WHITE PAPER
ON TRAFFIC SAFETY IN JAPAN 2002

Abridged Edition

CABINET OFFICE

Editorial Supervision:
Directorate General for Policy Planning and Coordination, Cabinet Office

IATSS *International Association of Traffic and Safety Sciences*

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This English version of White Paper on Traffic Safety in Japan was compiled under the supervision of Directorate General for Policy Planning and Coordination, Cabinet Office.

The International Association of Traffic and Safety Sciences hopes this paper, in conjunction with Statistics of Road Accident Japan, will greatly enhance readers' knowledge of traffic accident remedial measures.

Outline of White Paper on Traffic Safety
Traffic Accidents and Current Traffic Safety Measures

Cabinet Office

As required by Article 13 of the Traffic Safety Policies Law (Legislation 110, enacted in 1970), each year the government presents its “White Paper on Traffic Safety in Japan” to the Diet.

This document provides a summary of the information contained in this year's White Paper (FY2002 White Paper on Traffic Safety in Japan) — the 32nd since the first was issued in 1971.

The main volume of the White Paper, “Traffic Accidents and Traffic Safety Measures in FY2001” reports the latest national statistics on traffic accidents, organized according to the categories of land transport (road and rail), maritime transport and air transport, and gives an outline of traffic safety measures implemented in FY2001.

A separate volume of the White Paper, “Traffic Safety Measures for Implementation in FY2002,” provides details of the traffic safety measures planned for implementation during the current fiscal year (FY2002), according to the three categories of land transport (road and rail), maritime transport and air transport.

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October 2002
Printed in Japan

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Trends in Road Traffic Accidents

Long-term trends in road traffic accidents, etc.

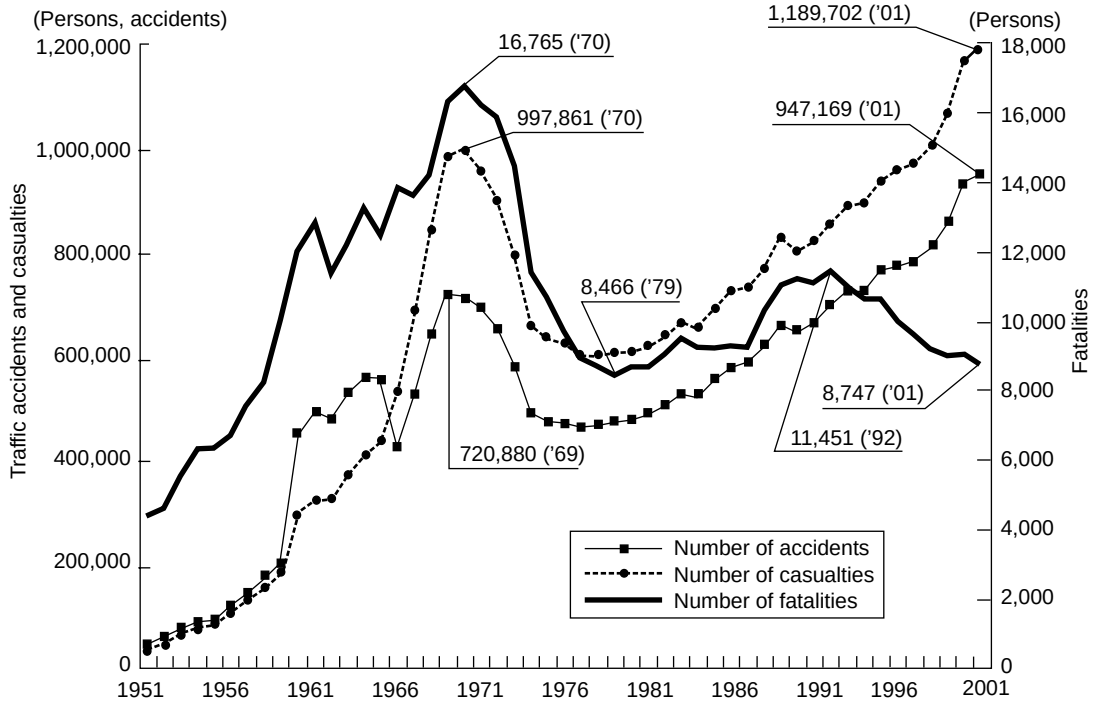
1. Long-term trends in road traffic accidents

The annual number of fatalities resulting from road traffic accidents in Japan peaked in 1970 at 16,765. To address concerns about the alarming death toll on the nation's roads, the Traffic Safety Policies Law was enacted in that same year. Based on the new law, in FY1971 the government began drawing up five-year plans, known as Fundamental Traffic Safety Programs, to systematically promote traffic safety improvements.

Annual road traffic fatalities began to fall steadily in 1971 until they were down to 8,466 in1979. The yearly death toll began to rise in the following year and exceeded 9,000 yearly in the 1982-1987 period, followed by eight consecutive years of over 10,000 road deaths. In 1995 the toll started to fall, dipping below 10,000 in 1996.

