



## Chapter 10

# Laws and policies pertaining to traffic safety

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This chapter focuses on laws and policies pertaining to traffic safety, provides basic information, and discusses issues to overcome for better future institutional design and implementation. More specifically, Section 10.1 provides an overview of the roles of laws and the legal framework for traffic safety, followed by discussions on developments in policies concerning traffic safety (Section 10.2), traffic safety regulation from the perspective of criminal law (Section 10.3), and the relationship between new traffic safety technologies and legal policy (Section 10.4). Section 10.5 provides a summary of this chapter, reviewing legal policies on traffic safety in light of recent active legal discussions on risk management.

### 10.1 The roles of laws and legal framework for traffic safety

#### 10.1.1 Laws and securing transportation and safety: An overview of the relevant laws and legal framework

Securing safe transportation for the public has been a major responsibility of any country throughout history. Herbert Krüger (1905–89), a German scholar of public law, considered roads as an essential factor in a country's existence.<sup>1)</sup> Today, the importance of international transportation has been rapidly increasing, and countries have taken various measures to secure safety in international transportation, signing treaties such as the International Convention for the Safety of Life at Sea (the SOLAS Convention) and the Convention on International Civil Aviation (the Chicago Convention).

In Japan, too, securing means of transportation and its safety is now a national issue as seen in efforts to secure mobility for the transportation-disadvantaged, such as senior citizens, and in countermeasures to dangerous bicycle riding. Since Japan is a nation of laws, its efforts to fulfill its duty in dealing with such issues must be rooted mainly in laws and regulations. In particular, when actions taken in this process restrict the rights and freedoms of citizens and impose obligations on them, these actions must be based on laws and regulations (*horitsu* and *jourei*).

Let us consider road traffic as an example. The Road Traffic Act (*doro kotsu ho*) enacted in 1960 is aimed at preventing dangers on the road, promoting the safety of other traffic and its smooth flow, and

contributing to the prevention of obstacles due to road traffic (Article 1). The act contains provisions on the ways in which pedestrians and vehicles move, the driver's license system, and penalties and fines for violations. The Road Traffic Act is the most important law regarding road traffic rules, and based on this law, the National Public Safety Commission and the National Police Agency, as well as prefectural public safety commissions and police forces, conduct administrative activities related to road traffic safety.<sup>2)</sup> The law governing the construction and maintenance of road networks and the structure of roads is the Road Act (*doro ho*). The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has jurisdiction concerning this law, and the national, prefectural, and municipal governments perform their respective responsibilities in securing the safety of roads as physical infrastructure. Therefore, if an accident occurs due to a falling object from an overpass or the roof of an aging tunnel, the relevant government implementing the law may be held responsible for failure in road management (in, for example, a compensation lawsuit against the national government). However, in cases of traffic accidents caused by improper installation of traffic lights or damage caused to a third party due to unnecessary or inappropriate pursuit of a violating vehicle by a police car, the relevant police agency may be held responsible with regard to its authority or its acts or omissions. The driver's license system governed by the Road Traffic Act specifies a general mechanism for checking the aptitude of those who intend to drive an automobile. As for the people and companies whose business involves driving vehicles such as buses and taxis, the Road Transportation Act (*doro unso ho*), as a law regulating business operations, provides the basis for a separate mechanism of safety regulation (operations in the trucking business are regulated by the Trucking Business Act [*kamotsu jidoshu unso jigyo ho*]). The law requires these business operators, among other things, to set safety management rules and have operations managers. For example, in response to the serious accident involving an express tour bus caused by an overworked driver on April 29, 2012, the MLIT revised the interpretation and implementation standards for the Ordinance for Enforcement of the Road Transportation Act, which led to strengthened regulations including restricted travel distances and the presence of a second driver.<sup>3)</sup>

### 10.1.2 Problems requiring multifaceted solutions and the division and comprehensiveness of administrative authority

As the overview presented above suggests, the laws governing transportation and its safety have the following characteristic: matters subject to relevant rules are divided according to the jurisdiction of different agencies (and their departments). In a sense, this division is needed by the administrative agencies and their activities because agencies have pursued specialization in order to respond to various administrative issues and their increasing difficulty. In addition, issues involving traffic safety do not arise conveniently according to the configuration of government agencies and thus often require cross-agency measures. For example, responses to the negative health effects of road-related pollution include not only creation of planting strips and installation of sound barriers by organizations responsible for constructing and managing roads, as well as the construction of underground roads, but also measures that treat automobile transportation as a source of pollution, such as exhaust gas regulations, road pricing, and road closure in cases of emergency. See, for example, the Supreme Court judgment for the Route 43

lawsuit (July 7, 1995; Supreme Court Reports [Civil Cases] (*Minshu*), vol. 49, no. 7, p. 1870), the Tokyo District Court judgment for the Tokyo air pollution lawsuit (October 29, 2002; Law Cases Reports (*Hanreijiho*), no. 1885, p. 23), and other judicial precedents regarding road-related pollution.<sup>4)</sup>

