

# **WHITE PAPER** **ON TRAFFIC SAFETY** **IN JAPAN** **2003**

*Abridged Edition*

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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 Accidents 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 (FY2003 White Paper on Traffic Safety in Japan) — the 33rd since the first was issued in 1971.

The main volume of the White Paper, “Traffic Accidents and Traffic Safety Measures in FY2002” 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 FY2002.

A separate volume of the White Paper, “Traffic Safety Measures for Implementation in FY2003,” provides details of the traffic safety measures planned for implementation during the current fiscal year (FY2003), according to the three categories of land transport (road and rail), maritime transport and air transport.



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## Part 1. Road Transport

### Chapter 1. Trends in Road Traffic Accidents

#### Long-term trends in road traffic accidents, etc.

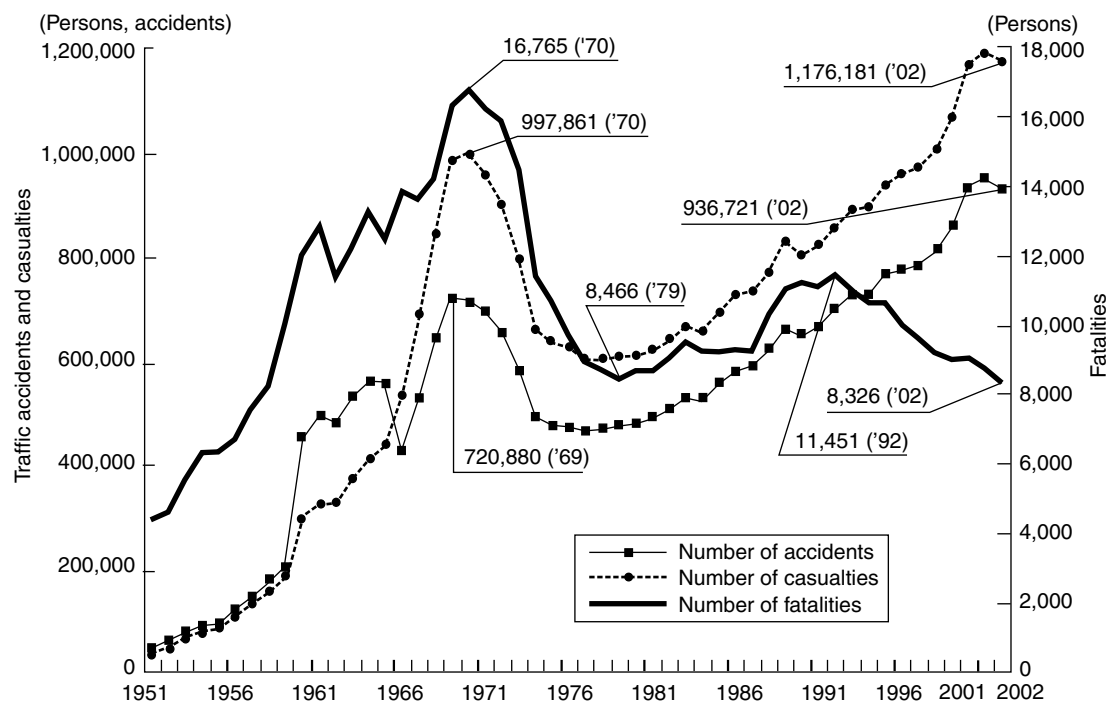
##### 1. Long-term trends in road traffic accidents

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 in 1979. 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 2002, road traffic fatalities amounted to 8,326, or less than half of the number for 1970, the worst year on record. A total of 936,721 road traffic accidents occurred, resulting in 1,176,181 casualties. (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. Decrease in fatalities and strategy for the future**

As the number of fatalities in 2002 was 8,326, the seventh Fundamental Traffic Safety Program's goal of reducing the annual death rate to 8,466 or lower by 2005 was achieved in the program's second year.

It is necessary to continue vigorously implementing various safety measures under the program, and to comprehensively promote measures for the elderly based on the "Comprehensive Traffic Safety Initiatives for the Elderly in Response to a Rapidly Aging Society" established by the Task Force on Transportation on March 27, 2003.

