

## Appendixes

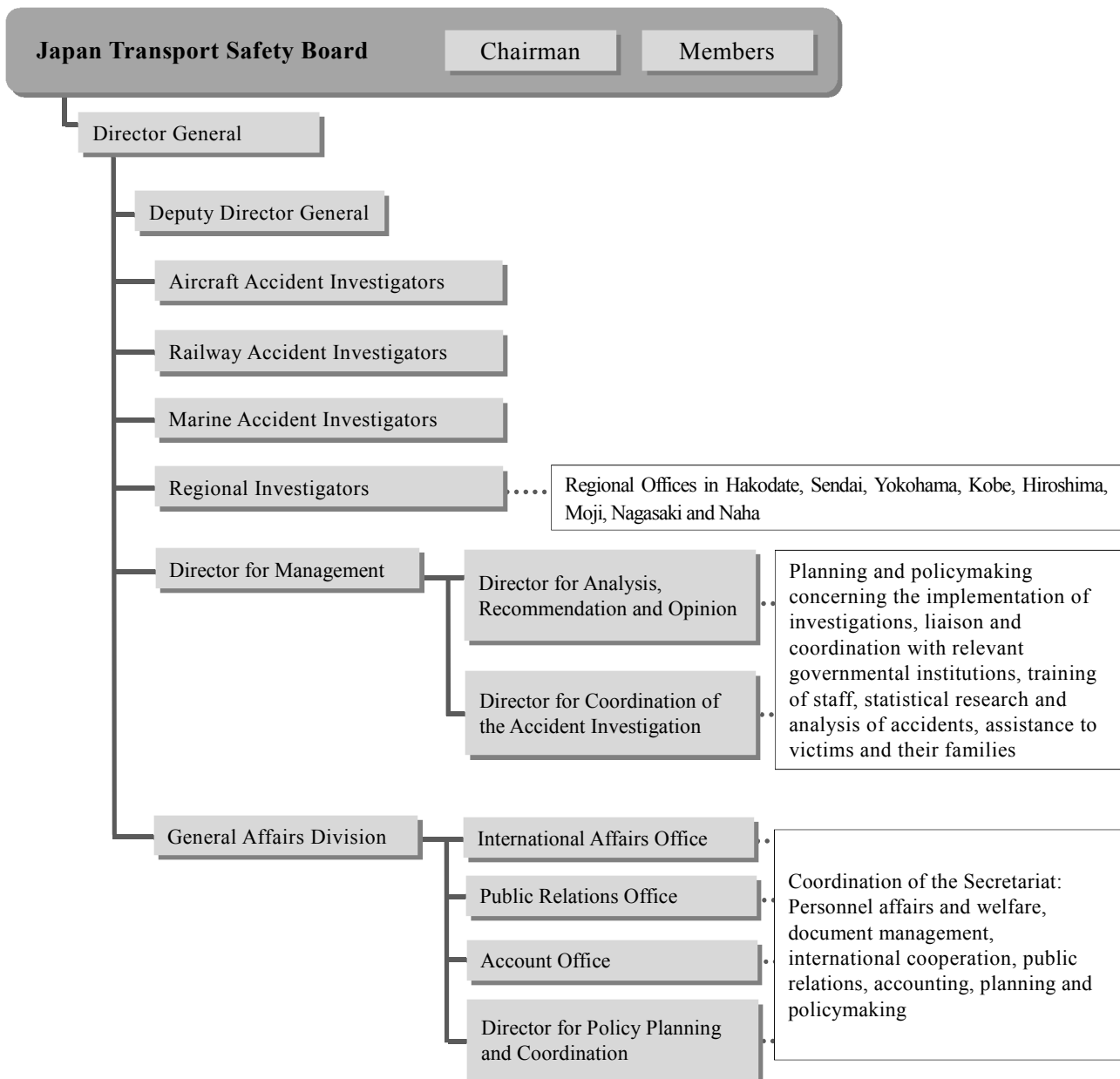
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## 1 Outline of the organization

The Japan Transport Safety Board consists of the Chairman, 12 members, and 178 secretariat staff (as of the end of March 2015). 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

When investigations of accidents have progressed and the facts, as well as the causes and factors of accidents, have become clear to a certain extent, accident investigators put these results together and prepare a draft investigation report. This draft is then deliberated in the Board or Committees. As indicated in the table below, matters related to extremely serious accidents are deliberated in the Board, and matters related to particularly serious accidents are deliberated in the General Committee, and so nearly all draft investigation reports are deliberated in committees set up for each transport mode (Aircraft, Railway, Marine and Marine Special Committees).

