

# Appendixes



# Japan Transport Safety Board Annual Report 2014

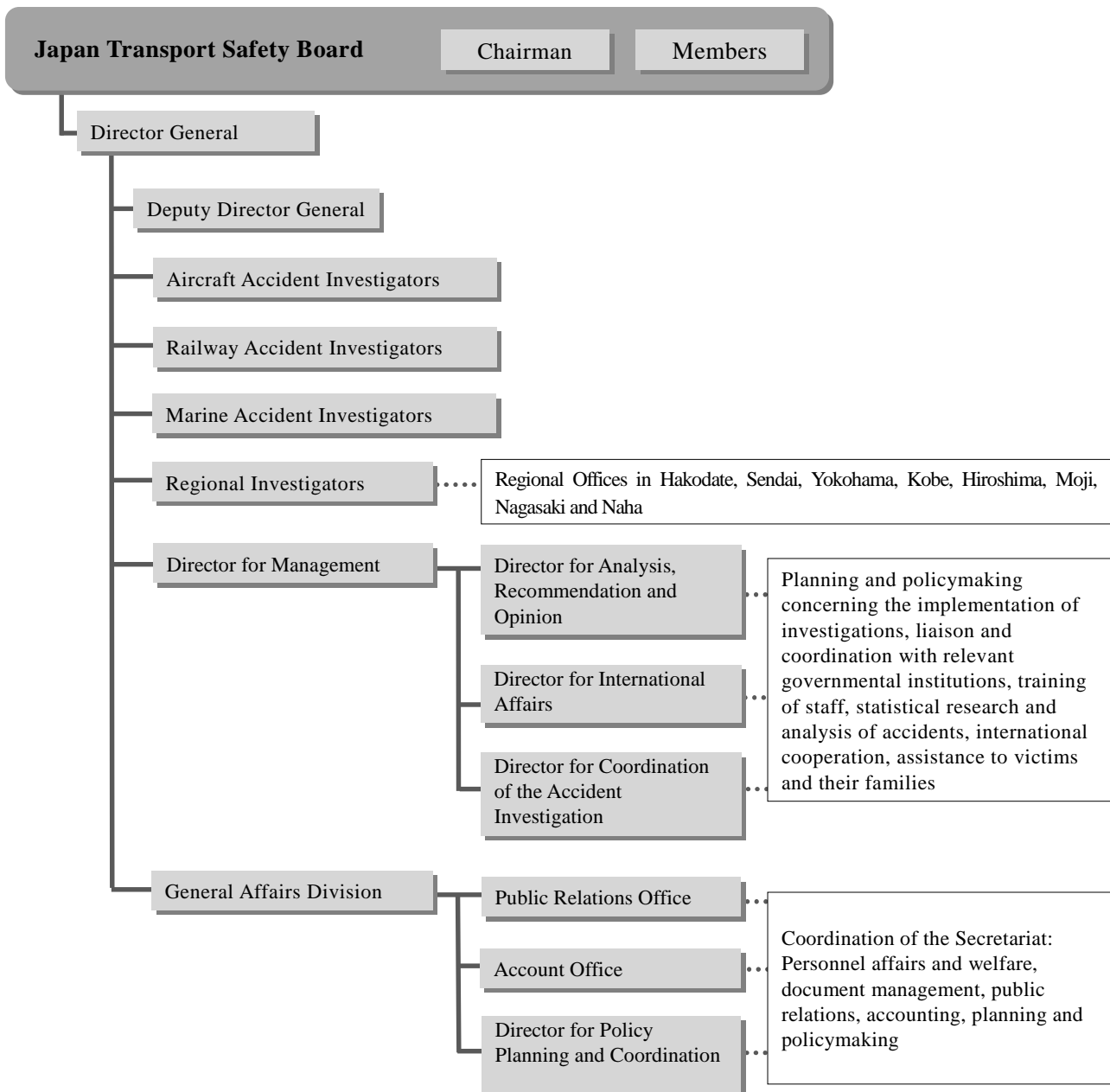
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## 1 Outline of the organization

