the track near the tunnel exit. The driver applied the brakes while traveling at a speed of about 61km/h. However, the train climbed onto the mud and sand at almost the same time as the brakes were applied. After the train ran over the sand, it continued for about 50 meters before coming to a stop. The train driver got off the train to check, and found that all two axles of the front bogie (the front, back, left and right are based on the direction of travel of the train) of the train had certainly derailed. There were no passengers on the train, and one driver and one track maintenance worker were on board, but they were not injured. 

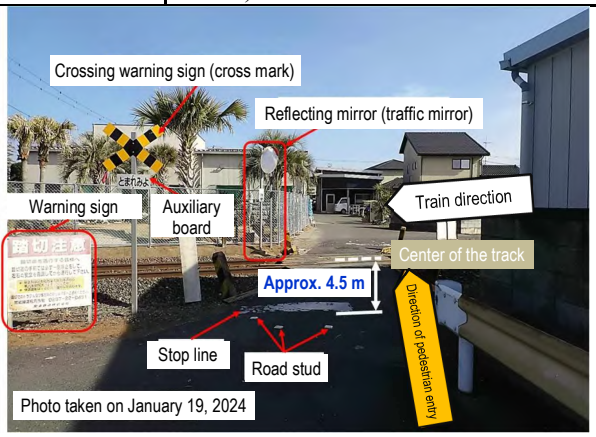
Probable causes	It is highly probable that this accident occurred when the train derailed after colliding with the sand and other materials that had flowed onto the tracks due to slope collapse, which occurred after the train had departed when the rainfall had reached the level of train operation prohibition. The probable cause of the train departing under conditions when the rainfall had reached the level of train operation prohibition is that the train dispatcher did not give the driver notice of operation prohibition and allowed the train to depart from Nakamura Station. The reason why the train dispatcher did not give the notice of the operation prohibition to the driver is probably because, when the rain gauge reached the regulation value, the train dispatcher did not promptly carry out operation control based on his own judgment, but instead carried out operation control after receiving instructions from the head of facility and rolling stock depot, which was contrary to the regulations. With regard to the fact that the head of facility and rolling stock depot did not give instructions to the dispatcher to stop the train when the rainfall reached the level for prohibiting train operation, it is highly probable that it had become the norm to wait and see what would happen without immediately taking operational control when the rain gauge reached the regulated level, and that there was a low level of awareness of the need to ensure the safety of train operation during rainfall, which may have been due to a lack of understanding of the dangers of rainfall when it reached the regulated level.
Safety actions	It is highly likely that this accident occurred because the train departed when the rain gauge had reached the level of train operation prohibition and derailed when the train ran onto mud and sand that had flowed onto the track due to a slope collapse. As a contributing factor to this accident, it is highly probable that the company had a regular practice of not promptly implementing operation controls when the regulatory value was reached during rainfall, and this was due to a low awareness of the need to ensure the safety of train operations during rainfall. This is a problematic corporate culture for a railway operator that should ensure the safety of train operations, and it is necessary to fundamentally reform the culture and rebuild safety measures from scratch. Specifically, the following measures are necessary. (1) Operation control during rainfall (i) It is necessary to establish functional system that allows the train dispatcher, who is constantly monitoring the operation conditions, to promptly issue instructions to slow down or stop the train, rather than the head of facility and rolling stock depot, who is not part of the chain of command for train operation. (ii) Rather than observing the situation and making decisions based when the alarm buzzer on the rain gauge monitor sounds, it is necessary to establish a corporate culture that prioritizes safety by fully recognizing the need to promptly implement operation control when the rainfall reaches the regulated value, and paying sufficient attention to ensuring the safety of train operations during rainfall. (2) Rain gauge monitor (i) It is necessary to install the system in the control room where the train dispatcher is always present during train operation, or to construct a system that can always monitor the amount of rainfall in the control room. (ii) The alarm buzzer on the rain gauge monitor should be designed so that it will not stop sounding unless a person presses a confirmation switch or the like, so that the alarm sound can always be confirmed. (iii) In order to ensure safe transportation during rainfall, it is necessary to periodically check the operation of the rain gauge monitor. (3) Due to the slope collapse, rocks, mud and sand, etc. flowed into the catch basin, and then flowed into the track, therefore, it is desirable to implement measures to prevent rocks from flowing into the catch basin entrance. It is also desirable to implement measures to prevent rocks from falling and slope protection work to prevent slope collapse near the accident site.