## **Road traffic accidents in 2002**

### **1. Overview**

In 2002 a total of 936,721 road traffic accidents occurred in Japan, resulting in 8,326 fatalities and 1,167,855 injuries.

The number of fatalities declined to a level less than half of that of the worst year, 1970, the numbers of accidents and injuries began falling for the first time in 12 years.

### **2. Traffic accident fatalities and injuries by age group**

In 2002 road traffic accidents claimed 3,144 deaths, or 37.8% of the total, among the elderly (65 and older), marking the tenth straight year in which the elderly accounted for more road fatalities than any other age group. Youths (16-24 year olds) accounted for the second highest proportion of fatalities with 1,316 deaths, or 15.8% of the total. Together, these two age groups accounted for 53.6% of all traffic fatalities. (See **Fig. 2**)

Also, the 16-24 age group topped the list of injuries with 249,902 injuries or 21.4% of the total. In comparison with 2001 figures, the number of injuries noticeably decreased for the age groups 16-24, 25-29, and 40-49, but markedly rose for those 65 and older and the 30-39 age group.

### **3. Traffic accident fatalities and injuries by road user type**

Motor vehicle occupants (drivers and passengers) led the list of road fatalities by type of road user, with 3,438 deaths, or 41.3% of the total. (See **Fig. 3**)

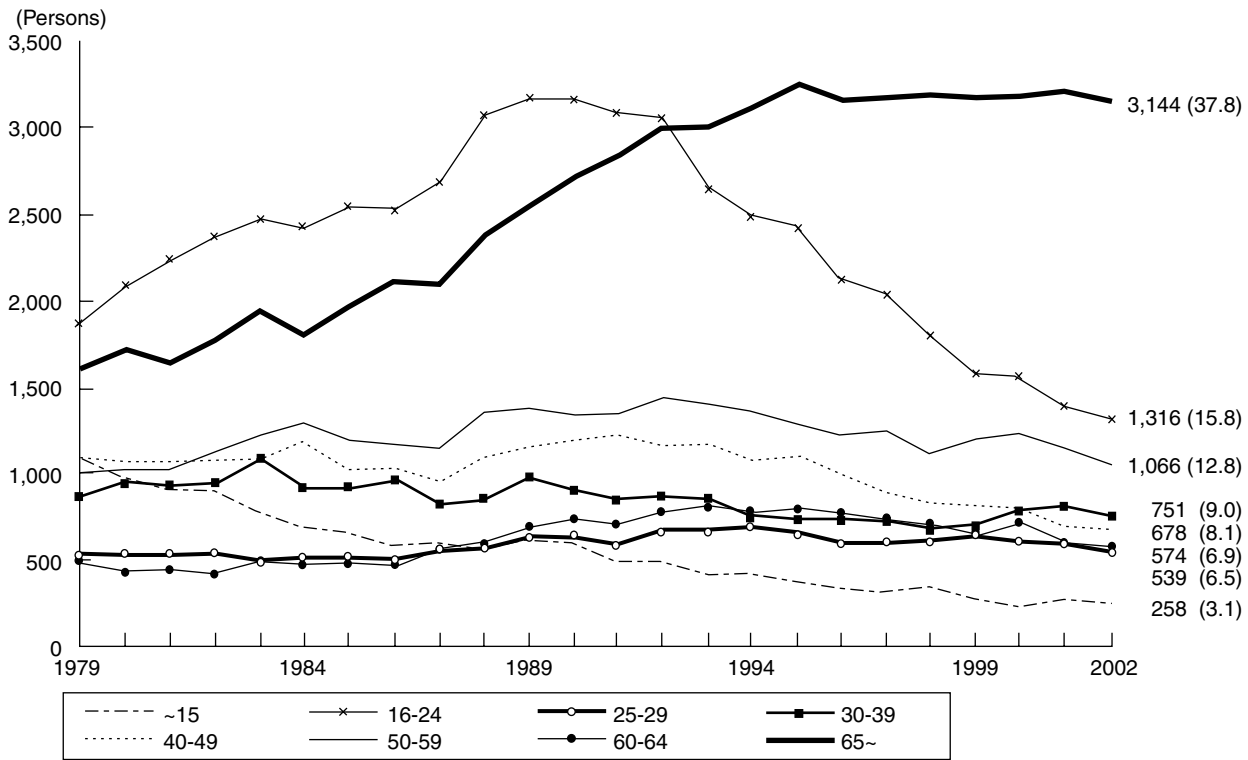
Likewise, motor vehicle occupants topped the list of injuries by road user type, with 721,137 injuries, or 61.7% of the total.