It is therefore important that comprehensive and consistent measures be formulated through talks among government agencies that have jurisdiction over different laws and through arrangements made by coordination bodies such as the Cabinet Secretariat and the Cabinet Office. Also, municipal governments, which are closest to the sources of problems and have comprehensive authority over local administrative issues including community development, are crucial actors in regard to legal policy for traffic safety. To implement measures incorporating the ideas devised by municipal and prefectural governments that have firsthand experiences of problems, in the second phase of Japan's decentralization reform, the laws and legal framework concerning roads and traffic safety were reexamined to a certain extent with respect to the requirements and limitations imposed by the national government, as seen in the permission of the use of own technical standards by municipal and prefectural governments with regard to the structure of roads, the abolishment of mandatory traffic safety planning by municipal governments, and the requiring of efforts for such planning.<sup>5)</sup>

With respect to the issue of traffic safety, the role of regulations set by regional and local governments is larger than it was in the past. Although various stakeholders have become involved, it is desirable that local residents increase their participation in the planning of traffic safety measures related to community development.

## 10.2 Implementation of traffic safety policies

This section discusses information dissemination, quality assurance, and utilization of non-life insurance which, like legal restrictions, play important roles as policy instruments for securing traffic safety. This section also considers international harmonization of automobile safety standards to show the growing importance of having an international perspective in traffic safety issues.

### 10.2.1 Information dissemination: The Japan New Car Assessment Program

Providing information is becoming an important policy instrument in various fields. A new car assessment program is a policy instrument in which information on the performance of automobile technologies is made public in order to promote development of automobile technologies by automobile manufacturers and proper selection of technologies by automobile users. New car assessment can be considered as a type of technological assessment. As a policy instrument, technological assessment supports decision-making through dissemination of information regarding various impacts of technologies.<sup>6)</sup> These impacts include not only safety risks and economic costs, but also social and cultural impacts. In this broader context, new car assessment is conducted with a focus on the safety performance of automobile technologies. The Japan New Car Assessment Program started in 1995, and initially emphasis was put on providing information about crash safety performance. Subsequently,

information on the performance of pedestrian protection functions and child safety seats began to be provided. Today's new car assessment also covers preventive safety technologies.

### 10.2.2 Quality assurance: Assessment of transportation safety management

As technologies are rapidly advancing and being utilized in organizations, it is often difficult to ensure safety solely based on regulations that are distinct from each other. In such situations, there are ways to give rise to quality assurance that is achieved through business operators' voluntary efforts for improvement. Quality assurance by an organization refers to guaranteeing product quality to its customers by maintaining in-house communications intended for product quality improvement. For this purpose, organizations are expected to act proactively and autonomously and in a well-organized manner. This approach to quality assurance has been widely used in various fields including nuclear safety, medical safety, and food safety.

In the transportation sector, with consideration given to accidents such as the JR West Fukuchiyama Line accident of April 2005, the Japanese government began its efforts to introduce a mechanism that would check the entire quality assurance system of all transportation business operators including railway operators.<sup>7)</sup> A committee for examining preventive measures against public transportation accidents attributed to human error was created in June 2005, and an interim report was published in August. The report pointed out that to create a climate or culture of safety, it would be important for a business operator to create its own safety management system and to make a continual commitment to safety. The Omnibus Transportation Safety Bill stipulated the creation of a safety management system by business operators and, on the government side, the establishment of a safety monitoring body responsible for different modes of transportation and the creation of a transportation safety management system that would perform, among other things, safety management assessment. The bill also required business operators to prepare and submit their safety management rules and to appoint a general manager on safety and report the appointment. The safety monitoring body was mandated to assess business operators' transportation safety management systems. The results of such assessment are summarized for different modes of transportation (e.g., railway, automobile, sea transportation, and aviation) and are used as feedback for actual business operations.

### 10.2.3 Non-life insurance: Compulsory insurance and voluntary insurance

Non-life insurance not only secures compensation to victims of accidents and reduces feelings of insecurity at the societal level, but also has a preventive function in which accidents and damage are curbed because of insurance premium discounts/surcharges and other measures that adjust to hazards associated with the insured parties or properties.<sup>8)</sup>

For automobile accidents, the need for comprehensive compensation coverage is high because many people are potential victims of accidents. Without such coverage, it would have been difficult to introduce into society the technology called the automobile, which inevitably would produce a certain number of victims.

