

Appendices

Appendices Contents

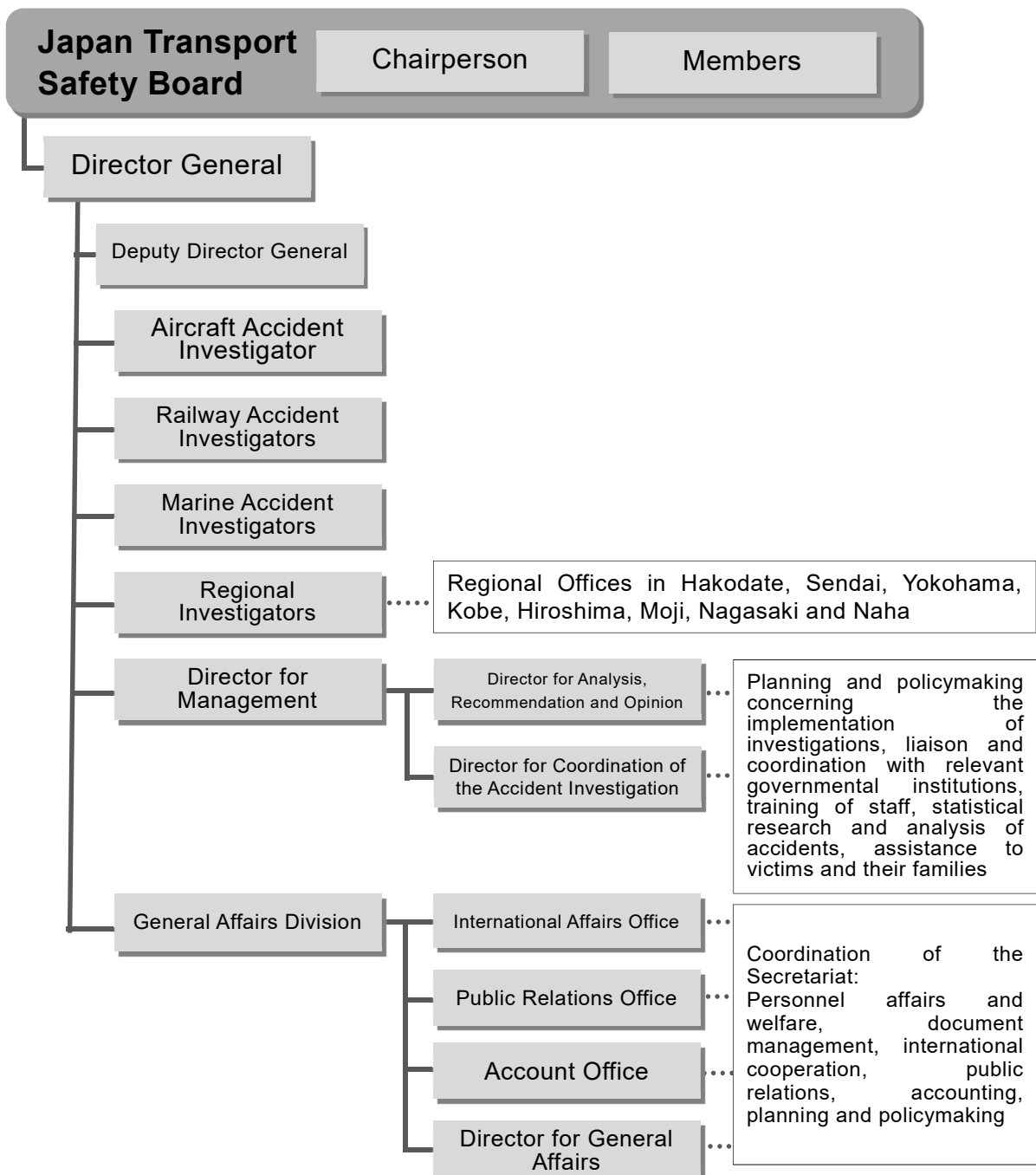
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1 Outline of the organization

The Japan Transport Safety Board consists of the Chairperson, 12 members, and 182 secretariat staff (as of March 1, 2022). 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

March 1, 2022



2 Board Members

As of March 1, 2022

TAKEDA Nobuo, Chairperson (Full-time), Director of Aircraft Committee

TAKEDA Nobuo was appointed as Chairperson of the Japan Transport Safety Board on April 1, 2019; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee with special expertise in aerospace engineering, strength of materials and composite materials engineering.