### **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 1993, reaching 87.2% in 2002.

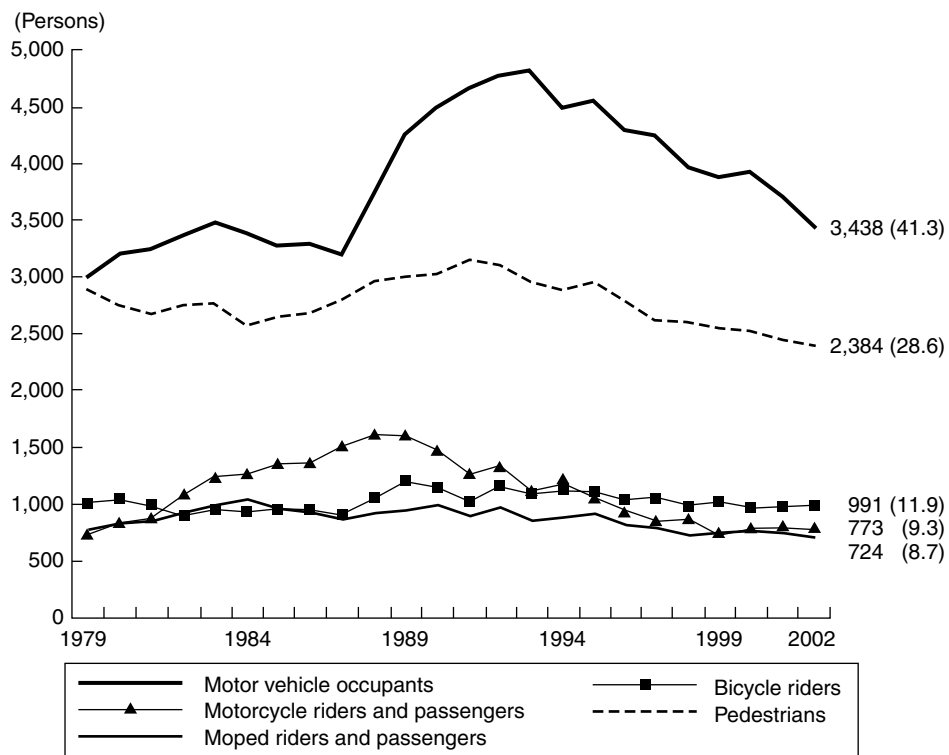
The fatality rate (ratio of fatalities to total casualties) among seat belt wearers was approximately eleven times lower than that for people not wearing belts. (See **Fig. 4**)