In Japan, there are two kinds of automobile insurance: compulsory insurance (automobile liability

insurance/mutual aid) based on the Automobile Liability Security Act and voluntary insurance (automobile insurance/mutual aid). On the basis of automobile liability insurance and mutual aid, voluntary private insurance provides extra coverage. There is also the Automobile Liability Security Program in which the government provides compensation to victims of accidents caused by uninsured vehicles. The government initially provided reinsurance for 60% of automobile liability insurance in order to ensure compensation, but the government reinsurance program was abolished in 2002 due to the improved business foundation of insurance companies. The deregulation of the insurance industry that began in 1998 enabled companies to set their premiums independently, and they started to sell products that offer premium discounts for cars with high safety performance. As for voluntary insurance, incentive systems are implemented in which premiums change according to past driving history, and the resulting differences in premiums are expected to curb the number of accidents.

#### 10.2.4 International harmonization of standards: The World Forum for Harmonization of Vehicle Regulations

Since automobiles are important in trade and direct investment, countries had incentives to internationally harmonize technical standards associated with safety and other factors.<sup>9)</sup> The United States and the European Union created the Trans-Atlantic Business Dialogue in 1995 in a move toward mutual recognition of standards, and its main theme was harmonizing recognition of automobile-related standards. Subsequently, discussions were held in a trilateral group that included Japan, and progress was made in industry-led harmonization.

Against the background of this trend toward harmonization of standards, Working Party 29 of the United Nations Economic Commission for Europe, which was a Eurocentric intergovernmental commission, was rediscovered and started to play an important role in internationally harmonizing standards for automobile technologies. In 1999, Working Party 29 began to be called the World Forum for Harmonization of Vehicle Regulations. While this was happening, progress was made in international harmonization of individual items: the 1958 Agreement concerning mutual recognition of automobile technology standard certifications was revised in 1995, and a global agreement was adopted in 1998 among countries including Japan, the United States, and the European Union. For Japan, such international harmonization constituted one aspect of its international industrial policy.

### 10.3 Criminal regulations regarding traffic safety<sup>10)–14)</sup>

#### 10.3.1 Characteristics of criminal regulations: comparison of criminal penalties and public-order penalties

To secure traffic safety, violators of transportation-related laws and regulations may receive criminal penalties. In other words, violations of such laws and regulations are not only subject to public-order penalties (fines), but also considered to constitute a crime. Therefore, there is a system in which such violations are legally condemned by imposing criminal penalties on the violators (criminals) with the

aim that the same violations are prevented from recurring.

Similar to criminal penalties, public-order penalties (for disturbing order in the functioning of government administration) are legal sanctions against failure to comply with certain requirements (i.e., requirements regarding certain acts and omissions that contribute to achievement of traffic safety), but there are qualitative differences in the extent of sanctions between these two types of penalties. Both of them render adverse dispositions to violators, but criminal penalties provide the opportunity for strong legal condemnation of violators' actions. Accordingly, violators who receive a criminal penalty will have a criminal record and must accept various disadvantages, such as certain license restrictions, according to the severity of the criminal offence. For example, people driving an automobile over the speed limit would just pay a fine if the seriousness of the violation is within a certain range (e.g., a speed less than 30 km/h above the legal speed limit); however, if the violation is more serious (e.g., a speed equal to or greater than the abovementioned threshold), it would result in a fine as a criminal penalty and in a criminal record (entry in the offender list).

### 10.3.2 Criminal regulations pertaining to traffic safety

#### (1) Relevant laws and regulations

The criminal regulations pertaining to traffic safety are mainly based on the Road Traffic Act and the Act Concerning Punishment of Automobile Driving Resulting in Death or Injury (*jidosha unten shisho koi shobatsu ho*). The latter is an independent law that was created to define the crime of dangerous driving resulting in death or injury (*kiken unten chishisho zai*) and the crime of negligence in automobile driving resulting in death or injury (*jidosha unten kashitsu chishisho zai*), which had been defined in the penal code.<sup>(1)</sup>

#### (2) The Road Traffic Act

Main violations under this law, for which criminal penalties would be imposed, are listed in Table 1.

#### (3) The Act Concerning Punishment of Automobile Driving Resulting in Death or Injury

Main violations under this law, for which criminal penalties would be imposed, are listed in Table 2.

### 10.3.3 An example of applying the law

The following is an example of how the various penalties mentioned in Section 10.3.2 are applied.

Suppose Person A drove a car to a bar, and after drinking he tried to drive the same car home. When he got in the car, he was slightly drunk but remembered that he was sitting in the driver's seat and started the car (that is, normal operation of the vehicle would have potentially been impaired, but was not difficult). After that, while driving he lost consciousness due to intoxication (that is, normal operation of the vehicle became impossible). He therefore became unable to properly drive the car, and the car hit and killed a pedestrian. When this occurred, Person A regained consciousness but did not call

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(1) The law was enacted in November 2012 and was implemented on May 20, 2013.