The Japan Transport Safety Board consists of the Chairman, 12 members, and 176 secretariat staff (as of the end of March 2014). The staff in the secretariat consist of investigators who conduct investigations of aircraft, railway and marine accidents; the General Affairs Division that performs coordination-related jobs for the secretariat; and the Director for Management who is dedicated to the support and statistical analysis of accident investigations, and international cooperation. In addition, special support staff and local investigators are stationed at eight regional offices around the country (Hakodate, Sendai, Yokohama, Kobe, Hiroshima, Moji, Nagasaki and Naha). These local investigators investigate marine accidents (excluding serious ones) and support staff provide initial support for aircraft, railway and marine accidents.

Organization Chart



## 2 Deliberation items of Board and each Committee

After accident investigators prepare a draft investigation report, the draft report will be deliberated at the Board or Committees. In general, the committee which set up in each mode: Aircraft, Railway, Marine and Marine Special Committees will deliberate on the draft reports while particularly serious accidents will be deliberated at the General Committee, and extremely serious accidents at the Board.

The Board (Committee) is convened by the Chairman (or the Director of Committee), and attended by the members from the respective disciplines. Any matters shall be decided by a majority of the members present. A meeting cannot be convened and a decision cannot be made unless more than half of the members are present.

The Board (Committee) meeting is also attended by the Director General, Deputy Director General, Director for Management, Investigators concerned from the Secretariat.

### Deliberation items of Board and each Committee

Board and Committees	Matters to be deliberated
Board	<ul style="list-style-type: none"> <li>• Matters that the Board considers as extremely serious accidents based on the scale of damage and other matters including social impact</li> </ul>
General Committee	<ul style="list-style-type: none"> <li>• Matters related to particularly serious accidents               <ul style="list-style-type: none"> <li>(i) An accident involving ten or more persons killed or missing</li> <li>(ii) An accident involving twenty or more persons killed, missing or seriously injured</li> </ul>               (With regard to aircraft accidents and a marine accidents, (i) and (ii) are limited to passenger transport services.)             </li> <li>• Any other matters deemed to be necessary by the Board</li> </ul>
Aircraft Committee	<ul style="list-style-type: none"> <li>• Matters related to aircraft accidents and aircraft serious incidents (excluding the accidents to be handled by the General Committee)</li> </ul>
Railway Committee	<ul style="list-style-type: none"> <li>• Matters related to railway accidents and railway serious incidents (excluding the accidents to be handled by the General Committee)</li> </ul>
Marine Committee	<ul style="list-style-type: none"> <li>• Matters related to marine accidents and marine incidents as may be deemed serious by the Board (excluding the accidents to be handled by the General Committee and the Marine Special Committee)</li> </ul>
Marine Special Committee	<ul style="list-style-type: none"> <li>• Matters related to marine accidents and marine incidents (excluding the accidents to be handled by the General Committee and the Marine Committee)</li> </ul>

### 3 Board Members

As of April 1, 2014

#### **Norihiro Goto, Chairman (Full-time), Director of Aircraft Committee**

Chairman Norihiro Goto was appointed as Chairman of the Aircraft and Railway Accidents Investigation Commission in February 2007, currently in the third term of office.

During his tenure as Chairman, he has published many investigation reports concerning accidents and incidents, such as a train derailment and fire accident on the Sekisho Line of Hokkaido Railway Company, an accident in which the passenger boat TENRYU MARU No. 11 capsized in Tenryugawa River and an accident in which a McDonnell Douglas MD-11F operated by Federal Express Corporation was destroyed by fire on landing at Narita International Airport.

He has also started holding a regular press conference every month from August 24, 2011 and has been releasing a broad range of information mainly about the progress of accident and incident investigations, and the achievements of our duty improvement efforts.