**Figure 2 Changes in Traffic Accident Fatalities by Age Group**



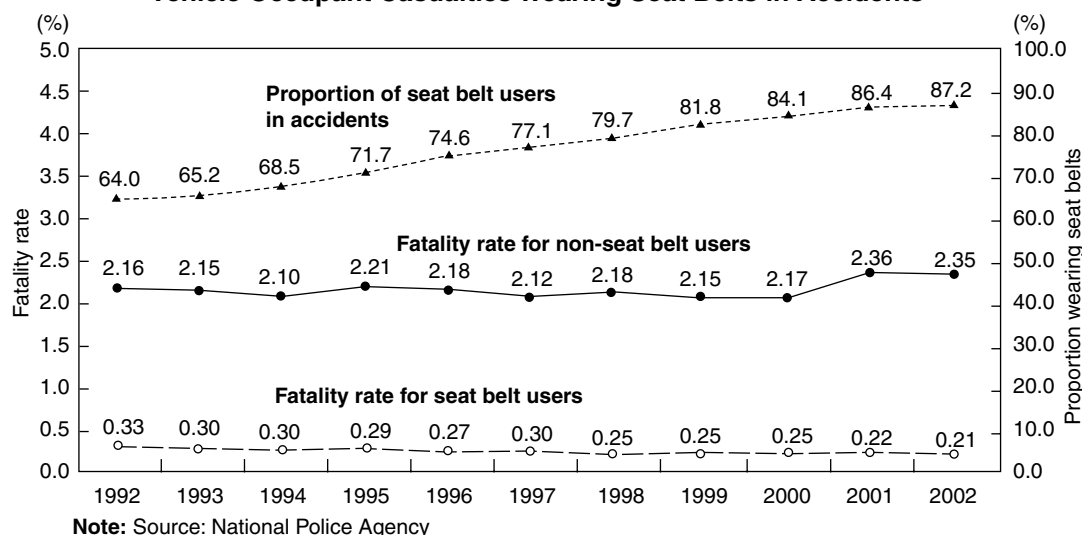
**Notes:** 1. Source: National Police Agency  
2. Figures in parentheses show percentage (%) of fatalities by age group.

**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**



### 5. Traffic accident fatalities by child safety seat use

There were 35 children under 6 years old killed while riding in motor vehicles. Excluding the 20 deaths that occurred in heavily damaged vehicles, three of the children had been restrained by child safety seats, while the remaining twelve had not.

### 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 (65 and older) are the primary party has increased by a factor of 2.97 between 1989 and 2002.

\*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. The State of Road Traffic Safety Measures

### 1. Promotion of traffic safety facility improvement

The following projects were implemented in FY2002, the final 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), speed restriction systems, and improved road lighting and road delineators for preventing night-time accidents.

2) Efforts were made to help the elderly and disabled to lead more independent and socially active lives, such as the creation of wide, flat pedestrian walkways and the 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 was also promoted.

In addition, the following steps were taken: the visibility of traffic signs and landmarks were upgraded for the benefit of elderly drivers, roads that children use to walk to school and kindergarten were redesigned to ensure safety, and pedestrian walkways and traffic squares were recreated to make them function integrally as part of roadways and as safety facilities.

3) In order to minimize the intermingling of vehicles and pedestrians in the road at traffic signal-controlled intersections, systems in which vehicles and pedestrians are alternately given the right of way were installed at 100 model intersections across Japan. Based on the results of this project, a strategy for installation and operation of these systems elsewhere was developed.

## **2. Construction of the Intelligent Transport System**

Research and development, field-testing, and infrastructure development were carried out in accordance with the plan formulated in 1996 for establishing a comprehensive ITS (Intelligent Transport System), an advanced information technology-based system that integrates people, roads, and vehicles to improve safety, transport efficiency, and other qualities of road transportation.

## **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 flex-time systems at more workplaces. In addition, in FY2001 the authentication system was introduced for TDM demonstration trials that local authorities conduct to adjust traffic flow and volume, and for trials that private-sector businesses conduct for the improvement of transport business. In FY2002 such trials were authenticated in 3 areas.

## **4. Traffic safety education for the elderly**

A variety of community-led traffic safety guidance programs were provided for elderly

persons who do not hold driver's licenses or are not members of social clubs. These programs included instructional visits by members of local public organizations to the residences of elderly persons living along roads with a high incidence of traffic accidents, and traffic accident prevention advice given through doctors and other professionals.

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 "nearmiss spots" (Hiyari map) in cooperation with relevant organizations, organizing skills training sessions for elderly drivers, and providing instruction on the safe use of electric wheel chairs, which has recently spread among senior citizens. 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.

Moreover, in order that proper advice can be given to the elderly at their homes, the national and local governments promoted Traffic Safety Mothers activities, programs for traffic safety awareness-raising through cross-generation interaction, and similar efforts.

##### **5. Thorough instruction in correct use of seat belts and child safety seats**

Efforts were made to disseminate information and provide instruction regarding the benefits of seat belts and their correct usage through various traffic safety seminars, Nationwide Traffic Safety Campaigns, and other such opportunities.