The Board is composed of eight full-time members, including the Chairman, and five part-time members, with its assemblies convened by the Chairman. The Committees are composed of members with expertise related to each Committee, and their meetings are convened by their own Committee Directors. Any matters shall be decided by a majority of the members present for both the Board and Committees, and for both of these, 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, 2017

#### **Kazuhiro Nakahashi, Chairman (Full-time), Director of Aircraft Committee**

Kazuhiro Nakahashi was appointed as Chairman of the Japan Transport Safety Board on February 27, 2016; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee with special expertise in aerospace engineering and computational fluid dynamics

Career summary: Doctor of Engineering, Graduate School of Engineering, the University of Tokyo  
Former Professor in the Graduate School of Engineering, Tohoku University  
Former Vice President of the Japan Aerospace Exploration Agency

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

Toshiyuki Ishikawa was appointed as a member on March 15, 2010, currently in the third term of office; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee, with special expertise in legislation of administrative law and others

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

#### **Toru Miyashita, Member (Full-time), Vice-Chairman, Deputy Director of Aircraft Committee**

Toru Miyashita was appointed as a member on February 27, 2016; belongs to the Aircraft Committee, with special expertise in operation and maintenance of aircraft

Career summary: Graduated from the Department of Aeronautics, Faculty of Engineering, the University of Tokyo  
Former Executive Director of the Association of Air Transport Engineering & Research

#### **Yuichi Marui, Member (Full-time)**

Yuichi Marui was appointed as a member on December 6, 2016; belongs to the Aircraft Committee, with special expertise in maneuvering of aircraft

Career summary: Graduated from Civil Aviation College  
Former D.Senior Vice President, Corporate Safety and Security, All Nippon Airways Co., Ltd.

#### **Fuminao Okumura, Member (Full-time), Director of Railway Committee**

Fuminao Okumura was appointed as a member on December 6, 2016; belongs to the Railway Committee, with special expertise in railway engineering and geotechnical engineering

Career summary: Doctor of Engineering, graduated from the Department of Civil Engineering, Faculty of Engineering, Tokyo Institute of Technology  
Former Executive Director of the Railway Technical Research Institute

#### **Hiroaki Ishida, Member (Full-time), Deputy Director of Railway Committee**

Hiroaki Ishida was appointed as a member on December 26, 2016; belongs to the Railway Committee, with special expertise in dynamics of machinery, vehicle dynamics and railway vehicle engineering

Career summary: Doctor of Engineering, graduated from the Department of Industrial Mechanical Engineering, Faculty of Engineering, the University of Tokyo  
Former Professor in the Program in Mechanical Engineering, Department of Interdisciplinary Science and Engineering, School of Science and Engineering, Meisei University

#### **Yuji Sato, Member (Full-time), Director of Marine Committee**

Yuji Sato was appointed as a member on October 1, 2017; belongs to the Marine Committee and the Marine Special Committee, with special expertise in ship operation and maritime traffic safety

Career summary: Graduated from Japan Coast Guard Academy  
Former Commandant of Japan Coast Guard  
Former President of Japan Coast Guard Foundation

**Kenkichi Tamura, Member (Full-time), Deputy Director of Marine Committee**

Kenkichi Tamura was appointed as a member on October 1, 2017; belongs to the Marine Committee and the Marine Special Committee, with special expertise in naval architect

Career summary: Doctor of Engineering, Graduate School of Engineering, the University of Tokyo  
Former Senior Director for Research of National Maritime Research Institute, National Institute of Maritime, Port and Aviation Technology

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

Keiji Tanaka was appointed as a member on February 27, 2013, currently in the second term of office; belongs to the Aircraft Committee, with special expertise in flight simulation and flight dynamics

Career summary: Doctor of Engineering, graduated from the 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

**Miwa Nakanishi, Member (Part-time)**

Miwa Nakanishi was appointed as a member on February 27, 2016; belongs to the Aircraft Committee, with special expertise in ergonomics (human factors)

Career summary: Doctor of Engineering, School of Science for Open and Environmental Systems, Graduate School of Science and Technology, Keio University  
Associate Professor in the Department of Administration Engineering, Faculty of Science and Technology, Keio University (current post)

