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TRANSPORT POLICY

IN PERSPECTIVE: 2025

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Preface

Automobile and road transport have advanced rapidly in the last half century in Japan and contributed greatly to the advancements of our socio-economic system. Our lifestyles and the economy have been enjoying the benefits brought about by the mobility provided by automobiles in all aspects of our society. But, at the same time, over-reliance on automobiles has caused serious social and environmental problems such as traffic accidents, air pollution, greenhouse gas emissions and social disparity. The Japan Research Center for Transport Policy has continued research on how our cities and transport should be in response to these serious social and environmental problems.

Faced with these challenges, we are reaching a major turning point as a mature and safe transport society with major technological innovations in automobile and road traffic including EV/FCV, connected and autonomous vehicles, or even a fully connected ecosystem created by advanced in ICT and ITS. These innovations in the next generation vehicle systems will be most beneficial to us as they will provide much safer/secure, less polluting and user-friendly mobility for all as Japanese society faces depopulation and rapid aging, as it strives to solve many existing problems and as it moves towards a more equitable, inclusive, healthy and efficient transport system that supports a vibrant and sustainable society.

The Japan Research Center for Transport Policy was founded in 1971 as a private non–profit organization involving transport academics and practitioners active in universities, research organizations and industry. Since then, the Center has been carrying out interdisciplinary research focused on road transport and proposing transport policies that can contribute to the beneficial development of Japanese society. The Center was officially certified as a public-interest incorporated association in 2010.

With the support of the Japan Automobile Manufacturers Association, from 2000 to 2021 we have published annually a booklet in Japanese: “Research on Automobiles and Transport – Environment and Policy”, and from 2022 “Research for Transport Policy” which introduce the general trends in policy and research concerning automobiles and road traffic in Japan, with basic statistics. Additionally, every five year since 2005, we have published a booklet in English: “Transport Policy in Perspective”.

This 2025 English booklet is a translation of the major parts of the 2025 booklet in Japanese with an additional information for overseas readers who are interested in the Japanese transport policy outlook between 2021 and 2025. We hope that this booklet will be useful in understanding the Japanese experience.

Finally, we would like to express our sincere gratitude to the Japan Automobile Manufacturers Association, which has given us its support, and to all who have given their valuable time in writing or editing articles, or who have provided important data for inclusion in this booklet.

November 2025

Noboru Harata
Chairman, Editorial Committee
Japan Research Center for Transport Policy

TRANSPORT POLICY IN PERSPECTIVE 2025

List of Authors

(in order of their reports appearance)

Noboru Harata, Professor Emeritus, The University of Tokyo
(Representative Director, The Japan Research Center for Transport Policy)

Kazusei Kato, Professor, Faculty of Business and Commerce, Keio University

Tomoaki Nakamura, Assistant Professor, Faculty of Business and Commerce, Keio University

Toshinori Nemoto, Professor, Faculty of Economics, Keiai University

Kiyoshi Takami, Associate Professor, The University of Tokyo

Tsutomu Yabe, Director, Transport and Socioeconomic Division, The Institute of Behavioral Sciences

Eiichiro Iwao, Professor, School of Commerce, Senshu University

Kazuya Itaya, Professor, Faculty of Economics, Ryutsu Keizai University

Fumihiko Nakamura, Project Professor, Graduate School of Frontier Sciences, The University of Tokyo

Atsushi Matsubara, Specified Nonprofit Corporation Healthy Town Development

Yuichi Mohri, Vice President, The Institute of Behavioral Sciences

Naohisa Hashimoto, National Institute of Advanced Industrial Science and Technology

Seiji Hashimoto, Professor, Faculty of Environmental, Life, Natural Science and Technology, Okayama University

Makoto Kikegawa, General Insurance Rating Organization of Japan Automobile Insurance Department

Hidekatsu Hamaoka, Professor, Graduate School of Engineering Science, Akita University

Nagahiro Yoshida, Associate Professor, Graduate School of Engineering, Osaka Metropolitan University

Masaharu Oosawa, Professor, College of Science and Technology, Nihon University

Azusa Toriumi, Project Associate Professor, Institute of Industrial Science, The University of Tokyo

Takashi Oguchi, Professor, Institute of Industrial Science, The University of Tokyo

Yusuke Kanda, Professor, National Institute of Technology, Kure college

Yasunori Muromachi, Professor, School of Environment and Society, Institute of Science Tokyo

Hiroyuki Oneyama, Professor, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University

Ryuji Osuga, General Manager, Vehicle Safety and Environmental Division, Japan Automobile Manufacturers Association

As of November 2025

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Social Challenges and Transportation Policy in the Early 2020s in Japan

Kazusei Kato, Tomoaki Nakamura and Toshinori Nemoto

1. Social Challenges and Transportation Policy in Japan

In this paper, we review three issues concerning transportation policy in Japan from 2020 to 2025: labor shortages, the aging of social infrastructure, and decarbonization—all critical social challenges within the country.

The first issue is labor shortages due to population decline. Figure 1 shows the trend in job openings to applicants ratio in Japan from 1963 to 2024. This figure reveals labor shortages occurred in three distinct periods: the early 1970s, the late 1980s to early 1990s, and the late 2010s onwards. The shortage in the early 1970s occurred during high economic growth and in the late 1980s during the bubble economy period: the main cause of the shortage was increased labor demand driven by economic growth. In contrast, the labor shortage since the late 2010s is partly due to a decline in labor supply caused by a decrease in the working-age population resulting from a declining birthrate and aging society, presenting a different situation than before.

To see the changes in demographics, Figure 2 shows the population changes in G7

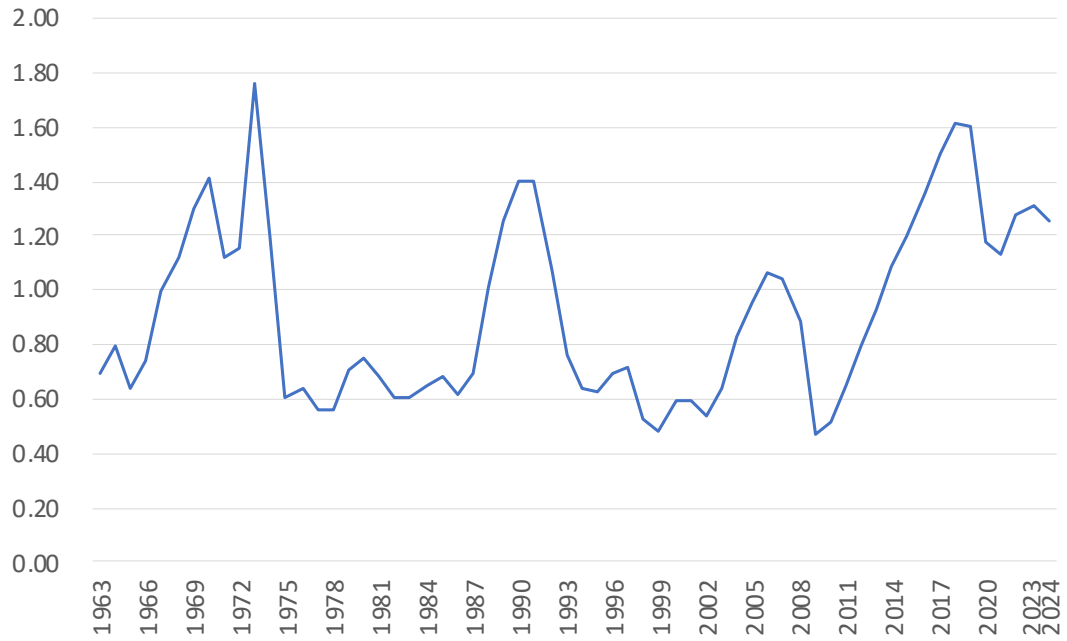

Figure 1. Trends in job-openings-to-applicants ratio in Japan from 1963 to 2024

Source: Annual Report of Local Government Finance Statistics.

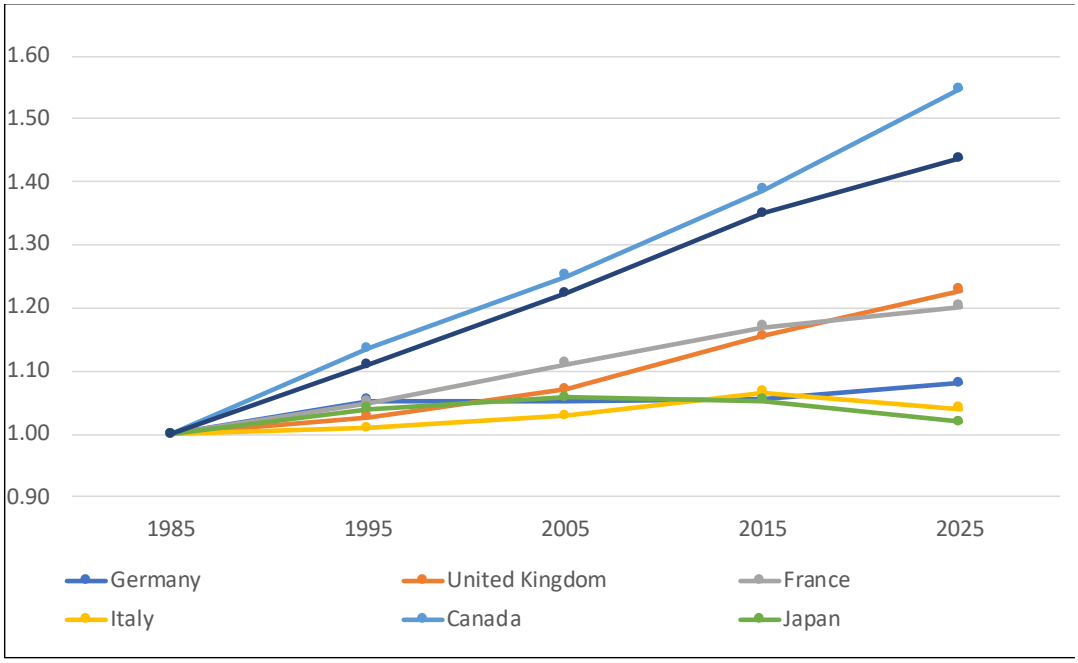

Figure 2. Population trends in G7 countries by decade (1985＝1)

Source: Created by the author from the United Nations, World Population Prospects 2024.

countries from 1985 to 2025. This figure reveals that population decline is progressing in Italy and Japan. Especially in Japan, since its population peaked in 2008, the population has been rapidly decreasing due to low birth rates and aging. The total fertility rate has fallen to 1.15 (as of 2024) [1], and the population of those aged 65 and over, which was 17.4% in 2000, has increased to 29.3% in 2024[2].

The transportation industry is also suffering from a decline in young workers and an aging workforce. For instance, labor shortages are particularly severe in frontline roles such as railway maintenance workers, bus drivers, truck drivers, airport ground handling staff, and security inspectors. As senior workers retire and the influx of young workers further decreases, the shortage is expected to worsen across other occupations as well.

To address these issues, transportation operators are collaborating with other industries, investing to replace labor with capital, and attempting to develop new technologies. For example, in the railway sector, drones are being used for maintenance work to reduce manpower requirements and lessen the workload on workers. Also, road inspections, which previously relied on human skills like visual checks and tapping tests, are now beginning to use drones to collect information and AI to analyze it. In response to the shortage of truck drivers, demonstration tests using autonomous trucks for trunk line transportation have also been conducted. In June 2025, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) formulated its “DX Vision,” describing key areas where the application of DX should be strengthened within national land and transport policies, including transportation and transport infrastructure. It is necessary to introduce cutting-edge technologies across all transportation operations, pursue digital transformation (DX),

1 Vital Statistics Monthly Report: Annual Total (Provisional)
2 Annual Report on the Ageing Society

and enhance productivity.

The second issue is the aging of social infrastructure, which became a societal problem following the 2012 ceiling collapse accident in the Sasago Tunnel on the Chuo Expressway. In 2025, an accident occurred in Saitama Prefecture in which a road collapsed due to a burst sewer pipe, causing a truck to fall into the hole. In the United States, the deterioration of infrastructure built during the New Deal era in the 1970s and 1980s became particularly evident, leading to the benchmark of 50 years after construction as an indicator of infrastructure aging. Also in Japan, large amounts of infrastructure were concentrated in the period of high economic growth (late 1950s to mid-1970s), and its deterioration is considered severe. If this situation continues unaddressed, the proportion of social capital facing serious deterioration will increase further.

The third issue is decarbonization. In 2015, the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change was held, where the Paris Agreement was adopted. This agreement established a framework for climate change measures, including greenhouse gas emission reductions after 2020. Following the adoption of this agreement, countries worldwide are working toward decarbonization. In Japan, the Prime Minister declared in his 2020 policy speech the goal of achieving carbon neutrality by 2050. Furthermore, in 2025, Japan stated in its NDC (Nationally Determined Contribution) that it aims to reduce greenhouse gas emissions by 60% compared to 2013 levels by 2035. Against this backdrop, various initiatives are being implemented within domestic transportation policy to achieve decarbonization.

The composition of this paper is as follows. Chapter 2 discusses labor shortages, Chapter 3 describes the aging of social infrastructure, and Chapter 4 focuses on responses to decarbonization.

2. Transport and tourism policies to respond to labor shortages

The Japan Chamber of Commerce and Industry (JCCI) released the results of its survey, “Survey on labor shortages and the participation of diverse talent in September 2024”, examining the current state of labor shortages by industry[3]. According to the survey, the percentage of companies reporting labor shortages was high in the transportation and tourism sectors, with 83.8% in transportation and 72.7% in hotel and restaurant industries.

Therefore, we introduce transportation and tourism policies implemented from 2020 to 2025 to address labor shortages and describe the expansion of accepting foreign workers as one countermeasure.

First, we focus on the issue of labor shortages in the tourism industry. In addition to the inherent characteristics of the industry itself—such as few holidays and vacations, and irregular working hours—the severe working conditions involving long hours and low

[3] The survey period was from July 8 to July 31, 2024. The number of responding companies was 2,392.

wages make it difficult to retain new workers.

In 2023, the Fourth Tourism Nation Promotion Basic Plan was released, setting tourism policy guidelines through 2025. The plan identified three key concepts: “sustainable tourism,” “increase in tourism consumption,” and “promote regional attractions.” Among these, the goal is to achieve sustainable development in tourist destinations to address issues like low wages and long working hours. In other words, by increasing the value-added ratio of the tourism industry, the aim is to improve working conditions for employees, such as raising wages. Since the tourism industry is an industry with a high ratio of intermediate inputs and significantly impacts other regional industries, it is crucial to expand consumption expenditure—the value of services received—and circulate the resulting revenue back into the “tourist destination” as a whole. Also in 2023, the Japan Tourism Agency released guidelines for developing tourism human resources (“Guidelines for Developing Tourism Human Resources in the Post-COVID Era: Toward Creating Sustainable Tourism Regions”).

Also, starting in the early 2020s, the capacity of some Japanese hub airports has been expanding and is scheduled to continue expanding through 2030. The background to this is population decline and aging, and the government has targeted attracting tourists from growing Asian countries as one of its economic revitalization measures. Airports are gateways for visitors to Japan and must reliably accommodate this demand. Consequently, airport development plans entered the implementation phase precisely during the 2020s. For example, construction of Naha Airport's second runway was completed in March 2020. In the same month, new flight paths began operation at Haneda Airport, increasing its international flight capacity by approximately 39,000 departures and arrivals annually. In March 2025, Fukuoka Airport commenced operations of its second runway. In the same month, coinciding with the Kansai/Osaka Expo, Kansai Airport also implemented flight path changes and modified runway operations, increasing its capacity. Furthermore, construction began at Narita Airport on extending the second runway and building a third runway, with the aim of commencing operations in 2029.

Next, we focus on the truck driver shortage. The severity of this shortage stems not only from Japanese demographic shifts but also from the accelerated growth of personal parcel deliveries driven by increased online shopping following the COVID-19 pandemic. Additionally, the introduction of the medium-sized vehicle license in 2007 tightened driver licensing requirements, prolonging driver training. The profession itself is also avoided due to long working hours and low wages.

To address these challenges, the “Inter-Ministerial Council on Innovation of Logistics in Japan,” chaired by the Chief Cabinet Secretary, was established in March 2023. In October of the same year, the government announced the “Emergency Logistics Innovation Package.” This package focuses on three key areas: (1) reviewing business practices, (2) improving logistics efficiency, and (3) changing the behavioral change among shippers and consumers.

(1) Reviewing Business Practices: To reduce truck drivers' total working hours, it includes measures such as coordinating between shippers, logistics operators, and consignees to cut waiting and loading/unloading times, and raising freight rates to increase truck drivers' wages[4].

(2) Logistics Efficiency: Measures include promoting automation and mechanization of logistics facilities for carriers and shippers, advancing modal shifts from trucks to rail and ship transport, and introducing standardized pallet specifications.

(3) “Behavioral Change Among Shippers and Consumers”: Initiatives include efforts to halve redelivery rates for home deliveries and encouraging awareness reform and behavioral change among shippers and consumers through media and government communications.

As a measure to reduce working hours, limits on overtime work for truck drivers will be enforced from April 2024. Penalties have also been set, stipulating that employers violating the overtime cap (960 hours annually) could face up to six months imprisonment or a fine of up to 300,000 yen. Historically, drivers earned higher wages due to long working hours, which attracted some new workers. Increasing wages may therefore become a priority for employers.

Third, we will focus on the shortage of airport ground handling (GH) staff and aviation security inspectors and the measures to address these issues. IATA (2024) revealed that global aviation demand (measured in revenue passenger kilometers) in 2023 recovered to levels nearly similar to those before the COVID-19 pandemic in 2019. Domestic demand, in particular, performed well, exceeding 2019 levels by 3.9%. While global international demand, at 88.6% of 2019 levels, has recovered somewhat slower than domestic demand, it is keeping pace with the overall recovery in air travel demand. Accordingly, the number of international visitors to Japan is also showing a recovery trend.

Since border controls were relaxed in April 2023, the number of visitors to Japan has increased, partly due to the weak yen, reaching a record high of 36.87 million foreign visitors in 2024. The recovery in air travel demand also led to an increase in airport users, resulting in issues such as labor shortages for personnel engaged in airport operations like ground handling (GH) and security inspections. Foreign airlines handle approximately 75% of inbound visitors. However, when foreign airlines operate routes to Japanese airports, ground handling services are almost always contracted to subsidiaries of major Japanese airlines (ANA (All Nippon Airways) or JAL (Japan Airlines)) or specialized ground handling companies. During the pandemic, staff turnover increased, and the rapid recovery in visitor numbers outpaced efforts to hire replacement personnel.