Furthermore, as child safety seats are frequently found to be improperly fastened, activities for promoting the use of child safety seats were conducted in conjunction with the spring and fall Nationwide Traffic Safety Campaigns, and workshops on their correct installation were held at obstetrics and gynecology clinics, kindergartens and nursery schools, and other venues.

##### **6. Enhancement of driver's education**

Based on the implementation of the revised Road Traffic Law in June 2002 and other legal changes, systems were established at specified driving schools for providing the education and skill certification needed for acquiring large and general Class 2 vehicle driver's licenses (for buses and other commercial passenger vehicles), so as to increase the opportunities for obtaining driver's licenses. At the same time, the schools were charged with the responsibility of providing education in first-aid techniques and other secondary skills in order to raise the quality of Class 2 vehicle driver's license holders.

In addition, education given at license renewal was divided into separate instruction for model drivers, average drivers, drivers who committed traffic violations, and drivers renewing their license for the first time. Also, the minimum age for elderly driver education at license renewal was lowered from 75 to 70.

### **7. Enhancement of operational management by trucking business operators**

Transportation safety rules for the trucking business were revised in response to the abolishment of operational zone restrictions on the trucking business through the April 2003 implementation of the Law Partially Revising the Railway Enterprise Law and Other Regulations (2002, Act No. 77). The new safety rules included more stringent roll call-taking for long-haul drivers. In addition, the standards for administrative disposition of drunken driving were toughened, and other administrative punishment standards were raised in response to the enactment of the above law.

### **8. Providing information on motor vehicle assessments**

Information was provided on the results of comparative tests on automobile collision safety, the extent to which automobiles are fitted with air bags and other safety devices, and the results of comparative safety testing on child safety seats, as well as other assessments.

### **9. Improvement of automobile inspection system**

As a result of a partial revision of the Road Transportation Vehicle Law in July 2002, illicit modification of vehicles was prohibited, and the system for ordering the repair of non-compliant vehicles was reinforced.

### **10. 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.

### **11. Improvement to automobile liability security system**

The Law Partially Revising the Automobile Liability Security Law and the Automobile Liability Reinsurance Special Accounting Law, put into effect on April 1, 2002, provides 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.

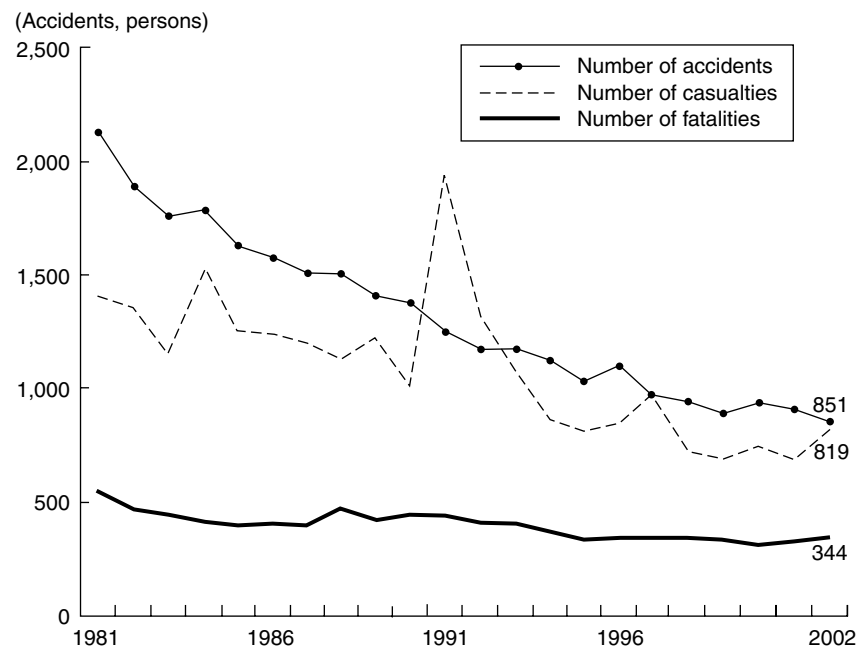
Under the Cabinet Ordinance Partially Revising the Ordinance on Enforcement of the Automobile Liability Security Law and Other Regulations, the insurance benefit ceiling was raised as of April 2002 for people who suffer serious disabilities in traffic accidents and require nursing.