Previously, he was engaged in education and research at the Department of Aeronautics and Astronautics at Kyushu University for about 35 years. He also took part in aeronautics and astronautics-related projects and accident investigations while serving mainly as members of the Space Activities Commission of the Ministry of Education, Culture, Sports, Science and Technology and a task force set up by the Japan Aerospace Exploration Agency (JAXA) to look into the causes for an accident involving an experimental supersonic airplane.

Career summary : Doctor of Engineering, Graduate School of Engineering, The University of Tokyo

(Mechanical engineering: mechanical dynamics and control, comprehensive engineering: aerospace engineering)

Former Professor for Department of Aeronautics and Astronautics, Faculty of Engineering, Kyushu University

#### **Toshiyuki Ishikawa, Member (Full-time)**

Toshiyuki Ishikawa was appointed as member on March 15, 2010, currently in the second term of office; specializes in legislation of administrative law and the others; in charge of the Aircraft Committee, the Railway Committee and the Marine Committee

Career summary : Doctor of Law, Graduate School of Law, Chuo University Former Professor for Law School, Chuo University

#### **Shinsuke Endoh, Member (Full-time), Acting Director of Aircraft Committee**

Shinsuke Endoh was appointed as member on February 22, 2007, currently in the third term of office; specializes in aviation safety, and operation and maintenance of aircraft; in charge of the Aircraft Committee

Career summary : Master's course, Graduate School of Engineering, The University of Tokyo  
Former adviser, Association of Air Transport Engineering and Research

**Sadao Tamura, Member (Full-time)**

Sadao Tamura was appointed as member on December 6, 2010, currently in the second term of office; specializes in maneuvering of aircraft; in charge of the Aircraft Committee

Career summary : Former General Manager of Operations Support Office, Flight Operations Department, All Nippon Airways Co., Ltd.

**Akira Matsumoto, Member (Full-time), Director of Railway Committee**

Akira Matsumoto was appointed a member on October 1, 2007, currently in the third term of office; specializes in railway engineering and safety engineering; in charge of the Railway Committee

Career summary : Graduated from Department of Mechanical Engineering, Faculty of Engineering, Yokohama National University

Former Executive Researcher for Safety Technologies of New Urban Transportation Systems, National Traffic Safety & Environment Laboratory

**Shigeru Yokoyama, Member (Full-time), Acting Director of Railway Committee**

Shigeru Yokoyama was appointed as member on December 6, 2013; specializes in electrical engineering and electronics; in charge of the Railway Committee

Career summary : Doctor of Engineering, Department of Electronics, Faculty of Engineering, The University of Tokyo

Former Professor for Department of Electrical and Electronic Engineering, Shizuoka University

**Tetsuo Yokoyama, Member (Full-time), Acting Chairman, Director of Marine Committee**

Tetsuo Yokoyama was appointed as member on October 1, 2008, currently in the second term of office; specializes in maneuvering of ship; in charge of the Marine Committee and the Marine Special Committee

Career summary : Graduated from Japan Coast Guard Academy

Former Commissioner of Japan Marine Accident Inquiry Agency

**Kuniaki Shoji, Member (Full-time), Acting Director of Marine Committee**

Kuniaki Shoji was appointed as member on October 1, 2011; specializes in marine engineering and naval architecture; in charge of the Marine Committee and the Marine Special Committee

Career summary : Doctor of Engineering, Graduate School of Engineering, The University of Tokyo

Former professor, Faculty of Marine Technology, Tokyo University of Marine Science and Technology

**Yuki Shuto, Member (Part-time)**

Yuki Shuto was appointed as member on February 22, 2007, currently in the third term of office; specializes in ergonomics (human factors); in charge of the Aircraft Committee

Career summary : Master's course, Graduate School of Human Sciences, Waseda University  
Representative Director and President of Research Institute for Social Safety

**Keiji Tanaka, Member (Part-time)**

Keiji Tanaka was appointed as member on February 27, 2013; specializes in flight simulation and flight dynamics; in charge of the Aircraft Committee

Career summary : Doctor of Engineering, Department of Aeronautics, Faculty of Engineering, The University of Tokyo