In 2001 a total of 947,169 road traffic accidents occurred in Japan, resulting in 1,189,702 casualties, including 8,747 fatalities. (See **Fig. 1**)

Figure 1 Changes in Road Traffic Accidents, Casualties and Fatalities



Notes: 1. Source: National Police Agency
2. Figures after 1966 do not include property-damage-only accidents.
3. Figures for Okinawa Prefecture were not included before 1972.

2. Economic losses due to road traffic accidents

A survey conducted by the Cabinet Office in FY2001 estimated the economic losses caused by road traffic accidents at 4,285 billion yen. This total included personal losses of 1,726.9 billion yen and property losses of 1,804.1 billion yen. (See **Table 1**)

Table 1 Economic Losses Caused by Traffic Accidents

	Amount of loss (100 million yen)
Costs by human loss	17,269
Property costs	18,041
Lost output	772
Social costs arising from operations of public authorities	6,769
Total	42,850

Note: The itemized figures do not add up exactly to the total, since these amounts were rounded to the nearest 100 million.

Road traffic accidents in 2001

1. Overview

In 2001 a total of 947,169 road traffic accidents occurred in Japan, resulting in 8,747 fatalities and 1,180,955 injuries.

The number of fatalities in 2001 fell below the 9,000 mark for the first time in 20 years. However, 2001 became the ninth straight year of registering a year-on-year rise in the number of road accidents, and the fourth straight year of a yearly rise in the number of injuries.

2. Traffic accident fatalities and injuries by age group

In 2001 road traffic accidents claimed 3,216 deaths, or 36.8% of the total, among the elderly (over 65) making the year the ninth straight year in which the elderly accounted for more road fatalities than any other age group. Youth 16-24 year olds accounted for the second highest proportion of fatalities with 1,402 deaths or 16.0% of the total. Together, these two age groups represented 52.8% of all traffic fatalities. (See **Fig. 2**)

Also, the 16-24 age group topped the list of injuries with 262,845 injuries or 22.3% of the total. The number of people injured in traffic accidents was higher than the previous year for all but the 16-24 age group.

3. Traffic accident fatalities and injuries by road user type

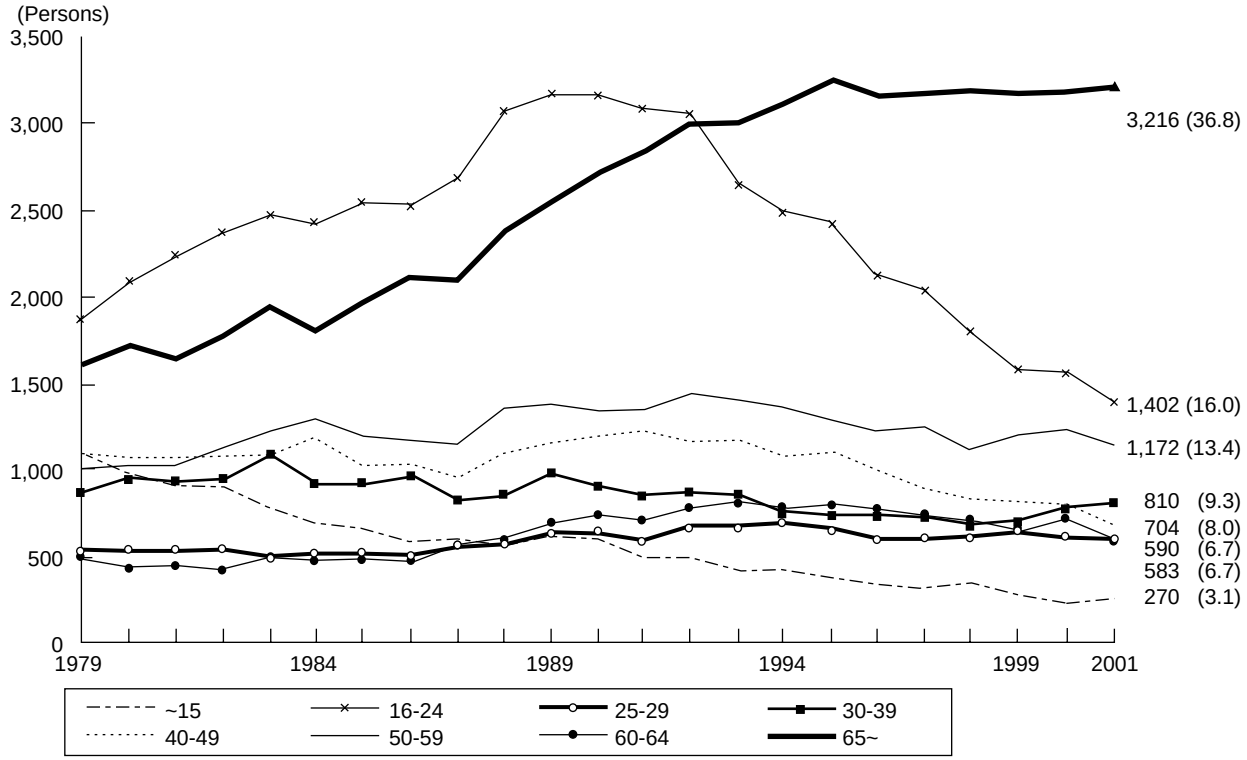
Motor vehicle occupants (drivers and passengers) with 3,711 deaths, or 42.4% of total fatalities, led the list of road fatalities by type of road users. (See **Fig. 3**)

