

Chapter 2: Railway Traffic Safety

1. Achieving a Society with No Railway Accidents

- Railway system is used by many people and it is indispensable for their lives.



2. Objectives Set in Railway Traffic Safety

- 1) To reduce the number of passenger fatalities to zero.
- 2) To reduce the overall number of death accidents during operations.



3. Measures for the safety of rail traffic

<Two viewpoints>

- 1) Prevention of serious train accidents
- 2) Utilizing lessons learned from past accidents



<Eight pillars>

- 1) Improving the railway traffic environment
- 2) Dissemination of knowledge about the safety of rail traffic
- 3) Securing safe railway operation
- 4) Ensuring railway vehicle safety
- 5) Enhancing rescue and emergency services systems
- 6) Promoting victim support
- 7) Identifying the cause of railway accidents and preventing its recurrence
- 8) Enhancing R&D and study activities

Section 1: Achieving a Society with No Railway Accidents

Railways (including the tracks, same below) are a mode of transport essential to the daily life of the people, as they are used 22 billion people a year and can transport vast amounts of people and goods speedily and on time. With the current highly-condensed operation of trains, a single accident can not only seriously interfere with the convenience of commuters but also cause immense damage. Further, due to an increase in personal injury accidents of people coming in contact with the train by falling from the platform or at the platform, there is an increasing need to prevent accidents where the users are concerned.

For this reason, in order for the railway to be safely used by the public, it is necessary to aim for more secure and stable rail transport, and to continue to promote various comprehensive safety measures, such as measures against to the serious train accidents and accidents on the platform.