Career summary: PhD, University of Florida and Graduate School of Engineering, the University of Tokyo (doctor of engineering)

Emeritus Professor, Former Vice President, the University of Tokyo

Former Technical Advisor in Structures and Advanced Composite Research Unit, Aeronautical Technology Directorate of the Japan Aerospace Exploration Agency (JAXA)

KAKISHIMA Yoshiko, Member (Full-time)

KAKISHIMA Yoshiko was appointed as a member on April 1, 2019; belongs to the Aircraft Committee, the Railway Committee and the Marine Committee, with special expertise in Anglo-American law and others.

Career summary: Graduated from the Department of Law, the University of Tokyo

Former Professor in Graduate Schools for Law and Politics, Faculty of Law, The University of Tokyo

SHIMAMURA Atsushi, Member (Full-time), Vice-Chairperson, Deputy Director of Aircraft Committee

SHIMAMURA Atsushi was appointed as a member on February 27, 2022; belongs to the Aircraft Committee, with special expertise in operation and maintenance of aircraft and air navigation services engineering.

Career summary: Master of Engineering, Graduate School of Engineering, Yokohama National University

Former Fellow of Corporate Safety & Security of Japan Airlines Co., Ltd.

MARUI Yuichi, Member (Full-time)

MARUI Yuichi 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.

OKUMURA Fuminao, Member (Full-time), Director of Railway Committee

OKUMURA Fuminao 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

ISHIDA Hiroaki, Member (Full-time), Deputy Director of Railway Committee

ISHIDA Hiroaki 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

SATO Yuji, Member (Full-time), Director of Marine Committee

SATO Yuji 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

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

TAMURA Kenkichi 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

NAKANISHI Miwa, Member (Part-time)

NAKANISHI Miwa 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)

TSUDA Hiroka, Member (Part-time)

TSUDA Hiroka was appointed as a member on October 1, 2020; belongs to the Aircraft Committee, with special expertise in flight dynamics and control of aircraft, flight simulation and flight test.

Career summary: Completion of the doctoral first course for Department of Human Media Systems, Graduate School of Information Systems, The University of Electro-Communications
Senior R&D Fellow, Aviation Use Expansion Innovation Hub, Aeronautical Technology Directorate, Japan Aerospace Exploration Agency (current post)

SUZUKI Mio, Member (Part-time)

SUZUKI Mio was appointed as a member on December 6, 2019; belongs to the Railway Committee, with special expertise in traffic engineering and human factors.

Career summary: Doctor of Engineering, Department of Built Environment, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology
Associate Professor in the Department of Civil Engineering, Tokai University (current post)

NIITSUMA Mihoko, Member (Part-time)

NIITSUMA Miho was appointed as a member on December 6, 2019; belongs to the Railway Committee, with special expertise in electrical engineering.

Career summary: Doctor of Engineering, Department of Electrical Engineering and Information Systems, Graduate School of Engineering, The University of Tokyo
Professor in the Department of Precision Mechanics, Faculty of Science and Engineering, Chuo University (current post)

OKAMOTO Makiko, Member (Part-time)

OKAMOTO Makiko 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 Faculty of Social Security Science, Kansai University (current post)

The chairperson 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.

3 Number of occurrences by aircraft category (aircraft accidents)

(Cases)

Year of occurrence \ Category	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
2007	5	3	4	7	0	4	0	23

(Cases)

Category Year of occurrence	Aircraft			Rotor craft		Glider	Airship	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
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	8	3	5	1	2	0	21
2018	3	3	4	3	0	1	0	14
2019	4	1	2	2	0	3	0	12
2020	4	1	5	3	0	0	0	13
2021	1	2	2	3	0	3	0	11
Total	180	396	178	444	25	210	2	1,435