Also, motor vehicle occupants with 733,866 injuries, or 62.1% of the total, topped the list of injuries by road user type.

4. Traffic accident fatalities by seat belt use

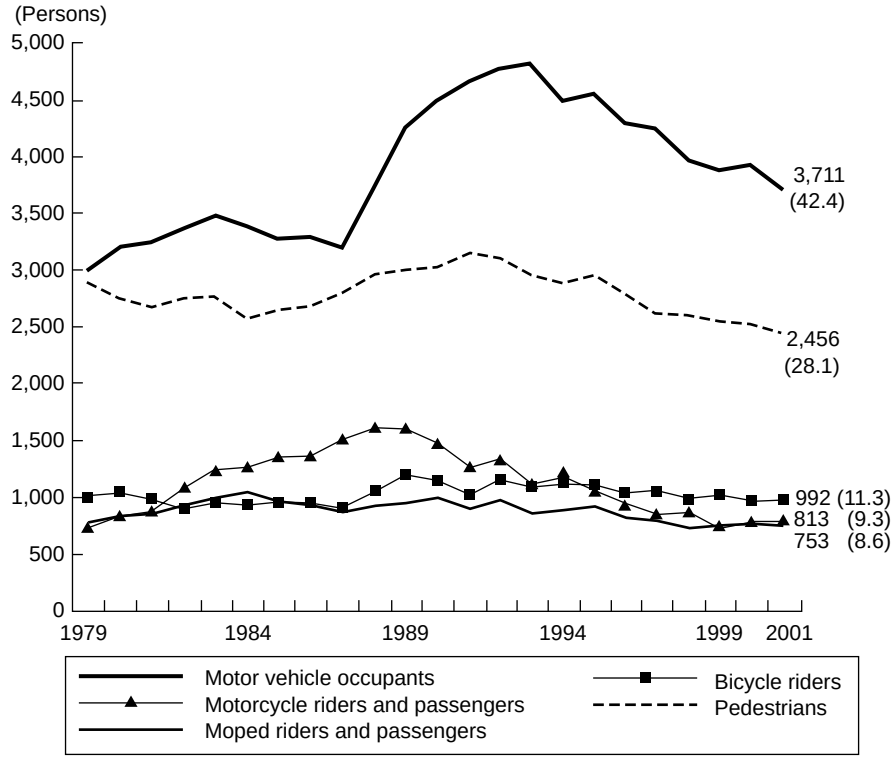
Of all motor vehicle occupants killed or injured in road traffic accidents, the proportion wearing seat belts (ratio of seat belt-wearing casualties to total casualties) has risen steadily since

Figure 2 Changes in Traffic Accident Fatalities by Age Group



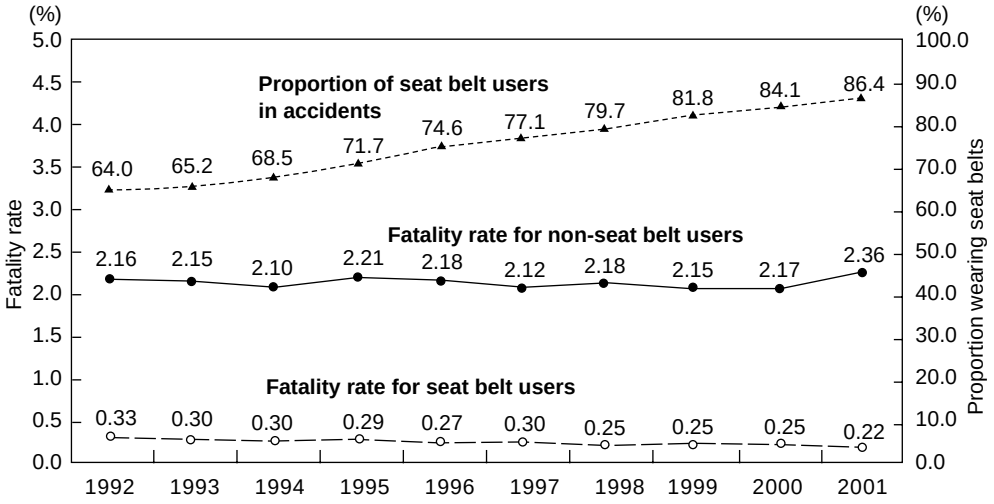
Notes: 1. Source: National Police Agency
2. Figures in parentheses show percentage (%) of fatalities by age group.