I. Current Status of Railway Accidents, etc.

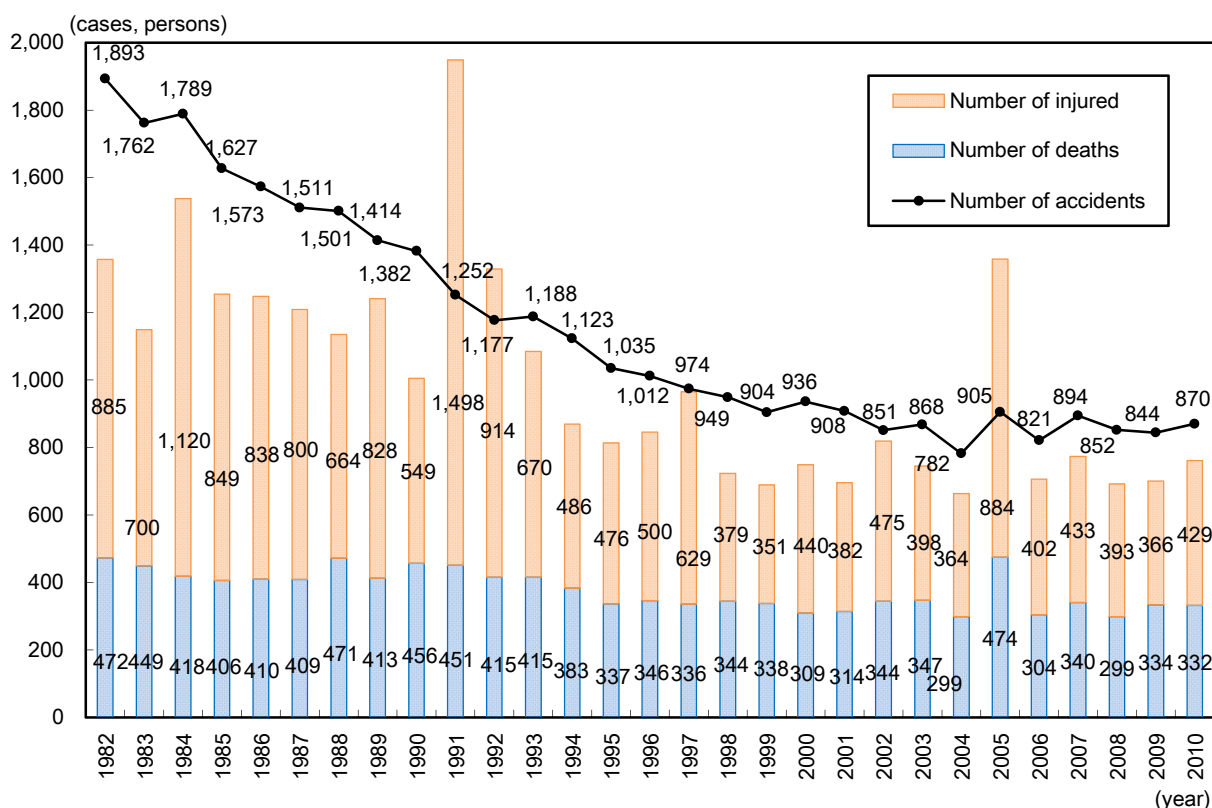
1. Current status of railway accidents

Although railway accidents were on a decline in the long term, in recent years there is a tendency of the decline to stop, from the year 2006 it remained at about of 850, and in 2010 it was 870.

In addition, the number of deaths in 2010 was 332 and the number of injured people was 429.

It should be noted that although in 2005, 106 people passengers died in the train derailment of Fukuchiyama JR West, and 5 passengers in the Uetsusen JR East train derailment, passenger fatalities did not occur from 2006 until 2010.

Changes in Railway Operational Accidents and Casualties



Notes: 1. Source: Ministry of Land, Infrastructure, Transport and Tourism

2. Fatalities are defined as deaths occurring within 24 hours of an accident.

2. Characteristics of operations accidents in recent years

Regarding the number of personal injury accidents, there is a tendency for it to increase since 2002, exceeding the number of injury accidents at level crossings in 2006, and accounting for about 50 percent of the total operation accidents in 2010. In addition, the number of injury accidents at level crossings is decreasing in the long-term, accounting for approximately 40% of the entire operation accidents in 2010, and for about 90% in combination with personal injury accidents.

In particular, there is an increasing tendency in the number of personal injury accidents, such as falling the platform or on the platform due to the contact with the train from.

II. Objectives Set in the Fundamental Traffic Safety Program

1) To reduce the number of passenger fatalities to zero.

2) To reduce the overall number of death accidents during operations.

It is necessary to prevent the occurrence of serious train accidents resulting in passengers' deaths, such as collision or train derailment. In addition, based on the characteristics of operation accidents in recent years, it is important to reduce the number of deaths for the entire operation accidents, including accidents on the platform.

Although due to the sluggish growth of traffic volume in recent years many businesses of local railways are being forced to deal with tough business conditions, it is necessary to continue to promote safety measures.

With this situation in mind and with the understanding and cooperation of the people, the government will comprehensively and strongly promoting various measures set out in Section 2 and Chapter 3, Section 2, and thereby aim to bring the number of passenger deaths to zero and reduce the number of operations accidents.

Section 2: Measures for Railway Traffic Safety

I. Viewpoints in Considering Future Railway Traffic Safety Measures

Operations accidents with railways are on a decline in the long term, and it is evident that measures based on the past fundamental traffic safety programs have been effective to a certain extent. However, considering the fact that there is a risk of heavy casualties even in case of a single accident of collision or derailment, the fact that the number of level crossing injury accidents combined with the personal injury accidents on platforms account for about 90% of the total operation accidents, and the fact that the tendency of these numbers to decrease has stopped, the government should implement effective measures aiming for a stable and more secure rail transport, along with the prevention of serious train accidents and prevention of accidents where the users are concerned while promoting various traffic safety policies from a comprehensive viewpoint.

II. Measures to Be Taken

[Priority measures and newly-introduced measures in the Ninth Program]

- Checking and improving railway facilities (1 (1))
- Improving operational safety systems (1 (2))
- Promoting diffusion of knowledge about railway traffic safety (2)
- Implementing safety audits of railway operators (3 (4))
- Appropriate response in case of a large-scale accident occurrence (3 (5))

1. Improving the railway traffic environment

To secure the safety of railway traffic, the government needs to maintain a high level of reliability for railway facilities such as railway tracks and operational safety facilities, and build the foundation of safety for the whole of their systems. For achieving this, safety measures should be implemented by ensuring the maintenance management of railway facilities.