## 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 2002, a total of 851 railway accidents occurred, resulting in 819 casualties (344 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.

Railway crossing accidents (448 accidents) accounted for approximately half of all railway traffic accidents, although this proportion continues its long-term decline.

## **Chapter 2.**

### **The State of Railway Safety Measures**

#### **1. Improvement to railway track facilities and operational safety systems**

In order to realize greater operational safety for smaller local railways, general inspections were carried out on tunnels, bridges, and other railway facilities to assess their safety. Moreover, train operational safety systems were improved through the enhancement of Centralized Train Control (CTC) systems and wider installation of Automatic Train Stop (ATS) systems.

#### **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.

In addition, guidance was provided on safety measures for conditions in which trains are permitted to pass stop signals, as a response to the train collision that occurred on the JR Kagoshima Line in February 2002. Guidance was also given on thorough safety management, including reconfirmation of emergency procedures for railway accidents and prevention of secondary accidents, as a response to the November 2002 accident in which a fire department rescue worker was struck and killed by a train while attempting to rescue a junior high school student who had been hit and injured by an earlier train.

#### **3. Investigation of railway accidents and measures to prevent future accidents**

The Aircraft and Railway Accident Investigation Committee, reorganized on October 1, 2001, published a report on its comprehensive analysis of the causes of railway accidents and the warning signs of potential accidents (serious incidents). In addition, efforts to prevent future railway accidents were made by collecting and organizing accident information reported in accordance with accident report regulations and by sharing that information with railway operators and other concerned parties.

#### **4. Measures to prevent accidents at railway crossings**

Based on the Railway Crossing Improvement Promotion Law (1961, Act No. 195) and the Seventh Comprehensive Crossing Accident Prevention Measures, projects were implemented to build overpasses and underpasses (thus to eliminate level crossings), carry out structural improvements, and install new safety equipment. As of the end of FY2001, the crossings designated for improvement under the above law included 2,099 sites requiring overpass/underpass construction, 3,893 requiring structural improvement, and 27,613 requiring new safety equipment, and work was continued to accomplish these improvements. At the same time, efforts were continued to consolidate crossings.

## Chapter 1. Trends in Maritime Accidents

In 2002, a total of 2,837 vessels were involved in maritime accidents, and 183 people were killed or reported as missing as a result of these accidents. (See **Fig. 6**) Also, 138 people died or became missing at sea after falling overboard.

The growth of marine leisure activity in recent years has been accompanied by a rise in maritime accidents involving pleasure boats and other recreational vessels. Although the number of recreational vessels involved in these accidents declined by 132 from the preceding year's total of 1,136, they still account for 40% of all vessels in maritime accidents.

Fishing vessel accidents were responsible for the largest number of deaths and missing persons resulting from maritime accidents (53% of total) and from falling overboard (59% of total).