Figure 3 Changes in Traffic Accident Fatalities by Road User Type



Note: 1. Source: National Police Agency (figures for “Other” omitted)
2. Figures in parentheses show percentage (%) of fatalities by road user type.

Figure 4 Changes in Fatality Rates for Motor Vehicle Occupants in Traffic Accidents by Seat Belt Use, and Changes in Proportion of Motor Vehicle Occupant Casualties Wearing Seat Belts in Accidents



Note: Source: National Police Agency

1993, reaching 86.4% in 2001.

The fatality rate (ratio of fatalities to total casualties) among seat belt wearers was approximately eleven times lower than that for people not wearing belts. (See **Fig. 4**)

5. Traffic accident fatalities by child safety seat use

44 deaths among children under 6 years old occurred while they were riding motor vehicles. 33 deaths occurred in heavily damaged vehicles. Of the 11 other fatalities, nine children had not been restrained by child safety seats.

6. Number of fatal accidents by primary party

The number of fatal accidents in which motor vehicle drivers are the primary party* is steadily declining. However, an age group study shows that the number of fatal accidents in which elderly drivers (over 65) are the primary party has increased by a factor of 2.97 between 1989 and 2001.

*The party most to blame for the accident, or, when the parties involved are about equally at fault, the party that suffers the least harm and damage.

Chapter 2.
Major Road Traffic Safety Measures

1. Selective development of traffic safety facilities

The following projects were implemented in FY2001, the sixth year of the Seven-Year Program for Provision of Traffic Safety Facilities.

1) Extensive improvements to intersections and other measures were carried out in accident-

prone “black spots” identified as having urgent safety problems. Other improvements included construction of medians, installation of traffic signals in areas of high traffic accident risk; upgrading of existing traffic signal systems through the use of centralized control and systematization and making road signs brighter, larger and variable. In addition, new improvement initiatives were taken, such as the installation of kilo-posts (distance markers), systems to inform motorists of the approach of oncoming cars, speed restriction systems, and improved road lighting and road delineators.

2) Efforts have been made to help the elderly and disabled to lead more independent and socially active lives. The efforts included the creation of wide, flat pedestrian walkways and installation of traffic signals with audio guidance, particularly in areas around railway stations and other widely used public facilities. The addition of features such as elevators at busy traffic junctions has also been promoted. Under the “Barrier-Free” Law (officially known as the Transportation Accessibility Law), railway station vicinities have been designated as high-priority areas for improvements. In the designated sectors, projects have been selectively carried out to construct wide, easy-to-use pedestrian walkways and traffic signals with added functions to make crossing roads safer for pedestrians. The plans call for the construction of such facilities in a wide area as part of a network of roadways in that area.

In addition, the following steps have been taken: the visibility of traffice signs and landmarks has been upgraded for the benefit of elderly drivers, the roads used by commuting school children and kindergartners have been redesigned to ensure their safety, and pedestrian walkways and traffic squares have been recreated to make them function integrally as part of roadways and as safety facilities.

3) To make road traffic smoother, more comfortable and safer, the national and local governments have installed more high-tech traffic management, improved the efficiency of traffic signals on arterial roads, and promoted comprehensive parking policies. They have promoted the construction of additional lanes for passing, and built “road stations” and other rest facilities. They have also promoted the deployment of traffic monitoring cameras, road information systems, and signs which are easier to understand and more consistent. Efforts have focused particularly on improving large information signs and route signs at and around intersections on major arterial roads. In view of Japan’s growing internationalization, many signs have been upgraded to include roman script readings and graphical symbols, so that non-Japanese motorists can understand them more easily.

2. Construction of the Intelligent Transport System

In accordance with the comprehensive ITS (Intelligent Transport System) plan formulated in 1996, research and development, field-testing and infrastructure development are underway.

3. Promotion of Transportation Demand Management (TDM)

The national and local governments have carried out measures to expand traffic capacity, and promoted more advanced traffic control. In addition, they have promoted Transportation Demand

Management (TDM) measures to increase transport efficiency and balance traffic flows across time and space. This is being done by encouraging innovative road-use practices such as “park and ride,” improving distribution of information, promoting car-pooling, staggering workplace and school commuting hours and introducing flexi-time systems at more workplaces. In addition, in FY2001 the authentication system was introduced for TDM demonstration trials local authorities conduct to adjust traffic flow and volume and trials private-sector businesses conduct for the improvement of transport business. In 2001 such trials were authenticated in 26 areas.