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

Miyoshi Okamura was appointed as a member on December 6, 2010; currently in the third term of office; belongs to the Railway Committee, with special expertise in structural engineering, earthquake engineering and maintenance management engineering (steel structure engineering)

Career Summary: Doctor of Engineering, Graduate School of Engineering, University of Yamanashi  
Associate Professor in the Department of Research, Interdisciplinary Graduate School of Medicine and Engineering, University of Yamanashi (current post)

**Miwako Doi, Member (Part-time)**

Miwako Doi was appointed as a member on December 6, 2016; belongs to the Railway Committee, with special expertise in electrical engineering and traffic management (human interface)

Career Summary: Doctor of Philosophy  
Auditor, National Institute of Information and Communications Technology  
Executive Director, Nara Institute of Science and Technology

**Makiko Okamoto, Member (Part-time)**

Makiko Okamoto was appointed as a member on October 1, 2017, belongs to the Marine Committee and the Marine Special Committee, with special expertise in safety ergonomics

Career Summary: Doctor of Human Sciences, Graduate School of Human Sciences, Waseda University  
Lawyer  
Associate Professor in the Faculty of Societal Safety Science, Kansai University (current post)

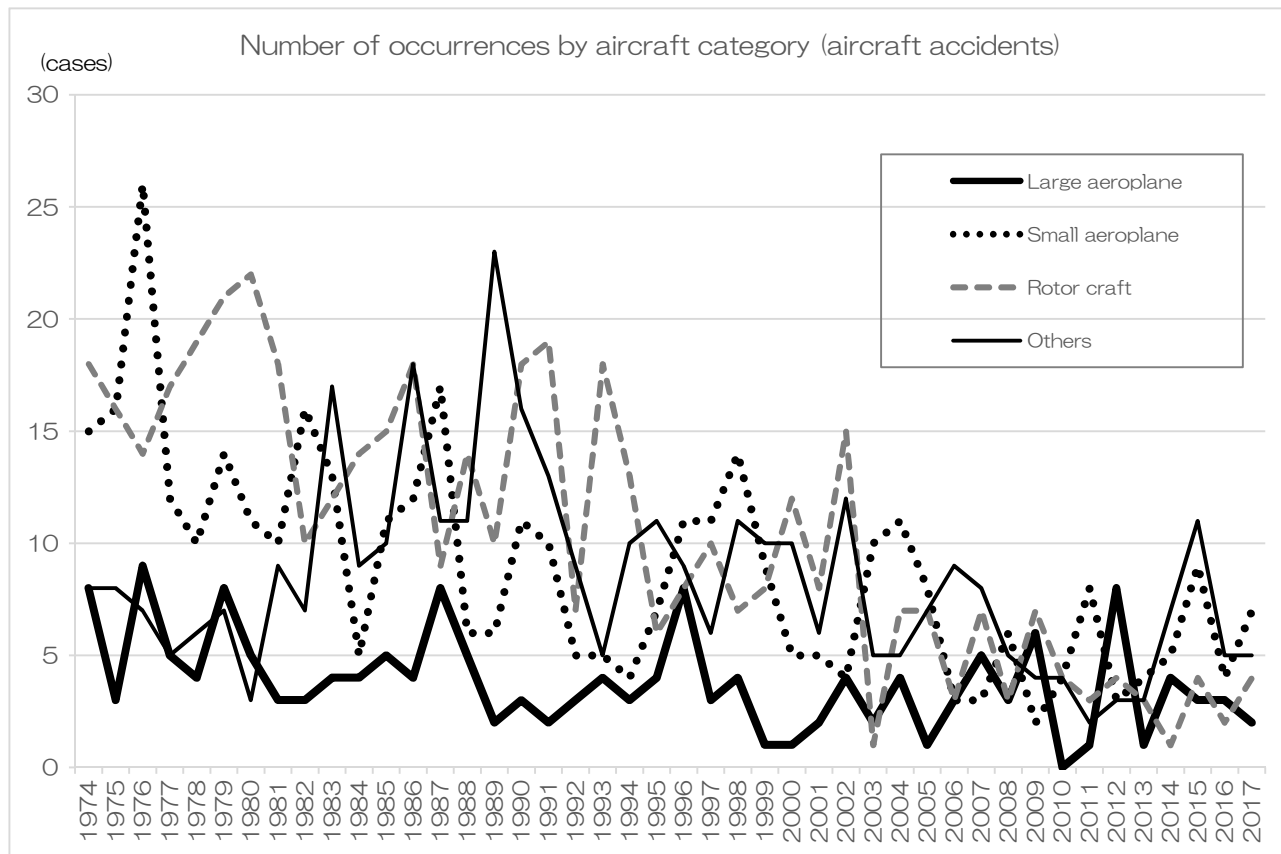
**The chairman and members of the Board shall be appointed by the Minister of Land, Infrastructure, Transport and Tourism with the consent of both houses of Representatives and Councilors.**

