

Chapter 6 Efforts toward accident prevention

1 Publications

The JTSB prepares and issues various publications, as well as investigation reports, regarding specific cases.

We place these publications on our website and, in order to make them more accessible to the public, we also introduce them through our monthly JTSB E-Mail Magazine service (only available in Japanese).

Our e-mail magazine service is widely used by people in the aviation, railway, and shipping industries, as well as administrative agencies and educational/research organizations.

We also exchange opinions with business operators and other parties on effective information dissemination from the JTSB, and we will continue to make improvements based on the opinions that we receive.

JTSB Website



2 Issuance of the JTSB Digest

With the aim of fostering awareness of safety, and preventing similar accidents from occurring, we issue “JTSB Digests.” This publication introduces you to statistics-based analyses and must-know cases of accidents.

We also issue the English version of “JTSB Digests” as part of our efforts to disseminate information overseas.

In 2016, we released four issues of “JTSB Digests” (April, June, September and December: Issues No. 20-23) as well as one issue of the English version of “JTSB Digests” (May).

The contents of each issue are as follows.

① **JTSB Digests Issue No.20 [Analyses of Railway Accidents]**
“Toward the prevention of level crossing accidents involving automobiles, etc.” (issued on April 15, 2016)

- Outline of accidents
- Accident investigation case study: “Truck enters level crossing as train is approaching and collides with train”
- Accident investigation case study: “Derailment caused when train collides with light motor vehicle that has stopped with wheels stuck on a level crossing”
- Accident investigation case study: “Train collides with medium-duty truck that has stopped inside a level crossing”
- Accident investigation case study: “Light truck enters level crossing as train is approaching and collides with train”



② **JTSB Digests Issue No.21 [Analyses of Marine Accidents]**
“Toward the prevention of passenger ship accidents” (issued on June 30, 2016)

- Accident trends
- Accident investigation case study: “Ferry is pushed sideways by the wind into the quay wall, injuring passengers who were not seated”
- Accident investigation case study: “Ferry avoids a fishing vessel fleet outside the port, but runs aground on shallows and the car deck is flooded”
- Accident investigation case study: “Small passenger ship deviates from the course on a GPS plotter and runs aground, injuring 14 passengers”
- Accident investigation case study: “Fire breaks out on a sea taxi, killing two passengers who jump into the sea”
- Accident investigation case study: “Small passenger ship falls from the crest into the trough of a wave, injuring three passengers”



③ **JTSB Digests No. 22, [Digest of Aircraft Accident Analyses]** **“For prevention of Accidents Involving Private Small Aircraft and Gliders” (issued on September 27, 2016)**

- Statistics on Accident Occurrence
- Accident investigation case study: “After being released from the towing aircraft, the motor Glider greatly lost height due to failure to start the engine, and finally crashed.”
- Accident investigation case study: “When returning from a familiarization flight, the Small Aircraft made a forced landing due to fuel exhaustion and was damaged.”
- Accident investigation case study: “Training was continued below the required altitude, causing the Glider to make a hard landing and become damaged.”
- Accident investigation case study: “After a familiarization flight, the Small Aircraft made a belly-landing due to negligence in forgetting to extend the landing gear.”



④ **JTSB Digests Issue No.23 [Analyses of Marine Accidents]**
“Toward the prevention of collision accidents involving coastal cargo ships and tankers” (issued on December 13, 2016)



- Circumstances of accidents
- Accident investigation case study: “Collision with fishing vessel in glaring sunlight, not detected on radar set to 8nm range”
- Accident investigation case study: “Collision with fishing gear when passing behind a boat engaged in pair trawling, assuming it to be operating alone”
- Accident investigation case study: “Navigate at constant course and speed, and collide with ocean-going cargo ship on the opposite course”
- Accident investigation case study: “In restricted visibility, focus attention on overtaking vessels on the same course, and collide with an ocean-going cargo ship”
- Accident investigation case study: “Collision between coastal tanker on which information was not shared among the bridge team and coastal cargo ship that did not increase its bridge manning level”
- Accident investigation case study: “Collision in restricted visibility between a coastal cargo ship navigating to the left of a channel and a coastal cargo ship continuing a starboard turn”
- Accident investigation case study: “Collision with a pushboat unit when a bridge watchkeeper inexperienced in maneuvering turns the autopilot dial in an attempt to avoid it”
- Accident investigation case study: “Collision with a tugboat towing a barge when proceeding south along the left (east) side of Hirado Seto”






⑤ Close call incidents in the field of aviation (issued on May 17, 2016)

3 Issuance of the Analysis Digest Local Office Edition

The JTSB has issued the analysis digest local office edition (only available in Japanese). It has issued this publication in order to provide various kinds of information to help prevent marine accidents. The information is based on the analyses made by our regional offices and relates to specific accidents that occurred in their respective jurisdictions. This information focuses on cases with characteristic features such as the sea area, the type of vessel, and the type of accident.