4. Traffic safety education for the elderly

The national and local governments have taken steps to have greater traffic safety awareness cultivated among the elderly through their mutual efforts. The governments promoted creation of traffic safety committees within social clubs for senior citizens and aged people's homes, and actively promoted the training of senior citizens in order to have them serve as traffic safety instructors (“Silver Leaders”). They have also provided social clubs for senior citizens with guidance and support on taking traffic safety initiatives, such as creating maps of traffic “near-miss spots” (Hiyari map) in cooperation with relevant organizations, and organizing skills trainings for elderly drivers. A particularly noteworthy effort in this direction is a “Citizens’ Participation-style Project to Promote Traffic Safety Study by Elderly People.” This project aims to train “Silver Leaders” who can work continuously to promote participation-, experience- and practice-oriented traffic safety education for the elderly.

5. Implementation of comprehensive traffic safety reviews

Since maintaining traffic safety requires the coordination of people, roads and vehicles, it can only be successfully achieved if the views of road users are fully considered. In recognition of this fact, comprehensive reviews of traffic safety issues have been carried out with the participation of local residents and road users.

6. Providing information on motor vehicle assessments

In this initiative, the results of comparative motor vehicle safety performance tests, such as collision tests, are made publicly available. In FY2001, tests of child safety seats in frontal crash and of their usability evaluation began to be included in vehicle assessments. The results were released as child safety seat assessments.

7. Improvement to vehicle recall systems

Efforts have been made to ensure more effective operation of vehicle recall systems. These include the widespread collection of information about motor vehicle defects from motorists, through the use of an information hotline for reporting vehicle defects, and measures designed to promptly identify vehicles that need to be recalled, through rapid analysis of large volumes of collected information. Furthermore, in April 2001 the Ministry of Land, Infrastructure and Transport began publishing information on vehicle defects from motorists on its website as part of its efforts to intensify information gathering.

8. Improvement to Automobile Liability Security System

The Revised Automobile Liability Security Law was enacted and put into effect on April 1, 2002. The revised law has abolished reinsurance by the government. It seeks to provide greater protection for traffic accident victims by obliging insurance companies to fully disclose information on traffic accidents to victims, and introducing a new system for dealing with disputes by setting up a new dispute processing body.

In April 2002, the insurance scheme raised the payment ceiling for people who suffer serious disabilities in traffic accidents.

9. Improvement to policies for traffic accident victims

Previously, only people who had fallen into a vegetative state as a result of injuries suffered in road traffic accidents and required constant care were entitled to receive payment for nursing care expenses from the National Organization for Automotive Safety & Victims' Aid. In July 2001, this compensation scheme was expanded to cover all other victims who need nursing care, full time or occasional.

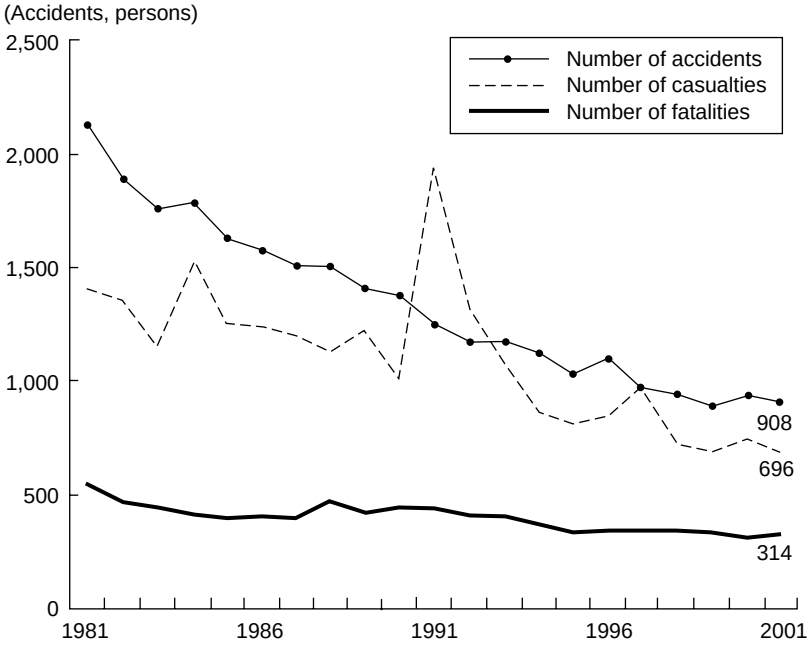
The Chubu Ryogo Center, a new facility specializing in treatment and nursing care for people with serious physical disabilities resulting from traffic accidents, was opened in July 2001. This is now the fourth such facility in Japan.

Part 2. Railway Transport

Chapter 1.
Trends in Railway Traffic Accidents

The long-term decline in the number of railway accidents continues, as a consequence of a comprehensive safety strategy involving measures to prevent railway-crossing accidents, installation and upgrading of operational safety systems, improvements to control equipment, and higher training standards for crews. In 2001, a total of 908 railway accidents occurred, resulting in 696 casualties (314 fatalities). (See **Fig. 5**)

Figure 5 Changes in Railway Accidents and Casualties



Note: 1. Source: Ministry of Land, Infrastructure and Transport
2. Fatalities are defined as deaths occurring within 24 hours of an accident.