## Chapter 2. The State of Maritime Traffic Safety Measures

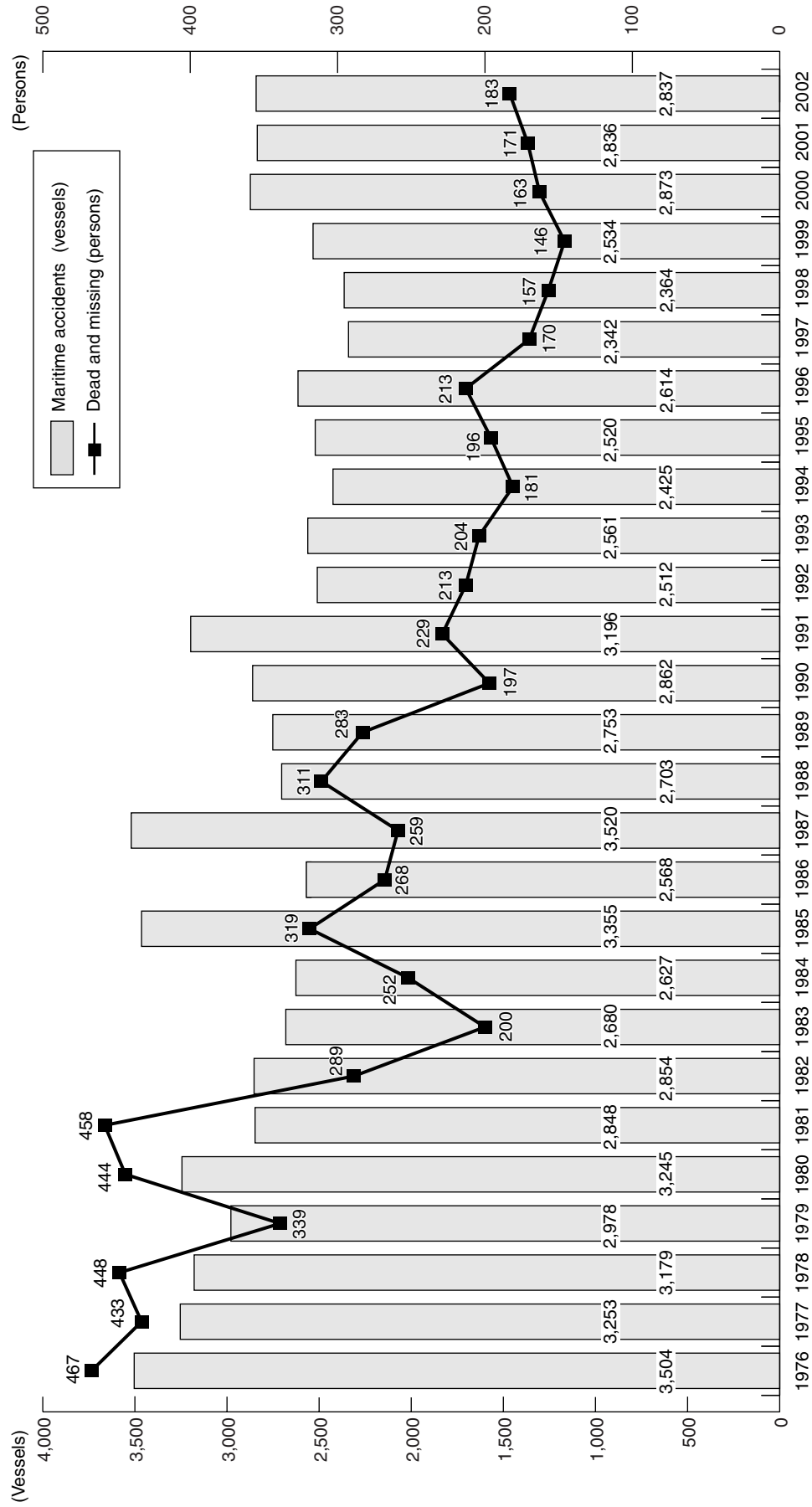
1. Under the ninth Seven-Year Port Development Plan (1996-2002), selected waterways were developed, and improvements were made to ports and harbors, including enhancement of their earthquake resistance. In accordance with the Long-term Development Plan for Fishing Ports and Areas, improvements were made to fishing port/area facilities to promote greater safety for fishing vessels.

2. For congested waters, the government has introduced special traffic rules, waterway travel requirements, and improved the Maritime Traffic Information System, a system of centralizing the issue of maritime traffic-related information and traffic control. Progress was made in a seaway improvement project at the mouth of Tokyo Bay, and in other projects aimed at the construction of maritime seaway networks, which would provide an environment of greater safety and efficiency for maritime traffic.

3. On April 1, 2002, the Japanese geodesic system of latitude and longitude used in maritime charts was replaced with a system based on international standards. Since this change increased the potential for vessel groundings and other maritime accidents, the FY2002 National Awareness Campaign for Maritime Accident Prevention included as one of its focal tasks educational activities for promoting the correct usage of international geodesic system-based maritime charts in ship position plotting.