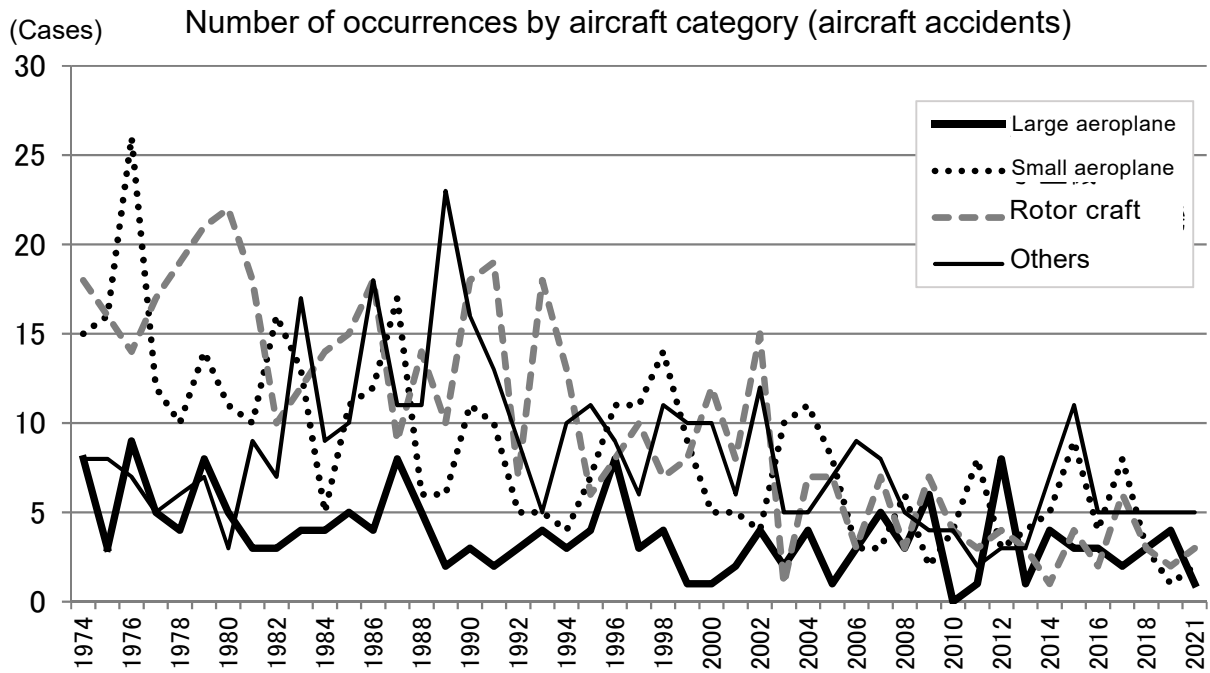
(Note) 1. The figures include the cases handled by the Aircraft and Railway Accidents Investigation Commission.

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

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.



4 Number of fatalities in accidents (aircraft accidents)

(Persons)

Category		Aircraft			Rotor craft		Glider	Total		
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane				
Year of occurrence										
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		

Category		Aircraft			Rotor craft		Glider	Total	
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
Year of occurrence									
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	
2018	Crew	0	0	2	1	0	0	3	11
	Passengers and others	0	0	0	8	0	0	8	
2019	Crew	0	0	1	0	0	0	1	1
	Passengers and others	0	0	0	0	0	0	0	
2020	Crew	0	0	1	1	0	0	2	2
	Passengers and others	0	0	0	0	0	0	0	
2021	Crew	0	0	0	1	0	1	2	3
	Passengers and others	0	0	0	0	0	1	1	
	Crew	2	13	9	29	1	8	62	99
	Passengers and others	0	11	1	22	0	3	37	
	Total	2	24	10	51	1	11		

- (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 5,700 kg.
 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.