In February 2023, the “Committee on Airport Operations for Sustainable Development” was organized to discuss countermeasures, and the committee’s interim

[4] The Standard Freight Rate system was introduced in April 2020 as a reference indicator for trucking companies to calculate their appropriate freight rates and use in negotiations with shippers. In 2025, the Freight Transportation Business Act was revised, under which freight rates below “the fair costs”, defined by the government, are restricted and shippers are instructed to pay the rates.

summary was published in June. Six key points were identified as important perspectives for the industry's sustainable development: (1) Work Styles, (2) Responses for Demand Fluctuations, (3) Acceptance of Diverse Workforce, (4) Innovation, (5)Airport-Specific Responses Based on Perspectives 1-4, and (6)Collaboration Among Public and Private Stakeholders. The tasks and direction of efforts for each have been summarized.

In response to this interim summary, the Airport Ground Handling Association was formed as an industry group, and they are working to raise wages and improve working conditions. Results are already emerging, with wage levels showing an increase of about 20% compared to the previous year in a survey conducted at the beginning of fiscal year 2024. Another measure is the standardization of GH qualifications. ANA and JAL subsidiaries or affiliates handling GH operations have each created their own manuals and competed on service quality. GH operators have two GH teams within the same department, one for ANA and one for JAL. However, because their manuals differ, they cannot share personnel, leading to inefficient staffing. Therefore, from April 2024, when a single GH operator is contracted, a system will be introduced where internal qualifications are mutually recognized for certain ramp handling tasks. Standardizing qualifications is expected to shorten training periods, leading to more efficient workforce development.

Among airport staff, the shortage of security inspectors also became a bottleneck for attracting visitors to Japan. Partly due to resignations during the COVID-19 pandemic, the number of security inspectors had fallen to about 80% of pre-pandemic levels by 2023. While recruitment efforts are currently helping to restore staffing levels, securing a stable supply of security inspectors is essential in anticipation of future increases in inbound visitors. To secure sufficient recruitment numbers, efforts are underway to increase investment in recruitment activities. Initiatives include strengthening housing support to attract personnel from other regions. Additionally, improvements to the working environment are being implemented to reduce turnover rates. These include mitigating long working hours through shift pattern adjustments and enhancing employee benefits.

In Japan, except for company-managed airports (Narita Airport, Kansai Airport, and Chubu Airport) and privatized airports, airlines contract with security companies to conduct security inspections. The outsourcing fees are split equally between the government and the airlines, with the government's share covered by security fees. From March 2024, the airport security fee per passenger was raised from 105 yen to 250 yen at government-managed airports, joint-use airports, company-managed airports, privatized airports, and some regionally managed airports. This is expected to facilitate further increases in security inspectors' wages and the introduction of equipment that reduces the labor required.

Finally, we briefly discuss the expansion of accepting foreign workers as one measure to address labor shortages. The revised Immigration Control Act was passed and enacted in 2018, and from 2019, the Specified Skilled Worker Scheme commenced. This scheme aims to accept foreign workers with specific skills in industries where recruiting domestic workers would be difficult.

The acceptance of foreign workers had previously progressed under the Technical Intern Training Program (TITP) introduced in 1989. This program generally permitted stays of only three years and did not allow job changes. However, in recent years, as the need for foreign workers increased further, and incidents such as disappearances due to low wages became frequent, the program was reformed into the Employment for Skill Development and Specified Skilled Worker (SSW) Program, which requires payment of wages equivalent to those of Japanese workers. Applicants for the new program need not possess specific skills at the time of application, provided they have a minimum level of Japanese language ability. The program assumes that participants will acquire specific skills within three years and obtain the specific skills residence status. The TITP is scheduled to be abolished by 2027 and replaced by this new system.

In 2024, the automotive transportation industry (buses, taxis, trucks) was added to the list of designated industries eligible for the SSW program. Over the next five years, approximately 24,500 workers are expected to be accepted into the automotive transportation sector. This projected intake aims to alleviate labor shortages while preventing negative impacts on Japanese workers, such as wage reductions. It is expected to be adjusted based on future labor supply and demand trends. Furthermore, the Automobile Transportation Industry Specified Skills Council was established to assess and analyze this labor shortage situation.

The Specified Skills Assessment Test for the automobile transportation industry began in December 2024. By August 20, 2025, 3,493 individuals had taken the test, with 2,557 passing (a pass rate of 73%). For buses and taxis, new drivers undergo training and begin driving after completing the program, which lasts up to 12 months. For trucks, drivers begin driving after up to 6 months. While the severity of driver shortages varies by region, this system allows for job transfers, necessitating consideration of how to address inter-regional adjustment issues. Examining and coordinating countermeasures to avoid concentration in major metropolitan areas is also included in the activities of the council.

3. Transportation Policy Addressing Social Infrastructure Aging

Table 1 shows the percentage of transportation-related social infrastructure that has been in use for over 50 years, based on MLIT data. Generally, infrastructure tends to deteriorate significantly after 50 years of use. Table 1 indicates that the proportion of facilities exceeding 50 years of use will increase rapidly over the next 20 years. Figure 3 shows the results of inspections assessing the condition of bridges managed by local municipalities[5]. This figure shows that since 2018, when the first round of inspections

[5] Inspection results are indicated on a four-tier scale from I to IV. I indicates a healthy state with no impairment to the structure's function; II indicates a state where no impairment exists but measures are desirable from a preventive maintenance perspective; III indicates a state where impairment may occur and early measures are necessary; IV indicates a state where impairment has occurred or is highly likely to occur, requiring urgent measures.

concluded, countermeasures against deterioration have been implemented on bridges classified as Category III or IV, indicating particularly severe deterioration. However, many municipalities are experiencing a decline in civil engineering staff (civil engineers and architectural engineers) due to factors like declining birthrates and an aging population. Consequently, infrastructure deterioration continues to occur even while these countermeasures are being implemented. In the second round of inspections, which began in 2019, some bridges previously rated as Class I or II have now been reclassified as Class III or IV. Consequently, it is estimated that approximately 20 years will be required to complete all aging countermeasures.

Table 1. Percentage of transportation-related social infrastructure that has been in use for over 50 years

	March 2023	March 2030	March 2040
Road bridges: Approximately 730,000 bridges (with a length of 2 meters or more)	approx. 37%	approx. 54%	approx. 75%
Tunnels: Approximately 12,000 tunnels	approx. 25%	approx. 35%	approx. 52%
Port facilities: Approximately 62,000 facilities	approx. 27%	approx. 44%	approx. 68%

Note: The percentage of facilities over 50 years since construction excludes facilities with unknown construction years.
Source: MLIT Infrastructure Maintenance Information "Current Status and Future Projections of Social Capital".

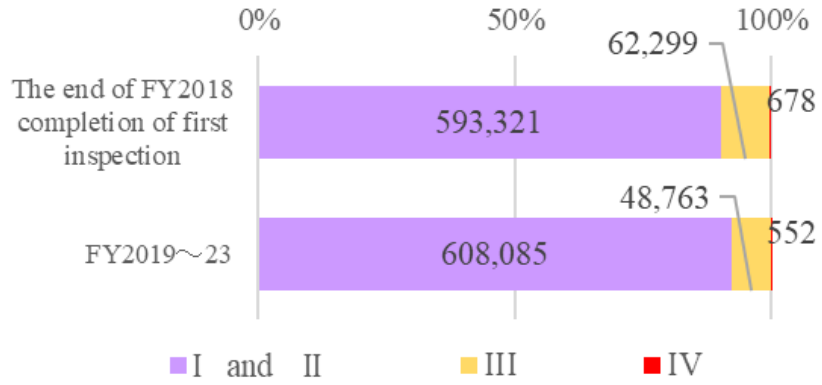

Figure 3. Inspection Results for Bridges Managed by Local Governments
Source: MLIT Infrastructure Maintenance Information.

Meanwhile, within Japan, budgets related to public works have been declining, with expenditures in 2024 projected to be approximately 54% of the 1998 level. Figure 4 shows the trend in public works-related budgets across G7 countries. While other nations have seen increases in such budgets since 1996, Japan has experienced a decrease. The 1990s followed the collapse of the bubble economy and saw accumulated public works investment as an economic stimulus measure. However, since the 2000s, fiscal conditions have worsened due to rising social security costs from an aging population and declining tax revenues from economic stagnation. This led to spending reviews and reductions in public works investment. Not only at the national level, but also in local governments, civil

engineering expenditures for public works have decreased. By 2023, civil engineering expenditures in municipalities had fallen to approximately 56.4% of their 1993 levels. Therefore, to advance measures against infrastructure aging within fiscal constraints, it is crucial to pursue maintenance efficiently.

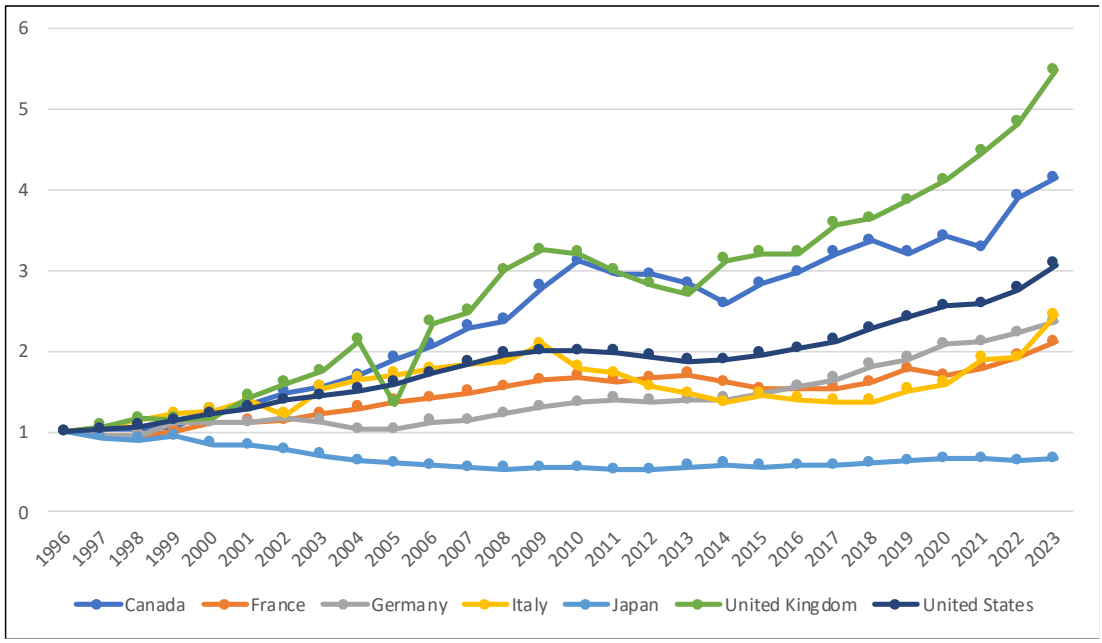

Figure 4. Trends of general government gross capital formation in G7 countries (1996＝1)
Source: Created by the author from OECD Data Explorer.

In December 2020, the “Five-Year Acceleration Plan for Disaster Prevention, Disaster Mitigation, and Building National Resilience” was approved by the Cabinet. It stated that measures to address the aging of infrastructure should be a key priority, as well as promoting digitalization to counter frequent large-scale disasters and enhance national resilience. Specifically, it clearly stated the goal of shifting from reactive maintenance—where major repairs are undertaken only after damage becomes severe—to preventive maintenance, where repairs are performed before functional or performance issues arise in facilities. This shift to preventive maintenance enables reductions in maintenance costs and is expected to curb fiscal expenditures. In June 2021, MLIT formulated the “Second Infrastructure Longevity Plan (Action Plan)” covering the period from 2021 to 2025. The plan outlines efforts to enhance maintenance efficiency through the introduction of new technologies and to advance the shift towards preventive maintenance.

Furthermore, the Fifth Priority Plan for Social Infrastructure Development, covering the period from 2021 to 2025, identifies “sustainable infrastructure maintenance” as one of its key objectives. It also positions the consolidation and reorganization of infrastructure—including the decommissioning or functional conversion of infrastructure where regional needs or necessity have diminished—as one of its measures.

The issue of maintenance costs also impacts the toll system for expressways. Expressway tolls are based on the “repayment principle,” where toll revenues are used to

repay debts incurred during construction, with tolls becoming free once repayment is complete. When the Japan Highway Public Corporation was privatized in 2005, expressway tolls were scheduled to become free starting in 2050, after the debts were fully repaid. However, following the 2012 ceiling collapse accident in the Sasago Tunnel on the Chuo Expressway, more substantial renewal measures for aging infrastructure became necessary. Consequently, in 2014, the toll collection period was extended by 15 years to recover the costs of these aging countermeasures (Figure 5).

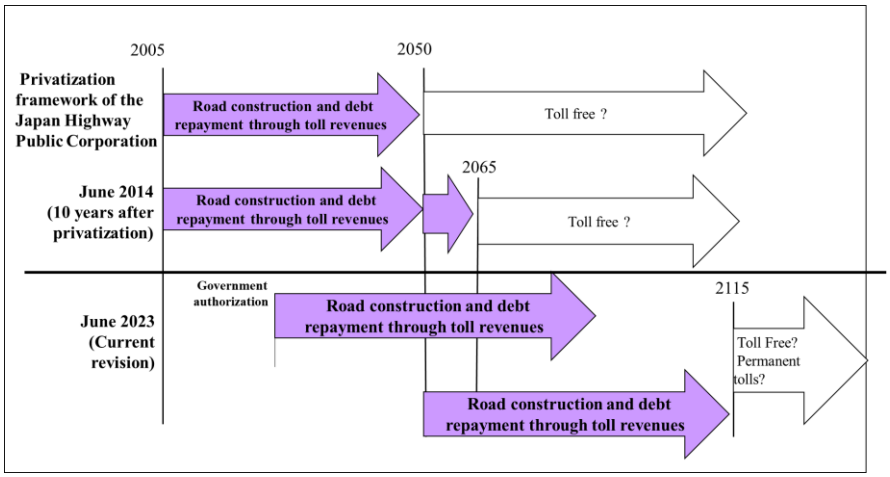

Figure 5. Image of extended toll collection period on highways.

Recently, as a result of enhanced inspections of road infrastructure, numerous new sections requiring renewal have been identified. To secure the necessary funds for these renewals, the toll collection period was further extended in 2023. This decision enables the extension of the repayment period for projects deemed essential for the renewal and advancement of expressways. Considering the certainty of debt repayment, the repayment period is capped at 50 years from the date of application for permission to the Minister of Land, Infrastructure, Transport and Tourism. Consequently, the toll collection period for expressways will be extended until at least 2115. Nevertheless, securing future maintenance funding remains a problem, and discussions regarding expressway toll collection beyond 2115 will continue to be important.

Funds obtained through the 2023 extension will be utilized for purposes beyond merely renewing aging road infrastructure. For example, funds are planned for lane widening and the installation of electric vehicle charging infrastructure. Lane widening is particularly effective for reducing accident risks on two-lane sections, common in rural areas, where the risk of fatal accidents due to vehicles crossing into oncoming lanes is high. Furthermore, with the recent increase in electric vehicles, enhancing rapid charging facilities at service areas and parking areas to prevent power shortages during long-distance travel has also become a key point.

4. Transportation Policies for Achieving Decarbonization

In response to growing social demands regarding environmental issues in recent years, the transportation sector has been actively pursuing decarbonization efforts. This is driven by the fact that the transportation sector accounts for approximately 19.2% of total CO2 emissions in Japan (989 million tons) as of 2023. This section therefore describes specific decarbonization initiatives within the transportation sector.

In the railway sector, the final report of the "Committee for Accelerating Carbon Neutrality in the Railway Sector" was published in May 2023. The report identified three key objectives: (1) Decarbonizing railway operations themselves, (2) Decarbonization utilizing railway assets, and (3) Decarbonization through promoting environmentally advantageous railway use. It includes initiatives such as replacing rolling stock on non-electrified sections with battery-powered or diesel-hybrid vehicles to achieve substantial electrification, and installing renewable energy generation facilities at station buildings, rolling stock depots, and railway right-of-way land.

In the road sector, an interim summary of the "Strategy for Promoting Carbon Neutrality on Roads" was released in September 2023 with the aim of achieving carbon neutrality by 2050. In December 2024, "Decarbonization Policy Collection for the Road Sector Ver. 1.0" was released. The four basic policy pillars are: (1) creating road space that supports greener road transportation, (2) shifting to low-carbon passenger and freight transportation, (3) optimizing road traffic, and (4) reducing carbon emissions throughout the entire road life cycle. It also introduced examples of "Collaborative 2030 Priority Projects," such as the introduction of LED road lighting, the use of renewable energy, and the promotion of low-carbon materials and also introduced decarbonization targets for the road sector for fiscal 2030.

In the port sector, actions are in progress toward establishing Carbon Neutral Ports (CNP). In November 2023, the "CNP Certification (Container Terminal)" was trialed, and in March 2025, this certification was formally established. The certification targets container terminals at domestic ports and employs a multi-tiered evaluation system ranging from the lowest Level 1 to the highest Level 5. Furthermore, international cooperation toward the formation of carbon neutral ports is also being strengthened. In October 2023, MLIT co-hosted the "Symposium on Port Decarbonization and Green Shipping Corridors" with the California State Transportation Agency in Los Angeles. In December, MLIT and Singapore's Ministry of Transport signed a memorandum of agreement on cooperation for green and digital shipping corridors.

In the airport sector, actions are ongoing to enhance energy efficiency in airport facilities and vehicles, establish airports as hubs for renewable energy, utilize the Airport Decarbonization Promotion Council, foster collaboration with local communities, and promote understanding of these initiatives among aircraft and airport users. Among these, the introduction of Sustainable Aviation Fuel (SAF), where Europe and the US are leading,

is urgently needed as it impacts the international competitiveness of airlines. To advance efforts, the “Public-Private Council for Promoting SAF Introduction” was established in April 2022, preceding legislation, to discuss technical and economic challenges and solutions with both public and private sectors. In the aviation and airport sector, efforts are actively advancing, including the certification of Aviation Transport Business Decarbonization Promotion Plans and Airport Decarbonization Promotion Plans based on the Aviation Act and related laws. Regarding the Aviation Transport Business Decarbonization Promotion Plans, the plans submitted by the ANA Group (All Nippon Airways and three other companies) and the JAL Group (Japan Airlines and seven other companies) were certified in January 2024, marking the first certifications under the newly established system. For Airport Decarbonization Promotion Plans, Narita, Chubu, Kansai, and Osaka (Itami) airports were certified in December 2023, followed by Nagoya Airport in March 2024.