	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-2-1.pdf (Japanese)		
4	Date of publication	Date and accident type	Railway operator	Line section (location)
	July 25, 2024	September 3, 2023 Level crossing accident	West Japan Railway Company	Between Yonekawa Station and Suo-Takamori Station (Yamaguchi Prefecture) on the Gantoku Line Nakahara Crossing (Class 3 level crossing without crossing gate, but with road warning device)
	Summary	The driver of the train, while running between Yonekawa Station and Suo-Takamori Station at a speed of about 54 km/h, recognized a light vehicle entering the crossing from the left side of the Nakahara Crossing (Class 3 crossing) (front, rear, left, and right are based on the train's direction). The driver immediately sounded the horn and initiated an emergency stop, but the train collided with the vehicle. The accident resulted in the fatality of the car driver and injuries to the fellow passenger and one train passenger. 		
	Probable causes	It is highly probable that this accident occurred because a light vehicle entered Nakahara Crossing, a Class 3 level crossing equipped with a road warning device, while the train was approaching and the warning device was active, resulting in a collision. Regarding the reason why the light vehicle entered the crossing while the train was approaching, it is possible that the driver did not notice the approach of the train, but it could not be clarified as the driver of the light vehicle was deceased.		
	Safety actions	It is desirable to abolish Class 3 level crossings without crossing gates to improve safety. If abolition is impossible, crossing gates should be installed to upgrade them to Class 1 level crossings. In addition, until abolition or upgrading to Class 1 level crossings is implemented, it is advisable for the Company and Iwakuni City to cooperate with the Iwakuni Police Station in Yamaguchi Prefecture and others to encourage pedestrians at similar level crossings to stop temporarily and check for safety before crossing by carrying out awareness-raising activities and installing warning signs, etc. Additionally, since the Company and the City have Class 3 and Class 4 level crossings in addition to this level crossing, it is desirable that the Company and the local authorities continue to discuss the abolition or upgrading to Class 1 level crossings of these crossings as part of efforts to reach a consensus.		
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-2-2.pdf (Japanese only)		
5	Date of publication	Date and accident type	Railway operator	Line section (location)
	September 26, 2024	November 18, 2023 Level crossing accident	Kyushu Railway Company	Between Sashiu Station and Kozaki Station on the Nippo Line (Oita Prefecture) Sekita Crossing (Class 4 level crossing without crossing gate nor road warning device)

	Summary	The driver of the train, while running between Sashiu Station and Kozaki Station, recognized a pedestrian entering from the left side just before Sekita Crossing (Class 4 level crossing) (front, rear, left, and right are based on the train's direction). The driver immediately sounded the horn and initiated an emergency stop, but the train collided with the pedestrian. As a result of this accident, the pedestrian was fatally injured. 
	Probable causes	It is highly probable that this accident occurred because a pedestrian entered Sekita Crossing (A Class 4 level crossing without a crossing gate or a road warning device) while the train was approaching, resulting in a collision. Regarding why the pedestrian entered the crossing while the train was approaching, it is probable that the pedestrian did not notice the approaching train, but the details could not be clarified as the pedestrian was deceased.
	Safety actions	It is desirable to abolish Class 4 level crossings without crossing gates or road warning devices to improve safety. If abolition is impossible, they should be upgraded to Class 1 level crossings. Until abolition or upgrading to Class 1 level crossings is implemented, it is recommended to promote various safety measures for Class 4 level crossings, such as strengthening traffic regulations and installing warning signs. Furthermore, it is desirable that the Company, Oita City, and Oita Higashi Police Station of Oita Prefecture strive to raise safety awareness among pedestrians at the crossing to ensure that safety checks are carried out by stopping temporarily in front of the crossing.
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-3-1.pdf (Japanese only)

6	Date of publication	Date and accident type	Railway operator	Line section (location)
	November 18, 2024	August 5, 2023 Other accidents with casualties	East Japan Railway Company	In the premises of Ofuna Station on the Tokaido Line (Kanagawa Prefecture)