**Table 1. Main violations for which criminal penalties would be imposed under the Road Traffic Act**

Crime	Typical case	Statutory penalty	Legal basis <sup>(2)</sup>
Failure to drive safely	Inattentive driving, etc.	Imprisonment for up to 3 months, or a fine of up to 50,000 yen	Article 70; Article 119, No. 9
Fatigued driving	Drowsy driving, etc.	Imprisonment for up to 3 years, or a fine of up to 500,000 yen	Article 66; Article 117, Section 2-2, No. 7
Speeding	Violation of the speed limit	Imprisonment for up to 6 months, or a fine of up to 100,000 yen	Article 22; Article 118, No. 1
Driving under the influence of alcohol	Slightly drunk	Imprisonment for up to 3 years, or a fine of up to 500,000 yen	Article 65, Paragraph 1; Article 117, Section 2-2, No. 3
Providing alcohol	Providing alcoholic beverages to those who may drive under the influence of alcohol	Imprisonment for up to 2 years, or a fine of up to 300,000 yen	Article 65, Paragraph 3; Article 117, Section 3-2, No. 2
Drunk driving	Drunken staggering	Imprisonment for up to 5 years, or a fine of up to 1 million yen	Article 65, Paragraph 1; Article 117, Section 2, No. 1
Providing alcohol	Providing alcoholic beverages to those who may engage in drunk driving	Imprisonment for up to 3 years, or a fine of up to 500,000 yen	Article 65, Paragraph 3; Article 117, Section 202, No. 5
Failure to report an accident	Failure to report an accident to the police	Imprisonment for up to 3 months, or a fine of up to 50,000 yen	Article 72, Paragraph 1, 2nd part; Article 119, No. 10
Failure to provide aid	Failure to aid the injured	Imprisonment for up to 10 years, or a fine of up to 1 million yen	Article 72, Paragraph 1, 1st part; Article 117

**Table 2. Main violations for which criminal penalties would be imposed under the Act Concerning Punishment of Automobile Driving Resulting in Death or Injury**

Crime	Typical case	Statutory penalty	Penalty including that for unlicensed driving	Legal basis <sup>(3)</sup>
Dangerous driving resulting in injury	Impaired operation of the vehicle, resulting in injury	Imprisonment for up to 15 years	Imprisonment for 6 months to 20 years	Article 2
Dangerous driving resulting in death	Impaired operation of the vehicle, resulting in death	Imprisonment for 1 year to 20 years	Imprisonment for 1 year to 20 years (no additional penalty)	Article 2
Dangerous driving resulting in injury (less severe offense)	Potential impairment of normal operation, resulting in injury	Imprisonment for up to 12 years	Imprisonment for up to 15 years	Article 3
Dangerous driving resulting in death (less severe offense)	Potential impairment of normal operation, resulting in death	Imprisonment for up to 15 years	Imprisonment for 6 months to 20 years	Article 3
Avoiding detection of the influence of alcohol or other intoxicants in negligent driving resulting in death or injury	Negligent driving + death or injury + water intake, etc.	Imprisonment for up to 12 years	Imprisonment for up to 15 years	Article 4
Negligent driving resulting in death or injury	Negligent driving + death or injury	Imprisonment for up to 7 years, or a fine of up to 1 million yen	Imprisonment for up to 10 years	Article 5
Additional penalty due to unlicensed driving	Unlicensed driving	Penalty for unlicensed driving added to the statutory penalty listed above (see the column "Penalty including that for unlicensed driving")	The penalty for driving without a license varies by crime (as seen in the difference between the entries in this column and in the left column)	Article 6

(2) The relevant segments listed are those of the Road Traffic Act.

(3) The relevant segments listed are those of the Act Concerning Punishment of Automobile Driving Resulting in Death or Injury.

the police out of fear. He was drinking copious amounts of bottled water at the scene of the accident when he was arrested by dispatched police officers. After the arrest it became clear that his driver's license had already expired.

In this case, Person A is guilty of driving under the influence of alcohol, driving without a license, failure to report an accident, and failure to provide aid (all of which are crimes under the Road Traffic Act), as well as dangerous driving resulting in death or injury (or a less severe version of it; Article 3 of the Act Concerning Punishment of Automobile Driving Resulting in Death or Injury; the crime of driving without license under Article 6 of the Act also applies). With regard to the fact that his act of drinking water hindered accurate measurement of blood alcohol level, he is guilty of avoiding detection of the influence of alcohol or other intoxicants in negligent driving resulting in death or injury (Article 4 of the Act).