Former Professor for Aerospace Engineering Course, Monozukuri Engineering Department, Tokyo Metropolitan College of Industrial Technology

**Norio Tomii, Member (Part-time)**

Norio Tomii was appointed as member on October 1, 2007, currently in the third term of office; specializes in railway operation planning and management; in charge of the Railway Committee

Career summary : Doctor of Informatics, Graduate School of Informatics, Kyoto University  
Professor for Department of Computer Science, Faculty of Information and Computer Science, Chiba Institute of Technology



**Miyoshi Okamura, Member (Part-time)**

Miyoshi Okamura was appointed as member on December 6, 2010; currently in the second term of office specializes in structural engineering, earthquake engineering and maintenance management engineering (steel structural engineering); in charge of the Railway Committee

Career Summary : Doctor of Engineering, Graduate School of Engineering, University of Yamanashi

Associate Professor for Department of Research Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi

**Mina Nemoto, Member (Part-time)**

Mina Nemoto was appointed as member on October 1, 2008, currently in the second term of office; specializes in ergonomics (human factors); in charge of the Marine Committee and the Marine Special Committee

Career summary : Doctor of Philosophy, Graduate School of Media and Governance, Keio University

Manager, Maritime Service Team, Maritime Business Group, Japan Marine Science Inc.

**The chairman and members of the Board shall be appointed by the Minister of Land, Infrastructure, Transport and Tourism with the consent of both houses of Representatives and Councilors.**

## 4 Duties improvement of JTTSB

The Japan Transport Safety Board (JTTSB) was established in October 2008 under Article 3 of the National Government Organization Act. It is an independent professional investigation agency formed by the merger of the Aircraft and Railway Accidents Investigation Commission (ARAIC) and the Japan Marine Accident Inquiry Agency (JMAIA), which investigated marine accidents. The agency's purpose is to conduct scientific investigation into the causes of aviation, railway, and marine accidents or incidents from impartial and neutral standpoint so as to contribute to prevent the occurrence of accidents and mitigate the damage by them.

However, in September 2009, it came to light that a member of the ARAIC leaked information on the investigation of the Train Derailment Accident on the Fukuchiyama Line of the West Japan Railway Company in 2005 and that undermined the public's confidence in our investigation. After verification of this regrettable event, the JTTSB established a mission, principles and the Duty Improvement Action Plan in March 2012 to promote its reforms so that the JTTSB can achieve truly needed investigation and greater social confidence by improving the issues identified through the verification.

### 1 Duty improvement review process

- (1) In order to verify the reliability of the Final Report on the JR Fukuchiyama line accident which was publicized in June 2007, including whether the information leakage had any influence on the report, a verification meeting consisting of the victims, their families and experts (the Verification Members) was formed in November 2009. The verification was subsequently conducted over the next one and a half years.

The verification concluded that the Final Report was not influenced by the leakage, but the Verification Members pointed out other issues and challenges the JTTSB faced, and compiled a proposal on the future of the JTTSB (the Proposal). The Proposal pointed out key areas that require improvement, such as ensuring transparency in accident investigation, enhancing the provision of information to victims, and various other issues. It recommended that the JTTSB address the issue of duty improvement by setting up a panel of external advisors to review and improve the Board's duties where necessary in future.

The Proposal on the future of the JTTSB (excerpt)

#### 10 . JTTSB Duty Improvement Policy

Taking the regrettable event as a lesson, the JTTSB is in the process of reviewing the work processes. It should continue to proactively review its duties so as to achieve truly needed investigation and greater social confidence, exploiting the Board's great capabilities. To this end, the external advisors should be invited to set up a panel to identify specific organizational and duty improvements to address the key issues raised in the Proposal and others necessary.