(Analysis Digest Local Office Edition in 2016)

Hakodate	<p>Situation of fatal accidents involving fishing vessel crews – Latent dangers of Hokkaido coastal fisheries</p> <p>(Main content)</p> <ul style="list-style-type: none"> • Situation of accidents involving fishing vessels in coastal waters of Hokkaido • Situation of fatal accidents involving fishing vessel crews • Accident case studies (3 cases) • Summary – To prevent the recurrence of fatal accidents involving fishing vessel crews 	
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<p>Sendai</p>	<p>Situation of accidents with damage to aquaculture facilities or other fishing-related facilities in Tohoku coastal areas – For zero accident on aquaculture facilities or other fishing-related facilities based on obtaining accurate information (monitoring of ship’s position and gathering information beforehand)</p> <p>(Main content)</p> <ul style="list-style-type: none"> ▪ Circumstances of occurrence of accidents with damage to aquaculture facilities or other fishing-related facilities ▪ Accident case studies (3 cases) ▪ Lessons learned from accidents 	
<p>Yokohama</p>	<p>For marine leisure to be enjoyed in safety – Toward the prevention of accidents with fatalities or injuries in waters around Tokyo Bay</p> <p>(Main content)</p> <ul style="list-style-type: none"> ▪ Circumstances of occurrence ▪ Situation of accidents ▪ Accident case studies (3 cases) ▪ Summary – For marine leisure to be enjoyed in safety 	
<p>Kobe</p>	<p>Now appearing in the sea! The “different faces” of laver farming facilities in Shikanose</p> <p>(Main content)</p> <ul style="list-style-type: none"> ▪ Accident case studies (3 cases) 	
<p>Moji</p>	<p>Are you sure you can get through there? – Grounding accidents between Jinoshima and Kanezaki in Munakata City, Fukuoka Prefecture</p> <p>(Main content)</p> <ul style="list-style-type: none"> ▪ Accident case studies (3 cases) ▪ Safety information ▪ Summary 	
<p>Naha</p>	<p>Sleep deprivation and fatigue are the main causes of dozing off - Toward the prevention of accidents caused by dozing off while navigating fishing vessels in waters around Okinawa</p> <p>(Main content)</p> <ul style="list-style-type: none"> ▪ Circumstances of occurrence ▪ Accident case studies (2 cases) ▪ Summary 	

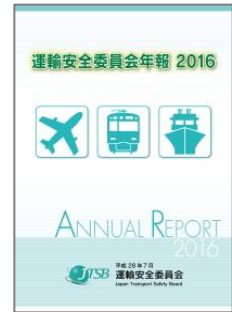
As you read these local office digests, you can not only find out the circumstances of local accidents, but can also gain some tips for accident prevention.

The local offices will make further efforts to regularly issue the analysis digest local office editions. By doing so, they will ensure that you will be provided with more satisfactory content.

4 Issuance of the JTSB Annual Report

In July 2016, we issued the JTSB Annual Report 2016. We did so in order to share the lessons learned from accidents and incidents with interested parties, by introducing our general activities in 2015.

As part of our efforts to provide information overseas, we issued the English version of the report “Japan Transport Safety Board Annual Report 2016” on October 2016. We did so to let people overseas know about the topics in this Annual Report.



Column

The Riddle of Telephone Inquiries

Kobe Office

The JTSB Kobe Office is mainly concerned with investigating the cause of marine accidents. But sometimes, we receive telephone inquiries or requests for advice on matters that have nothing to do with our work.

For example, we have been asked “Where can I get a license to drive a truck?” Another caller said, “A shiny part of a guard rail has fallen down in front of my house. It has an MLIT seal on it, but is it OK to throw it away?” And another asked, “I drive a certain make of car, but can you tell me whether it is affected by the newspaper recall announcement?”