#### 4 Number of occurrences by aircraft category (aircraft accidents)

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

Year of occurrence \ Category	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
2014	4	5	2	1	0	5	0	17
2015	3	9	3	3	1	8	0	27
2016	3	4	1	2	0	4	0	14
2017	2	7	3	5	1	2	0	20
Total	168	388	165	433	25	203	2	1,384

- (Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents 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. Ultralight planes include self-made, ultralight plane-shaped aircraft.  
 5. Gyroplanes include self-made, gyroplane-shaped aircraft.





## 5 Number of fatalities in accidents (aircraft accidents)

(Persons)

Year of occurrence \ Category		Large aeroplane	Small Aeroplane	Ultralight Plane	Helicopter	Gyroplane	Glider	Total	
2008	Crew	0	1	1	2	0	1	5	5
	Passengers and others	0	0	0	0	0	0	0	
2009	Crew	2	0	2	5	0	0	9	9
	Passengers and others	0	0	0	0	0	0	0	
2010	Crew	0	2	1	14	0	0	17	17
	Passengers and others	0	0	0	0	0	0	0	
2011	Crew	0	5	0	1	0	0	6	6
	Passengers and others	0	0	0	0	0	0	0	
2012	Crew	0	0	0	0	0	0	0	1
	Passengers and others	0	1	0	0	0	0	1	
2013	Crew	0	0	0	0	0	1	1	2
	Passengers and others	0	0	0	0	0	1	1	
2014	Crew	0	1	0	0	0	0	1	2
	Passengers and others	0	1	0	0	0	0	1	
2015	Crew	0	1	1	2	0	1	5	10
	Passengers and others	0	2	1	2	0	0	5	
2016	Crew	0	1	0	0	0	3	4	8
	Passengers and others	0	3	0	0	0	1	4	
2017	Crew	0	2	0	2	1	1	6	22
	Passengers and others	0	4	0	12	0	0	16	
	Crew	2	13	5	26	1	7	54	82
	Passengers and others	0	11	1	14	0	2	28	
	Total	2	24	6	40	1	9		

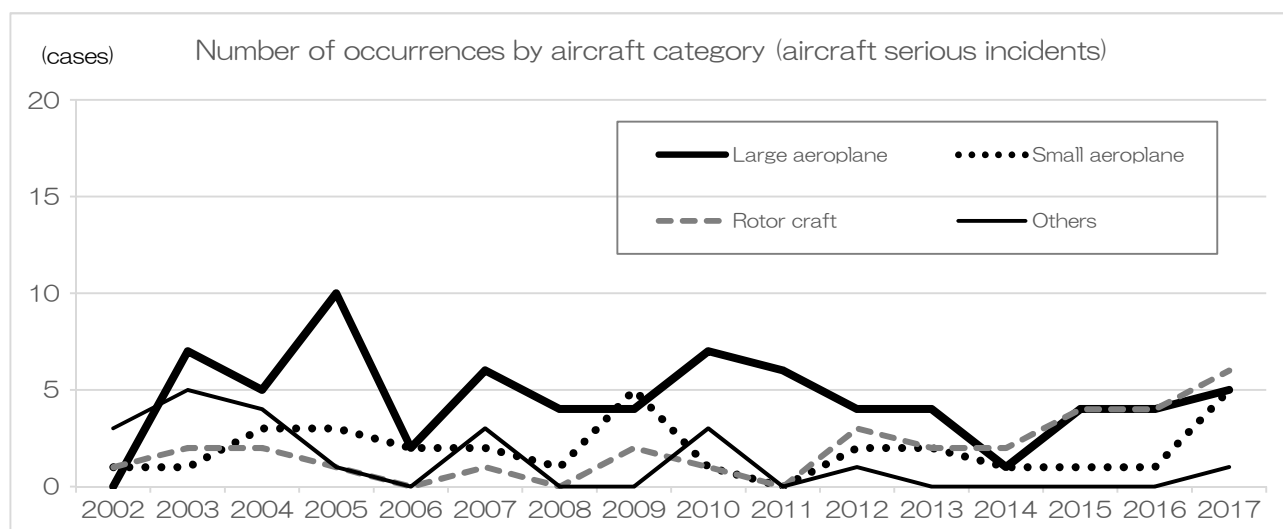
- (Note)
1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission in 2008
  2. Death tolls represent data for the respective years of occurrence relisted from the annual reports published for those years.
  3. Large aeroplanes are aircraft with a maximum take-off weight of more than 5,700kg.
  4. Small aeroplanes are aircraft with a maximum take-off weight of 5,700kg or less, excluding Ultralight planes.
  5. Ultralight planes include self-made, ultralight plane-shaped aircraft.
  6. Gyroplanes include self-made, gyroplane-shaped aircraft.