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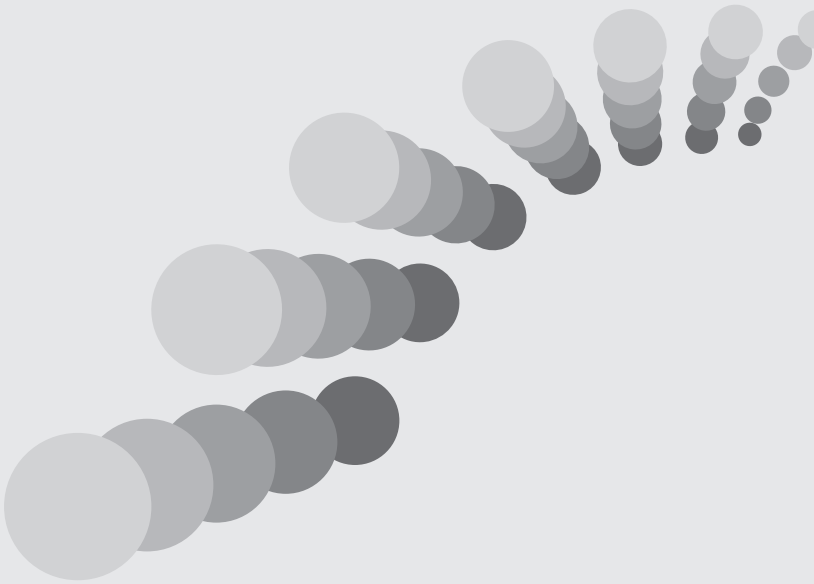
OECD Data Explorer, (https://data-explorer.oecd.org), viewed 1st August 2025.

Transport Today



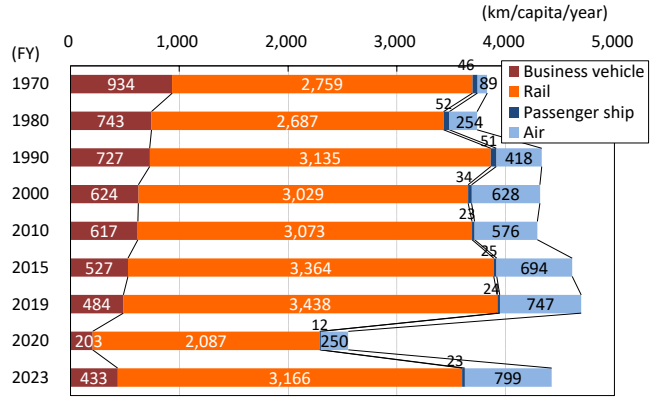
1-1 Mobility Changes in Quality and Quantity

Associate Professor, The University of Tokyo
Kiyoshi Takami

This section shows the basic statistics on the trends of passenger and freight transport in Japan. Passenger-kilometers and private passenger vehicle-kilometers traveled, which experienced a considerable drop during the COVID-19 pandemic, are recovering although not to the pre-pandemic levels. Freight tonnage and ton-kilometers transported which had also been affected by the pandemic are now back on the pre-pandemic downward trajectories. The latest Nationwide Person Trip Survey shows the decrease of trip generation rate is continuing except for the age 80 or older. Other trends related to trip generation rate and modal share, which seem to be derived from the measures against pandemic, are also reported.

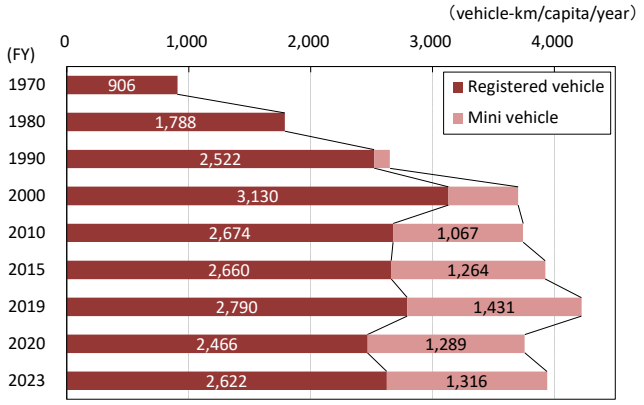
☐ Passenger-kilometers traveled per capita had increased for rail and air, decreased for business vehicles and remained largely unchanged for passenger ships. However, all modes saw a sharp decline in FY 2020 and recovered to 94% of the 2019 level in aggregate by 2023. Vehicle-kilometers traveled by private passenger vehicles per capita also dropped below 90% of the 2019 level in 2020 and 2021, returning to 94% in 2023. The share of mini vehicles in total has been around 34%. (Figures 1 and 2)

Figure 1 Annual Passenger-kilometers Traveled per Capita



Note: Some values are correction values and estimated values.
Data source: Transportation-related Statistical Data, MLIT Maritime Bureau Annual Report 2025 in figures (MLIT)

Figure 2 Annual Vehicle-kilometers Traveled by Private Passenger Vehicles per Capita



Note: Statistics on mini vehicle did not exist before FY 1986. Some values are correction values and estimated values. VKT by electric vehicles is not included.
Data source: Survey on Motor Vehicle Transport, Survey on Motor Vehicle Fuel Consumption (MLIT)

☐ Overall, both freight tonnage and ton-kilometers transported (per capita) have been declining. Similarly to passenger transportation, both figures saw a significant decline in FY 2020, and then have returned to the pre-pandemic decline trend since 2022. Modal share of ton-kilometers has remained almost stable over the past decade, with freight vehicles accounting for approximately 55% and coastal vessels for approximately 40% (Figures 3 and 4).

Figure 3 Annual Freight Tonnage Transported per Capita

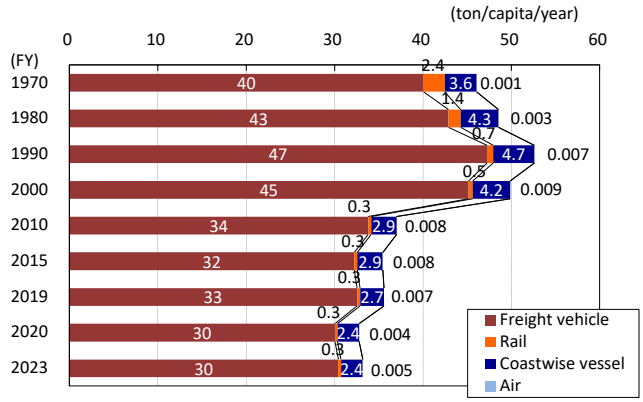
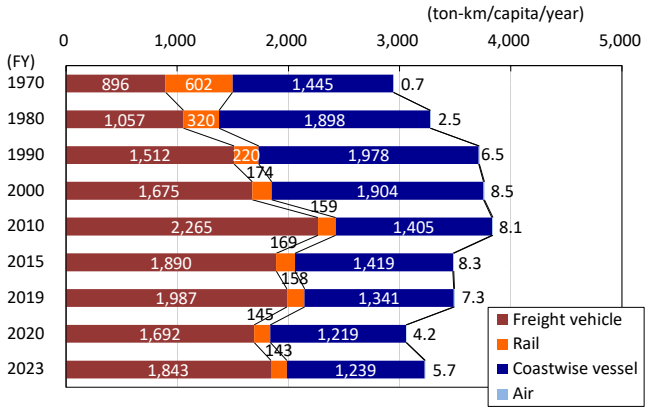


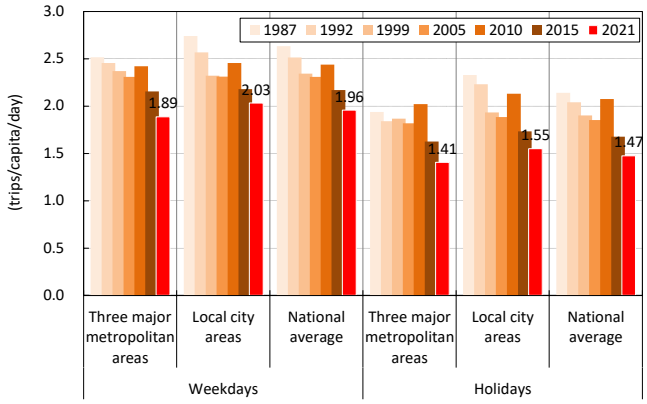
Figure 4 Annual Freight Ton-kilometers Transported per Capita



Note: Freight vehicles do not include private light vehicles in any year, and include business mini vehicles since FY 1987. Some values are correction values and estimated values.
Data source: Basic Data on Transportation (MLIT)

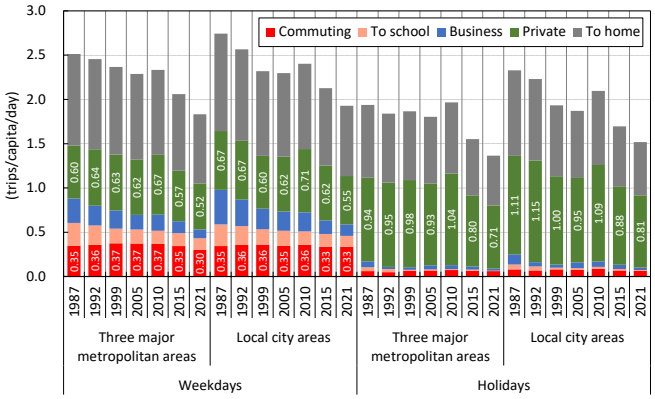
□ Trip generation rate from the Nationwide Person Trip Survey has been decreasing, except for FY 2020 which showed a different tendency. While commuting trip rate in 2021 for local city areas has returned to the pre-pandemic level, that of the three major metropolitan areas remains lower than 2015, implying the possibility that working from home has become established to a certain extent.

Figure 5 Trip Generation Rate



Data source: Nationwide Person Trip Survey 2021 (MLIT)

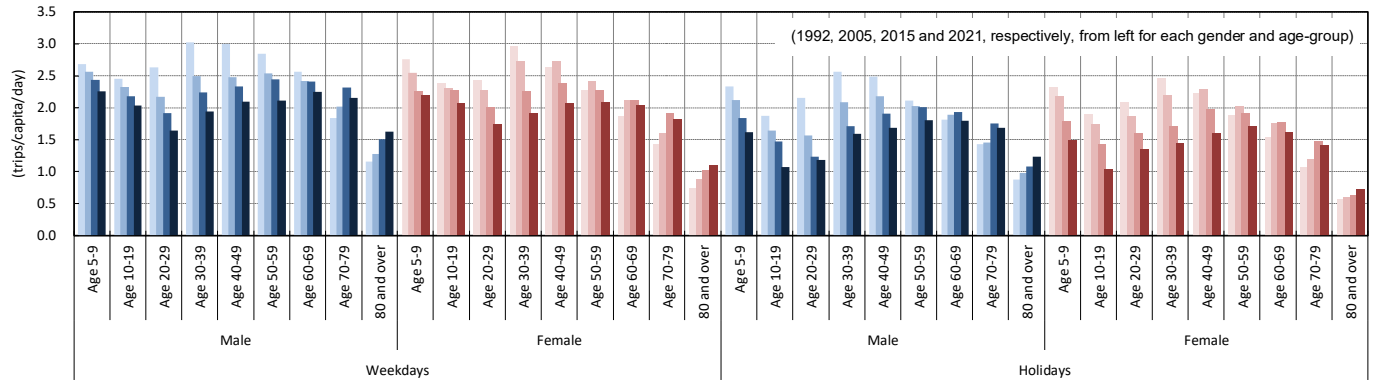
Figure 6 Trip Generation Rate by Purpose



Data source: Nationwide Person Trip Survey 2021 (MLIT)

Figure 7 Trip Generation Rate by Gender and Age-group (Nationwide)

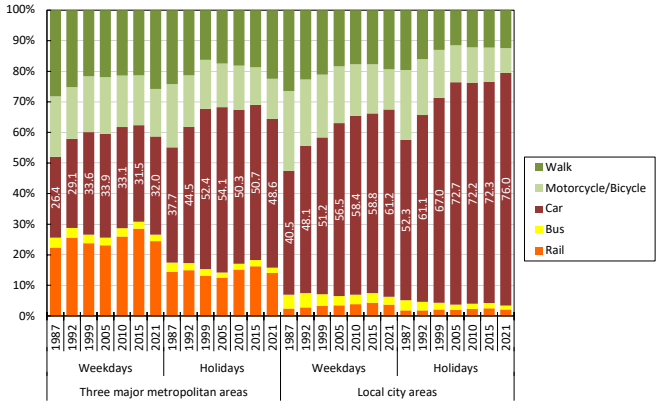
■ Past trends in trip generation rate showed roughly an increase among males aged 70+ and females aged 60+ on weekdays, an increase among males and females aged 60+ on holidays, and a decrease among young and middle-aged groups. However, according to the latest 2021 survey, a decrease among both males and females except for those aged 80+ was observed.



Data source: Nationwide Person Trip Survey 2021 (MLIT)

Figure 8 Modal Share (Representative Modes, All Purposes)

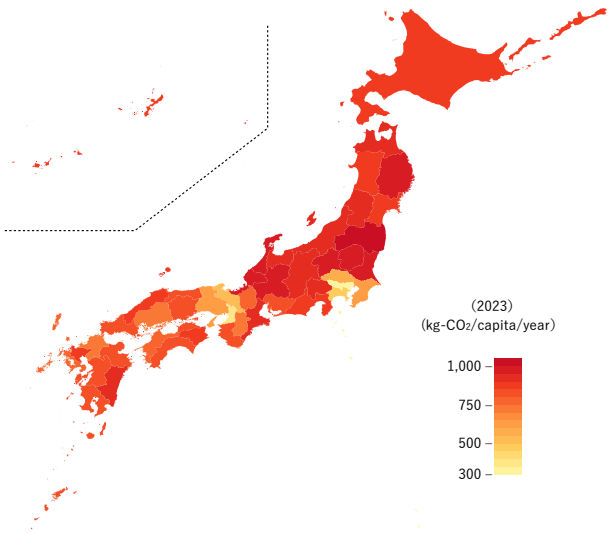
■ Car modal share has been flat or has declined for the three major metropolitan areas, while it showed a slight increase in 2021 for local city areas where it had appeared to have plateaued. In 2021, a decrease in the public transport share and an increase in walking share were also observed, both for three major metropolitan areas and local city areas.



Data source: Nationwide Person Trip Survey 2021 (MLIT)

Figure 9 CO_2 Emissions from Private Cars by Prefectures (per Capita)

■ Tokyo, Osaka and surrounding prefectures emit less CO_2. The tendency of "east high, west low" can also be seen.



Data source: Calculated from Survey on Motor Vehicle Fuel Consumption (MLIT)

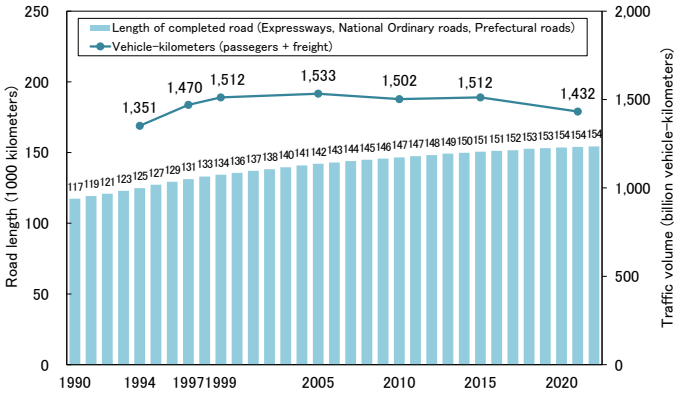
1-2 Road Network Today

The Institute of Behavioral Sciences
Tsutomu Yabe

The length of our roads has been steadily increasing thanks to ongoing road improvement, yet it is still not sufficient for traffic demand. As a result, the average speed on roads remains unchanged at a lower level. A case in point: in city centers such as Tokyo and Osaka, and in DID areas, there is still chronic traffic congestion. Against this backdrop, under the "Interim Summary on the Future of the High-Standard Highway Network" compiled in October 2023 by the Subcommittee on National Trunk Roads of the Road Committee, Council for Infrastructure Development, and the "WISENET2050 Policy Collection" compiled by the Road Bureau of the Ministry of Land, Infrastructure, Transport and Tourism to outline specific policies for future initiatives, further efforts are being made to improve the service level of roads.

Figure 1 Changes in Traffic Volume and Road Length

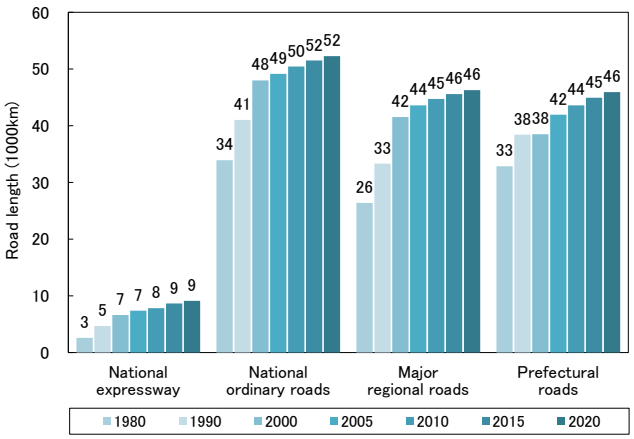
■ Traffic volume, measured in vehicle-kilometers, is on a downward trend after peaking in 2005; but the volume of light motor vehicles is on an upward trend. Road length nationwide is steadily increasing.



Source: Road Statistics Annual Report (MLIT) ,
Road Traffic Census (MLIT)

Figure 2 Changes in Length of Completed Roads by Road Type

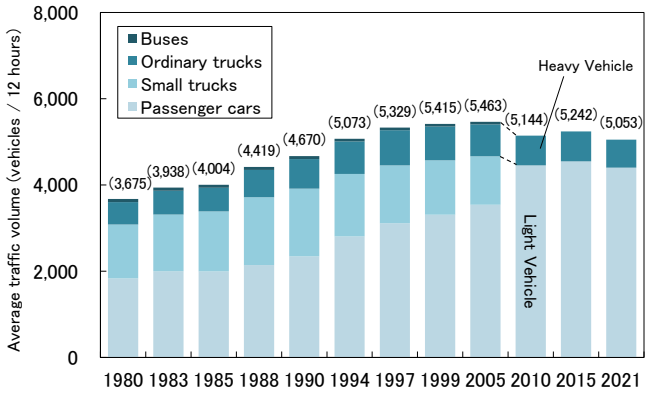
■ For all types of roads, the length of completed roads (i.e., with improvements completed) is increasing steadily.



Source: Road Statistics Annual Report (MLIT)

Figure 3 Average 12-hour Traffic Volume on Ordinary Roads in Types of Vehicles

■ The traffic volume on ordinary roads peaked at the time of the 2005 survey and has since remained almost flat or shown a declining trend, decreasing by about 9% between 2005 and 2021.