We began to wonder why calls like this were being made to the Kobe Office, and so decided to ask one of the callers. The answer was that our telephone number was the first one listed in the yellow telephone directories distributed by the telephone company.

We checked this straight away, and found that the Japan Transport Safety Board was indeed listed at the top of the MLIT page in the section on public authorities. That’s because *Unyu*, the first word of our name in Japanese, comes before the names of other bodies in the Japanese system of ordering sounds.

The riddle was solved.

So how should we handle telephone inquiries and requests for advice that have nothing to do with our work?

JTSB employees always go about their work with the Board’s mission and principles uppermost in their minds. But at the same time, our intention is always to respond courteously to telephone inquiries from members of the public, and to do whatever we can to help them by seeking out the information they need, or pointing them in the right direction for advice. Together with the mission of the Japan Transport Safety Board, we go about our daily work with this attitude in mind.

5 J-MARISIS – Now even easier to use

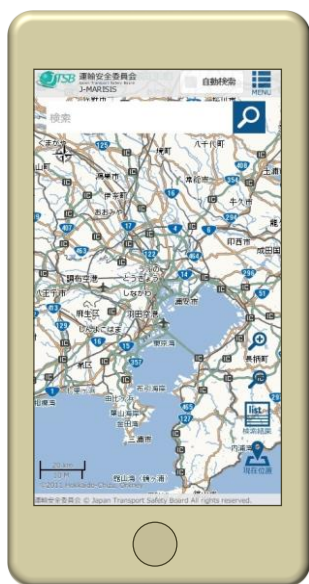
So that more effective use can be made of published marine accident investigation reports, the Japan Transport Safety Board began providing the Japan-Marine Accident Risk and Safety Information System (J-MARISIS) as an Internet service from the end of May 2013, allowing users to search reports from maps. In April 2014, we also released the global version of J-MARISIS, further allowing users to search investigation reports published by overseas marine accident investigation organizations from world maps.

Given the increase in the number of people using the Internet on mobile terminals, as well as requests to make this system easier to use on smartphones and tablets, we released the mobile version of J-MARISIS at the end of June 2015.

With touch panel support as well as revised display buttons and layouts, its ease of use has been increased, and the GPS functions of mobile terminals can be used to display information on areas near the user’s current location. As a result, users on pleasure boats, recreational fishing boats or other small vessels can easily check information on accidents and other relevant information on navigation in sea areas they are planning to visit.



J-MARISIS http://jtsb.mlit.go.jp/hazardmap/mobile/index_en.html



Screen displaying accident information

The Japan Transport Safety Board welcomes your views, requests and other comments/communication from users of J-MARISIS. Please use the “Contact us” section of our website.

Contact us <http://www.mlit.go.jp/jtsb/contact.html>



Accident Investigation and the Weather

Director for Analysis, Recommendation and Opinion

The Director for Analysis, Recommendation and Opinion handles a variety of tasks within the JTSC. These include analyzing accident investigation data from the respective sectors of aviation, railways and marine, and issuing recommendations and opinions designed to prevent accidents from occurring in the first place, or to reduce damage when they do occur. As well as these roles, the Director is also in charge of preparing safety publications focusing on specific themes (as in the “JTSC Digests”) and disseminating safety information that highlight accident hotspots and types of accident (as in “J-MARISIS”). As a result, the staff responsible for gathering and analyzing data have many opportunities for contact with reports outside their own special areas of transportation.

There is no difference between the sectors in terms of the basic composition of accident investigation reports – namely, descriptions and analysis of factual information, and the causes of accidents deduced from the analysis. In certain aspects, on the other hand, the details of information given and the style of writing display unique characteristics depending on the sector.