	Summary	The train collided with a tilted utility pole while the train was running in the premises of Ofuna Station. The train traveled approximately 205 meters after colliding with the utility pole and then stopped. Afterward, upon inspecting the site, it was found that the front left side of the first car (cars are counted from the front, and front, back, left, and right are based on the train's direction) was severely damaged, the utility pole was broken, and the overhead wire was left hanging.  The train had approximately 1,500 passengers, one driver, and two conductors on board, of whom 4 passengers and one driver were injured.
	Probable causes	It is highly probable that this accident occurred because a heavily tilted utility pole collided with an approaching train, resulting in shock inside the train and an increase in the internal temperature due to power failure. The heavily tilted utility pole is believed to have been caused by water entering from horizontal cracks near the ground level of the pole, leading to part of the PC steel bar[*1] corroding and breaking, which rendered the pole unable to withstand the bending moment. The presence of horizontal cracks in the utility pole is thought to be due to the equipment conditions that subject the pole to relatively large bending moments compared to design values, which, under the influence of temporary bending moments from wind and earthquakes, caused excessive bending moments near the ground level, leading to horizontal cracks, and the continued state of these cracks

		not closing, as well as the inability to detect the cracks during regular inspections. *1 A "PC steel bar" refers to a high-strength steel bar used as PC steel material that applies compressive stress to prestressed concrete.		
	Safety actions	For utility poles similar to this case, which are subject to relatively large bending moments compared to the design values, it is necessary to review the design method and consider and implement measures such as reinforcement or rebuilding into a more robust structure for existing utility poles, as there is a risk of tilting if horizontal cracks occur. In addition, pending such measures, it is necessary to strive for more thorough detection of horizontal cracks by reviewing the inspection methods for utility poles.		
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-4-1.pdf (Japanese only)		
7	Date of publication	Date and accident type	Railway operator	Line section (location)
	November 28, 2024	January 18, 2024 Level crossing accident	Kanto Railway Co., Ltd.	Between Mitsuma Station and Minami-Ishige Station on the Joso Line (Ibaraki Prefecture) Heinai 2 Crossing (Class 4 level crossing without crossing gate nor road warning device)
	Summary	The driver of the train, while running between Mitsuma Station and Minami-Ishige Station, recognized a bicycle entering the crossing about 50 meters before Heinai 2 Crossing (Class 4 level crossing) from the left side (front, back, left, and right are based on the train's direction), sounded the horn, and initiated an emergency stop, but the train collided with the bicycle. As a result of this accident, the pedestrian riding the bicycle was fatally injured.		
	Probable causes	It is highly probable that this accident occurred because a pedestrian riding the bicycle entered Heinai 2 Crossing, Class 4 level crossing without a crossing gate or a road warning device, while a train was approaching, and collided with the train. The reason why the pedestrian entered the crossing while the train was approaching is likely because the pedestrian did not notice the approaching train, but the details could not be clarified as the driver was deceased.		
	Safety actions	It is desirable to abolish Class 4 level crossings without crossing gates or road warning devices to improve safety. If abolition is impossible, level crossing safety equipment should be installed to upgrade them to Class 1 level crossings. It is considered necessary for railway operators, road administrators, residents, and other relevant parties to advance discussions toward the abolition of level crossings, etc., and to implement concrete measures as soon as possible. Additionally, since there is a Class 1 level crossing nearby that serves as a detour, it is desirable for railway operators, road administrators, and other relevant parties to cooperate and promote awareness through educational activities that detouring to safer Class 1 level crossing will lead to reduce accidents, encouraging pedestrians to avoid using Class 4 level crossings as much as possible until specific measures are implemented.		
	Report	https://jtsb.mlit.go.jp/railway/rep-acci/RA2024-4-2.pdf (Japanese only)		

Published investigation report on a serious railway incident (2024)

1	Date of publication	Date and incident type	Railway operator	Line section (location)

February 29, 2024	October 17, 2022 Dangerous trouble in vehicle	Kyushu Railway Company	Between Bungo-Ogi Station and Tamarai Station on the Hohi Line (Oita Prefecture)

Summary

After the train departed from Bungo-Ogi Station on time and arrived at Bungo-Takeda Station, the driver of the train received a report from one of the passengers that "one of the doors opened while running."

The operating status recording device recorded that the command line[*1] for opening the passenger door on the right side (front, back, left, and right are based on the direction of travel of the train) was pressured[*2] while running, and it was also recorded that the door closed indicator lamp, which goes out when any passenger door opens, was extinguished.