A look at accidents by type shows that 475 (52.3%) of accidents involved obstructions at railway crossings, 306 (33.7%) involved human obstructions, and 95 (10.5%) involved obstructions on roadways.

Railway crossing accidents (479 accidents) accounted for approximately half of all railway traffic accidents, although this proportion continues its long-term decline.

Chapter 2.
Major Railway Safety Measures

1. Improvement to railway track facilities and operational safety systems

Railway track facilities and operational safety systems were improved, and Automatic Train Stop (ATS) systems have been enhanced by the addition of more high-tech functions.
In addition, "barrier free" functions have been promoted at railway stations and other facilities, in order to ensure safer use by elderly and disabled people.

2. Examination of safety by competent offices

Competent offices have carried out effective and flexible safety audits of railway facilities, trains, safety management systems and other vital elements of railway safety. They have also guided railway operators on adopting appropriate safety measures to prevent accidents involving people falling from platforms at stations.

3. Measures to prevent accidents at railway crossings

Based on the Railway Crossing Improvement Promotion Law, which was revised in March 2001, and the Seventh Comprehensive Crossing Accident Prevention Measures, which took effect in FY2001, projects to build overpasses and underpasses (thus to eliminate level crossings), carry out structural improvements, and install new safety equipment have been enhanced. At the same time, efforts were continued to consolidate crossings.

4. Setting up railway traffic accident investigation organs

In the wake of the serious train derailment and collision that occurred at Naka-Meguro Station on the Eidan (Teito Rapid Transit Authority) Hibiya line in Tokyo, public demand and expectations for railway safety assurance and systemic improvements have grown strongly. In order to ensure accurate investigations into the causes of railway traffic accidents, and to discover signs of potential accidents (serious incidents), on October 1, 2001, the Aircraft Accident Investigation Committee was reorganized to become the Aircraft and Railway Accident Investigation Committee.

5. Improvement to railway operational accident reporting systems

Careful reviews were conducted on the content of accident reports and the items of information that need to be conveyed in accident "flash" reports. In addition, regulations on reporting of railway traffic accidents and other safety matters were revised. These reforms aimed to establish a system capable of grasping information on railway operational accidents more rapidly and more accurately, and investigating and analyzing situations that may potentially lead to the occurrence of accidents.

Chapter 1.
Trends in Maritime Accidents

1. In 2001, a total of 2,836 vessels were involved in maritime accidents, a drop of 37 from the previous year. This figure rose year by year from 1998 to 2000, but declined in 2001.

2. With the rapid growth in marine recreation in recent years, the total number of maritime accidents involving recreational boats rose to 1,268 in 2001, an increase of 126 over the previous year and the highest figure on record. Recreational boating accounted for 45% of all marine vessels in accidents.

3. In 2001, 171 people who were aboard marine vessels were killed or listed as missing at sea following accidents in the water. (See **Fig. 6**)

Also, 149 people died or became missing at sea after falling overboard.