5 Number of occurrences by aircraft category (aircraft serious incidents)

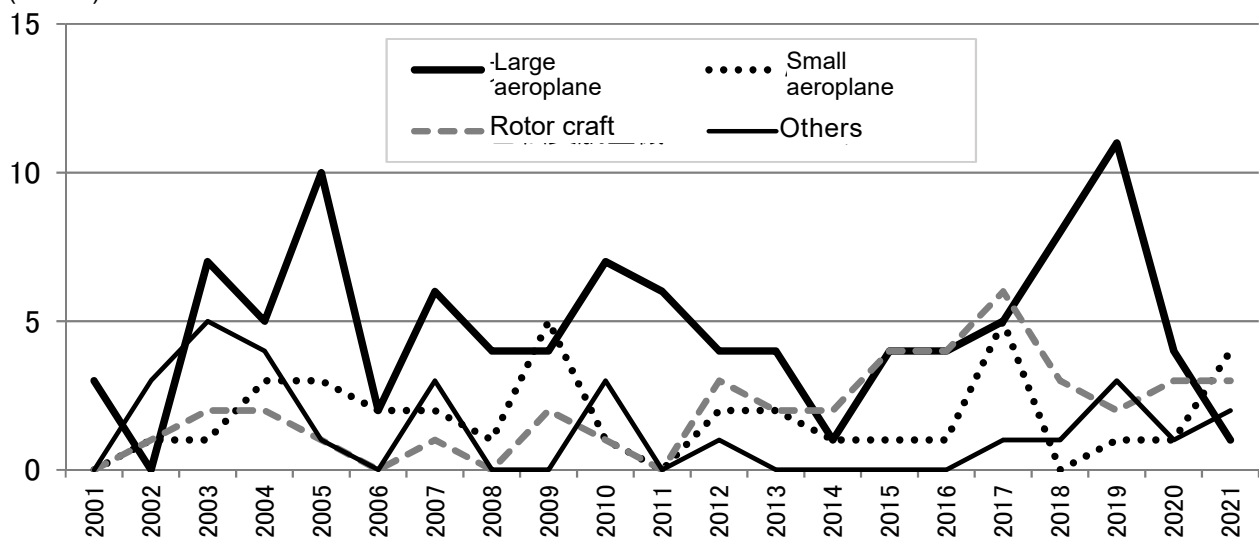
(Cases)

Category		Aircraft			Rotor craft		Glider	Airship	Total
		Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
Year of occurrence									
2001		3	0	0	0	0	0	3	
2002		0	1	2	1	0	1	5	
2003		7	1	4	2	0	1	15	
2004		5	3	4	2	0	0	14	
2005		10	3	1	1	0	0	15	
2006		2	2	0	0	0	0	4	

Year of occurrence \ Category	Aircraft			Rotor craft		Glider	Airship	Total
	Large aeroplane	Small aeroplane	Ultralight plane	Helicopter	Gyroplane			
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
2018	8	0	0	3	0	1	0	12
2019	11	1	0	2	0	3	0	17
2020	4	1	1	3	0	0	0	9
2021	1	4	1	3	0	1	0	10
Total	100	37	18	42	0	10	0	207

- (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 5,700 kg.
 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.

(Cases) Number of occurrences by aircraft category (aircraft serious incidents)



6 Number of occurrences by type (railway accidents)

(Cases)

Year of occurrence	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
2018	0	2	0	9	0	0	0	0	0	0	0	0	0	0	11
2019	0	9	0	7	0	1	0	0	0	0	0	0	0	0	17
2020	0	7	0	6	0	0	0	0	0	0	0	0	0	0	13
2021	0	6	0	5	0	0	0	0	0	0	0	0	0	0	11
Total	7	209	13	70	0	15	3	1	9	0	0	3	0	0	330

(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.

7 Number of fatalities in accidents (railway accidents)

(Persons)

Year of occurrence	Death Classification			Total
	Crew members	Passengers	Others	
2008	0	0	2	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
2014	0	0	6	6
2015	0	2	4	6
2016	0	0	15	15
2017	0	0	10	10
2018	0	0	9	9
2019	0	0	8	8
2020	0	0	1	1
2021	0	0	5	5
Total	0	2	68	70

- (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. 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.