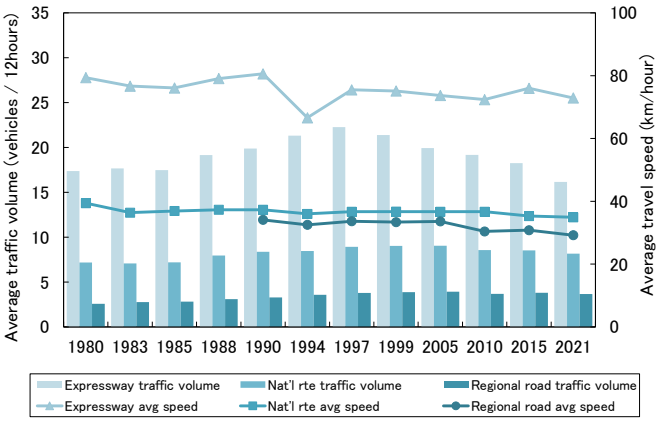


Notes: Figures in parentheses are the average traffic volume of all types of vehicles

Source: Road Traffic Census (MLIT)

Figure 4 Changes in Average Traffic Volume and Average Travel Speed by Type of Road

■ The average traffic volume on expressways has been on a declining trend since 1997, partly due to the impact of newly opened routes with low traffic volumes, while the average travel speed has improved. On ordinary roads, the average travel speed has remained flat or shown a declining trend for both national highways and local roads.



Source: Road Traffic Census (MLIT)

Figure 5 Average Travel Speed on National Ordinary Roads (Nationwide, Tokyo, Osaka)

■ There has been almost no changes in the nationwide average. The average travel speed in the wards of Tokyo and in Osaka City is about half of the nationwide average; there is still severe traffic congestion.

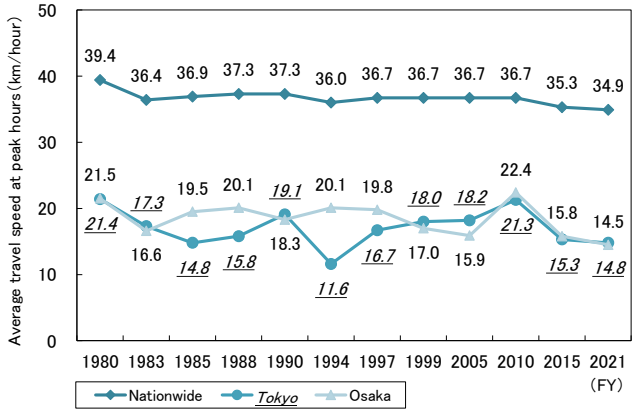
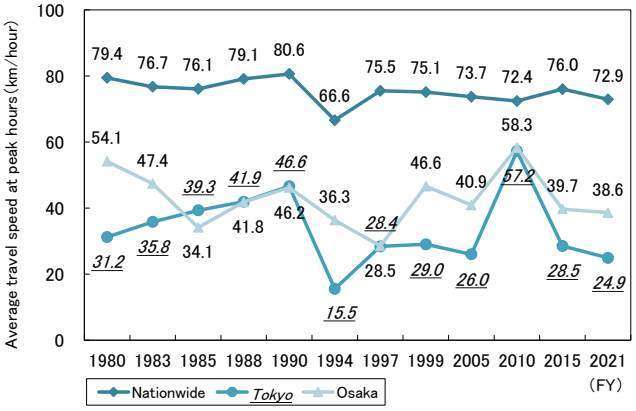


Figure 6 Average Travel Speed on Expressways (Nationwide, Tokyo, Osaka)

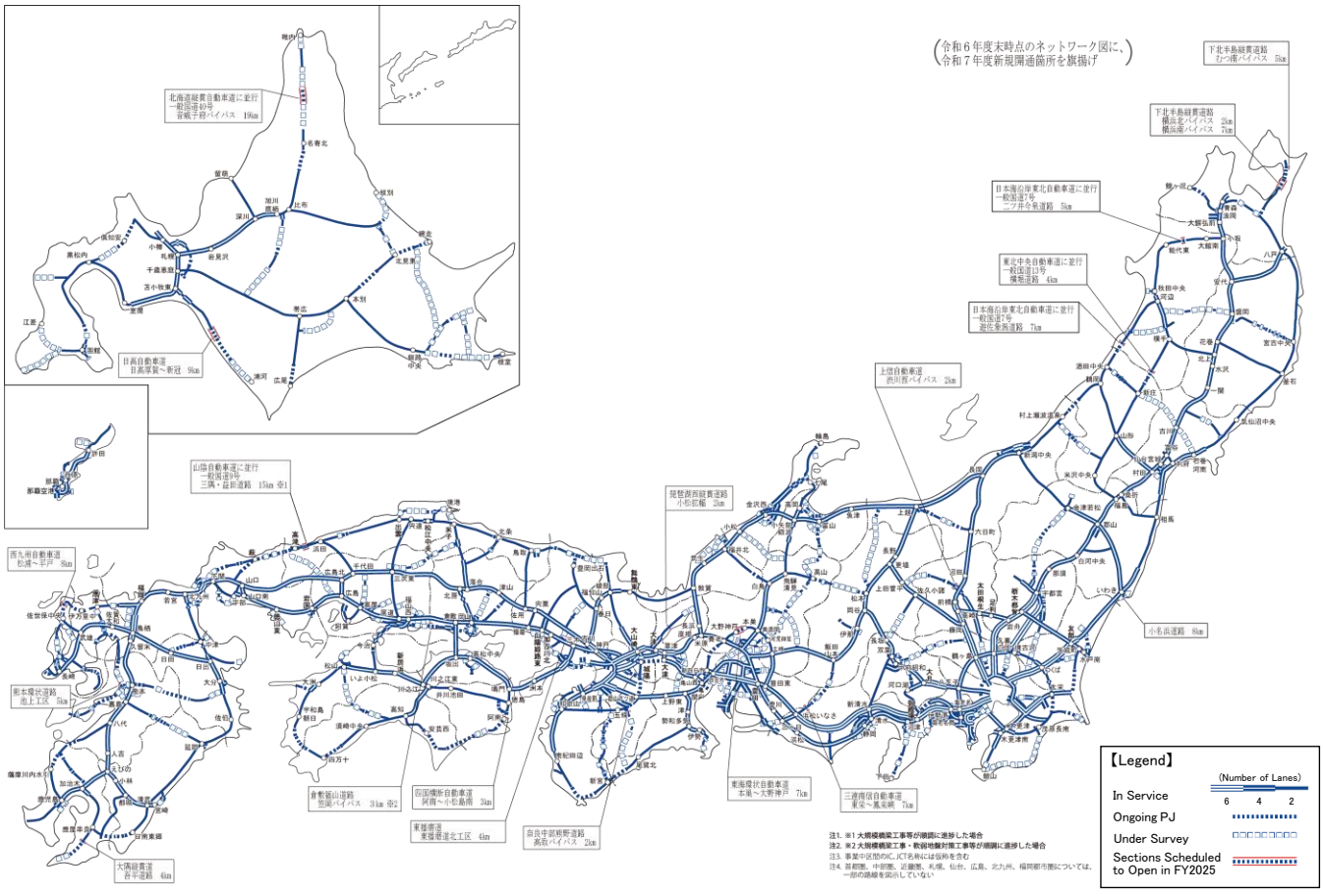
■ The nationwide average has been on a slightly downward trend. Although there have been changes in the average speed in the wards of Tokyo and in Osaka City, both speed levels remain lower than the nationwide average.



Source: Road Statistics Annual Report (MLIT)

Figure 7 Development Status of the Disaster-Resilient National Trunk Road Network (High-Standard Highway)

■ The development of trunk roads has been steadily promoted since the “First Five-Year Road Improvement Plan” in 1954, up to the present day. For example, with the opening of the Tokyo Outer Ring Road section between Misato-Minami IC and Takaya JCT in June 2018, about 60% of the entire route was connected, resulting in a roughly 30% reduction in lost time due to congestion on the Metropolitan Expressway inside the Central Circular Route. On the other hand, there are still areas nationwide where the expressway and other trunk road networks are not yet connected, so efforts are being made to promote their development in a planned manner. Furthermore, under the “Interim Summary on the Future of the High-Standard Highway Network” (2023) and the “WISENET2050 Policy Collection” efforts are being advanced.



Source: White Paper on Land, Infrastructure, Transport and Tourism FY2025(MLIT)

1-3 Freight Road Transport Today

Professor, Senshu University
Eiichiro Iwao

This section presents basic statistics on recent trends in freight road transport. For commercial vehicles, freight transport was on the rise until fiscal year 2019, with both tonnage and ton-kilometers increasing. However, from fiscal year 2021 onward, tonnage generally decreased, while ton-kilometers began to increase. The number of people aged 19 to 29 holding large vehicle licenses continued to decline until fiscal year 2018, then increased from fiscal year 2019 to fiscal year 2023, before declining again in fiscal year 2024. However, the number of people aged 70 and over holding large vehicle licenses continues to increase.

☐ Cargo weight by vehicle type for ordinary vehicles (commercial) has been increasing since FY2019, excluding FY2018. After that, it continued to decrease, except for FY2021 and FY2024.
☐ Cargo ton-kilometers of ordinary vehicles (commercial) has been increasing except for 2020.

Figure 1 Changes in Cargo Weight, by Vehicle Type

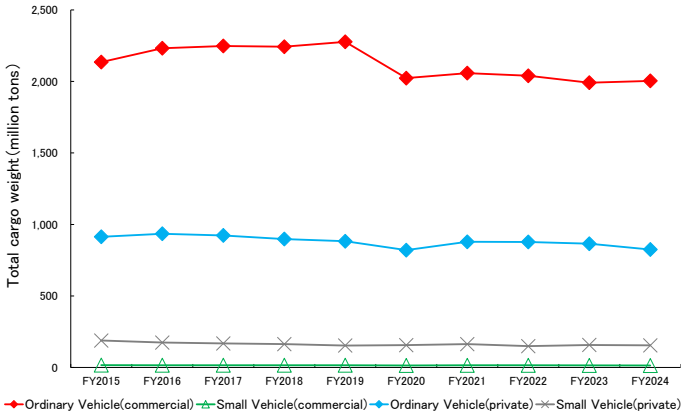
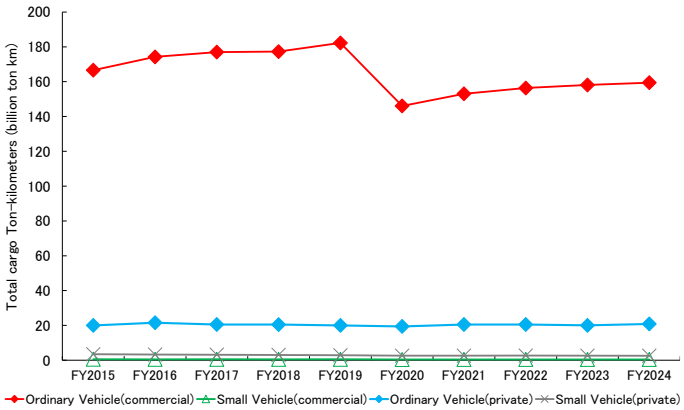


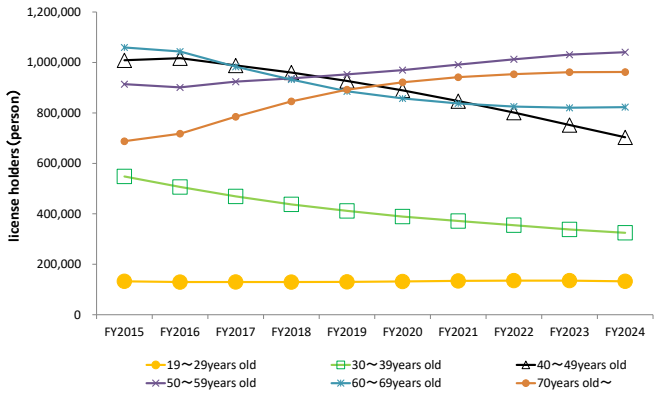
Figure 2 Changes in Cargo Ton-kilometers, by Vehicle Type



Source：Annual Statistical Report on Motor Vehicle Transport (Information Policy Division, Policy Bureau, MLIT)

Figure 3 Changes in Large Size Motor Vehicle License Holders

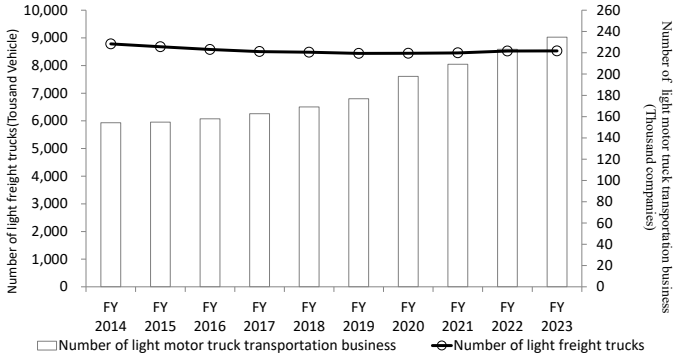
■ The number of large size motor vehicle licenses between the ages of 19 and 29 continued to decrease until FY2018. However, it increased from FY2019 to FY2023. The number of licenses for the 30-39 age group continues to decrease, while increasing for the over 70 group.



Source: Driver's license statistics (National Police Agency)

Figure 4 Changes in Number of Light Freight Trucks and Light Motor Truck Transportation Business

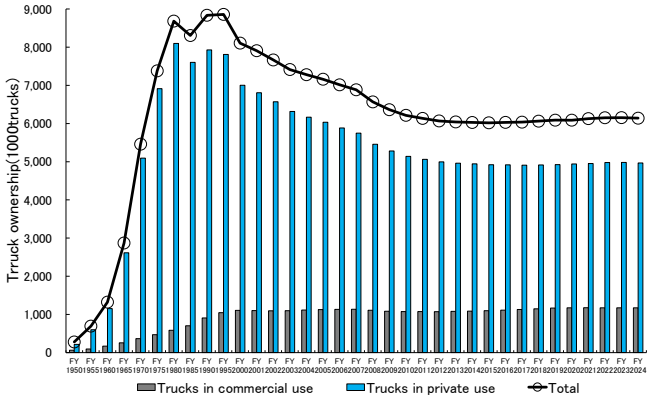
■ The number of light freight trucks owned has been continuously decreasing. However, it has been increasing since FY2021.
■ The number of light truck businesses is increasing.



Note: The number of light freight trucks includes hearses and motorcycles.
Source：Transportation-related statistics data collection (Information Policy Division, Policy Bureau, MLIT), Statistical data (Japan Light Mortar Vehicle and Motorcycle Association)

Figure 5 Changes in Private and Commercial Truck Ownership

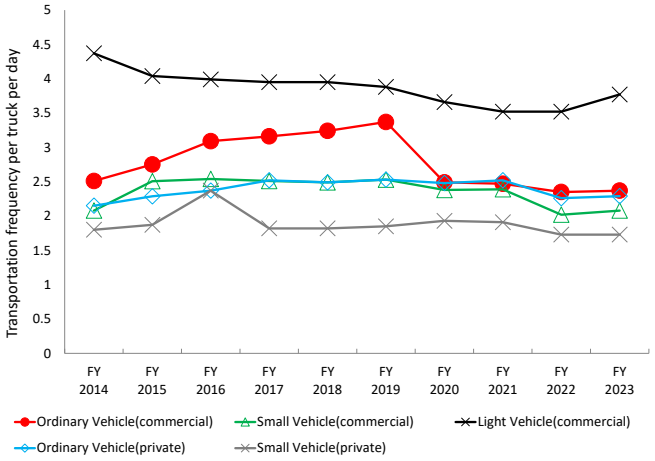
■ The number of trucks for commercial use increased until FY2007 but decreased from FY2008 to FY2012. After that, it increased until FY2022 and has not changed significantly since then.



Note: It doesn't include Hokkaido District Transport Bureau and Tohoku District Transport Bureau numbers of March 2011 and April
Source：Transportation-related statistics data collection
(Information Policy Division, Policy Bureau, MLIT)

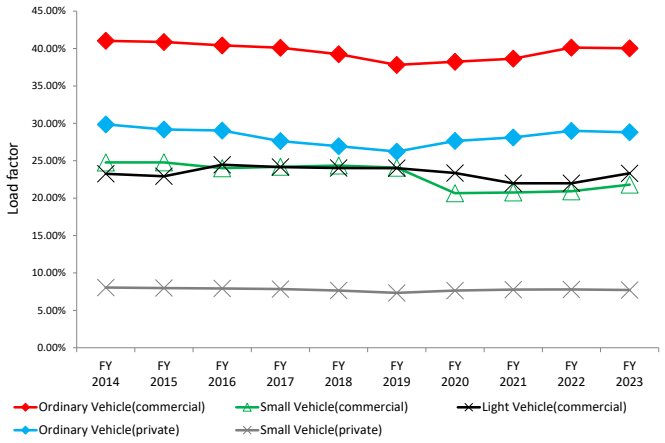
Figure 6 Changes in Transportation Frequency per Truck per Day

■ The number of trips per vehicle per day for ordinary truck(commercial) increased until FY2019. After that, it decreased from FY2020 but increased in FY2024.