- (2) In July 2011, the Advisory Meeting for the duty improvement of the JTTSB was established. The members and the meetings held are as follows:

Members of the Advisory Meeting

Mr. Seiji Abe (Professor, Kansai University)  
 Mr. Takemune Sato (Attorney at law)  
 Mr. Shigeru Haga (Professor, Rikkyo University)  
 Mr. Kunio Yanagida (Writer)  
 Mr. Hiroyuki Yamato (Professor, Graduate School, the University of Tokyo)

**First Meeting**

Time : 2 p.m. to 4 p.m., July 27, 2011 (Wednesday)  
 Place : JTSTB Board Room  
 Subjects : (i) Current initiatives (ii) Scope of review on JTSTB duty improvement  
 (iii) Introduction to concrete efforts in investigation reports (iv) Others

**Second Meeting**

Time : 3 p.m. to 5 p.m., March 19, 2012 (Monday)  
 Place : JTSTB Board Room  
 Subjects : (i) JTSTB Duty Improvement Action Plan (Draft) (ii) Others

**Third Meeting**

Time : 2 p.m. to 4 p.m., August 1, 2012 (Wednesday)  
 Place : JTSTB Board Room  
 Subjects : (i) A review of the progress of the Duty Improvement Action Plan (ii) New challenges  
 (iii) Comments from experts (iv) Others

**Fourth Meeting**

Time : 2 p.m. to 4 p.m., March 15, 2013 (Friday)  
 Place : JTSTB Board Room  
 Subjects : (i) A review of the progress of the Duty Improvement Action Plan (ii) New challenges  
 (iii) A revision of the Duty Improvement Action Plan

**Fifth Meeting**

Time : 3 p.m. to 5 p.m., November 6, 2013 (Wednesday)  
 Place : JTSTB Board Room  
 Subjects : (i) A review of the progress of the Duty Improvement Action Plan (ii) Using outcome of  
 the investigation (iii) Others

- (3) In December 2011, a meeting on duty improvement was held among the advisors and the JTSTB to exchange opinions on various issues. In March 2012 and December 2013, a meeting was also held with the Verification Members of the JR Fukuchiyama Line accident report to hear their comments.

## **2 Mission and Principles**

As part of the duty improvement process, the mission of the JTSTB and its guiding principles were established. The mission and principles are displayed at the Tokyo Headquarters and eight regional offices nationwide to remind each and every staff member to bear this in mind while carrying out their

daily work.

(1) JTSB Mission

We contribute to

- preventing the occurrence of accidents and
- mitigating the damage caused by them,

thus improving transport safety while raising public awareness, and thereby protecting the people's lives by

-accomplishing appropriate accident investigations which thoroughly unveil the causes of accidents and damages incidental to them, and

-urging the implementation of necessary policies and measures through the issuance of safety recommendations and opinions or provision of safety information.

(2) JTSB Principles

1. Conduct of appropriate accident investigations

We conduct scientific and objective accident investigations separated from apportioning blame and liability, while deeply exploring into the background of the accidents, including the organizational factors, and produce reports with speed. At the same time, we ensure that the reports are clear and easy to understand and we make efforts to deliver information for better understanding.

2. Timely and appropriate feedback

In order to contribute to the prevention of accidents and mitigation of the damage caused by them, we send messages timely and proactively in the forms of recommendations, opinions or factual information notices nationally and internationally. At the same time, we make efforts towards disclosing information in view of ensuring the transparency of accident investigations.

3. Consideration for victims

We think of the feelings of victims and their families, or the bereaved appropriately, and provide them with information regarding the accident investigations in a timely and appropriate manner, and respond to their voices sincerely as well.

4. Strengthening the foundation of our organization

We take every opportunity to develop the skills of our staff, including their comprehensive understanding of investigation methods, and create an environment where we can exchange opinions freely and work as a team to invigorate our organization as a whole.

### 3 Duty Improvement Action Plan

In line with four action principles set forth in the Mission for the JTSB, we established the Duty Improvement Action Plan as a concrete action plan in March 2012. (The Action Plan was second revised in April 2014.)

#### 4 Continuous duty improvement

The JTSB will diligently implement the Duty Improvement Action Plan and review the plan on a timely and appropriate basis, while action items shall be followed-up during the Advisory Meeting.