8 Number of occurrences by type (railway serious incidents)

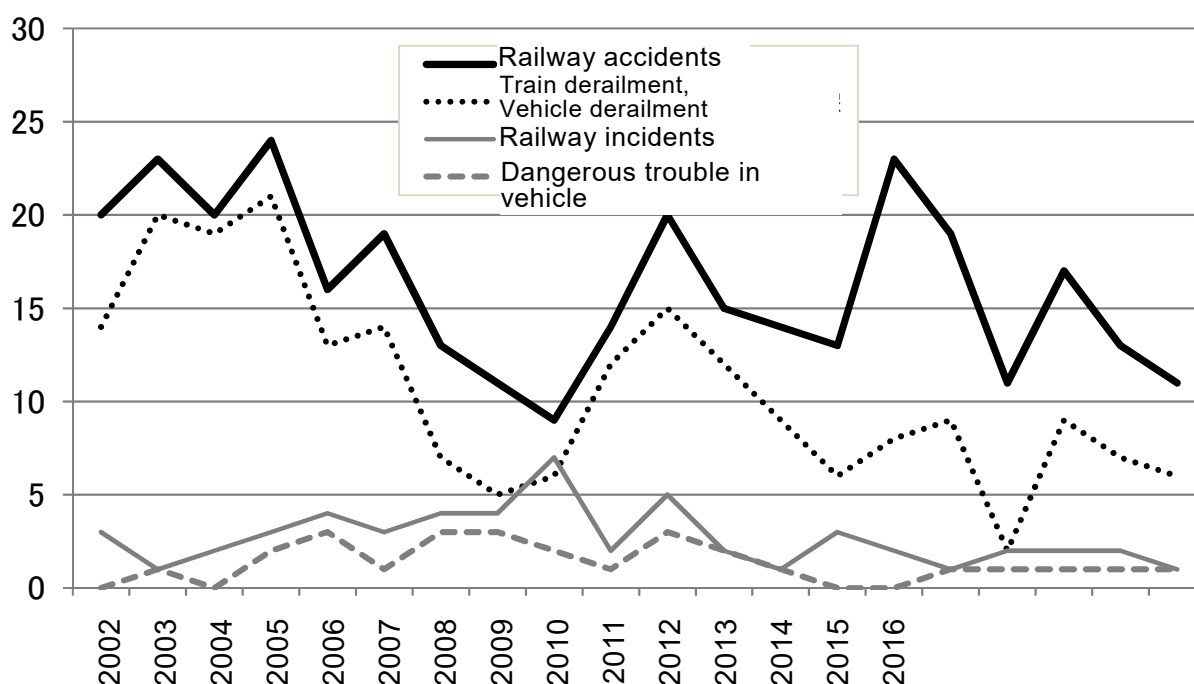
(Cases)

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

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
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
2018	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
2019	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
2020	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
2021	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	1	7	0	1	7	2	3	27	0	3	3	1	0	0	0	0	0	55

(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.

(Cases) Number of occurrence by type (railway accidents and incidents)



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

(Cases)

Year of occurrence	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	673	44	39	910
2016	147	636	43	23	849
2017	154	671	35	47	907
2018	194	731	38	47	1,010
2019	217	757	52	35	1,061
2020	176	639	36	17	868
2021	148	660	29	15	852
Total	2,940	10,426	489	687	14,542

(Note) The above table shows the number of accidents and incidents into which the JTSD launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

10 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	264	145	210	10	25	49	33	2	38	163	2	106	7	3	25	1,082
2014	265	116	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

Type Year	Marine accident											Marine incident				Total
	Collision	Contact	Grounding	Sinking	Flooding	Capsizing	Fire	Explosion	Facility damage	Fatality / Injury	Others	Loss of control	Stranded	Safety obstructio	Navigation obstruction	
2016	217	94	163	5	19	46	26	3	21	144	0	85	6	6	14	849
2017	200	96	181	14	22	55	27	3	23	144	0	115	4	3	20	907
2018	253	90	182	22	26	57	25	2	29	182	0	119	10	0	13	1,010
2019	215	101	200	11	25	65	31	1	42	146	0	181	22	0	21	1,061
2020	188	95	155	13	15	51	29	2	21	134	0	140	14	1	10	868
2021	183	77	158	3	39	71	25	3	34	115	0	127	13	0	4	852
Total	3,419	1,650	3,250	150	274	758	437	31	415	2,021	9	1,508	193	30	397	14,542