4. Under the International Convention for the Safety of Life at Sea (the SOLAS treaty), a large-scale review was conducted on safety standards related to shipboard equipment for navigational

**Figure 6 Changes in the Number of Vessels Involved in Maritime Accidents and Persons Listed Dead or 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.

safety, such as carrying of Automatic Identification Systems (AIS), which are based on recent technological innovations. The resulting amendments went into force in July 2002, and Japan's related laws and ship inspection systems were revised in response to the changes.

5. Japan's laws were revised to reflect the International Maritime Organization's (IMO) prescription for construction of double-hull tankers, issued in a revision to the International Convention for the Prevention of Pollution from Ships (MARPOL) that took effect in September 2002.

6. As the International Safety Management Code (ISM) fully went into force in July 2002, efforts were made in Japan to develop the groundwork for smooth implementation of the ISM and to improve the systems for foreign vessel monitoring (Port State Control).

7. The Law Concerning Registration, Etc. of Small Vessels (2001, Act No. 102), defining the system of registration for notarizing ownership of non-fishing vessels under 20 tons gross (hereafter, "small vessels"), went into force in April 2002. This law is designed to make the registration process easier for small vessel owners and help resolve the problem of abandoned boats.

8. A special logo, "Uku-zo," was adopted as a tool for conveying to marine leisure enthusiasts the necessity of wearing life jackets. ("Uku-zo", which sounds like a boy's name, is a play on words that means "floating elephant" or "you will float !" )

9. The Law Partially Revising the Ship Crew Law was promulgated in June 2002 (entering into force in June 2003) to reorganize the system of crew qualifications, clearly define the responsibilities of small vessel captains, and make other changes designed to respond to the needs of small vessel operators and to improve safety for small vessel travel.

10. A model project for the Marine Road Vision, which is aimed at developing an environment that encourages pleasure boat operators to assume greater personal responsibility and safety awareness when cruising, was conducted for Tokyo Bay and nearby waterways.

11. In order to provide for the rapid and proper rescue of ill or injured persons at sea, the rapid-response rescue system was enhanced by the establishment of a mobile sea rescue team at a base at Fukuoka Airport. The team members fly to accident sites by helicopter to carry out hoist-assisted extractions, underwater operations, and other emergency rescue procedures. Moreover, in an effort to reduce the number of fatalities and missing persons resulting from falling overboard and other maritime accidents, a campaign was aggressively conducted to promote self-rescue measures, such as the wearing of life jackets at all times, preparation of a personal means of communication (cell phones, etc.), and the effective use of the phone number for requesting emergency assistance "118".



## Chapter 1. Trends in Aviation Accidents

The annual number of accidents involving civil aircraft in Japan has remained mostly level in recent years, showing only slight fluctuations. A total of 35 aircraft accidents occurred in 2002, resulting in 13 deaths and 62 injuries. (See **Table 1**)

**Table 1 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
2002	4	4	5	15	0	7	0	35	13	62

- 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 (one in 1998, three in 2000)
  4. Includes accidents involving foreign aircraft within Japan (one in 1998)
  5. Numbers of accidents and casualties do not include deaths due to natural causes, or fatal or non-fatal injuries- (self-inflicted or inflicted by 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, 2001 and 2002 are provisional

## Chapter 2. The State of Air Traffic Safety Measures

1. Systematic development of airports and aviation safety facilities was carried out 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 FY2002, 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 producing the rocket to send aloft the new MTSAT II.
3. In order to safely and efficiently handle the expanded air traffic expected to develop in coming years, a project was launched to realize the full-scale implementation of area navigation (RNAV)-controlled routes for congested airways.
4. In response to the mid-air collision that occurred between a small airplane and a helicopter in May 2001, the system for monitoring businesses that operate aircraft was reinforced through the assignment of additional inspectors to local Japan Civil Aviation Bureau offices.

5. As a response to the JAL Flight 907 accident that happened in January 2001, the government conducted an awareness-raising campaign aimed at encouraging the public to keep their seat belts fastened at all times when traveling on aircraft. In addition, guidelines were established regarding the procedures to be taken by aircraft crews when the collision avoidance system indicates that evasive action needs to be taken, and were disseminated to air transport companies. The government also revised the requirement for aircraft to be fitted with cockpit voice recorders and other such equipment.



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