#### 5 Number of occurrence by aircraft category (aircraft accidents)(Cases)

Category Year of occurrence	Aircraft			Rotor craft		Glider	Airship	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
1974	8	15	0	17	1	8	0	49
1975	3	16	0	16	0	8	0	43
1976	9	26	0	14	0	7	0	56
1977	5	12	0	16	1	5	0	39
1978	4	10	0	18	1	6	0	39
1979	8	14	0	20	1	6	1	50
1980	5	11	0	22	0	3	0	41
1981	3	10	1	18	0	8	0	40
1982	3	16	0	9	1	7	0	36
1983	4	13	10	12	0	7	0	46
1984	4	5	6	13	1	3	0	32
1985	5	11	6	15	0	4	0	41
1986	4	12	14	15	3	4	0	52
1987	8	17	8	8	1	3	0	45
1988	5	6	7	12	2	3	1	36
1989	2	6	11	9	1	12	0	41
1990	3	11	9	16	2	7	0	48
1991	2	10	6	19	0	7	0	44
1992	3	5	5	7	0	4	0	24
1993	4	5	3	17	1	2	0	32
1994	3	4	8	13	0	2	0	30
1995	4	7	10	6	0	1	0	28
1996	8	11	5	8	0	4	0	36
1997	3	11	3	8	2	3	0	30
1998	4	14	5	6	1	6	0	36
1999	1	9	5	7	1	5	0	28
2000	1	5	5	11	1	5	0	28
2001	2	5	2	8	0	4	0	21
2002	4	4	5	15	0	7	0	35
2003	2	10	3	1	0	2	0	18

2004	4	11	2	6	1	3	0	27
2005	1	8	0	7	0	7	0	23
2006	3	3	4	2	1	5	0	18

Category Year of occurrence	Aircraft			Rotor craft		Glider	Airship	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
2007	5	3	4	7	0	4	0	23
2008	3	6	2	3	0	3	0	17
2009	6	2	1	7	0	3	0	19
2010	0	4	2	4	0	2	0	12
2011	1	8	1	3	0	1	0	14
2012	8	3	2	4	0	1	0	18
2013	1	4	1	3	0	2	0	11
Total	156	363	156	422	23	184	2	1,306

(Note) 1. The figures include the cases handled by the Aircraft and Railway Accident Investigation Commission.

2. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700kg.

3. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.

## 6 Number of occurrence by aircraft category (aircraft serious incidents)

(Cases)

Category Year of occurrence	Aircraft			Rotor craft		Glider	Airship	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
2001	3	0	0	0	0	0	0	3
2002	0	1	2	1	0	1	0	5
2003	7	1	4	2	0	1	0	15
2004	5	3	4	2	0	0	0	14
2005	10	3	1	1	0	0	0	15
2006	2	2	0	0	0	0	0	4
2007	6	2	2	1	0	1	0	12
2008	4	1	0	0	0	0	0	5
2009	4	5	0	2	0	0	0	11
2010	7	1	3	1	0	0	0	12
2011	6	0	0	0	0	0	0	6
2012	4	2	0	3	0	1	0	10
2013	5	2	0	1	0	0	0	8
Total	63	23	16	14	0	4	0	120

(Note) 1. The figures include the cases handled by the Aircraft and Railway Accident Investigation Commission.

2. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700kg.
3. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.
4. The number of cases for 2001 represents those that occurred from October onward.