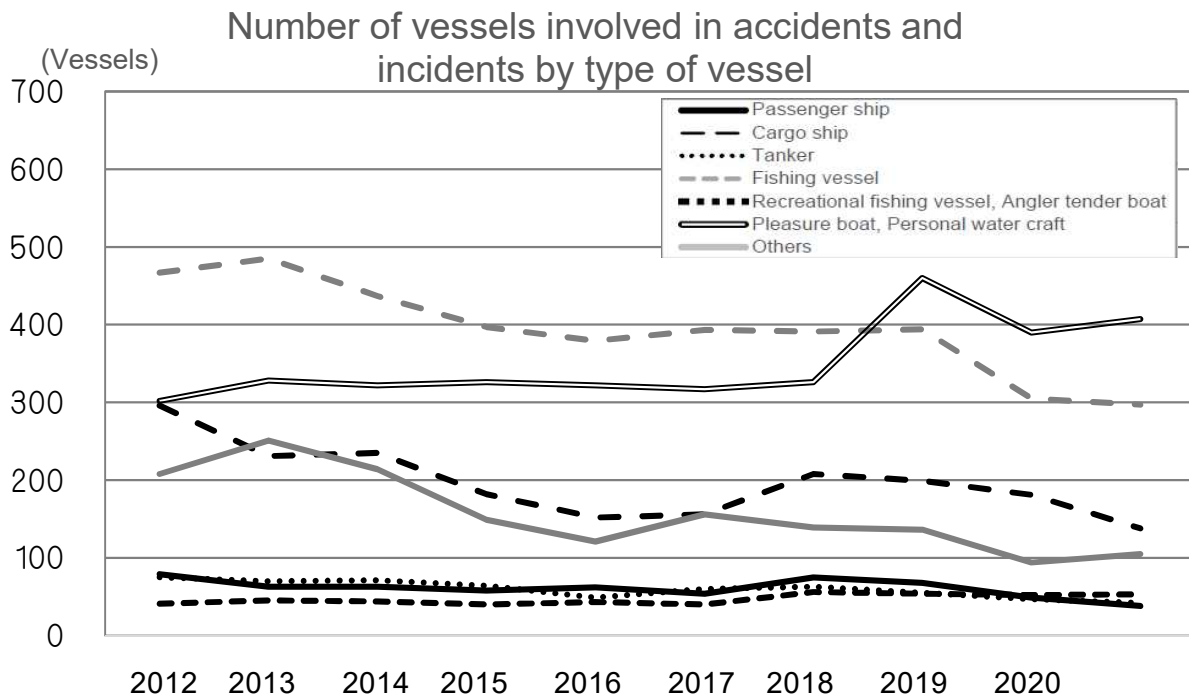
(Note) 1. The above table shows the number of accidents and incidents into which the JTSB launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

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.

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	Fishing ferry	Work vessel	Barge, lighter	Public-service ship	Pleasure boat	Personal water craft	Others	Total
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	5	35	104	40	249	65	23	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	63	231	70	485	100	41	4	37	72	24	264	64	18	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
2016	62	152	49	379	45	36	7	27	33	11	254	68	5	1,128
2017	55	156	60	393	62	37	3	29	45	12	275	42	8	1,177
2018	79	224	65	411	55	51	8	22	37	14	286	60	18	1,330
2019	69	203	57	395	50	47	6	29	33	10	412	46	15	1,372
2020	49	181	47	306	35	50	2	14	22	10	334	56	13	1,119
2021	38	138	42	297	29	49	4	30	20	12	349	58	14	1,080
Total	942	3,480	948	5,938	1,082	574	77	426	720	229	3,827	774	192	19,209



(Note) The above table shows the number of vessels involved in accidents and incidents into which the JTSD launched an investigation as of the end of December 2021 (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)

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
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	757	39	80	116	69	24	14	22	17	6	33	1,177
2018	840	35	83	127	83	48	31	18	17	12	36	1,330
2019	928	31	46	130	68	28	20	34	11	14	62	1,372
2020	759	24	47	124	54	21	6	27	13	14	30	1,119
2021	716	24	34	84	47	15	20	14	14	14	98	1,080
Total	11,129	656	1,437	2,242	1,127	450	309	403	259	213	984	19,209

(Note) The above table shows the number of accidents and incidents into which the JTSD launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