## 10.4 New traffic safety technologies and legal policy

This section examines judgments made from a legal policy standpoint with regard to how various new technologies that people adopt for increased convenience as participants in road traffic can be incorporated into the system of traffic safety rules. Let us look at a few examples. An example of a technology that provides assistive power to people who rely on human power to move from one place to another is the electric wheelchair, which enables those who cannot walk by themselves to move on streets as pedestrians. That is, they are separated from automobiles and share sidewalks with other pedestrians who are on foot. Since electric wheelchairs share space with people on foot, securing safety becomes an issue. The current system of rules deals with this issue by setting certain standards regarding the speed and shape of electric wheelchairs and permitting those that comply with the standards to share streets with pedestrians (see Supplemental Material 1 on the next page). Also, with regard to electric wheelchair users, as long as their wheelchairs satisfy these standards, they can operate their wheelchairs without being examined for their ability and aptitude to do so, unlike in the case of automobiles.<sup>(4)</sup>

These judgments in terms of legal policy are expressed in a provision of the current law stipulating that electric wheelchairs are treated as pedestrians for the purpose of applying the law.<sup>(5)</sup> Important components of the current system of traffic safety rules are a mechanism that distinguishes between the different ways in which roads are used, according to the types of participants in road traffic (e.g., pedestrians, bicycles, and automobiles) and a mechanism that examines the ability and aptitude of those who operate transportation machines such as automobiles. In both aspects, electric wheelchair users enjoy the same convenience provided by the law to the pedestrians. Electric-power-assisted bicycles also provide supplemental power to humans riding them, and those that satisfy certain standards are treated as

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(4) According to the definition in the law, electric wheelchairs are not regarded as automobiles or motorized bicycles (Road Traffic Act, Article 2, Paragraph 1, Nos. 9 and 10).

(5) Road Traffic Act, Article 2, Paragraph 3.

**Road Traffic Act, Article 2, Paragraph 1, No. 11-3 (definition of wheelchairs for the physically disabled)**

It refers to a wheelchair that provides mobility to those with impaired walking due to a physical disability (motorized wheelchairs must satisfy the standards set forth in the relevant Cabinet Office Ordinance).

**Ordinance for Enforcement of the Road Traffic Act, Article 1-4, Paragraph 1 (standards for motorized wheelchairs for the physically disabled)**

With respect to Article 2, Paragraph 1, No. 11-3 of the law, the following standards are set by the relevant Cabinet Office Ordinance.

1. The size of the wheelchair must be within the following dimensional limits.
  - a. Length: 120 cm
  - b. Width: 70 cm
  - c. Height: 109 cm
2. The structure of the wheelchair must satisfy the following conditions.
  - a. The motor must be an electric motor.
  - b. The speed of the wheelchair must not exceed 6 km/h.
  - c. The wheelchair cannot have any sharp protrusion which can potentially harm pedestrians.
  - d. The appearance of the wheelchair must be distinct from that of an automobile or motorized bicycle.

**Supplemental Material 1. Definition of electric wheelchairs**

bicycles along the same reasoning used in the case of electric wheelchairs (see Supplemental Material 2). In the future, the use of devices that enable assisted walking and utilize relevant robot technologies (i.e., personal mobility devices) will emerge as a concrete issue.

Let us now consider technologies that assist drivers of automobiles in perceiving their surroundings, processing information, making judgments, and operating devices, all of which are necessary skills in driving an automobile. These new technologies are very useful to drivers. The fact that they reduce the risk of accidents by overriding driver errors is also socially significant. Many of these technologies have already been commercialized as features available in automobiles. Also, assistive systems for safe driving are put to practical use as part of efforts to develop intelligent transportation systems. A question then arises how these new technologies should be introduced into the system of traffic safety rules.

It has long been the case in Japan that people can obtain a restricted driver's license that is only valid for automatic transmission vehicles. There is also a special driver's license that people who are unable to drive a regular automobile because of a disability of the arms or legs can obtain if they drive an automobile equipped with assistive devices enabling proper driving operations. In these cases, although the range of automobiles that can be legally driven is restricted, people using assistive technologies in performing necessary operations are not distinguished from regular drivers in terms of the freedom to drive an automobile on streets (e.g., where to drive and how to drive) or in terms of the responsibilities associated with participating in road traffic (e.g., the obligation to drive safely).

The current system of traffic safety rules requires drivers to assume many responsibilities, and drivers are subject to criminal or administrative penalties for their mistakes in driving. The driver's license

**Road Traffic Act, Article 2, Paragraph 1, No. 11-2 (definition of bicycles)**

A bicycle refers to a vehicle that is equipped with two or more wheels and is operated by human power with pedals or hand cranks (vehicles running on rails are excluded) but is not a wheelchair for the physically disabled, not a vehicle that assists walking, and not a vehicle for infants (bicycles with a motor for supplementing human power that satisfy the standards set by the relevant Cabinet Office Ordinance are included).