## 7 Number of occurrence by type (railway accidents)

(Cases)

Year of occurrence \ Type	Railway							Tramway							Total
	Train collision	Train derailment	Train fire	Level crossing accident	Accident against road traffic	Other accidents with casualties	Heavy property loss without casualties	Vehicle collision	Vehicle derailment	Vehicle fire	Level crossing accident	Accident against road traffic	Other accidents with casualties	Heavy property loss without casualties	
2001	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
2002	1	14	1	2	0	1	1	0	0	0	0	0	0	0	20
2003	1	20	2	0	0	0	0	0	0	0	0	0	0	0	23
2004	0	18	0	1	0	0	0	0	1	0	0	0	0	0	20
2005	2	20	0	0	0	1	0	0	1	0	0	0	0	0	24
2006	1	13	0	1	0	0	0	1	0	0	0	0	0	0	16
2007	0	12	2	3	0	0	0	0	2	0	0	0	0	0	19
2008	0	7	2	2	0	1	1	0	0	0	0	0	0	0	13
2009	0	5	1	2	0	3	0	0	0	0	0	0	0	0	11
2010	0	6	0	0	0	1	0	0	0	0	0	2	0	0	9
2011	0	12	0	1	0	1	0	0	0	0	0	0	0	0	14
2012	0	13	2	0	0	2	0	0	2	0	0	1	0	0	20
2013	0	11	1	1	0	1	0	0	1	0	0	0	0	0	15
Total	5	155	12	13	0	11	2	1	7	0	0	3	0	0	209

- (Notes) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.  
 2. The number of cases for 2001 represents those that occurred from October onward.

## 8 Number of occurrence by type (railway serious incidents)

(Cases)

Year of occurrence	Railway										Tramway						Total	
	Incorrect management of safety block	Incorrect indication of signal	Violating red signal	Main track overrun	Violating closure section for construction	Vehicle derailment	Dangerous damage in facilities	Dangerous trouble in vehicle	Heavy leakage of dangerous object	Others	Incorrect management of safety block	Violating red signal	Main track overrun	Dangerous damage in facilities	Dangerous trouble in vehicle	Heavy leakage of dangerous object		Others
2001	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2002	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2003	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2004	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
2005	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
2006	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4
2007	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	3
2008	0	0	0	0	1	0	0	3	0	0	0	0	0	0	0	0	0	4
2009	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4
2010	1	0	0	0	1	1	0	2	0	0	1	1	0	0	0	0	0	7
2011	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
2012	0	0	0	0	1	1	0	3	0	0	0	0	0	0	0	0	0	5
2013	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Total	1	7	0	0	6	2	1	21	0	1	1	1	0	0	0	0	0	41

(Notes) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.

2. The number of cases for 2001 represents those that occurred from October onward.



## 9 Number of accidents and incidents by area (marine accidents and incidents)

(Cases)

Year \ Area	In Japanese waters			Outside Japanese waters	Total
	In ports specified by the Cabinet Order	Within 12 nautical miles	In lakes or rivers		
2007		3			3
2008	227	576	15	55	873
2009	341	1,065	34	82	1,522
2010	305	909	38	82	1,334
2011	239	780	28	79	1,126
2012	225	805	32	53	1,115
2013	217	747	34	66	1,064
Total	1,554	4,885	181	417	7,037

Note: The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of February 2014 (including those carried over from the former Marine Accident Inquiry Agency).

## 10 Number of accidents and incidents by type (marine accidents and incidents)

(Cases)

Year \ Type	Types of marine accident											Type of marine incident				Total
	Collision	Contact	Grounding	Sinking	Flooding	Capsizing	Fire	Explosion	Facility damage	Casualty	Others	Loss of control	Stranded	Safety obstruction	Navigation obstruction	
2007		1	2													3
2008	181	101	255	12	4	28	15	3	30	61		54	34	8	87	873
2009	325	174	431	16	19	57	42	3	38	218	2	105	33		59	1,522
2010	356	180	369	15	18	50	35	2	26	146		83	16		38	1,334
2011	282	145	264	12	18	57	32	1	23	142	1	103	10	1	34	1,126
2012	247	132	264	5	21	56	44	2	34	154		113	5	4	35	1,115
2013	262	136	210	12	22	47	33	2	34	162		108	7	3	26	1,064
Total	1,653	869	1,795	72	102	295	201	13	185	883	3	566	105	16	279	7,037

Note 1: The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of February 2014 (including those carried over from the former Marine Accident Inquiry Agency).