Chapter 2.
Major Maritime Traffic Safety Measures

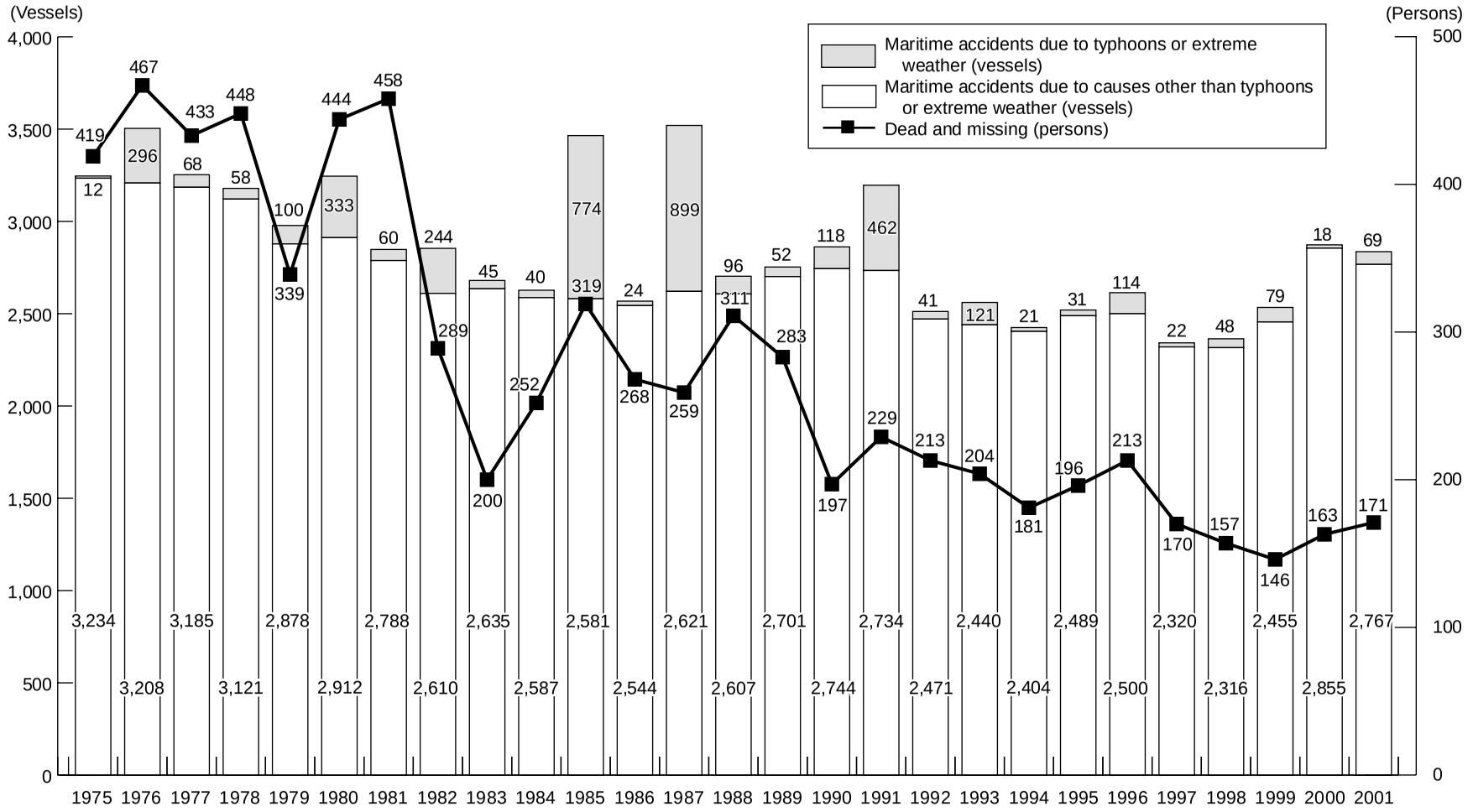
1. Based on the Seven-Year Port Development Plan and other plans, selected waterways were developed, existing waterways improved, and so were ports and harbors, and fishing ports. Measures were also taken to reinforce ports and harbors for greater earthquake-resistance. At the same time, improvements were made to beacons and channel markers to cope with changes in the maritime transport environment resulting from development of ports and harbors and the general increase in vessel speeds.

2. For congested waters, the government has introduced special traffic rules and improved the Maritime Traffic Information System, a system of centralizing the issue of maritime traffic-related information and traffic control. In addition, the installation of Automatic Identification System (AIS) has been made mandatory, while substantial progress has been made in the seaway improvement project at the mouth of Tokyo Bay. On account of these developments, preparations have begun for construction of maritime seaway networks, which would create a maritime traffic environment of greater safety and efficiency permitting smooth, non-stop passage of vessels within the bay.

3. The government has improved marine charts and nautical publications, and is now providing higher quality information on waterways and weather conditions.

4. In order to secure the safety of vessels, the government revised related regulations in October 2001 for rationalization of a full load line standard for coastwise vessels. In addition, it has taken a variety of measures to help vessel operators meet the newly introduced obligation to provide

Figure 6 Changes in Maritime Accidents, Persons Listed Dead, Missing



Notes: 1. Source: Japan Coast Guard
2. Figures for deaths and missing persons include those who, due to illness or other reasons, became unable to operate a vessel and died in the drifting vessel.

"barrier free" facilities on passenger vessels, such as organizing explanatory meetings on "barrier free" standards for passenger vessels.

5. Drawing on lessons taken from the capsizing and sinking of the offshore dragnet fishing boat Daigo Ryuho-maru in September 2000, the government has put together countermeasures to prevent reoccurrence of these kinds of accidents, and drafted proposals for future improvements. Based on these proposals, the government is also providing guidance to fishing boat operators to help them implement measures to avoid similar accidents.

6. In response to the large number of maritime accidents blamed on human factors over recent years, the government is vigorously promoting the implementation of Port State Control (PSC) procedures relating to operational requirements (e.g. to check that crews are familiar with operation of equipment) and to International Safety Management (ISM) codes. At the same time, it has toughened PSC controls in connection with the requirements of the Global Maritime Distress and Safety System (GMDSS).

7. The government has strengthened marine rescue systems, for example by deploying patrol vessels more effectively and by making maximum use of helicopters, as well as ensuring reinforced patrols during the busiest periods of pleasure boat activity. In addition, the government is providing guidance on prevention of maritime accidents, by organizing safety seminars and visiting boats at sea.