(1) Checking and improving railway facilities

Repair and maintenance of railway facilities should be properly implemented. To ensure the safety of railway traffic, the maintenance and upgrade of facilities such as railway tracks and roadbeds will be carried out appropriately. In addition, in order to respond to frequently occurring natural disasters, measures such as strengthening of tracks and roadbeds to prevent from disasters such as torrential rain and strengthening of station structure for earthquake resistance, should be promoted.

For facilities such as bridges with progressing dilapidation, repair planed aiming for safer facilities will be implemented. In particular, the government will also promote appropriate maintenance and repair of facilities and vehicles in local railways based on the maintenance improvement program, which sets out particulars that the railway operators have to implement urgently or in the long and medium terms. In addition, the government will continue to promote technical capabilities through technical guidance, by using the opportunity of general safety inspection, and by taking advantage of the technical assistance system by experts in research organizations.

In addition, government will give due consideration to the safe use of railway stations by elderly and disabled people, and promote the elimination of level differences and the installation of fall prevention equipment in order to create a "barrier-free" environment. They will also encourage railway operators to take safety measures to prevent falls from platforms where trains run at high speed or in rapid succession. Examples of such measures include installation of emergency stop buttons or fall detection mats and the provision of an evacuation space below platforms.

(2) Improving operational safety systems

The government will steadily advance the development of speed limiting function on curves,

such as ATS, operator emergency train stop devices, operating conditions recording device, and etc.

[Numerical objective]: approximately 100% installment of ATS to prevent over-speeding sharp curves, approximately 100% installment of operator emergency train stop devices and operating conditions recording devices

2. Promoting diffusion of knowledge about railway traffic safety

Since many of the casualties of the number of level crossing injury accidents and personal injury accidents, accounting for about 90% of the total operation accidents, are the users, the level crossing passers, and residents living along the railway, in order to prevent these accidents, in addition to the safety measures by the railway companies, there is a need for understanding and cooperation of users. For this reason, through the improvement of displays of methods of proper use of safety equipment, easy-to-understand safety knowledge will be accurately provided to the users. In addition, cooperation with relevant organizations, the government will actively carry out publicity and educational activities in schools, among people living along railway lines and among road transport companies, through events such as the National Traffic Safety Campaign.

3. Securing safe railway operation

In order to prevent serious train accidents, maintaining qualities of train drivers, analysis and utilization of risk information and accident information, safety measures in the event of an earthquake, and the enhancement of weather information, should be promoted. In addition, security audits of railway operators will be conducted, with appropriate guidance, for quick and accurate response in the event of an occurrence of a large-scale accident.

(1) Maintaining the competency of the railway crew

In order to maintain the competency of railway crew, the operators will be encouraged to carry out regular scientific aptitude tests. In addition, the government will instruct railway operators to improve the performance of their educational training programs to maintain the competency of railway crew.

(2) Analysis and utilization of risk information

In order to prevent serious train accidents, for sharing the risk information among the related parties collected and analyzed information on the incidents, will be communicated promptly to train operators. In addition, the government will instruct to promote active reporting of risk information by the use of recording equipment and on-site personnel driving conditions. In addition, regarding risk information that is not subject to reporting to the country, information sharing among the railway companies will be promoted.

(3) Improving weather information

The government will accurately understand any weather conditions or natural phenomena which could affect railway transport, and make efforts to improve qualities of meteorological information including warnings, advisories and forecasts of severe weather, tsunami, tropical cyclone, heavy rain, earthquake, volcanic eruption, etc., and to ensure appropriate timely announcements and swift provision of such information. Railway companies will work to quickly collect and interpret this meteorological information and reflect it in their operations management, and thereby reduce the damage on railway facilities and maintain safe train operation.

Furthermore, facilities for observing weather conditions, earthquake, tsunami and volcanic activities will be constructed as necessary, and maintenance and improvement of those facilities will be promoted. At the same time, the government will promote information sharing with disaster prevention organizations, and strengthen IT-utilized observation or monitoring systems. Improvement of people's knowledge about meteorological phenomena will also be promoted by way of publicity activities, seminars, etc.