**Ordinance for Enforcement of the Road Traffic Act, Article 1-3 (standards for bicycles with a motor for supplementing human power)**

With respect to Article 2, Paragraph 1, No. 11-2 of the law, the following standards are set by the relevant Cabinet Office Ordinance.

1. The motor used for supplementing human power must satisfy all of the following conditions.
  - a. It is an electric motor.
  - b. When the bicycle is operated at less than 24 km/h, the ratio of human power to the power from the motor intended to supplement human power must be equal to or less than the value listed for each of the speed ranges shown in (1) and (2) below.
    - (1) Less than 10 km/h: 2
    - (2) 10 km/h or more but less than 24 km/h:  $2 - [\text{speed (in kilometers per hour)} - 10] / 7$ .
  - c. When the bicycle is operated at 24 km/h or more, the power from the motor intended to supplement human power must not be engaged.
  - d. The structure of the motor satisfying conditions a to c is such that it is difficult to make modifications resulting in violation of any of conditions a to c.
2. The function of the motor intended to supplement human power must work smoothly, and the working of the function must not hinder safe operation of the bicycle.

**Supplemental Material 2. Definition of electric-power-assisted bicycles**

system provides a mechanism that excludes those who are not expected to fulfill such responsibilities. These facts are attributed not only to the way in which the automobiles currently driven are designed—they are designed to be operated by their drivers—but also to the freedom of movement in road transportation. People are free to choose when to move, where to move, and how to move, and the same applies to their automobile driving as a means of movement. At the same time, however, people enjoying such freedom are responsible for the adverse outcomes that can potentially result from driving. Also, in road transportation, drivers are numerous, are mutually unknown to each other, and are potentially dangerous to each other. Therefore, the fact that the drivers have uniform freedoms and uniform responsibilities makes situations in road transportation more predictable and increases people's trust in road transportation as a social function.

As long as drivers' freedom of movement is a given, the fact that new technologies reduce burden on drivers does not immediately mean that their responsibilities are reduced. With regard to automated driving systems, it makes sense, in terms of the legal framework, that relevant discussions are conducted along similar lines so long as drivers' freedom of movement is recognized. This framework is

value-neutral, and we should put various values into practice in a harmonious manner based on it.

## 10.5 Legal policy concerning risk management

### 10.5.1 No one saw the danger

In order to secure traffic safety, various risk factors must be removed or controlled. In legal and policy studies, researchers are exploring ways in which modern risks, as opposed to dangers in the traditional sense which are qualitatively distinct, are handled, with consideration given to the trends in social system theory since the 1980s. Dangers in the traditional sense refer to those that can be expected based on empirical rules and can be predicted and handled based on trial and error in experiments and based on knowledge accumulated through experience. In contrast, risks in the modern context (those associated with genetic technology, nuclear technology, etc.) are characterized as follows: there has been little time to accumulate knowledge through experience; consequences are difficult to predict; and uncertainties are great. There are some problems in understanding the evolution from traditional dangers to modern risks in a simple linear manner, but an accident that occurred in 1921 provides an opportunity to consider the relationship between dangers and risks.

BASF, a German company, had a plant that produced ammonia, and since 1913 it had produced ammonia and nitrogenous fertilizer using a process called atmospheric nitrogen fixation (the Haber-Bosch process). The fertilizer was piled up out in the open, and parts of the pile that hardened because of absorbed moisture were broken up using dynamite before shipment. This way of handling the fertilizer led to a catastrophic explosion on September 21, 1921, leaving 509 people dead, 160 missing, and more than 1900 injured. The accident later became known as the Oppau explosion. Dynamite was used repeatedly, about 30,000 times, without problems. Also, no question was raised regarding the way the fertilizer was stored. Moreover, laboratory experiments using samples had shown that nitrogenous fertilizer does not typically explode in the manner it did in the accident. The company, its employees, neighborhood residents, and even experts did not expect such an accident.<sup>15), 16)</sup>

### 10.5.2 Government response to dangers and risks: The classic approach

To deal with dangers that are reasonably predictable, modern administrative laws have adopted certain approaches to regulations and relevant mechanisms as described below. The starting point is individual freedom. Individuals can act freely as long as they do not violate the rights and interests of others. The national government intervenes in order to prevent harm resulting from individuals' activities. The limits to such intervention are explicitly specified by laws. It is preferred that the government has less and less room for discretionary judgments.

Legislators use different legal mechanisms according to the need for regulation. For example, they adopt a reporting system if activities subject to regulation are not very dangerous and if it suffices to have information on these activities. In contrast, if the government needs to make specialized judgments regarding whether an activity can be permitted, it use a license (permit) system in which the government

conducts reviews and issues licenses (permits) under relevant laws that set abstract licensing standards. In a license system, the national government and other entities monitor or supervise activities, issue recommendations or orders when dangers or harm arises, and, if no improvement is made, revoke the license.