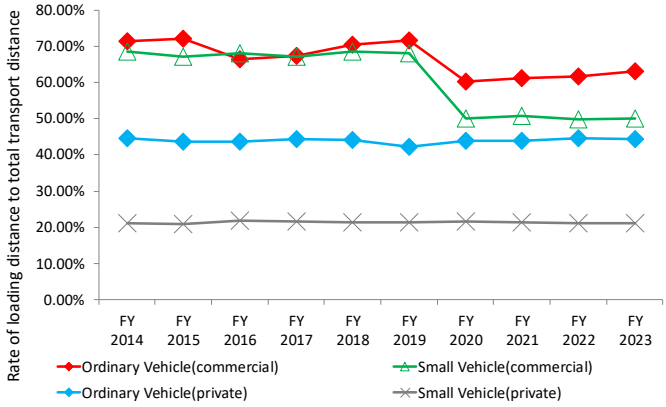
Source：Annual Statistical Report on Motor Vehicle Transport
(Information Policy Division, Policy Bureau, MLIT)

Figure 7 Changes in Load Factor, by Type of Use (Private vs. Commercial)



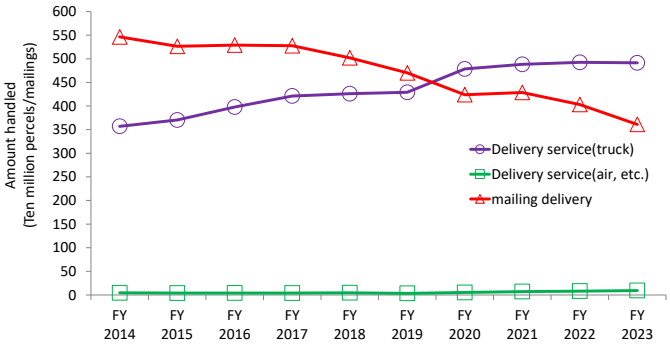
Source: Annual Statistical Report on Motor Vehicle Transport
(Information Policy Division, Policy Bureau, MLIT)

Figure 8 Changes in Rate of Loading Distance to Total Transport Distance, by Type of Use (Private vs. Commercial)



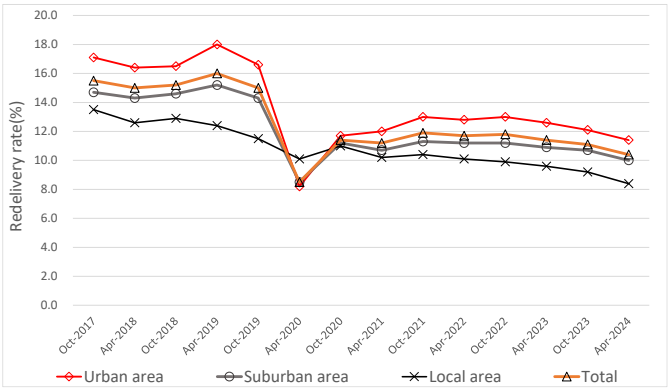
Source: Transportation-related statistics data collection
(Information Policy Division, Policy Bureau, MLIT)

Figure 9 Changes in the Amount of Package and Mail Handling, as Well as Regular Parcel Post Delivery



Source: website of MLIT

Figure 10 Trends in Courier Redelivery Rates



Note: Redelivery rate is the result of a sample survey of Sagawa Express (Hikyaku Express), Japan Post(Yu-Pack, Yu-Packet), and Yamato Transport (Takkyubin).
Apr period is from Apr 1st to Apr 30th,Oct period is from Oct 1st to Oct 31st.
Source: website of MLIT

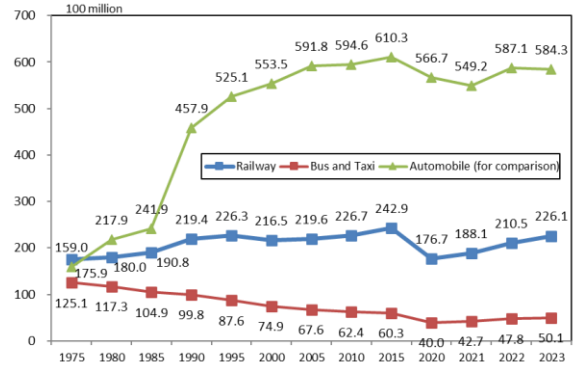
1-4 Public Transport Today

Professor, Ryutsu Keizai University
Kazuya Itaya

In 2023, demand for public transport progressed to recover from the decline caused by the spread of COVID-19. Use of railways, express buses, and aircrafts increased from the previous year, but has not yet reached pre-COVID levels. In the three major metropolitan areas, the share of railways is increasing. Railway congestion rates have been declining compared to pre-COVID levels. While the bus business remains unprofitable, its income and expenditure situation is improving. The number of community buses and demand-responsive transportation services is on the rise. Meanwhile, the number of accident fatalities has continued to decline, and public transportation safety is being maintained. Furthermore, the number of rail line closures has been decreasing in recent years.

Figure 1 The Number of Passengers, By Mode

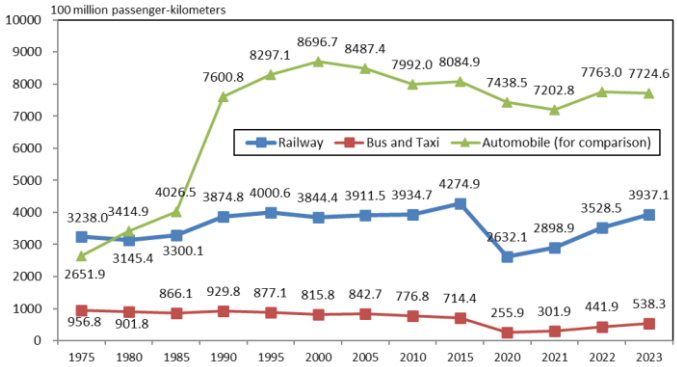
■ In FY 2023, automobile has started to decline.



Source: Annual Statistical Report on Motor Vehicle Transport, Annual Statistics Report on Railway Transport

Figure 2 Railway and Bus Passenger Kilometers

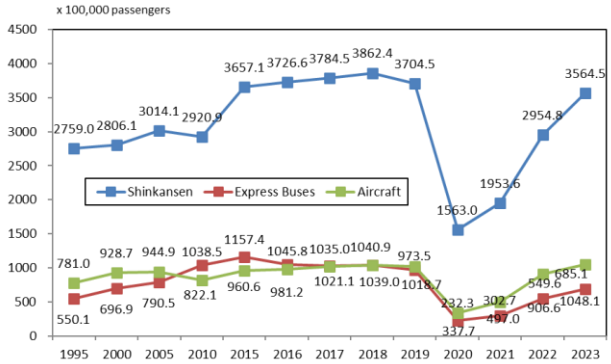
■ Public transport use has been recovering steadily since last year.



Source: Annual Statistical Report on Motor Vehicle Transport, Annual Statistics Report on Railway Transport

Figure 3 The Number of Intercity Passengers, by Mode

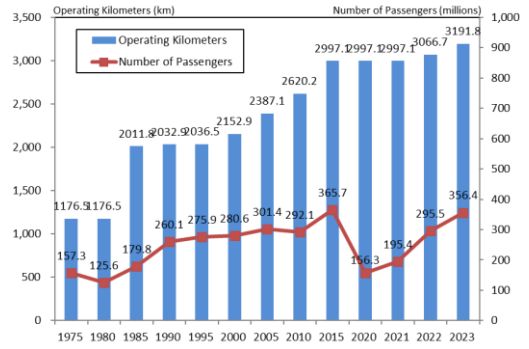
■ The use of Shinkansen, aircrafts and express buses has been recovering since 2020.



Source: Annual Statistical Report on Railway Transport, White Paper on Transport Policy 2025, Annual Statistical Report on Air Transport

Figure 4 Operating Kilometers and Number of Passengers of Shinkansen

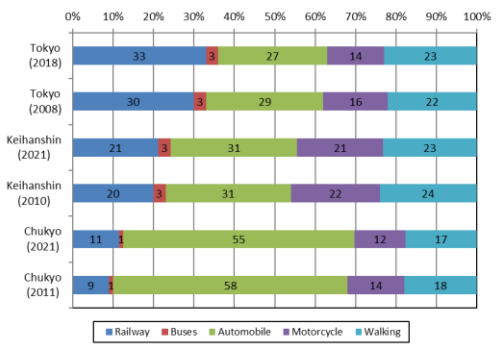
■ Operating kilometers and passenger numbers have increased.



Source: Before 1985: Railways 2008: the Numbers.
After 1990: Annual Statistical Report on Railway Transport

Figure 5 Modal Share in the Three Metropolitan Areas

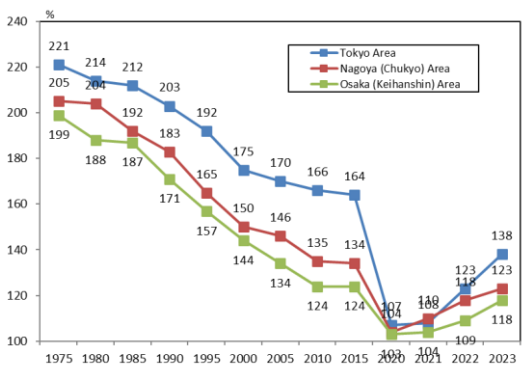
■ In each area, the use of railway has increased and automobile has decreased.



Source: Urban Area Person Trip Survey Results in Tokyo, Osaka (Keihanshin), Nagoya (Chukyo) Area

Figure 6 Railway Congestion Rates in the Three Metropolitan Areas

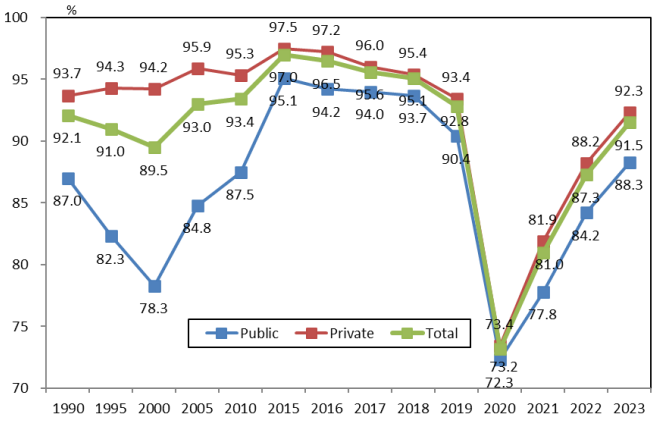
■ Railway congestion rates have increased since 2020.



Source: Railways 2024: the Numbers

Figure 7 Bus Industry Incomes vs. Expenditures

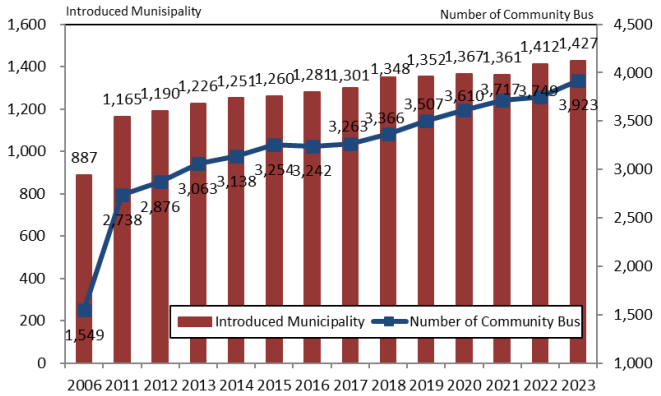
■ In the past 20 years, the balance ratio overall has never exceeded 100. It deteriorated significantly in 2020, but it has since recovered. [Balance ratio = (current income / current expenditure) × 100]



Source: Bus Industry Income and Expenditures

Figure 8 The Number of Municipalities Introduced Community Bus

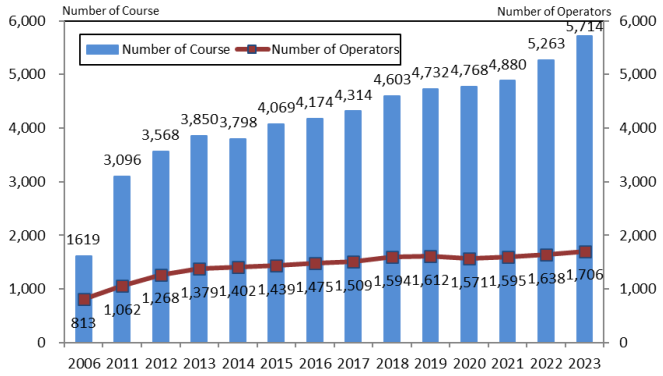
■ Mainly in the areas where bus operators withdrew, community bus routes are continuing to increase.



Source: White Paper on Transport Policy 2025

Figure 9 Number of Demand-Based Shared Taxi Services

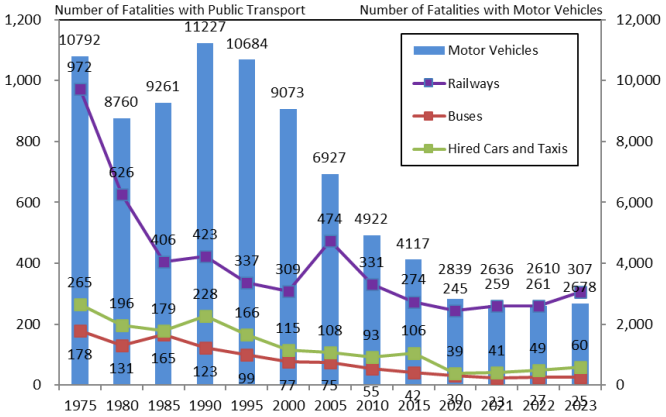
■ In recent years, the number of local governments introducing demand-based shared taxis has been increasing. The total number of routes nationwide is 5,714, more than three times the number of all cities, towns, and villages.



Source: White Paper on Transport Policy 2025

Figure 10 The Number of Traffic Fatalities with Public Transport

■ The number of fatalities with buses, hired cars, and taxis continues to decrease. Compared to the number of traffic fatalities with motor vehicles (2678 in FY 2023), public transport safety is outstanding.

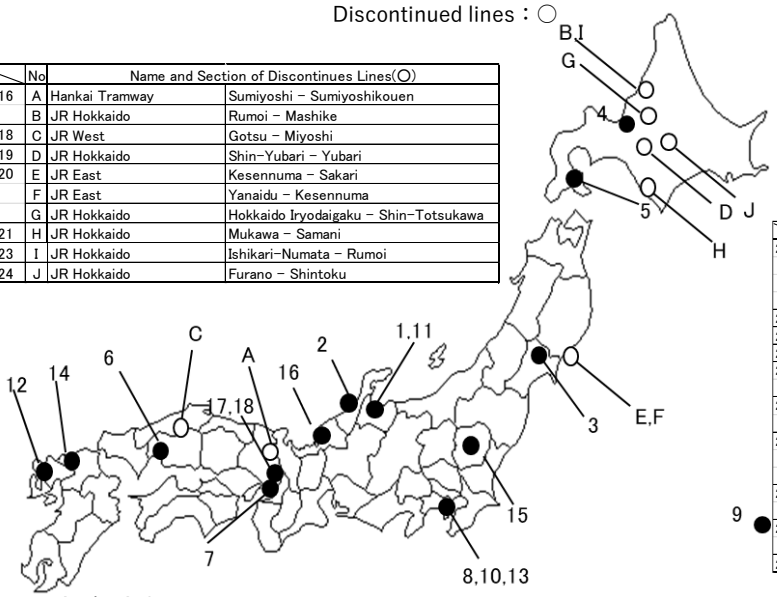


Source: (Railway and Automobile): White Paper on Traffic Safety in Japan, (Bus, Hired Car and Taxi): Statistics on Traffic Accidents of Motor Vehicles for Business Use

Figure 11 Newly Established / Discontinued Railway Lines

Examples between 2010 and 2020 Newly-established lines：● Discontinued lines：○

	No	Name and Section of Discontinues Lines(○)	
2016	A	Hankai Tramway	Sumiyoshi – Sumiyoshikouen
	B	JR Hokkaido	Rumoi – Mashike
2018	C	JR West	Gotsu – Miyoshi
2019	D	JR Hokkaido	Shin-Yubari – Yubari
2020	E	JR East	Kesennuma – Sakari
	F	JR East	Yanaidu – Kesennuma
	G	JR Hokkaido	Hokkaido Iryodaigaku – Shin-Totsukawa
2021	H	JR Hokkaido	Mukawa – Samani
2023	I	JR Hokkaido	Ishikari-Numata – Rumoi
2024	J	JR Hokkaido	Furano – Shintoku



■ There are many newly established lines in the Hokuriku region. There are many examples of service closures in Hokkaido and Tohoku. In 2017 JR West revived a line that had been abolished. In 2020, JR East lines were officially closed, but BRT lines were already in operation as substitutes.

	No	Name and Section of New Lines(●)	
2015	1	Toyama Chihou Tetsydou	Toyamaeki – Dentetsu Toyamaeki・Esta Mae
	2	JR East, West "Hokuriku Shinkansen"	Nagano – Kanazawa
	3	Transportaton Bureau City of Sendai	Yagiyama Zoological Park – Arai
	4	Sapporo City Transportation	Susukino – Nishi yon chome
2016	5	JR Hokkaido "Hokkaido Shinkansen"	Shin-Aomori – Shin-Hakodate-Hokuto
2017	6	JR West	Kabe – Aki-Kameyama
2018	7	JR West	Shin-Osaka – Hanaten
2019	8	Yokohama Seaside Line	Kanazawa Hakkei Station extension
	9	Okinawa Urban Monorail	Shuri – Tedako-Uranishi
2020	10	JR East, Sotetsu	Nishiya – Hazawa Yokohama-kokudai
	11	Toyama Chihou Tetsydou	Toyama Station north-south direct service started
2022	12	JR Kyusyu "Nishi-Kyusyu Shinkansen"	Takeo-Onsen – Nagasaki
	13	Sotetsu and Tokyu "Shin-Yokohama Line"	Hazawa-Yokohama Kokudai – Hiyoshi
	14	Fukuoka City Subway	Hakata – Tenjin-Minami
2023	15	Utsunomiya Light Rail	Utsunomiya Station East – Haga Takanezawa Industrial Park
2024	16	JR West "Hokuriku Shinkansen"	Kanazawa – Tsuruga
	17	Kita-Osaka Kyuko Line	Senri-Chuo – Minoo-Kayano
2025	18	Osaka Metro	Cosmosquare – Yumeshima

Source: Author's Investigation

1-5 Recent Trends in New Urban Transport Systems

Project Professor, The University of Tokyo
Fumihiko Nakamura

New technology has been meeting diverse mobility needs and responding to policy issues. Vehicle design with advanced technology has been applied to several cases in LRT and BRT. BHLS (Bus with High Level of Service) has been popular in the EU. Demonstration of Autonomous small EV buses has become popular is Japan. The Japanese Government issued its Second Transport Plan in 2021, which includes a lot of new ideas in the field of urban transport as well.