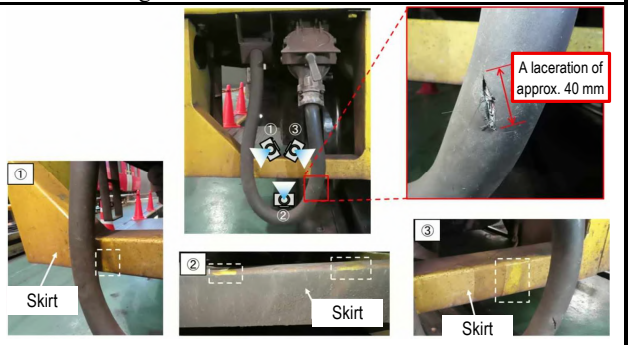
The train had 19 passengers and one driver on board, but there were no injuries from falls or other in this incidents.

[*1] The "command line" refers to the electric wire that transmits commands related to operations such as power running, braking, and door opening and closing to the equipment mounted on the vehicle.

[*2] Here, "pressurization" refers to the application of voltage to the electric wire.

Probable causes

It is probable that this serious incident occurred because when the door-closing safety circuit, which prevents the doors from opening even if Line 315, the door-opening command line on the right side of the train, is unintentionally pressurized while running, did not function properly, and control power voltage was temporarily applied to Line 315, causing the rear right door to open while the train was running.



Regarding the temporary application of control power supply voltage to Line 315, the cable of the jumper coupler[*3] was torn and Line 1, which is the positive side of the control power supply, was damaged. Accordingly, it is probably due to accidental contact with the higher voltage[*4] between Line 1 and Line 315 due to rainwater having entered from the torn part of the cable. Furthermore, it is possible that the tear in the cable occurred due to a collision with an animal between the most recent shift inspection[*5] and the day before this serious incident occurred.

As for why the Company was unable to find the tear in the cable, it is possible that the train's driver who operated the vehicle used after the most recent shift inspection before this serious incident did not notice the collision with the animal, or failed to report that the train had collided with the animal or the driver felt an unusual noise during the collision, and therefore did not inspect the cable at the rolling stock depo, etc.

Regarding the fact that the door closing safety circuit did not function properly, it is certain that this accident occurred because the power line of the speed detection auxiliary relay that constituted the door closing safety circuit was incorrectly wired.

It is probable that the power line of the relay was incorrectly wired when NIIGATA ENGINEERING CO., LTD. manufactured the vehicle.

(1) It is possible that workers were not thoroughly instructed to check whether the wiring was done according to the drawings after wiring work.

(2) It is probable that the Company did not carry out continuity inspection of the power supply line of the relay.

(3) It is probable that the Company did not carry out a functional test of the door closing safety circuit.

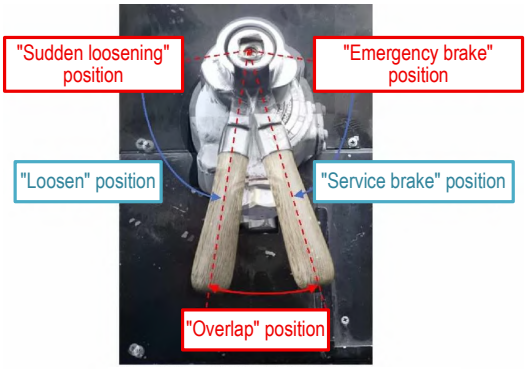
It is probable that the Company could not detect that the relay did not operate due to incorrect wiring before the occurrence of this serious incident because they did not conduct the operation confirmation of the relay when it was installed in the vehicle during the general inspection and main parts inspection.

[*3] A "jumper coupler" refers to a device that connects the train line provided in each vehicle to operate auxiliary circuit devices and control circuit devices in the formation.

[*4] "Accidental contact with higher voltage" refers to the phenomenon in an electrical circuit whereby the core wire comes into contact with another core wire.