Note 2: The figures in the column "Casualty" are the number of cases involving death, death and injury, missing persons, or injury.

## 11 Number of vessels involved in accidents and incidents by type of vessel (marine accidents and incidents)

(Vessels)

Type of Vessel \ Year	Passenger ship	Cargo ship	Tanker	Fishing vessel	Tug boat, push boat	Recreational fishing vessel	Angler tender boat	Work vessel	Barge, Lighter	Public-service ship	Pleasure boat	Personal water craft	Others	Total
2007	2	1												3
2008	55	318	55	307	98	28	6	27	60	11	125	31	7	1,128
2009	103	480	83	605	163	39	6	35	104	40	249	65	22	1,994
2010	99	398	105	555	123	53	6	48	82	24	251	66	18	1,828
2011	68	285	105	504	89	38	6	29	50	16	250	46	21	1,507
2012	79	295	75	467	90	34	8	36	59	14	246	55	9	1,467
2013	60	230	68	476	99	39	4	35	68	23	255	64	23	1,444
Total	466	2,007	491	2,914	662	231	36	210	423	128	1,376	327	100	9,371

Note: The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of February 2014 (including those carried over from the former Marine Accident Inquiry Agency).

## 12 Number of vessels involved in accidents and incidents by gross tonnage (marine accidents and incidents)

(Vessels)

Gross tonnage \ Year	less than 20 tons	20 to less than 100 tons	100 to less than 200 tons	200 to less than 500 tons	500 to less than 1,600 tons	1,600 to less than 3,000 tons	3,000 to less than 5,000 tons	5,000 to less than 10,000 tons	10,000 to less than 30,000 tons	More than 30,000 tons	Unknown	Total
2007	1			1							1	3
2008	485	52	138	216	77	24	16	17	10	15	78	1,128
2009	903	89	230	288	116	42	34	49	30	14	199	1,994
2010	900	86	175	260	128	36	37	39	25	24	118	1,828
2011	823	59	142	194	101	39	18	32	21	17	61	1,507
2012	783	53	131	199	77	33	25	38	24	21	83	1,467

2013	719	43	110	137	87	44	22	36	20	16	210	1,444
Total	4,614	382	926	1,295	586	218	152	211	130	107	750	9,371

Note: The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of February 2014 (including those carried over from the former Marine Accident Inquiry Agency).

### 13 Number of vessels involved in accidents and incidents in 2013 by type of accident/incident and type of vessel (marine accidents and incidents)

(Vessels)

Type of accident/ incident  Type of vessel	Marine accident										Marine incident				Total
	Collision	Contact	Grounding	Sinking	Flooding	Capsizing	Fire	Explosion	Facility damage	Casualty	Loss of control	Stranded	Safety obstruction	Navigation obstruction	
Passenger ship	6	19	13		2				1	4	3			12	60
Cargo ship	90	33	50	2	1	1	6		8	12	18	6	2	2	231
Tanker	33	11	12				1		2	3	5	1			68
Fishing vessel	207	17	46	1	10	24	18	2	9	86	50		1	5	476
Tug boat, push boat	26	21	24	5	1	5	1		6	3	5			1	98
Recreational fishing vessel	20	3	4	1		1	1		1	6	2				39
Angler tender boat	1	1								2					4
Work vessel	6	3	9	4		3			1	6	1				33
Barge, Lighter	27	13	15	2	1	2			4	2	2				68
Public-service ship	5	6	4			1	2			1	1		1	3	24
Pleasure boat	87	20	49	2	8	18	4		14	29	21			3	255
Personal water craft	35	3	2							22	2				64
Others	12	4	3	1		1			1	1	1				24
Total	555	154	231	18	23	56	33	2	47	177	111	7	4	26	1,444

Note 1: The above table shows the number of vessels involved in accidents and incidents into which the JTSB launched an investigation as of the end of February 2014.

Note 2: The figures in the column "Casualty" are the number of cases involving death, death and injury, missing persons, or injury.

**~ Japan Transport Safety Board Annual Report 2014 ~**

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