Table 1 Summary of Trends in New Urban Transport Systems

Modes	Environment, Safety	Social Welfare, Social Inclusion	Planning, landscape
LRT and trams	Low floor and low emission		Catenary-free tram
BRT and buses	Fuel cell, EVs	Low floor, community buses	Designers' involvement
Bicycles	Bicycle sharing		
Automobiles	Car sharing, Ride sharing		
Pedestrian support	Personal mobility tools		
Service Integration	MaaS (Mobility as a Service)		
Others		Ropeways, escalators, elevators	

Figure 1 Catenary-free tram

Angers (France)
Source: http://www.angers.fr/actualites/photos/

Figure 2 BRT with EV-buses

Nantes (France)
By the author

Figure 3 BRT with EV-buses

Vitria-Gasteiz (Spain)
By the author

Figure 4 E-scooter sharing station

Source: https://luup.sc/en/press-kit-en/ |
Tokyo (Japan)

Figure 5 & 6 10 lines of urban ropeway system

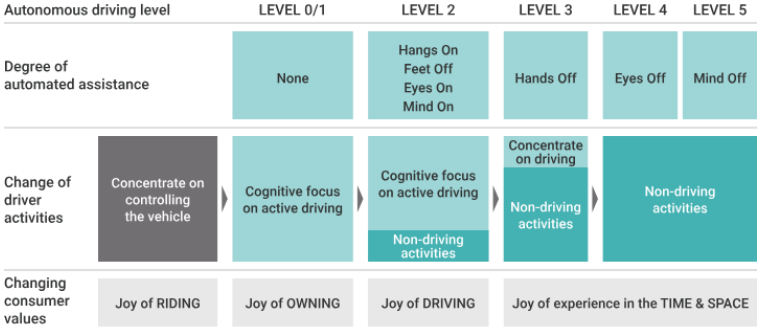
La Paz (Bolivia)

By the author

Figure 7 Autonomous Small EV-bus

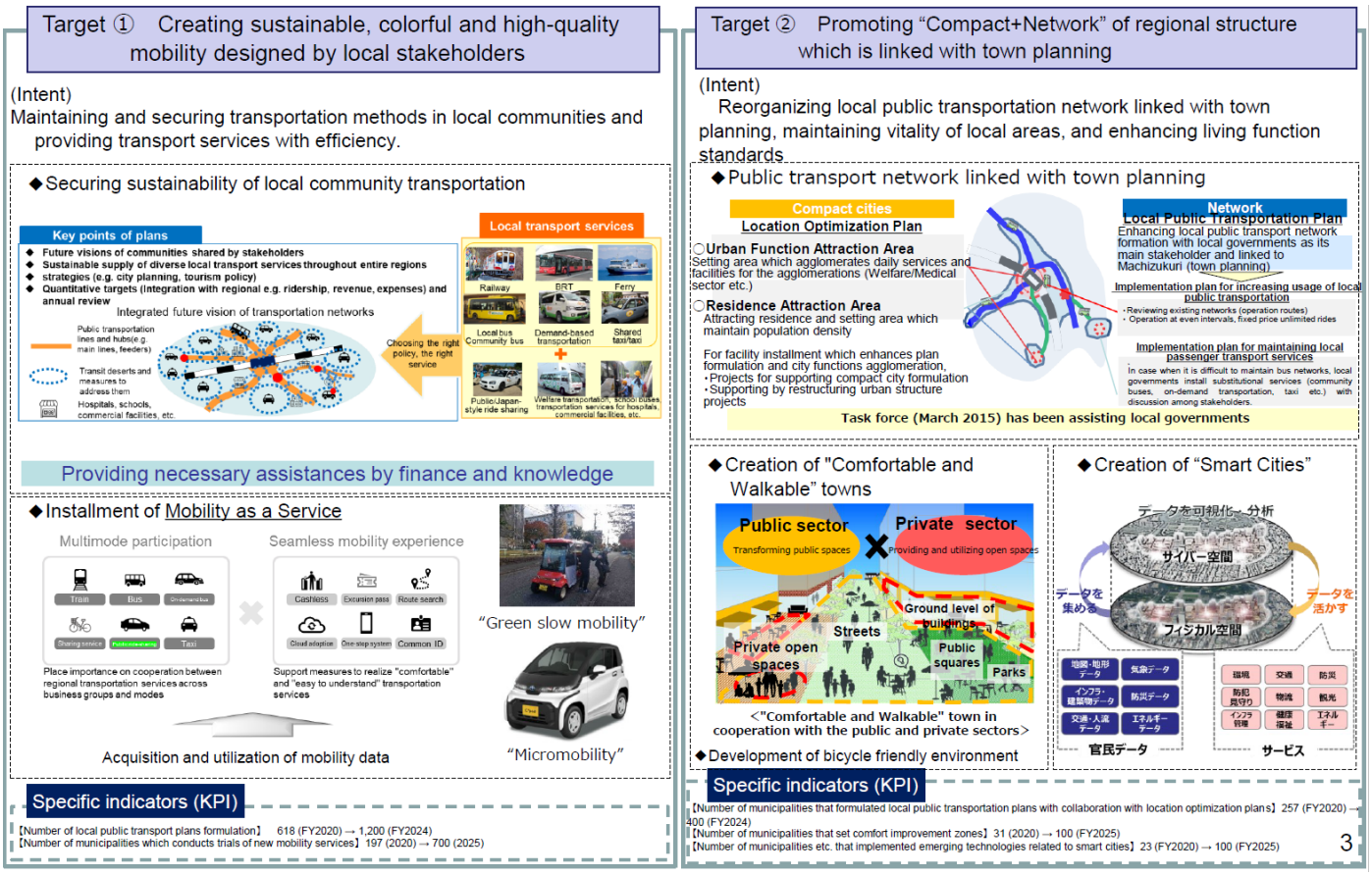
Hitachi-Ota (Japan) By the author

Figure 8 Transformation of Autonomous vehicle market



Source: https://www.toyota-boshoku.com/global/development/case-maas/

Figure 9 Targets and Measures of Japan's Second Transport Plan issued in 2021



Source: modification of "https://www.mlit.go.jp/sogoseisaku/transport/content/001578180.pdf" by MLIT

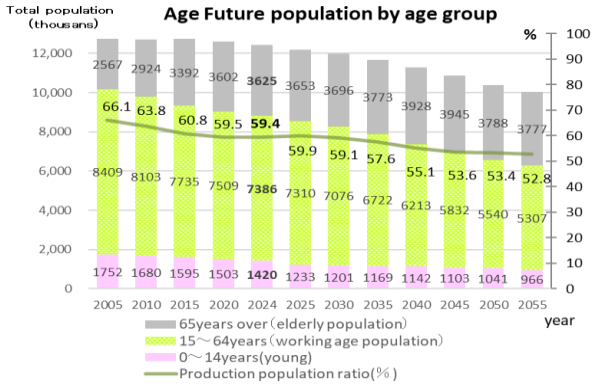
1-6 Easy-to-use Transportation for Everyone

Specified Nonprofit Corporation Healthy town development
Atsushi Matsubara

The maintenance of public transportation continues to be in crisis due to the 2024 problem. The employment population of elderly people is also at a record high, so it can be concluded that the number of elderly people traveling is increasing, but at present we have no choice but to rely on elderly drivers. The average age of bus drivers is 53.0 years old (Basic Survey on Wage Structure in 2021), and some bus companies have now extended the age limit for rehiring bus drivers to 75 years old, which means they are in the latter stages of the elderly. It is thought that "elderly transportation", in which the elderly transport the elderly, rather than "elderly care", is expanding. Public ride-sharing is currently expected to be a game-changing measure, but achievements are limited and many challenges remain.

Figure 1 Future population numbers and productive population ratio by age group (3 categories)

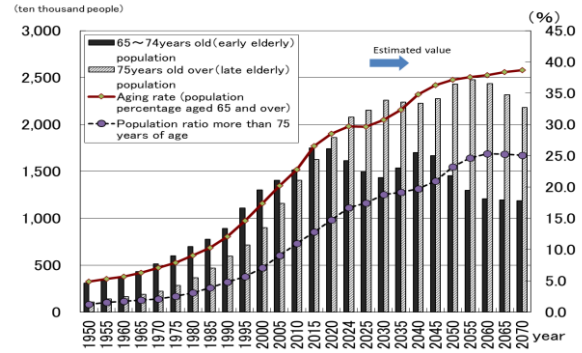
■ The productive age population has fallen to less than 60% and continues to decline.



Source: Statistics Bureau of Japan 2025

Figure 2 Changes in the number of elderly people

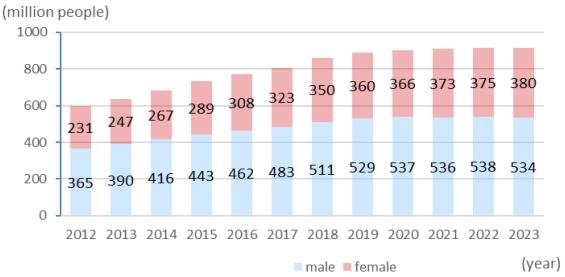
■ The aging rate for people aged 65 and over is 29.3%, the highest ever. The number of elderly people aged 75 and over is 20.77 million, accounting for 16.7% of the total population. The number of elderly people will continue to increase in the future, exceeding the number of elderly people.



Source: 2025 version of "Aging Society White Paper"

Figure 3 Changes in the number of elderly workers

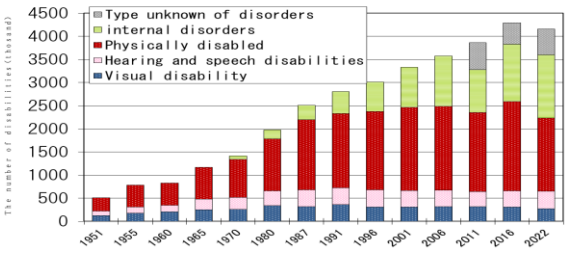
■ The number of employed elderly is a record high of 9.14 million, but the number of men is decreasing.



Source: labor force survey

Figure 4 Changes in the number of people with physical disabilities (estimated using disability certificates)

■ According to this survey, 9.2% of the population is reported to have some kind of disability.



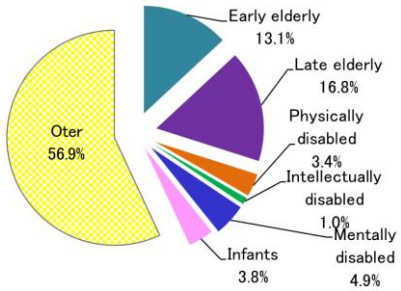
Source:MHLW "in 2022: Survey on the difficulty of life (nationwide home handicapped Survey)

Table 1 The Number of Persons with Disabilities at Home

Fault type	Total number
Physically disabled	4.23 million people
Intellectually disabled	1.27 million people
Mentally disabled	6.03 million people

Source: Annual Report on Government Measures for Persons with Disabilities 2025

Figure 5 Breakdown of Japan's Total Population (123 Million People)



Source: Annual Report on the Aging Society: 2025, Annual Report on Government Measures for Persons with Disabilities 2025

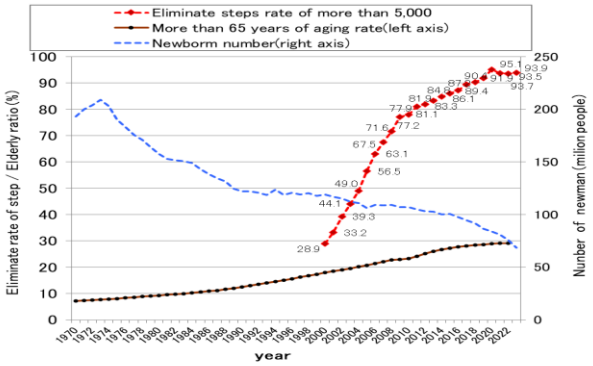
Table 2 The Compliance of Standards Stipulated in the Transportation Barrier-Free Law

	2025 year-end target	2023 year-end	Year-on-year
Railway vehicle	New standard 70%	59.9%	3.0p+
Low-floor bus	80%	70.5%	2.5p+
Welfare taxi	Approximately 90,000 vehicles	52,553 vehicles	7,242 vehicles+
Passenger ship	60%	57.8%	1.7p+
Aircraft	100% in principle	100%	-

Source: Compiled from MLIT documents

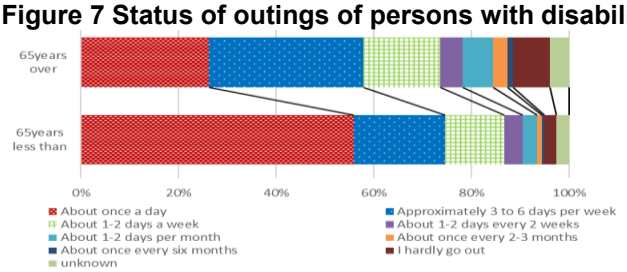
Figure 6 Rate of Elimination of Grade Disparities in Railway Stations

■ Progress has been made in making stations barrier-free. However, in recent years, despite the aging of the population, there has been a significant decline in the number of newborns using strollers.



Source: Compiled from MLIT, MHLW of documents

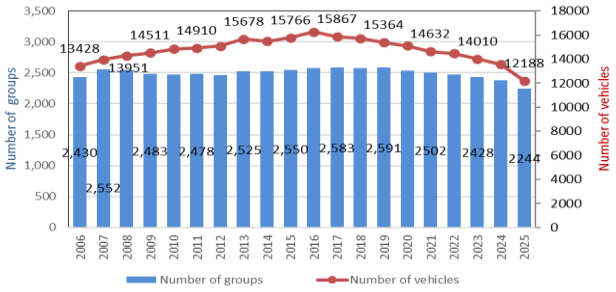
Figure 7 Status of outings of persons with disabilities



Source:MHLW "in 2022: Survey on the difficulty of life (nationwide home handicapped Survey)

Figure 8 Number of groups and vehicles for welfare paid transportation

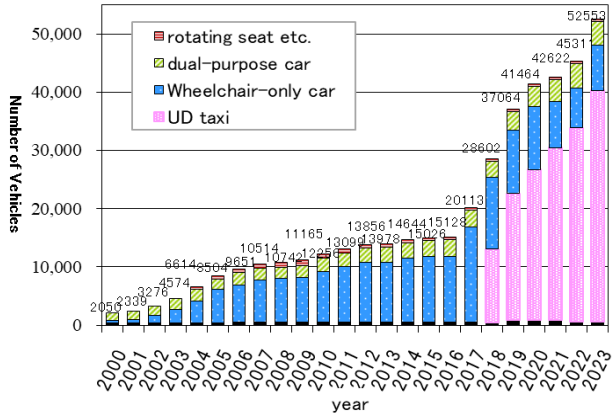
■ The number of operating organizations and vehicles continues to decline.



Source: MLIT and National mobile service network

Figure 9 The Number of the Welfare Taxi

■ JPN TAXI, which is wheelchair accessible, has increased significantly as UD (universal design) taxi. The number of wheelchair-only vehicles is decreasing.



Source：Compiled from MLIT document

Table 3 The Number of Driver License Holders by Gender and Age Group

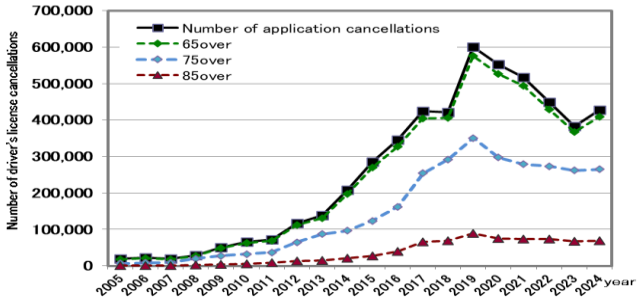
■ Decrease in driver's license possession among young people.

age	2022 year-end		2023 year-end		2024 year-end		23-24 increase/decrease ratio		male ratio
	male	female	male	female	male	female	male	female	%
16～19	467,738	348,986	459,380	332,995	448,555	319,332	−2.4	−4.1	58.4
20～24	2,509,576	2,149,523	2,475,187	2,115,827	2,439,024	2,076,198	−1.5	−1.9	54.0
25～29	2,842,292	2,503,825	2,855,492	2,509,112	2,835,388	2,484,698	−0.7	−1.0	53.3
30～34	3,008,915	2,681,221	2,954,546	2,630,178	2,957,301	2,626,369	0.1	−0.1	53.0
35～39	3,474,083	3,156,530	3,385,562	3,066,029	3,276,783	2,956,399	−3.2	−3.6	52.6
40～44	3,859,389	3,556,457	3,771,132	3,472,712	3,702,308	3,406,529	−1.8	−1.9	52.1
45～49	4,581,534	4,236,509	4,411,870	4,079,170	4,237,716	3,918,122	−3.9	−3.9	52.0
50～54	4,602,417	4,256,715	4,702,261	4,354,205	4,766,049	4,415,902	1.4	1.4	51.9
55～59	3,895,021	3,585,175	4,006,428	3,699,807	4,098,204	3,793,015	2.3	2.5	51.9
60～64	3,500,601	3,161,886	3,531,467	3,211,249	3,592,984	3,283,898	1.7	2.3	52.2
65～69	3,362,346	2,876,433	3,324,672	2,896,353	3,300,129	2,914,456	−0.7	0.6	53.1
70～74	3,775,005	2,783,320	3,590,349	2,743,988	3,364,906	2,630,276	−6.3	−4.1	56.1
75～79	2,396,728	1,454,174	2,596,876	1,649,351	2,809,024	1,856,543	8.2	12.6	60.2
80～84	1,422,756	615,329	1,509,056	696,758	1,569,042	773,051	4.0	10.9	67.0
85 over	632,564	143,501	667,779	162,937	704,944	185,158	5.6	13.6	79.2
total	44,330,965	37,509,584	44,242,057	37,620,671	44,102,357	37,639,946	−0.3	0.1	54.0

Source: National Police Agency “driver‘s license statistics 2025”

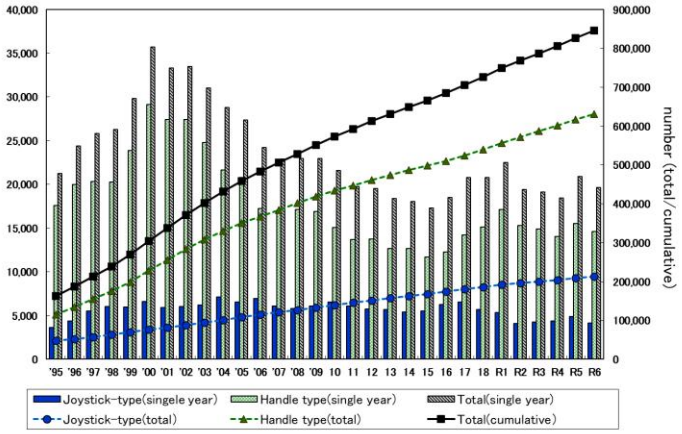
Figure 10 The Number of Persons Who Voluntarily Return Their Driver’s Licenses

■ By conducting a driver's license aptitude test, the number of people returning licenses is increasing rapidly.



Source: National Police Agency “driver‘s license statistics 2025”

Figure 11 Electric Wheelchair Shipments



Source: Electric wheelchair safety Promotion Association material

Figure 12 “Public Ride Sharing”

■ To ensure transportation options for the elderly, the operation of the private paid transportation system was revised, leading to the introduction of “Public Ride-Share”, where municipalities, NPOs, etc., registered with MLIT, use private vehicles to provide paid transportation.

Source: Pamphlet by MLIT(in Japanese)

1-7 The Future of Transport Infrastructure

The Institute of Behavioral Sciences
Yuichi Mohri

The table summarizes the transportation policy and other initiatives in 2020-2025. In addition, The following highlights the major and distinctive transport policies between 2020 and 2025. 1) Cabinet Approval of the Bill for Partial Amendment of the Special Measures Act on Road Construction and the Act on the Japan Expressway Holding and Debt Repayment Agency, 2) Concept of the Wide-area Road Network and Procedures for High-standard Roads, 3) Publication of the Concept of “Automated Logistics Roads”.