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

(Cases)

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	4	2	0	2	0	0	0	8
2014	1	1	0	2	0	0	0	4
2015	4	1	0	4	0	0	0	9
2016	4	1	0	4	0	0	0	9
2017	5	5	0	6	0	1	0	17
Total	76	31	16	31	0	5	0	159

- (Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission. The number of cases for 2001 represents those that occurred from October onward.
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. Ultralight planes include self-made, ultralight plane-shaped aircraft.



## 7 Number of occurrences 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
2014	1	9	0	4	0	0	0	0	0	0	0	0	0	0	14
2015	1	5	1	4	0	1	0	0	1	0	0	0	0	0	13
2016	0	7	0	15	0	0	0	0	1	0	0	0	0	0	23
2017	0	9	0	7	0	2	1	0	0	0	0	0	0	0	19
Total	7	185	13	43	0	14	3	1	9	0	0	3	0	0	278

(Note) 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 fatalities in accidents (railway accidents)

(Persons)

Year of occurrence \ Death Classification	Crew members	Passengers	Others	Total
	2008	0	0	2
2009	0	0	3	3
2010	0	0	2	2
2011	0	0	1	1
2012	0	0	1	1
2013	0	0	1	1

Year of occurrence	Death Classification			
	Crew members	Passengers	Others	Total
2014	0	0	6	6
2015	0	2	4	6
2016	0	0	15	15
2017	0	0	10	10
Total	0	2	45	47

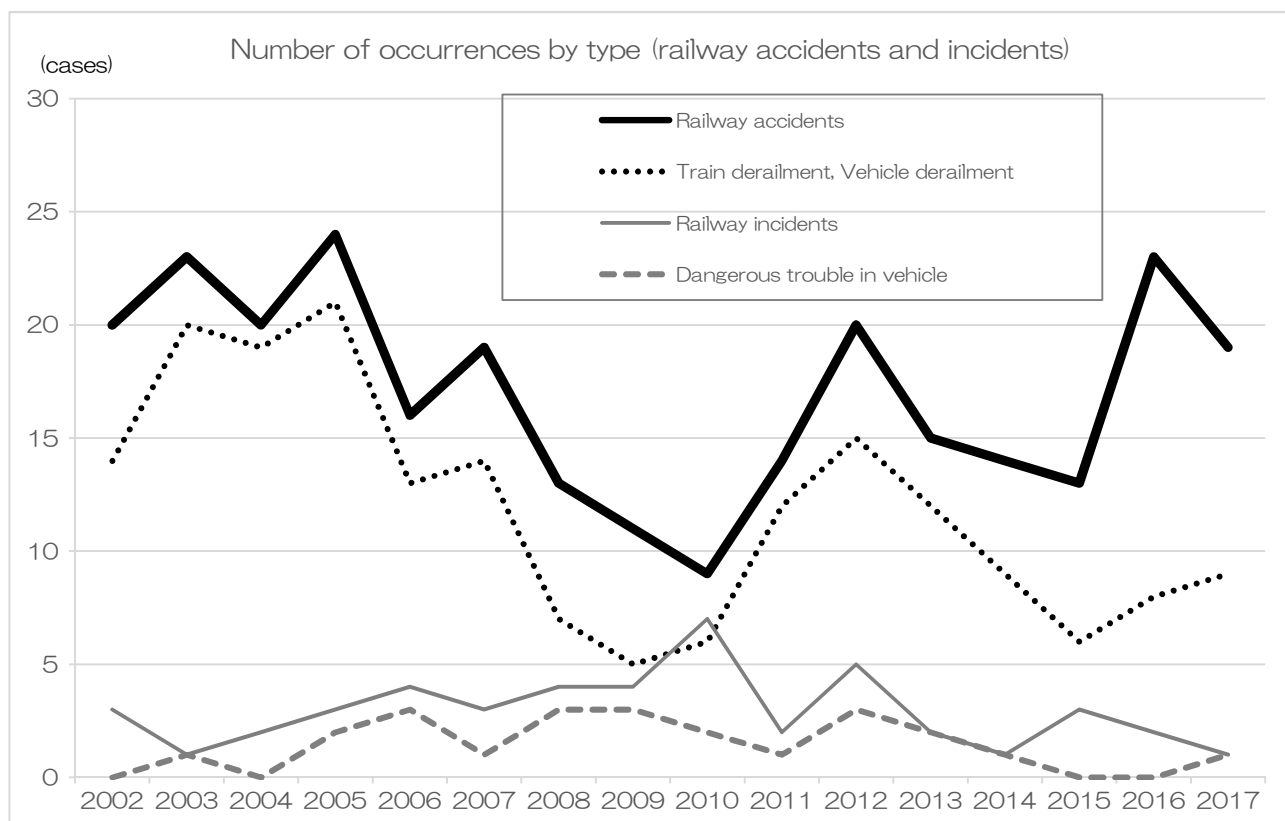
- (Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission in 2008  
2. Dealt tolls represent data for the respective years of occurrence relisted from the annual reports published for those years.  
3. As investigations began to cover fatal accidents at third- and fourth-class crossings without crossing gates in April 2014, the number of deaths occurring in those locations were added.