[*5] "Shift inspection" is one of the inspections of internal combustion locomotives by the Company, and refers to an inspection conducted in the current situation regarding the state, action, and function of the

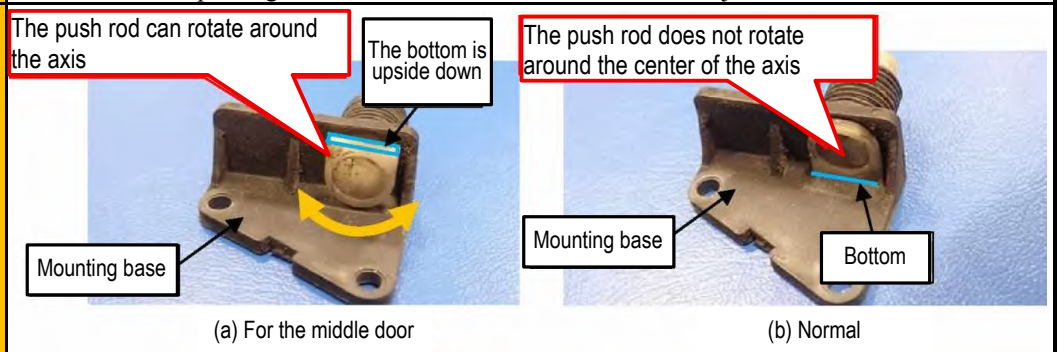
	Safety actions	power generation device, power transmission device, running device, electrical device, braking device, body, etc. depending on the usage status of the internal combustion locomotive. This inspection is required to be conducted at intervals not exceeding 90 days. *6 "General inspection" is one of the inspections of internal combustion locomotives by the Company, and refers to an inspection of the entire internal combustion locomotives by removing the main parts depending on the usage status of the internal combustion locomotive. This inspection must be conducted at intervals not exceeding 8 years. In addition, since the general inspection is an inspection equivalent to or exceeding the scope of the main parts inspection, an internal combustion locomotive that has undergone a general inspection can be said to have undergone a main parts inspection. *7 "Main parts inspection" is one of the inspections of internal combustion locomotives by the Company, and refers to an inspection of the main parts of important devices depending on the usage status of the internal combustion locomotive. This inspection must be carried out every four years or before the mileage of the internal combustion locomotive exceeds 500,000 km (250,000 km for some vehicle types, but 500,000 km for Kiha 125), whichever is shorter. The Company should take the following measures to prevent this serious incident recurring: ○ Following Measures to be taken by the Company (1) The company was unable to detect that velocity synthetic aperture radar(VSAR)3 was not functioning due to incorrect wiring during shift inspections, therefore, it is necessary to test the function of the door closing safety circuit against the pressurization of the door opening command line during general inspections and main parts inspections, or visually confirm that VSAR2 and VSAR3 are working, to ensure that the relays used in the door closing safety circuit work while installed in the vehicle. (2) It is highly probable that the train's driver who operated the vehicle (Kiha 125) immediately after the recent shift inspection before this serious incident did not notice the collision with an animal, or did not report that the train had collided with an animal or feel any unusual noise during the collision. As a result, the Company was unable to find the tear in the jumper line of the vehicle before the serious incident, therefore, it is necessary for the Company to thoroughly inform its drivers that they should contact a train dispatcher or station master as stipulated in the company's "Abnormal Handling Manual" when a train collides with an animal or when the driver felt an unusual noise. ○Measures to be taken by Niigata Transys Co., Ltd.*8 (1) It is possible that when the Kiha 125 series second batch was manufactured by NIIGATA ENGINEERING CO., LTD., some of the workers in charge of the driver's cab may have made a mistake in wiring Line 409 and Line 100a10, so Niigata Transys Co., Ltd. needs to establish in the wiring work manual, etc., that even if workers have wired incorrectly, they should perform checks after wiring to make them aware of the incorrect wiring, and thoroughly inform the workers about the established details. (2) It is probable that NIIGATA ENGINEERING CO., LTD., did not conduct wiring continuity tests to confirm that Line 409 was connected to Terminal block 1 of the socket of VSAR3 and that Line 100a10 was connected to the same Terminal block 11, but since incorrect wiring of the outfitted wiring impacts not only on the door closing safety circuit but also ATS and the braking circuit could affect the safety of train operation, Niigata Transys Co., Ltd. needs to confirm during the final inspection that the outfitted wiring is connected according to the drawings. (3) It is probable that NIIGATA ENGINEERING CO., LTD., did not conduct functional tests of the door closing safety circuit against the pressurization of the door opening command line, so Niigata Transys Co., Ltd. needs to recognize that events may occur where the door opening command line is unintentionally pressurized while running due to accidental contact with higher voltage due to poor waterproofing of the jumper coupler or insulation failure of the wires, etc. and to conduct functional tests of the door closing safety circuit against the pressurization of the door opening command line. *8 "Niigata Transys Co., Ltd." is a vehicle manufacturer established in February 2003 by integrating the railway vehicle divisions of NIIGATA ENGINEERING CO., LTD. and Fuji Heavy Industries Ltd.
	Report	https://jtsb.mlit.go.jp/railway/rep-inci/RI2024-1-1.pdf (Japanese only)