For example, it is essential in accident investigation that we analyze whether or not the meteorological conditions affected the occurrence of an accident, and information on the meteorological factors is therefore given in reports on all three sectors. However, details common to reports on aviation, railways and marine are limited to the weather at the time when the accident occurred – in other words, whether it was “fair” or “cloudy”, etc. Information other than this differs slightly from sector to sector. In investigation reports on aircraft accidents, for example, information on wind, atmospheric pressure and other conditions that impact flight are naturally more detailed; another particular characteristic of aviation-related reports is that they include information on clouds, such as the amount of cloud, cloud type and cloud base. Of course, wind has a significant bearing on marine navigation as well, but a characteristic of marine accident reports is rather that the sea conditions – namely, conditions such as wave height, length and frequency, and high or low tide – are described in particular detail. Sea temperature is sometimes mentioned as information that affects the survival of accident victims who fall into the sea. In the case of railway accidents, meanwhile, information on earthquakes is sometimes mentioned. This is because we also investigate derailment and other accidents caused by earthquakes, and terms like “P-waves” and “S-waves” are often seen in these reports.

Incidentally, when giving information about the wind, the international system of units uses the term “m/s (meters per second)”, but “kt (knots; 1kt = 0.514m/s = 1.852km/h)” is also commonly used in air accident investigation. Again, in marine accident investigations, “wind force” based on a graded scale of strength is also commonly used; according to the wind force scale used by the Japan Meteorological Agency (JMA), wind force 1 represents “wind speed 0.3m/s up to less than 1.6m/s (1kt to less than 4kt)”. In the “Beaufort wind force scale”, which provided the basis for the JMA wind force scale, the land condition under wind force 1 is explained as “Direction shown by smoke drift but not by wind vanes”. No unique usage is evident in the case of railway accident investigations, where m/s is the unit used. These differences are interesting in that they are based on units that have always been used in the respective transport sectors, and reflect different treatment depending on the characteristics of the information source.

As readers of the “JTSC Annual Report”, you may well have a connection with one of these transport sectors, but if you should care to look at accident investigation reports in sectors other than your own special field, you will surely notice the respective characteristics of each.

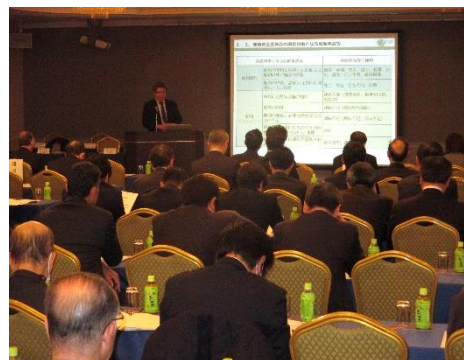
6 Outreach lectures (dispatch of lecturers to seminars, etc.)

The Japan Transport Safety Board launched a series of outreach lectures in April 2014, as part of its efforts to raise awareness on the work of the Board, and to create an opportunity for collecting the feedback and opinions of the general public.

Seminars that lecturers can be dispatched to cover topics that are useful in preventing or mitigating damage from aircraft, railway, and marine accidents. Members of the staff are dispatched as lecturers to various seminars and schools.

We can provide flexible support for the content of lectures, such as by incorporating content to match the needs of participants, based on courses chosen by requesting groups.

<http://www.mlit.go.jp/jtsb/demaekouza.html> (in Japanese)