## 9 Number of occurrences 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
2014	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2015	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
2016	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
2017	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	7	0	0	7	2	2	23	0	3	2	1	0	0	0	0	0	48

- (Note) 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.



### 10 Number of occurrences 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	0	3	0	0	3
2008	227	576	15	55	873
2009	341	1,065	34	82	1,522
2010	308	906	38	82	1,334
2011	239	780	28	79	1,126
2012	227	804	31	53	1,115
2013	215	763	35	69	1,082
2014	193	762	31	44	1,030
2015	154	674	43	39	910
2016	147	637	42	23	849
2017	155	663	35	42	895
Total	2,206	7,633	332	568	10,739

(Note) The above table shows the number of accidents and incidents into which the JTSA launched an investigation as of the end of February 2018 (including those carried over from the former Marine Accident Inquiry Agency).

## 11 Number of occurrences by type (marine accidents and incidents)

(Cases)

Year	Marine accident											Marine incident				Total
	Collision	Contact	Grounding	Sinking	Flooding	Capsizing	Fire	Explosion	Facility damage	Fatality/Injury	Others	Loss of control	Stranded	Safety obstruction	Navigation obstruction	
2007	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
2008	181	101	255	12	4	28	15	3	30	61	0	54	34	8	87	873
2009	325	174	431	16	19	58	42	3	38	217	2	105	33	0	59	1,522
2010	356	180	369	15	18	50	35	2	26	146	0	83	16	0	38	1,334
2011	282	145	265	12	18	56	32	1	23	142	1	103	10	1	35	1,126
2012	246	133	264	5	21	55	44	2	33	155	0	113	5	4	35	1,115
2013	265	144	210	10	25	49	33	2	38	163	2	106	7	3	25	1,082
2014	266	115	213	7	11	61	35	1	37	150	3	92	15	0	24	1,030
2015	244	102	202	5	12	56	38	3	20	122	1	85	4	4	12	910
2016	217	94	163	5	19	46	26	3	21	144	0	85	6	6	14	849
2017	202	92	184	14	20	54	26	3	22	137	1	112	4	4	20	895
Total	2,584	1,281	2,558	101	167	513	326	23	288	1,437	10	938	134	30	349	10,739

- (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 2018 (including those carried over from the former Marine Accident Inquiry Agency).
2. The figures in the column “Fatality/Injury” are the number of cases involving death, death and injury, missing persons, or injury which is not a result from other types of accident.