Table 1 Transportation Policy and Other Initiatives in 2020-2025

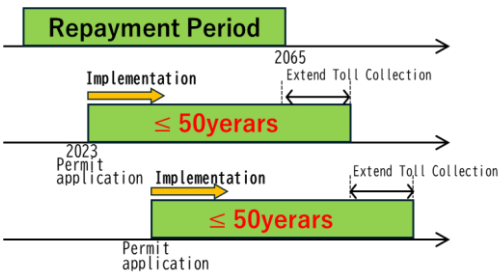
Year and month	Transportation policy and other initiatives in 2020-2025
February 2020	The Cabinet approved the Bill for Partial Revision of the Road Act, which provides for the streamlining of procedures related to the passage of large vehicles, the addition of designated vehicle stops facilities and automated driving support facilities as road appurtenances, and the establishment of a designation system for pedestrian-priority roads. In addition, to strengthen responses to increasingly frequent natural disasters, the bill includes measures to expand the system under which the Minister of Land, Infrastructure, Transport and Tourism may exercise authority on behalf of local governments for road disaster recovery and related matters.
January 2021	The Cabinet approved the Bill for Partial Revision of the Act on Promotion of Level Crossing Improvement, which allows the Minister to flexibly designate, without a fixed time limit, level crossings requiring improvement due to accidents or congestion, and to promote countermeasures by incorporating local input and utilizing a wide range of methods such as measures around level crossings. The bill also establishes a system to promote proper management of level crossings during disasters, and, based on lessons learned from recent disasters, creates systems to strengthen the disaster prevention functions of roads and railways, including the use of Michi-no-Eki (Roadside Stations) as disaster response hubs and the authorization for railway operators to cut down vegetation and other obstructions affecting railway facilities.
May 2021	The Cabinet approved the Fifth Priority Plan for Social Infrastructure Development (implementation period: FY2021–FY2025) and the Second Basic Plan on Transport Policy (implementation period: FY2021–FY2025).
June 2021	The Cabinet approved the Comprehensive Policy Outline for Logistics (implementation period: FY2021–FY2025), which sets forth the government’s guidelines on logistics policy and promotes comprehensive and integrated logistics measures through cooperation among relevant ministries and agencies.
August 2021	An Interim Report was compiled regarding the institutional framework and other measures for building a sustainable expressway system.
March 2022	Tokyo compiled its initiatives and achievements regarding transportation and traffic during the Tokyo 2020 Olympic Games, and the Transport and Traffic Technology Review Committee released recommendations for future policy developments in the field of transportation and traffic.
February 2023	The Cabinet approved the Bill for Partial Revision of the Special Measures Act on Road Construction and the Act on the Japan Expressway Holding and Debt Repayment Agency, which provides for the extension of expressway toll collection periods and ensures the secure collection of expressway tolls.
July 2023	The concept for wide-area road networks, including high-standard roads, as well as the procedures for high-standard roads, were presented.
July 2023	Based on the Basic Act for National Resilience, the Cabinet approved a new Basic Plan for National Resilience.
July 2023	The Cabinet approved the National Land Formation Plan, which presents a comprehensive and long-term vision for the future of the national land, and the National Land Use Plan, which sets forth the basic directions for land use.
August 2023	An Interim Report on the formulation of the Strategy for Promoting Carbon Neutrality in Roads toward the government’s goal of achieving carbon neutrality by 2050 was released.
October 2023	Based on the discussions on the roles required of high-standard road networks to date, the Interim Report on the Framework for High-Standard Road Networks was released, and the WISENET 2050 (World-class Infrastructure with 3S(Smart, Safe, Sustainable) Empowered Network) Policy Compilation was prepared.
June 2024	Based on the lessons learned from the disaster response to the Noto Peninsula Earthquake, an Emergency Recommendation was compiled outlining the future courses of action for road administration.
July 2024	As an interim report, the basic concept and direction for the development of “Automated Logistics Roads” were compiled, and issues requiring further discussion were published.
February 2025	Taking into account the Noto Peninsula Earthquake that occurred in January 2024, the decline in the number of technical staff in municipalities, and the increasing severity and frequency of natural disasters due to climate change, the Cabinet approved the Bill for Partial Revision of the Road Act. to enhance preparedness in normal times and initial responses in emergencies, to address the shortage of personnel responsible for infrastructure management, and to promote decarbonization in the road sector.
June 2025	Based on the provisions of the Road Act, the draft Basic Policy for Road Decarbonization draft was released to promote comprehensive and systematic measures for road decarbonization. The draft sets forth matters concerning the significance and objectives of promoting road decarbonization, the basic policies for measures to be implemented by the government, and the fundamental matters regarding the formulation of the Road Decarbonization Promotion Plan.

Figure 1 Cabinet Approval of the Bill for Partial Amendment of the Special Measures Act on Road Construction and the Act on the Japan Expressway Holding and Debt Repayment Agency

■ On February 10, 2023, the Cabinet approved the following measures under the bill to amend the Road Construction Special Measures Act and the Expressway Holding and Debt Repayment Agency Act.

- To add projects necessary for the renewal and advancement of expressways, a debt repayment period (within 50 years from the date of application for approval to the Minister of Land, Infrastructure, Transport and Tourism) was established to ensure reliable repayment. The toll collection period may be extended up to 2115.
- It was clarified that expressway tolls may be charged to both drivers and users, and in cases of non-payment by light motor vehicles or motorcycles, expressway companies may obtain user information from relevant organizations.
- Enhancing service and parking areas through an interest-free loan scheme.
- Promoting improvements to toll roads managed by local road corporations.

【Image of the Repayment Period】



Source: MLIT

Figure 2 Concept of the Wide-area Road Network and Procedures for High-standard Roads

■ On July 4, 2023, based on the direction of the new National Land Formation Plan and the newly formulated Regional Wide-area Road Traffic Plans for each block, the concept of the wide-area road network, including high-standard highways, as well as the procedures for high-standard roads, were presented.

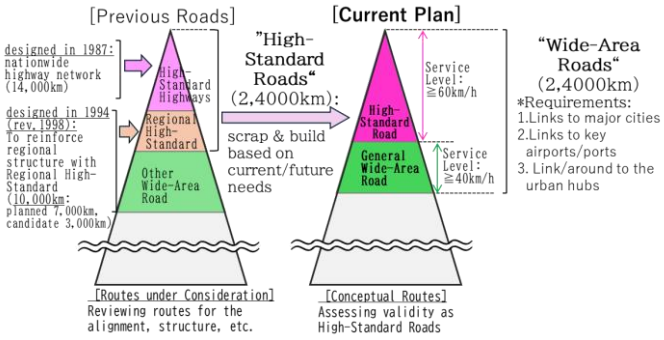
Concept of the Wide-area Road Network

In the new Wide-Area Road Traffic Plans, both high-standard roads and general wide-area roads are designated as wide-area roads, with conceptual routes requiring further study also identified. Among wide-area roads, those requiring higher service speeds, such as high-standard trunk roads and regional high-standard roads, are collectively positioned as high-standard roads forming an integrated road network. Based on the new National Land Formation Plan and regional road traffic plans, the significance of forming a seamless high-standard road network was organized and presented.

Procedures for High-standard Roads

A draft planning process was presented for high-standard roads other than expressways (national motorways). Specifically, by considering the planning process legally defined for expressways, it was proposed to establish a Basic Plan at the survey stage and a Development Plan at the project implementation stage, thereby unifying the procedures. In formulating Basic and Development Plans, opinions from academic experts and relevant local governments are to be solicited. When local governments take the lead, after coordination, the Minister shall formulate the Basic and Development Plans.

【Policy for Wide-Area Road Network Planning】



Source: MLIT

Publication of the Concept of "Automated Logistics Roads"

■ On July 25, 2024, as an interim report, the basic concept and direction for the development of "Automated Logistics Roads" were compiled, and issues requiring further discussion were published.

The concept envisions a "sustainable, smart, and safe carbon-neutral logistics innovation platform" that addresses labor shortages, supports carbon neutrality, promotes modal shifts, drives logistics reform, enhances disaster resilience, and enables sustainable transport.

To realize this, further studies will define routes, pilot projects, cargo standards, road space use, logistics hubs, transport methods, and implementing bodies, drawing on international examples.

However, additional examination is needed regarding impacts, demand forecasts, business models, public–private partnerships, institutional design, and technical development to ensure the system becomes a practical and sustainable social infrastructure.

【Image of Automated Logistics Roads】

Source: MLIT

1-8 Current Status and Future Prospects of Funding Sources for Highway

Professor, Keio University
Kazusei Kato

In our country, inspections of road facilities managed by local governments entered their second cycle in fiscal year 2019. Although the number of bridges requiring urgent or immediate measures has decreased, some bridges have continued to deteriorate and it is estimated that it will take about 20 years to shift toward preventive maintenance with the current budget level. Confronted with this situation, infrastructure renewal and securing financial resources for maintenance are common challenges among industrialized countries. Public works expenditure in Japan has nearly halved over the past 20 years, and the decline in gasoline taxes, which have become a major source of general revenue, has been significant.

Table 1 Automobile-Related Taxes

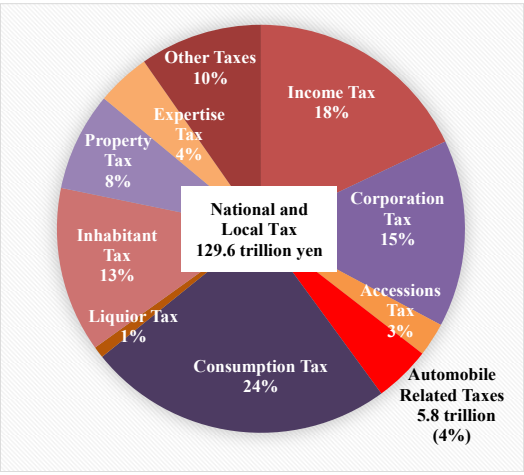
■ The earmarked road funding system ended in fiscal year 2008, but all taxes were subsequently consolidated as ordinary taxes.. Tax revenues have been decreasing.

Tax Item	Established	Share allocated to road construction under the earmarked funding system	Standard Tax Rate	Provisional Tax Rate (2008)	Temporary tax rate (2020)	FY2008 Initial budget tax revenue	FY2023 Initial Budget Tax Revenue	FY2024 Initial Budget Tax Revenue	FY 2025 Initial Budget Tax Revenue
Automobile Acquisition Tax (Local)	1968	All	3% of the acquisition price (for personal use)	5% of the acquisition price (for private use)	None	4,024	_ (Note 3)	_(Note 3)	_(Note 3)
Motor Vehicle Tonnage Tax (National)	1971	77.5% of National Tax Revenue(=2/3 of Total Revenue)	Private cars: 2,500 yen per 0.5 tons of curb weight	Private cars: 6,300 yen per 0.5 tons of curb weight	Private cars: 2,500 yen per 0.5 tons of curb weight (eco-friendly vehicles eligible for tax reduction, statutory tax rate)	5,541	3,780	4,020	4,070
Motor Vehicle Tonnage Transfer Tax (Local)	1971	1/3 of Total Revenue	The total amount transferred is 348/1000 (temporarily 422/1000) of the automobile weight tax revenue, with 407/1000 transferred to municipalities and 15/1000 to prefectures. A gradual increase has been decided starting from the FY2022.			3,601	2,864	3,045	3,083
Gasoline Tax (National)	1954	All	24.3 yen/liter	48.6 yen/liter	48.6 yen/liter	27,299	19,990	20,180	19,760
Liquefied Petroleum Gas Tax (National)	1966	1/2 of Revenue	17.5 yen/kg	Not specified	Not specified	140	50	40	40
Local Gasoline Tax (Local)	1955	All	4.4 yen/liter	5.2 yen/liter	5.2 yen/liter	2,998	2,139	2,159	2,114
Liquefied Petroleum Gas Transfer Tax (Local)	1966	1/2 of Revenue	Half is transferred to the national general revenue, and half to the general revenue of prefectures and designated cities			140	50	40	40
Light Oil Delivery Tax (Local)	1956	All	15.0 yen/liter	32.1 yen/liter	32.1 yen/liter	9,914	9,275	9,102	8,997
Total (billion yen)						53,657	38,148	38,586	38,104

※1 Total may not match to sum due to rounding off.
※2 The consumption tax is imposed as a national tax at the time of acquisition. The automobile tax is imposed as prefectural resident tax and the light vehicle tax is imposed as municipal inhabitant tax in the possession stage.
※3 Automobile acquisition tax was abolished from October 2019 and "environmental performance-based tax break" was introduced.

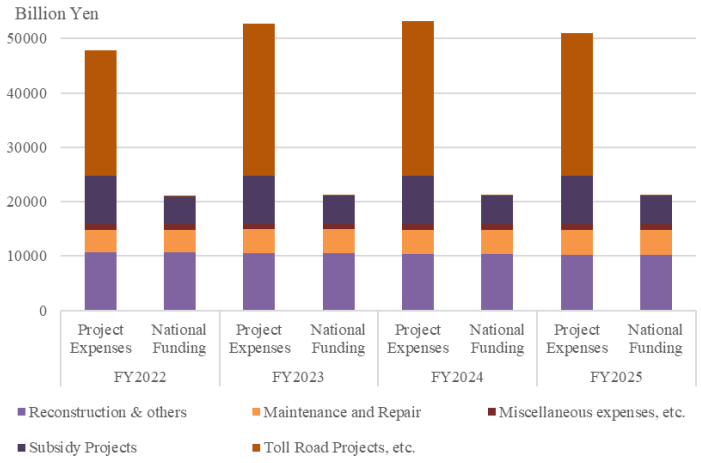
Data source: MOF, MIC, Japan Automobile Manufacturers Association, Inc.

Figure 1 Tax Revenue and Automobile-Related Taxes (FY2024)



Data source: MOF, General Account Budget, (Initial Budget) ; MIC, Revenue Estimates of Local Taxes and Local Transfer Taxes

Figure 2 Highway Budget in the last 4 Years

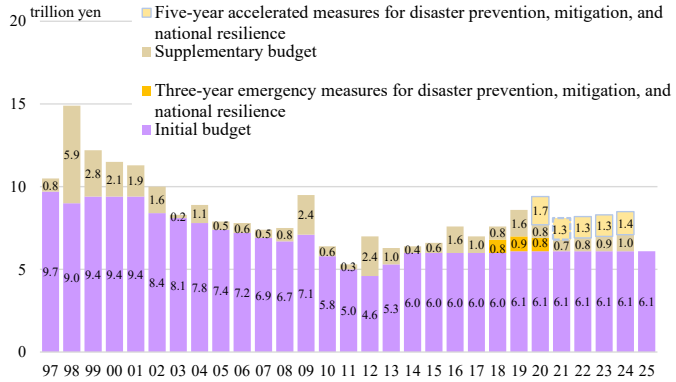


Note: In addition to the above, there are comprehensive grants for social infrastructure development and grants for disaster prevention and safety, which can be used for road construction in accordance with local requests.

Data source: MLIT, Road Bureau and City Bureau, Budget Summary

Figure 3 Highway Budget in the last 5 Years

■ Public works–related expenditure peaked at 14.9 trillion yen in FY1998 (including the supplementary budget). Thereafter, they had been on a long-term decline, but in recent years they have shown a slight increase due in part to special measures.



Note Based on the budget.

1. Totals may not match due to rounding.
2. FY2009 includes the impact of transferring the amount equivalent to the "Temporary Grant for Local Road Improvement" (682.5 billion yen) to the general account.
3. Does not include the amounts transferred to the "Regional Sovereignty Strategy Grant" in FY2011 and FY2012.
4. Includes the impact of the abolition of the Special Account for Social Infrastructure Improvement Projects from FY2014 onwards (6,167 billion yen).
5. The Five-Year Accelerated Program for Disaster Prevention, Mitigation, and National Resilience is funded through supplementary budgets. In addition, the FY2023 supplementary budget includes an Emergency Response Framework for National Resilience (300 billion yen), and the FY2024 supplementary budget further includes an Emergency Disaster Prevention Framework (250 billion yen).
6. Budget amounts for FY2021 and FY2022 reflect the reallocation of the lump-sum appropriation for the Digital Agency from public works expenses to administrative expenses.
7. The FY2023 budget amount reflects the reallocation of the Subsidy for Seismic Retrofitting of Basic Infrastructure from administrative expenses to public works expenses.
8. The FY2024 supplementary budget includes projects financed by GX Economic Transition Bonds.

Data source: MLIT, Road Bureau and City Bureau, Budget Summary

Figure 5 Extension of the Repayment Period of Expressway Debt

■ A law amending part of the Special Measures Act on Road Development and the Act on the Japan Expressway Holding and Debt Repayment Agency (JEHDRA) was promulgated and enforced in June 2023. Through enhanced inspections, serious damage was discovered, making it necessary to implement "renewal projects aimed at fundamental performance restoration." Consequently, the toll collection period was extended.

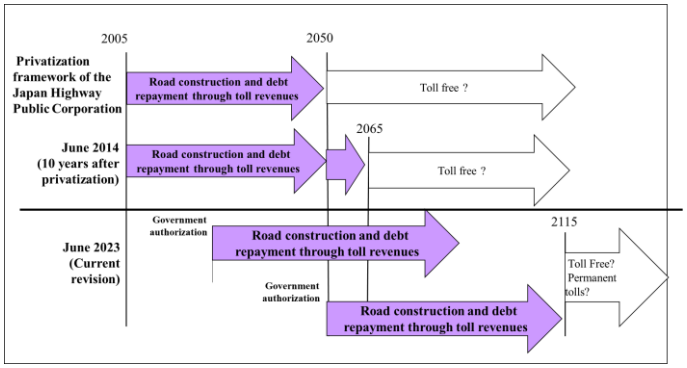
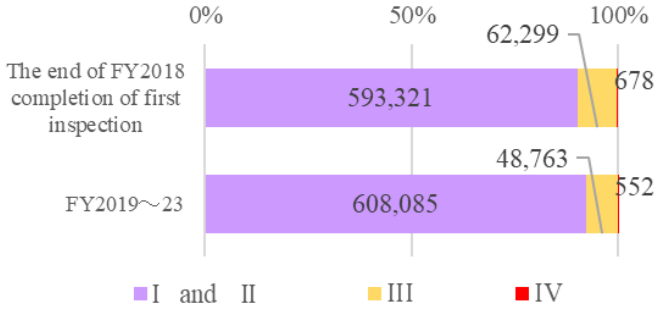


Figure 4 National Inspection of Facilities

■ Road facility inspections entered their second cycle in FY2019. Although the number of bridges requiring repair(category III and IV) has decreased, some bridges are being transferred to repair categories (III and IV). Therefore, it is estimated that it will take approximately 20 years to transition to preventive maintenance with the current budget.