The basic structure of such mechanisms and the ideas supporting it stem from an outdated notion that legislators and administrators can not only recognize, in a centralized manner, the dangers posed to the public by regulated enterprises, as well as the need for regulation, but also make specialized judgment. Here, difficulties in collecting information on regulated entities are not taken into account. Today's regulatory systems (e.g., the driver's license system based on the Road Traffic Act) still have such structures across different areas of government administration. The same applies to regulatory reform initiatives and deregulation initiatives, except for those related to outsourcing and extreme cases in which regulations are totally abolished.

### 10.5.3 Dealing with modern risks: The need for new organizations and approaches

The limitations of the traditional regulatory system become apparent when considering the risks associated with modern technologies including genetic engineering and nuclear power. It becomes important to consider not only the practical side including issues like the uneven distribution of information and limited government resources (human and physical) but also the legal side—how risk management systems can be designed and operated in the face of various uncertainties. The fact that proper risk management requires risk assessment conducted independently has been recognized in various areas (sometimes through painful experiences), and discussions have been held with regard to the ideal types of organizations for performing risk assessment and approaches to risk assessment.<sup>17), 18)</sup>

From the standpoint of organizations and approaches for risk assessment, the following considers the workings of the Japan Transport Safety Board (JTSB) in accident investigations and the issue involving the use of investigation information. In areas associated with traffic safety, some issues can be understood within the framework of traditional dangers, but there are new areas that require a new kind of risk assessment. Such new areas include automated driving systems and large-scale long-distance transportation systems utilizing linear-motor trains. Also, it must be considered whether traditional organizations and approaches can still deal with traditional dangers in transportation.

#### (1) JTSB: Investigation of causes and prevention of recurrence

In the case of transportation-related accidents, the law indirectly attempts to prevent their recurrence by imposing penalties on those who cause an accident (see Section 10.3 for discussions on criminal liability) and by recognizing the right of victims to claim damages (see Sections 10.1 and 10.2 for discussions on civil liability). At the same time, mechanisms to directly prevent recurrence of accidents are gradually becoming important. These mechanisms consist of various approaches and organizations that investigate the causes of accidents and propose measures to prevent their recurrence, independently from the issue of penalties and legal liability.

In Japan, the Aircraft Accident Investigation Committee was created in 1974 as a permanent

affiliate body of the then Ministry of Transport to investigate the causes of aircraft accidents including the mid-air collision between an All Nippon Airways aircraft and a Japan Air Self-Defense Force fighter jet flying over Shizukuishi and the crash of a Toa Domestic Airlines aircraft in Hakodate, both of which occurred in 1971. In 2001, the committee was reorganized into the Aircraft and Railway Accident Investigation Committee, with its investigative responsibility expanded to include railway accidents. This reorganization was a response to the train accident that occurred in Shigaraki in 1991, the 2000 Hibiya Line accident, and requests from families of the victims in both accidents. In 2008, the JTSB, which is responsible for investigating causes of aircraft, railway, and maritime accidents, was created as there was a need to transfer authority over such investigation from the Marine Accident Inquiry Agency (the present-day Japan Marine Accident Tribunal). Put briefly, this need for transfer of authority arose because the International Maritime Organization decided to add to the SOLAS Convention a code stipulating that investigation of causes of maritime accidents be separated from disciplinary functions.

Whereas the traditional accident investigation committee was an affiliate body of the MLIT (“council (*shingi kai*)” in Article 8 of the National Government Organization Act), the JTSB is an external body (*gaikyoku*) of the MLIT (Article 3 of the Act) and thus has greater independence from the ministry.<sup>19)</sup> The JTSB has newly granted authority to give recommendations directly to parties linked to causes of accidents (Articles 5 and 27 of the Act for Establishment of the Japan Transport Safety Board), to create its own rules (Article 16 of the Act), and to make decisions on personnel matters concerning secretariat staff (Article 55 of the National Public Service Act).<sup>19)</sup>

## (2) Accident investigation and criminal sanctions

The process of JTSB’s activities aimed at preventing recurrence of accidents is mainly as follows: investigation of the accident site and physical evidence; interviews with parties linked to the cause of the accident; preparation of an accident investigation report; and recommendations and proposals. Relevant criminal proceedings by the police or prosecutor often take place simultaneously. It is therefore essential for them to properly perform their respective roles. For example, if materials collected by the JTSB in the course of its investigation are used in criminal proceedings, it could make parties linked to causes of the accident hesitate to provide necessary information.