The government has also prepared a basic concept for a "Marine Road Vision," involving the provision of meteorological and hydrographic reports and maritime safety information, and the establishment of safety support systems that make use of private rescue organizations.

Furthermore, to reduce the incidence of maritime accidents in which people fall overboard, the government has examined ways to promote greater use of life jackets among boat crews and passengers. Also examined were technical standards for life jackets to make them easier to wear continuously.

8. Fishing vessels account for approximately 40% of all killed and missing in maritime accidents. In view of this, the government has worked to promote greater awareness of operational safety among fishing boat crews. It is doing this by giving guidance and education on effective watch keeping, etc., through organizing maritime accident prevention seminars, and visiting boats at sea. The government has also carried out safety evaluations of a number of small fishing boats normally exempt from safety standards and regulations.

9. The government has improved systems for obtaining maritime accident information; enhanced rescue systems involving patrol vessels and aircraft; and improved maritime accident rescue technology. It has also improved and upgraded rescue systems, for example by providing guidance on rescue training to Marine Rescue Japan.

10. In response to the International Convention on Maritime Search and Rescue (SAR

convention), the government has actively promoted technical cooperation in response to requests from neighboring countries. At the same time, it has encouraged marine transport and fisheries companies to participate in the Japanese Ship Reporting System (JASREP).

11. In order to reduce the incidence of maritime accidents and the number of fatalities and others left unaccounted for due to falling overboard, the government has strongly promoted its "Self Lifesaving Measures Assurance Campaign." The campaign advises boat crews and passengers to keep their life jackets on at all times while at sea, seeks to ensure that they have a back-up means for vital communication, such as a mobile phone, and make effective use of the emergency report telephone number, "118."

Chapter 1.
Trends in Aviation Accidents

The annual number of accidents involving civil aircraft in Japan has generally been falling, with only slight fluctuations over recent years. A total of 21 aircraft accidents occurred in 2001. (See **Table 2**)

Table 2 Changes in Aviation Accidents and Casualties (Civil Aircraft)

Aircraft type / Year	No. of accidents								No. of casualties	
	Large aircraft	Small aircraft	Ultra-light aircraft	Heli-copters	Gyro-planes	Gliders	Airships	Total	Fatalities	Injuries
1997	3	11	3	8	2	3	0	30	28	34
1998	3	14	5	6	1	6	0	35	21	54
1999	1	9	5	7	1	5	0	28	9	18
2000	3	5	5	11	1	5	0	30	9	20
2001	2	6	2	7	0	4	0	21	12	130

Notes:
1. Source: Ministry of Land, Infrastructure and Transport
2. All figures are as of the end of December for the given year.
3. Includes accidents involving Japanese aircraft outside Japan
4. Includes accidents involving foreign aircraft within Japan
5. Numbers of accidents and casualties do not include deaths due to natural causes, or fatal or non-fatal injuries-inflicted by themselves or others-on board aircraft.
6. Fatalities are defined as deaths occurring within 30 days of the accident, and include those listed as missing.
7. Injury figures for 2000 and 2001 are provisional.

Chapter 2.
Major Air Traffic Safety Measures

1. Planned developments of airports and aviation safety facilities are proceeding according to the Seventh Seven-Year Airport Development Plan (FY1996-FY2002).

2. In order to increase the safety and efficiency of air traffic and to expand air traffic capacity in offshore airspace, the government is pressing ahead with the development of new aviation communications technology as well as navigation and control systems, all aided by satellites. In FY2001, the government has promoted the production of multi-functional transport satellites (MTSAT I & II), as well as a rocket to send aloft the new MTSAT I. Work has begun on developing a ground system for the new MTSAT II.

3. Concerns about the earthquake resistance of airports and aviation safety facilities are being addressed through efforts to upgrade existing facilities (e.g. inspection and renovation of buildings) and by duplication of air traffic control facilities (improved control function alternatives).

4. The government is advising air transport companies that operate large aircraft to improve their operation and maintenance systems, to cultivate greater safety awareness and to ensure operational safety by observing all applicable regulations. To help achieve these aims, the

government is approving operational regulations and maintenance regulations, and performing safety inspections.

5. To prevent accidents involving small aircraft, the government is calling for a comprehensive commitment to preventing accidents through strict compliance with all safety-related laws and regulations, to ensuring the use of sound flight plans for all aviation activities, to interpreting weather information more accurately and to implementing more rigorous and exhaustive training of pilots.

6. The government is conducting boarding inspections (ramp inspections) of foreign aircraft at airports in order to check their safety. When a problem is found on any aircraft, the government takes appropriate action, such as reporting the problem to the government of the country to which the aircraft belongs.

7. The government is working to augment safety measures and intensify their application in the field of aeronautic sports. It promotes better safety education for aeronautic sports enthusiasts through their organizations, by releasing information on aviation safety, and by making use of events such as “Sky Leisure Japan.”

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