<table>
<tr><td rowspan="4">2</td><td>Date of publication</td><td>Date and incident type</td><td>Railway operator</td><td colspan="2">Line section (location)</td></tr>
<tr><td>September 26, 2024</td><td>December 12, 2023
Main track overrun</td><td>Sapporo Transportation Service Promotion Corporation</td><td colspan="2">Between Nakajima-koen-dori Tram Stop and Yamahana-kujo Tram Stop on the Yamahana Line (Hokkaido)</td></tr>
<tr><td>Summary</td><td colspan="4">The driver of the tram, while getting off the stopped vehicle at Nakajima koen dori Tram Stop to use the station's telephone installed at the stop, recognized that the vehicle was moving toward Yamahana ku jo Tram Stop, subsequently, the driver ran toward the vehicle, boarded it, and used the brakes to stop the vehicle about 31 meters from Nakajima Park Station.
There were 21 passengers on board, but no one was injured.</td></tr>
<tr><td>Probable causes</td><td colspan="4">It is highly probable that this serious incident occurred because when the driver of the tram got off to use the station's telephone at Nakajima koen dori Tram Stop, causing the vehicle's brakes to release, the stopped vehicle ran away toward Yamahana ku jo Tram Stop with passengers on board, as it is on a downhill slope.
It is more likely that the vehicle's brakes became loose because the brake handle moved from the "overlap" position to the "loosen" position, resulting in a gradual decrease in the pressure of the vehicle's brake cylinder.
 

*This figure is a composite of multiple photographs.
It is more likely that the movement of the brake handle from the "overlap" position to the "loosen" position occurred because the overcoat[*1] worn by the driver came into contact with the brake handle. In addition, since the driver was wearing a thick overcoat, it is probable that the sense of touch was dulled, leading to the conclusion that the driver did not notice the contact with the brake handle.

[*1] The term "overcoat" here refers to the cold-weather clothing provided to the driver by the Public Corporation.</td></tr>
<tr><td>Safety actions</td><td colspan="4">(1) Safety Actions considered necessary for the Public Corporation
① It is necessary to establish handling procedures for when the driver leaves the vehicle.
② It is necessary to thoroughly instruct the drivers to handle operations as specified.
③ Regarding the means of communication between the drivers and the operations control room, it is desirable to establish the priority of the equipment to be used.
(2) Safety Actions considered necessary for Sapporo City Transportation Bureau[*2]
It is desirable to install devices on all vehicles owned that automatically activate the brakes when the driver leaves the driver's seat.

[*2] "Sapporo City Transportation Bureau" was separated into upper and lower sections in April 2020, with the Bureau owning the vehicles and facilities, and the Public Corporation managing the operation of trams and the maintenance of vehicles and facilities.</td></tr>
<tr><td>Report</td><td colspan="3">https://jtsb.mlit.go.jp/railway/rep-inci/RI2024-2-1.pdf (Japanese only)</td><td></td></tr>
</table>