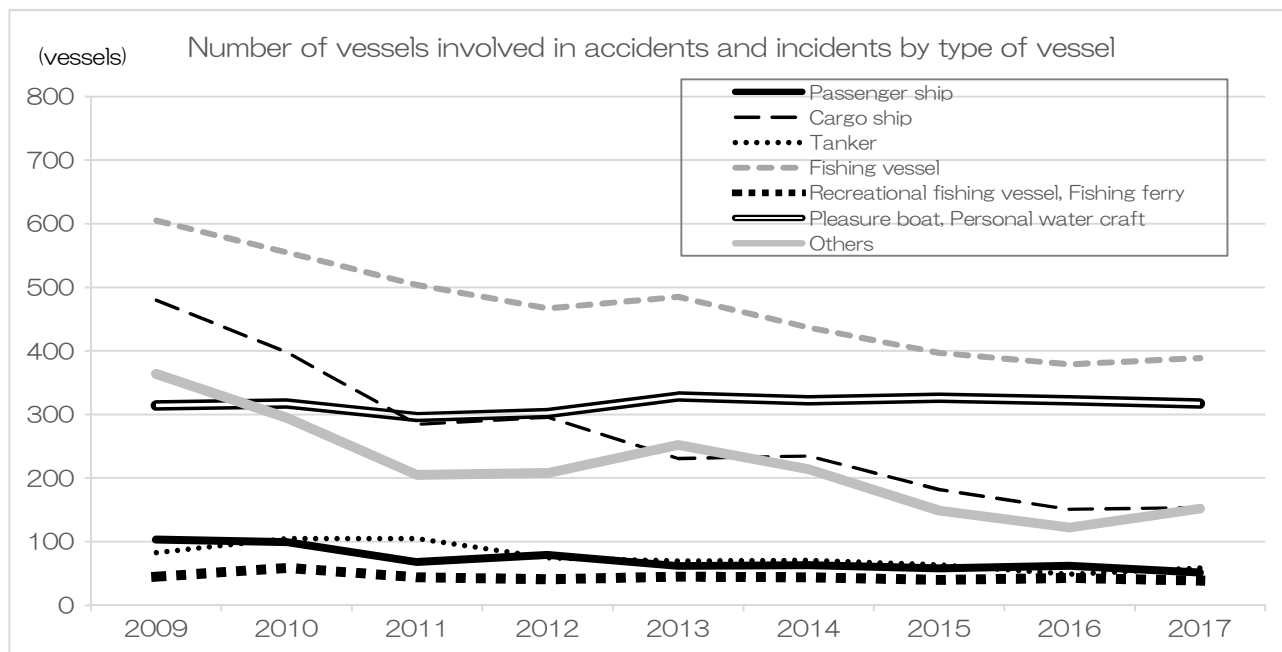
## 12 Number of vessels involved in accidents and incidents by type of vessel (marine accidents and incidents)

(Cases)

Year	Type of Vessel														Total
	Passenger ship	Cargo ship	Tanker	Fishing vessel	Tug boat, push boat	Recreational fishing vessel	Fishing ferry	Work vessel	Barge, Lighter	Public-service ship	Pleasure boat	Personal water craft	Others		
2007	2	1	0	0	0	0	0	0	0	0	0	0	0	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	296	75	467	91	33	8	36	59	14	247	55	8	1,468	
2013	62	231	70	485	100	41	4	37	72	24	264	64	19	1,473	
2014	63	235	71	437	89	39	5	36	58	17	253	69	14	1,386	
2015	58	182	64	397	53	33	7	27	45	14	278	48	10	1,216	

Type of Vessel \ Year	Passenger ship	Cargo ship	Tanker	Fishing vessel	Tug boat, push boat	Recreational fishing vessel	Fishing ferry	Work vessel	Barge, Lighter	Public-service ship	Pleasure boat	Personal water craft	Others	Total
2016	62	151	49	379	45	36	7	27	33	11	254	68	6	1,128
2017	51	154	59	389	58	36	3	29	44	13	275	42	8	1,161
Total	702	2,731	736	4,525	909	376	58	331	607	184	2,446	554	133	14,292

(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 2018 (including those carried over from the former Marine Accident Inquiry Agency).



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

Gross tonnage \ Year	(Vessels)											Total
	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	
2007	1	0	0	1	0	0	0	0	0	0	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	790	53	133	199	78	33	25	38	25	20	74	1,468
2013	881	44	113	142	93	47	27	36	19	17	54	1,473

Year \ Gross tonnage	Gross tonnage											Total
	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	
2014	839	46	86	145	87	38	26	29	17	17	56	1,386
2015	762	43	66	112	65	32	18	27	22	19	50	1,216
2016	745	31	64	104	61	23	17	21	18	10	34	1,128
2017	725	39	75	112	67	23	14	22	17	6	61	1,161
Total	7,854	542	1,222	1,773	873	337	232	310	204	159	786	14,292

(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 2018 (including those carried over from the former Marine Accident Inquiry Agency).