13 Number of vessels involved in accidents and incidents in 2021 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	10	11	7	0	0	0	0	0	1	3	0	2	0	0	4	38
Cargo ship	56	28	30	0	4	1	2	0	7	4	0	4	2	0	0	138
Tanker	16	8	5	0	1	0	0	0	3	3	0	4	2	0	0	42
Fishing vessel	120	7	39	2	11	22	17	0	3	58	0	16	2	0	0	297
Tug boat, push boat	9	5	6	0	0	1	1	0	3	3	0	1	0	0	0	29
Recreational fishing vessel	29	3	6	0	1	0	2	0	1	2	0	5	0	0	0	49
Fishing ferry	2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	4
Work vessel	6	2	7	0	1	4	1	1	0	6	0	2	0	0	0	30
Barge, lighter	5	6	3	0	0	0	1	0	4	1	0	0	0	0	0	20
Public-service ship	2	2	5	0	0	0	0	0	0	3	0	0	0	0	0	12
Pleasure boat	89	8	47	1	20	41	5	1	18	23	0	89	7	0	0	349
Personal water craft	29	3	4	0	0	2	0	1	0	16	0	3	0	0	0	58
Others	5	1	4	0	1	0	1	0	0	1	0	1	0	0	0	14
Total	378	84	164	3	39	72	30	3	40	123	0	127	13	0	4	1,080

(Note) 1. The above table shows the number of vessels involved in accidents and incidents into which the JTSC launched an investigation as of the end of December 2021.

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.

14 Number of fatalities in accidents (marine accidents)

(Persons)

Year of occurrence	Type of Vessel	Passenger ship	Cargo ship	Tanker	Fishing vessel	Recreational fishing vessel /Fishing ferry	Pleasure boat / Personal water craft	Others	Total	
		2008	Crew	0	2	1	51	1	5	1
	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	

Year of occurrence	Type of Vessel	Passenger ship	Cargo ship	Tanker	Fishing vessel	Recreational fishing vessel / Fishing ferry	Pleasure boat / Personal water craft	Others	Total	
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	0	17	2	69	0	19	7	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	3	5	0	44	0	12	5	69	87
	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	4	0	46	0	7	20	79	93
	Passengers	0	0	0	0	0	0	0	0	
	Others	0	0	0	0	0	12	2	14	
2018	Crew	0	2	1	48	0	10	2	63	88
	Passengers	0	0	0	0	1	0	0	1	
	Others	1	0	0	1	0	18	4	24	
2019	Crew	0	16	0	57	1	11	1	86	102
	Passengers	0	0	0	0	1	0	0	1	
	Others	0	3	0	1	0	10	1	15	
2020	Crew	1	3	1	47	1	12	2	67	86
	Passengers	0	0	0	0	2	0	0	2	
	Others	0	2	0	0	0	11	4	17	
2021	Crew	0	1	1	42	0	18	2	64	74
	Passengers	0	0	0	0	1	0	0	1	
	Others	0	0	0	0	0	8	1	9	

Year of occurrence		Type of Vessel							Total	
		Passenger ship	Cargo ship	Tanker	Fishing vessel	Recreational fishing vessel / Fishing ferry	Pleasure boat / Personal water craft	Others		
Total	Crew	16	86	29	883	8	198	63	1,283	1,565
	Passengers	7	0	0	0	22	0	0	29	
	Others	3	21	1	13	2	188	25	253	
	Total	26	107	30	896	32	386	88		

(Note) The above table shows the number of vessels involved in accidents and incidents into which the JTSC launched an investigation as of the end of December 2021 (including those carried over from the former Marine Accident Inquiry Agency).

15 Numbers of issued recommendations, opinions and safety recommendations

Year	Recommendation			Opinion			Safety recommendation	
	Aircraft	Railway	Vessel	Aircraft	Railway	Vessel	Aircraft	Vessel
2008	-	-	-	2	-	-	-	-
2009	-	-	-	1	1	1	3	-
2010	-	-	-	-	-	1	1	-
2011	-	1	2	1	-	5	-	9
2012	1	1	6	1	-	4	1	2
2013	4	3	4	-	-	2	3	-
2014	4	-	-	-	-	1	2	6
2015	2	-	-	-	1	-	-	-
2016	1	-	-	-	-	-	1	3
2017	1	-	1	-	-	-	-	2
2018	1	-	1	1	2	2	-	1
2019	1	-	1	-	1	1	-	5
2020	3	-	2	-	-	-	-	1
2021	-	1	2	-	1	-	-	3
Total	18	6	19	6	6	17	11	32

(Note) These were issued after the establishment of the JTSC in October 2008.