3	Date of publication	Date and incident type	Railway operator	Line section (location)
	November 28, 2024	January 5, 2024 Dangerous trouble in vehicle	Kumamoto City Transportation Bureau	Between Kotsukyoku-mae Tram Stop and Misotenjin-mae Tram Stop on the Suizenji Line (Kumamoto Prefecture)
	Summary	The driver of this tram received a report from a passenger that the door was open immediately after departing from the Kotsukyoku-mae Tram Stop on the Suizenji Line, subsequently, the driver promptly applied the brakes to stop the vehicle. The vehicle's dashcam footage recorded the vehicle departing from Kotsukyoku-mae Tram Stop with the passenger boarding and alighting door (hereinafter referred to as "the middle door") located near the center of the vehicle on the left side (front, back, left, and right are based on the train's direction) remaining open. There were 11 passengers and 1 driver on board, but no one was injured.		
	Probable causes	 (a) For the middle door (b) Normal It is certain that this accident occurred because the driver of the train departed without closing the middle door while the circuit to prevent the vehicle power running with the door open was not functioning properly. The reason the circuit was not functioning properly is probably due to the fact that the push rod of the door open/close detection switch, which is pressed down when the door is closed, was installed in the opposite direction from its original mounting position. Accordingly, the switch was pressed even when the door was open, leading to the door being detected as closed. Regarding the driver departing without closing the door, it is probable that the driver assumed the door was already closed and did not perform the door-closing operation, and did not recheck that the door was closed with an interior mirror before departure, and the door indicator light was on because the push rod for the open/close detection switch was held in a pressed state.		
	Safety actions	(1) Prevention of incorrect installation of the push rod of the open/close detection switch Since the push rod of the open/close detection switch was installed in the opposite direction from its original mounting position, it is necessary to check the installation direction of the push rods of similar switches during installation, etc. or to replace it with a type of open/close detection switch that does not risk the end face of the push rod and the mounting seat getting caught. (2) Thorough check of door closing It is more likely that no check as to whether the door was closed using the interior mirror at departure, so it is necessary to ensure thorough checking of the door closing confirmation operation. Additionally, to do so, it is desirable to consider measures from wide-ranging perspectives, such as the introduction of pointing and calling and structural measures on the vehicle side to prevent any inadvertent forgetting to close the door.		
	Report	https://jtsb.mlit.go.jp/railway/rep-inci/RI2024-3-1.pdf (Japanese only)		

7 Provision of factual information in 2024 (railway accidents and serious incidents)

The information (on serious railway incidents) provided in 2024 was 1 case, the details thereof are as follows:

The information provided on the serious railway incident (dangerous trouble in vehicle) that occurred on the Suizenji Line of Kumamoto City Transportation Bureau
(Information provided on October 4, 2024)

The JTSB is currently conducting investigations and analyses regarding the serious railway incident (dangerous trouble in the vehicle) that occurred on September 2, 2024, on the Suizenji Line of Kumamoto City Transportation Bureau, and has provided information to the Railway Bureau of the Ministry of Land, Infrastructure, Transport and Tourism on October 4 regarding the facts that have been clarified in the investigation so far.

1. Summary of the serious railway incident (dangerous trouble in vehicle)

Date and time of occurrence: Around 7:35 on Monday, September 2, 2024

Place of occurrence: In the premises of Shin-Suizenji Tram Stop on the Suizenji Line (Kumamoto City, Kumamoto Prefecture)

Summary: The tram driver performed the door closing operation of the boarding/exiting doors at the Shin-Suizenji Tram Stop and powered up the tram. Immediately after that, when a passenger near the door of the train stepped down onto the boarding/exiting doors, the buzzer sounded, and the boarding/exiting doors opened. The driver of the tram noticed the abnormality and applied the brakes to stop the tram.

2. Details of the information provided to the Railway Bureau of the Ministry of Land, Infrastructure, Transport and Tourism

In the investigation of facts so far, the following facts have been clarified, and since there is a possibility that similar incidents may occur with other railway and tramway operators using the same type of door engine, the JTSB provided information to the Railway Bureau of the Ministry of Land, Infrastructure, Transport and Tourism:

(Information)

The folding doors of the vehicle where this serious incident (hereinafter referred to as "this incident") occurred open and close due to the door engine extending and retracting, and have a mechanism whereby two door opening/closing detection switches are physically pressed simultaneously by a rod connected to the piston of the door engine. (See Appendices 1 and 2.)

During this incident, it was found that one of the two door opening/closing detection switches was not pressed at the time of door closing. (See Appendix 3.)

*In the vehicle, the switch that was not pressed is used to cut off the power supply of a mat switch (used to prevent door pinching, installed on the floor surface of the step area.)

The relationship between this case and the content of the information provided is currently under investigation, and the JTSB are planning to conduct a detailed investigation regarding the cause of this case in future.

*The details of the information provided, including the Appendices, is included on the website of the JTSB.
https://jtsb.mlit.go.jp/iken-teikyo/kumamoto20241004.pdf (Japanese only)