Before the creation of the JTSB, this issue became apparent in a case of a defendant charged with professional negligence resulting in death or injury (Nagoya District Court judgment, July 30, 2004; *Hanrei Jiho*, no. 1897, p. 144). A summary of the case is as follows. In 1997, a Japan Airlines MD-11<sup>(6)</sup> preparing for landing over the Shima Peninsula exceeded its planned descent rate, which triggered the automatic control system. This became one of the reasons for the subsequent repeated vertical shaking of the aircraft’s nose. Because of the shaking, one flight attendant died, and other flight attendants and passengers were seriously injured. The captain of the aircraft was later charged with professional

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(6) According to the judgment, the aircraft’s stability in vertical movements was low because the weight is shifted toward the back of the aircraft as the fuel tank was moved to the back to improve fuel economy and because the horizontal stabilizer was small by design. Due to this low stability, a computer-controlled pilot system was used.

negligence resulting in death or injury. In the first and second trials, the issue was whether the incident was caused by the automatic control system or by the captain's error in controlling the aircraft. The prosecutor used as evidence the accident investigation report prepared and published by the Aircraft Accident Investigation Committee, but the defense argued that the use of the report in the criminal suit violates the Chicago Convention and international standards specified in the Annex to the Convention.

Article 5.12 of Annex 13 of the Chicago Convention states that “[t]he State conducting the investigation of an accident or incident shall not make the following records available for purposes other than accident or incident investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations” and lists as such records “all statements taken from persons by the investigation authorities in the course of their investigation.”<sup>(7)</sup> Regarding this provision, the judgment provides the following explanation. The Annex is neither the Convention itself nor a convention that is adopted by consensus of the signatories or that is binding on the signatories. However, the Convention has adopted standards through the Annex in order to realize uniform procedures and, with the system of notification of differences, has required countries that adopt separate measures incompatible with standards specified in the Annex to notify their intention. Therefore, it is reasonable to think that countries not submitting a notification of differences are considered to be showing an intention to comply with the standards set in the Annex.<sup>(8)</sup> For this reason, in criminal proceedings the court needs to take into account restrictions in Article 5.12 of Annex 13 when it examines evidence.

The judgment interprets Article 5.12 as follows. The tenor of the Article shows that it is a provision restricting disclosure of records listed in it. Also, even though the purpose of accident investigations by the Aircraft Accident Investigation Committee is to prevent recurrence of similar accidents, the stipulation that in criminal proceedings for aircraft accidents, even the use of already widely available records must require consideration of its adverse domestic and international impact on current or future investigations puts an excessive restriction on criminal trials. Therefore, it is reasonable to interpret the Article as restriction on disclosure of records as seen in the tenor of the Article.

Based on these views, the court determined that since the accident investigation report had already been published, it was not subject to the restriction described in the Article and made a judgment based on the premise that the report could be used as evidence. More specifically, the court regarded the investigation report as an equivalent to a written expert opinion (*kanteisho*) specified in Article 321, Paragraph 4 of the Code of Criminal Procedure, accepted the report as evidence, and found the captain not guilty of negligence.<sup>(9)</sup>

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(7) The note to Article 5.12 states the following: “Information contained in the records listed above, which includes information given voluntarily by persons interviewed during the investigation of an accident or incident, could be utilized inappropriately for subsequent disciplinary, civil, administrative and criminal proceedings. If such information is distributed, it may, in the future, no longer be openly disclosed to investigators. Lack of access to such information would impede the investigation process and seriously affect flight safety.”

(8) At the time of the trial, Japan had not submitted a notification of differences with regard to Article 5.12.

(9) In passing, the issue of how Article 5.12 would be considered in a domestic criminal trial was not discussed in the second trial (Nagoya High Court, January 9, 2007; *Hanrei Taimuzu*, no. 1235, no. 136; not guilty verdict).

The above discussion shows that today's accident investigations must not only be separated from criminal sanctions, but also be consistent with international rules. The judgment implies that more critical situations can arise with regard to unpublished investigation reports.

#### 10.5.4 Conclusion: Toward a Society where everyone has access to safe transportation

There are various dangers and risks associated with transportation. In addition to the problems of aging tunnels and commercial operators' prolonged driving resulting from deregulation which are discussed in this chapter, attention is currently being paid to reckless driving caused by dangerous (illegal) drugs. Efforts for securing safety are being made continuously. It is our hope that careful discussions on the theory of risk will continue between legal and policy scholars and researchers in other fields in order to enable design and implementation of a legal framework for realizing a society with safer transportation systems.

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#### Practical application projects for reference

Creating installation guidelines for tactile ground surface indicators (braille blocks) for the visually impaired: 184–187

Ensuring urban public transportation mobility for people with intellectual disabilities: 188–191

A study on the level of service for local public transport to secure basic daily life: 192–195

Traffic safety and traffic enforcement: 196–199

Interdisciplinary research on the criminal charge of dangerous driving causing death or serious injury: 200–203

Smoothly promoting urban development for transportation through collaboration between government and local organizations: 204–207