(4) Implementing safety audits of railway operators

The government will carry out safety audits of railway operators, either on a regular basis or in consideration of the occurrence of an accident. Based on the results of the audit, they will provide appropriate instructions to the operators regarding the maintenance and management of facilities and trains, railway operation procedures, education and training of railway crews and safety management systems. In addition, in order to strengthen the follow-up of past instructions, the security auditing will be enhanced.

The government will also hold the railway safety liaison conference regularly and exchange information on accidents and accident prevention measures. In addition, the government will check the status of construction and improvement safety management system by the railway businesses to evaluate transportation safety management.

(5) Appropriate response in case of a large-scale accident occurrence

The government will practice information collection and quick and accurate contact methods in the event of a disaster or major accident for national and private railway companies, by checking and confirming the emergency contact system at night and on holidays. Also, in order to mitigate the social impact of such transport damages in large metropolitan areas and in trunk transportation, the government will instruct railway operators, to accurately understand the train service situation, while providing appropriate information to passengers, in order to develop a system necessary for rapid recovery.

4. Ensuring railway vehicle safety

Taking into account the progress of science and technology, the technical standards on the safety of the railway vehicle structures and equipment should be properly reviewed on timely basis. In addition, measures to reduce damage for passengers the crew in the event of an accident, and the examination of measures to prevent malfunctioning of electronic equipment of rail vehicles will be performed and their utilization will be promoted.

5. Enhancing rescue and emergency services systems

In order to promote prompt and effective evacuation, rescue and emergency services in the event of a serious railway accident, the government will work to improve disaster drills at major stations, and strengthen systems of closer liaison and cooperation between railway operators and fire services, medical institutions and other relevant bodies.

6. Promoting victims support

With the participation of victim organizations, The government will consider the nature of systems such as: the contents of assistance sought by traffic accident victims in Japan, the nature of division of roles of relevant institutions, national governments, private businesses and etc, the nature of centralized contact facilities for traffic accident victims, and make the necessary efforts towards the improvement of the mechanisms and the systems of support in accordance with the actual situation of our country.

7. Identify the causes and prevent the recurrence of railway accidents

For conducting a quick and accurate investigation to determine the cause of the railways accidents and serious train incidents and to contribute to the prevention of railway accidents, the professional training for the staff in charge of the investigation with improved research techniques and analytical capabilities through the use of equipment for various surveys will be enhanced. Also the government will improve the knowledge obtained from investigations of past accidents such as the analysis of various recording devices, improve various analysis techniques, and utilize stocks of accident analysis results, and reflect these results in investigations of the causes.

In addition, for the relief of victims, based on the results obtained in causes of accidents, the

accident occurrence or the prevention of accidents and, if necessary, recommendations to the parties concerned or cause the Minister of Land, Infrastructure and Transport or relevant Minister of Land, Infrastructure, Transport and Tourism by expressing their opinions to the head of the administrative organ, or ask for the implementation of the necessary measures or steps, to contribute to the safety of railway transportation.

In addition, based on the knowledge that has been accumulated through the accident investigation in the past, for the particular accident types, to analyze trends, problems, prevention measures, and publicize the results, presented in the form of our easy-to-understand accident findings, etc. conduct educational activities that lead to the prevention of accidents, such as issuing a periodic information magazine.

8. Improving R&D and study activities

The government will try to improve the safety of railway transport by promoting research and development.

For this reason, the National Traffic Safety and Environment Laboratory will carry out research on evaluation and effect prediction of new technologies for facilities, vehicles and operation, and on prevention technologies for accidents caused by human-error in order to realize safer railway systems. In addition, to promote the practical application of safer new traffic systems, they will implement research on evaluation of their safety and reliability.

In addition, in view of serious railway accidents that have occurred in recent years, the government will promote technological development that contributes to improving safety further, including testing and technological development by the Railway Technical Research Institute for reducing damage during disasters and accidents.