#### 14 Number of vessels involved in accidents and incidents in 2017 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	Fatality/Injury	Others	Loss of control	Stranded	Safety obstruction	Navigation obstruction	
Passenger ship	8	14	10	0	1	1	0	0	0	8	0	2	0	1	6	51
Cargo ship	62	24	27	0	2	1	3	1	5	12	0	16	1	0	0	154
Tanker	29	8	11	0	1	0	1	0	1	2	0	4	1	0	1	59
Fishing vessel	151	12	48	2	6	19	17	1	6	68	1	50	0	0	8	389
Tug boat, push boat	13	4	17	3	2	2	0	0	4	6	0	6	0	1	0	58
Recreational fishing vessel	26	4	1	1	0	0	1	0	0	3	0	0	0	0	0	36
Fishing ferry	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	3
Work vessel	7	2	5	3	1	1	2	0	2	4	0	0	1	0	1	29
Barge, Lighter	11	1	12	3	2	2	1	0	2	6	0	3	0	1	0	44
Public-service ship	3	2	4	0	0	0	1	0	0	2	0	1	0	0	0	13
Pleasure boat	84	20	59	6	6	34	1	1	6	21	0	32	1	1	3	275
Personal water craft	19	4	2	0	0	0	0	0	0	16	0	1	0	0	0	42
Others	4	1	0	0	0	0	0	0	0	0	0	1	0	1	1	8
Total	417	96	197	18	22	60	27	3	26	149	1	116	4	5	20	1,161

(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 2018.

2. The figures in the column "Fatality/Injury" are the number of cases involving death, death and injury, missing persons, or injury which is not a result from other types of accident.



## 15 Number of fatalities in accidents (marine accidents)

(Persons)

Year of occurrence \ Type of Vessel		Passenger ship	Cargo ship	Tanker	Cargo ship	Recreational fishing vessel, Fishing ferry	Pleasure boat, Personal water craft	Others	Total	
2008	Crew	0	2	2	51	1	21	1	61	71
	Passengers	0	0	0	0	2	0	0	2	
	Others	0	0	0	0	1	6	1	8	
2009	Crew	3	1	2	109	0	26	4	145	191
	Passengers	0	0	0	0	3	0	0	3	
	Others	1	5	0	6	0	27	4	43	
2010	Crew	1	10	1	74	0	11	2	99	129
	Passengers	0	0	0	0	1	0	0	1	
	Others	0	3	0	1	1	22	2	29	
2011	Crew	3	4	8	83	3	18	7	126	146
	Passengers	4	0	0	0	2	0	0	6	
	Others	0	2	0	0	0	12	0	14	
2012	Crew	2	6	4	79	1	22	3	117	133
	Passengers	1	0	0	0	2	0	0	3	
	Others	1	1	0	1	0	8	2	13	
2013	Crew	1	17	2	69	0	19	6	114	134
	Passengers	0	0	0	0	1	0	0	1	
	Others	0	2	0	0	0	16	1	19	
2014	Crew	0	11	3	89	0	17	3	123	138
	Passengers	0	0	0	0	2	0	0	2	
	Others	0	1	1	1	0	10	0	13	
2015	Crew	2	5	0	44	0	12	5	68	86
	Passengers	2	0	0	0	2	0	0	4	
	Others	0	0	0	0	0	13	1	14	
2016	Crew	1	4	5	45	1	10	4	70	93
	Passengers	0	0	0	0	2	0	0	2	
	Others	0	2	0	2	0	15	2	21	
2017	Crew	2	3	0	45	0	10	19	79	90
	Passengers	0	0	0	0	0	0	0	0	
	Others	0	1	0	0	0	8	2	11	

Year of occurrence \ Type of Vessel		Passenger ship	Cargo ship	Tanker	Cargo ship	Recreational fishing vessel, Fishing ferry	Pleasure boat, Personal water craft	Others	Total	
Total	Crew	15	63	26	688	6	150	54	1,002	1,211
	Passengers	7	0	0	0	17	0	0	24	
	Others	2	17	1	11	2	137	15	185	
	Total	24	80	27	699	25	287	69		

(Note) The above table shows the number of vessels involved in accidents and incidents into which the JTSCB launched an investigation as of the end of February 2018 (including those carried over from the former Marine Accident Inquiry Agency).