Scene of an outreach lecture

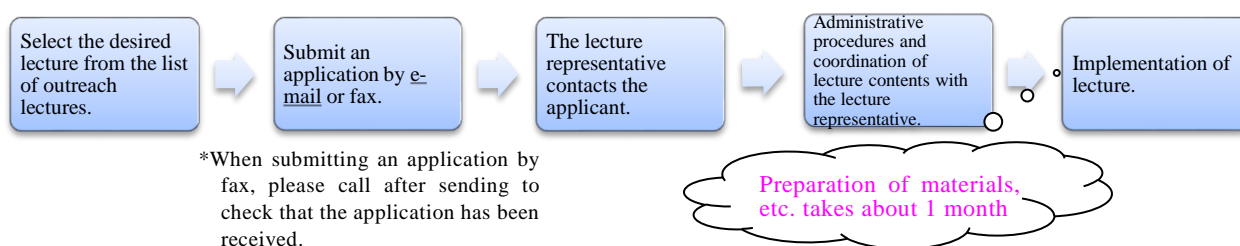
List of outreach lectures

No.	Course	Main audience	Contents
1	About the Japan Transport Safety Board	General (High school students and older), transportation businesses, etc.	Easy-to-understand explanation about the organizational background, work, etc. of the Japan Transport Safety Board
2	What is accident investigation?	Elementary school students	Easy-to-understand explanation about accident investigation for elementary school students and older
3	About aircraft accident investigation	General (High school students and older), aviation businesses, etc.	Easy-to-understand explanation about aircraft accident investigations, including the background, concrete examples, etc.
4	About railway accident investigation	General (High school students and older), railway businesses, etc.	Easy-to-understand explanation about railway accident investigations, including the background, concrete examples, etc.
5	About marine accident investigation	General (High school students and older), maritime businesses, etc.	Easy-to-understand explanation about marine accident investigations, including the background, concrete examples, etc.
6	About marine accident investigation (fire, explosion, engine failure)	General (High school students and older), maritime businesses, etc.	Explanation about marine accident investigations related to fire, explosion and engine failure, including the background, concrete examples, countermeasures, etc.
7	About the JTSB Digests	General (High school students and older), transportation businesses, etc.	Introduction to case studies of accidents and explanation of various statistical materials across various modes, based on the JTSB Digests that have been issued to date.
8	About the JTSB Digests (Analyses of Aircraft Accidents)	General (High school students and older), aviation businesses, etc.	Explanation about various themes taken up in the analyses of aircraft accidents in the JTSB Digests.
9	About the JTSB Digests (Analyses of Railway Accidents)	General (High school students and older), railway businesses, etc.	Explanation about various themes taken up in the analyses of railway accidents in the JTSB Digests.

10	About the JTSTB Digests (Analyses of Marine Accidents)	General (High school students and older), maritime businesses, etc.	Explanation about various themes taken up in the analyses of marine accidents in the JTSTB Digests.
11	Trends in the occurrence of marine accidents, and preventing recurrence	General (High school students and older), maritime businesses, etc.	Schematic explanations about risks and waters where marine accidents frequently occur using the J-MARISIS, and explanations about accident prevention methods.
12	Analysis digests of regional offices (marine accident-related) [each regional office in Hakodate, Sendai, Yokohama, Kobe, Hiroshima, Moji, Nagasaki, and Naha]	General (High school students and older), maritime businesses, etc.	Explanations on each topic regarding analysis digests from regional offices. *Lists can be found by clicking the link below. http://www.mlit.go.jp/jtsb/bunseki-kankoubutu/localanalysis/localanalysis_new.html

*No. 12, in principle, is restricted to requests from the areas under the jurisdiction of the local office.

Flow chart from application to implementation of lecture



7 Activities of the Accident Victim Information Liaison Office

The Japan Transport Safety Board gives full consideration to the emotions of the victim and their families, as well as bereaved families. In addition to providing information on accident investigations in an appropriate manner at the appropriate time, a contact point for providing accident investigation information to victims, etc. was established in April 2011 with the aim of providing attentive response to opinions and feedback. Furthermore, in order to promote the provision of information, the Accident Victim Information Liaison Office was established under the directive of the organization in April 2012. Contact points for the provision of information were also set up in local offices to provide integral support alongside with Tokyo.

In 2016, information on accident investigation and other matters was provided to 49 persons, including the victims, of 32 cases of aircraft/railway/marine accidents.

The status for other activities is as follows.

○Memorials for accident victims

The JTSTB made memorial visits to accident sites including Mount Osutaka in Ueno Village, Tano District, Gumma Prefecture, the site of the JAL Flight 123 crash, and presented offerings of flowers from the Board members and the Director-General at each accident site to express our deepest sympathy for those lost in these accidents.

By presenting these memorial offerings first-hand, we deeply felt the emotions of those who still have painful memories of these events, and renewed our awareness of the importance of closely sharing

the feelings of bereaved families and victims.



Prayer at the altar for flowers at the Mount Osutaka crash site



Prayer at the altar for flowers at the Takenotsuka level crossing accident site

The Accident Victim Information Liaison Office hands out “Contact Information Cards” to victims of accidents.

The Office receives inquiries and consultation about the accident investigations from victims and families of accidents, as well as bereaved families. Please feel free to contact the following where necessary.

Contact Information Cards

**Information for
Victims and their Families**

Japan Transport Safety
Victims and their Families
Liaison Office

Japan Transport Safety Board

(Front)

Japan Transport Safety Board
Victims and their Families
Liaison Office

2-1-2 Kasumigaseki, Chiyoda,
Tokyo, Japan 100-8918

Tel: +81-3-5253-8823 Fax: +81-3-5253-1680
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Japan Transport Safety Board

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