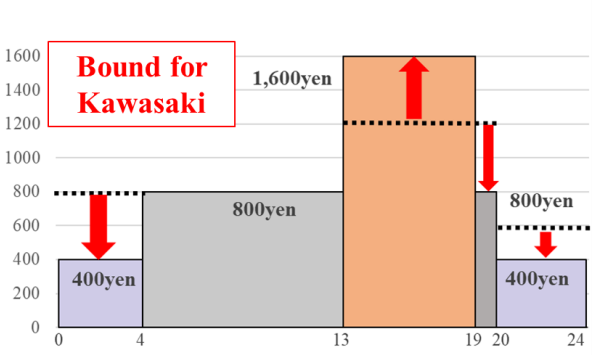


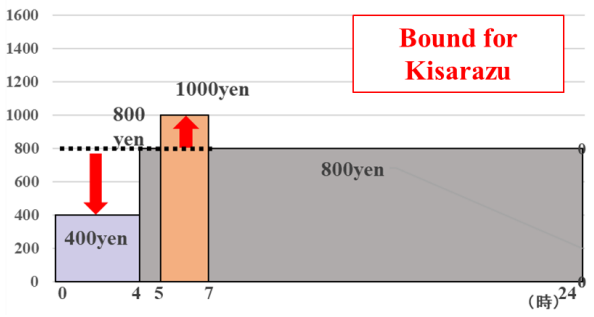
I：No Deterioration of the function of the structure
II：No Deterioration of the function of the structure, but action is required.
III：Deterioration of structural functions, requires repairs.
IV：Deterioration of structural functions, requires immediate repairs.

Data source: MLIT, Road Bureau and City Bureau, Budget Summary

Figure 6 Tokyo Bay Aqua-Line Time-Variable Toll Pilot Project

■ In July 2023, tolls were revised as part of congestion mitigation measures for the Tokyo Bay Aqua-Line. Starting in April 2025, tolls for traffic bound for Kawasaki, Kanagawa Prefecture were adjusted, while variable tolling was introduced for traffic bound for Kisarazu, Chiba Prefecture. As a result, the average daily traffic volume increased from 292,000 vehicles to 300,000 vehicles, and the average travel time decreased from 49 minutes to 44 minutes. (All figures are comparisons between the 2022 fiscal year and the 2023 fiscal year.)





1-9 Deployment of Automated Driving Technology

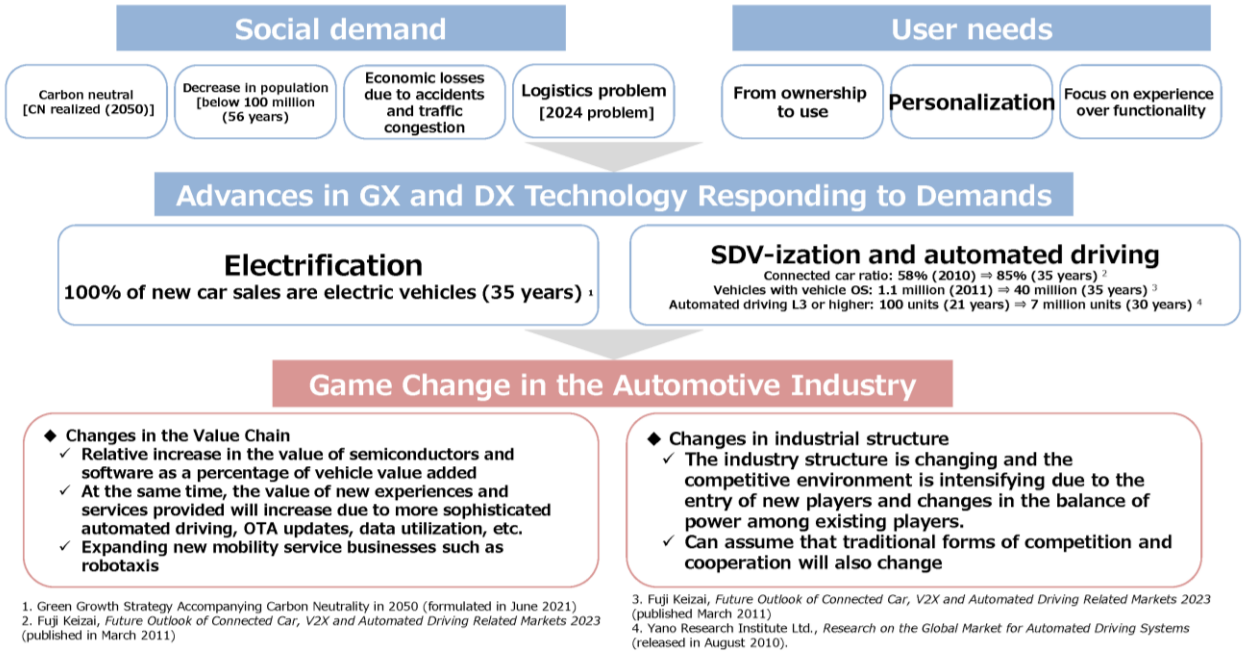
Project Professor, The University of Tokyo
Fumihiko Nakamura

Professor, Keiai University
Toshinori Nemoto

National Institute of Advanced Industrial Science and Technology
Naohisa Hashimoto

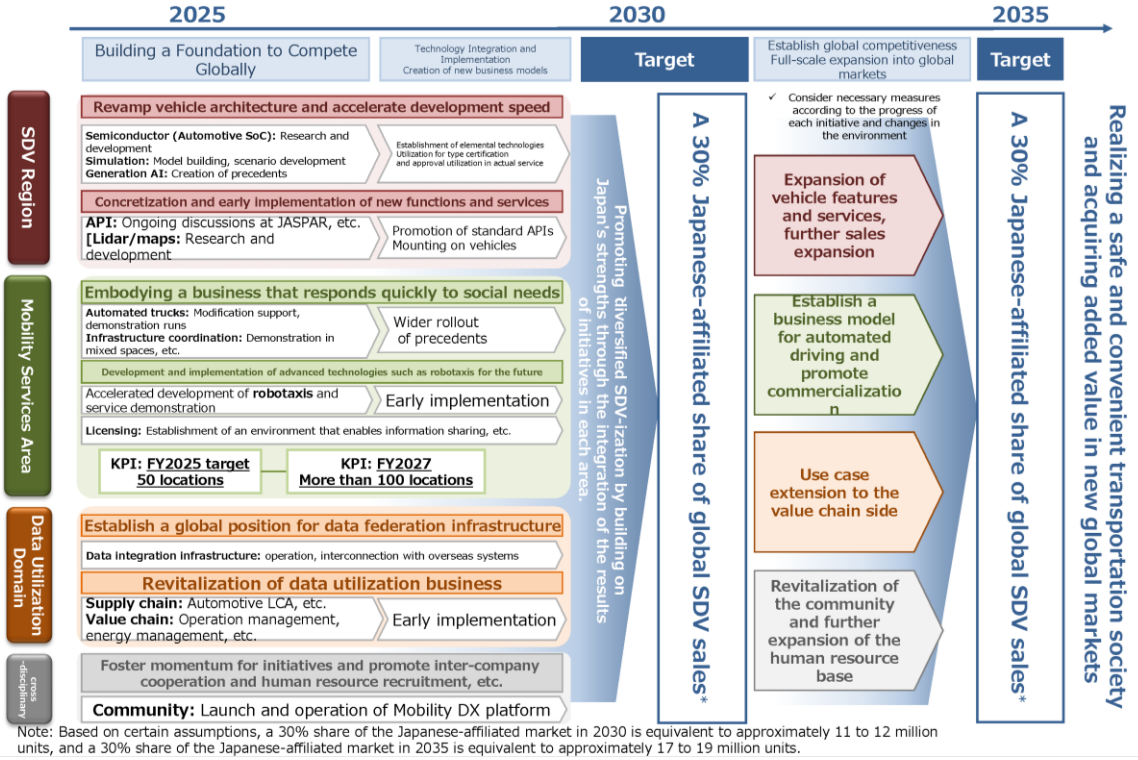
In Japan, activities promoting the societal implementation of autonomous driving technology are being advanced through the involvement of the Digital Agency, the Ministry of Economy, Trade and Industry (METI), the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Ministry of Internal Affairs and Communications (MIC), and the National Police Agency. Central to this effort is the Mobility Roadmap managed by the Digital Agency.

Figure 1 Social and Technological Changes and the New Competitive Environment



Source: METI

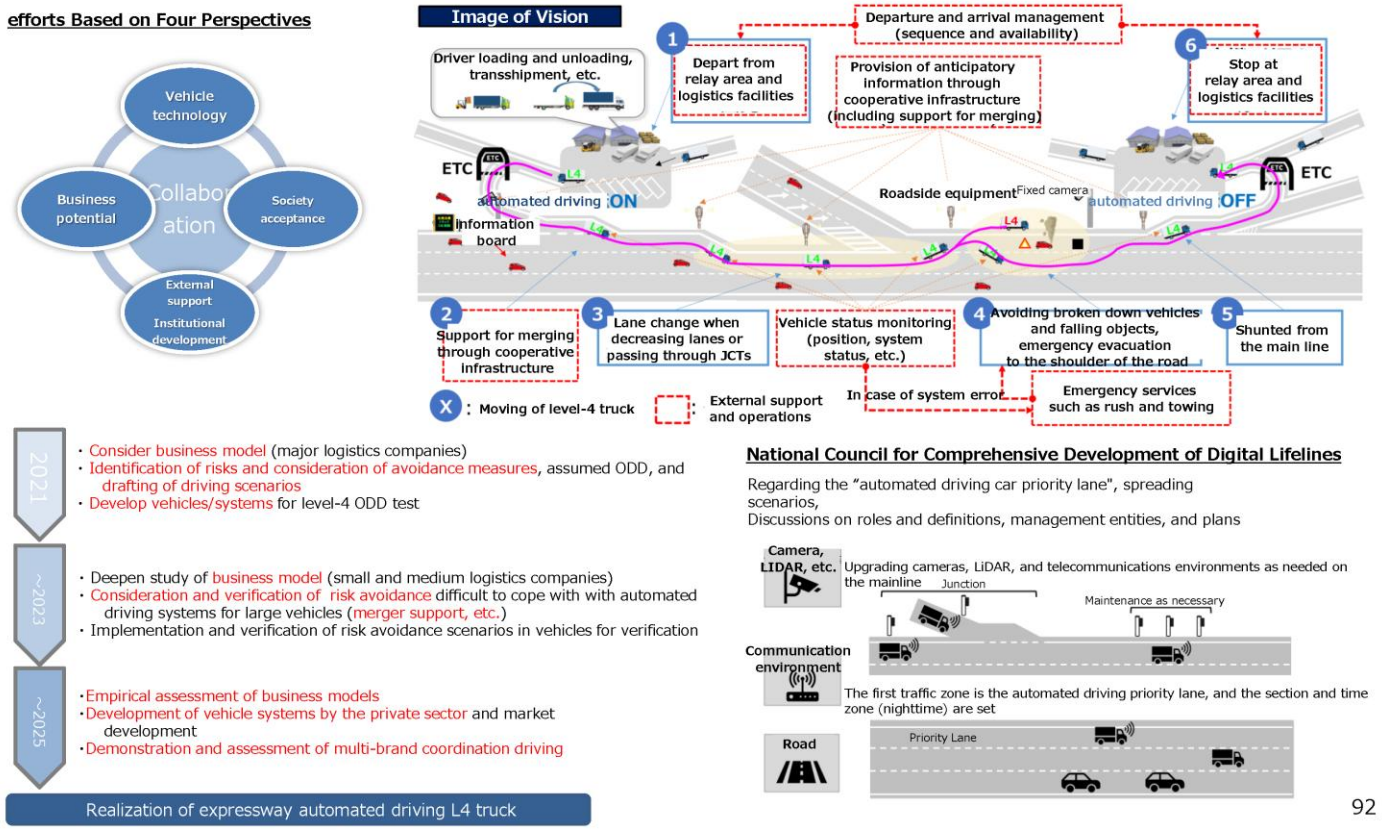
Figure 2 Roadmap for Mobility DX Strategy



Note: Based on certain assumptions, a 30% share of the Japanese-affiliated market in 2030 is equivalent to approximately 11 to 12 million units, and a 30% share of the Japanese-affiliated market in 2035 is equivalent to approximately 17 to 19 million units.

Source: METI

Figure 3 Social Implementation of toward Automated Drive L4 Trucks



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Source: METI

Figure 4 Efforts to develop Automated Driving Services in all Prefectures

- In order to realize unmanned automated driving mobility services nationwide by fiscal 2025, it is necessary to develop an environment in which local governments, businesses, and related administrative agencies work together to support local efforts.
- For this reason, "Level 4 mobility Regional Committee" will be established jointly with local governments with the aim of supporting the commercialization of automated driving in all prefectures.

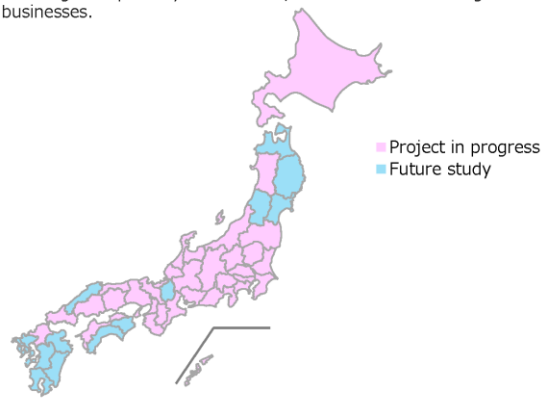
Issues for developing automated Driving Services

1 Fostering the acceptance of the region

Amid a variety of regional characteristics, such as depopulated areas and urban areas, it is necessary to increase the acceptance of local communities with the cooperation of local governments.

2 Ensuring Transparency and Fairness in Audit Procedures

it is necessary for national local institutions and local administrative agencies to promptly proceed with procedures such as licensing, while ensuring transparency and fairness, based on the technological level of businesses.



Toward level 4

"Level 4 mobility Regional Committee" Establishment

■ The "Level 4 mobility Regional Committee" will be established jointly with local governments to ensure the transparency and fairness of audit procedures while fostering acceptance of the regions by closely coordinating local governments, businesses, and relate administrative agencies.

<Members>

○Local governments
○Business operator
Operational entity
Vehicle provider
○Relevant administrative agencies
・Local Transport Bureau
・Regional development bureau
・Regional Bureaus of Economy, Trade and Industry
・Prefectural Police, etc.

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Source: METI

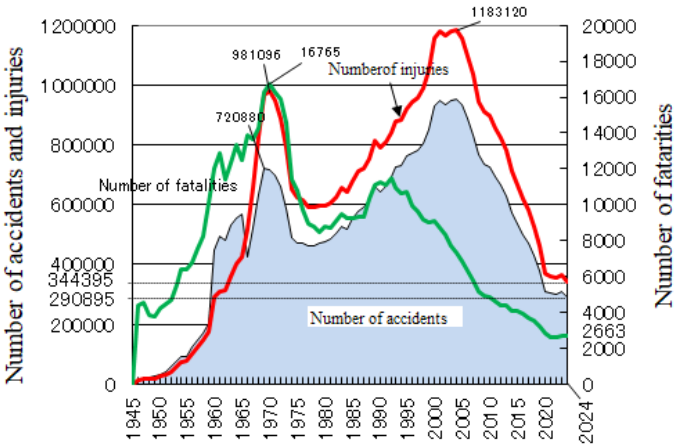
2-1 Trends and Present Situation of Road Traffic Accidents

Professor, Okayama University
Seiji Hashimoto

Looking at the 2024 traffic accident data, the number of traffic accident fatalities, the number of traffic accident injuries, and the number of traffic accidents all reached their lowest levels since 1970. Accidents have decreased rapidly since around the year 2000. Significant contributions to this decline include the strengthening of emergency and trauma care systems, stricter penalties for drunk driving, mandatory seatbelt use, and the full-scale introduction of doctor helicopters, alongside improvements in road infrastructure and advances in vehicle safety technology. The increased adoption rate of high-performance headlights is one such measure, demonstrating effectiveness in reducing nighttime accidents. However, the target set in the 11th Basic Plan for Traffic Safety – "to achieve the world's safest road traffic and reduce the number of fatalities to 2,000 or fewer per year" – has not been met.

Figure 1 Changes in the numbers of fatalities and injuries from traffic accidents, and changes in the number of accidents

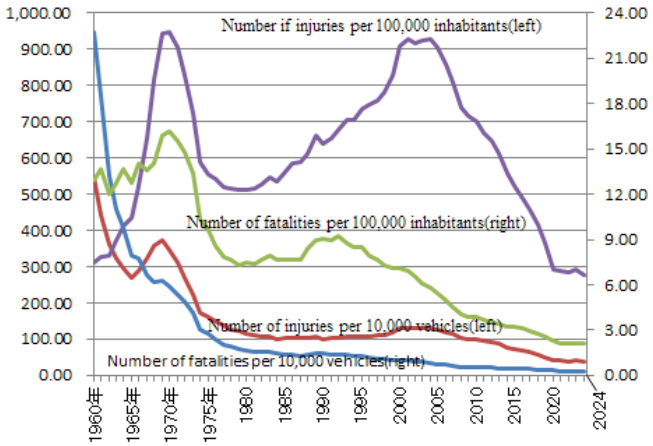
■ The number of fatalities has remained below one-sixth of the all-time high recorded in 1970 for four consecutive years, while the total number of casualties has also decreased to about one-third of the peak reached in 2004.



Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

Figure 2 Changes in the numbers of fatalities and injuries from traffic accidents, by the number of inhabitants and vehicles

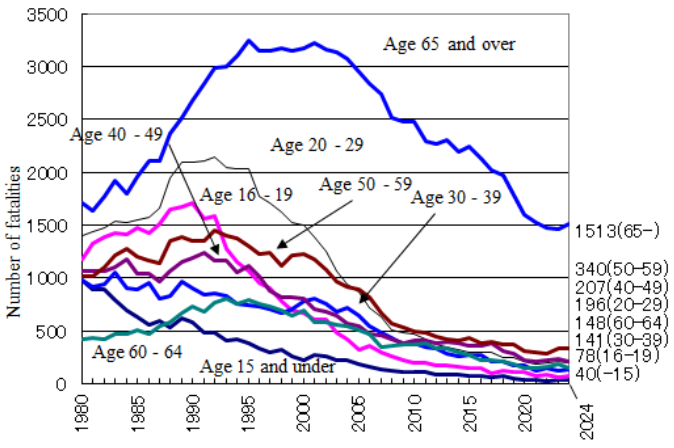
■ The number of fatalities and injuries per 10,000 vehicles remains stable at a low level, and the number of injuries per 100,000 population also remains low.



Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

Figure 3 Changes in number of fatalities by age group

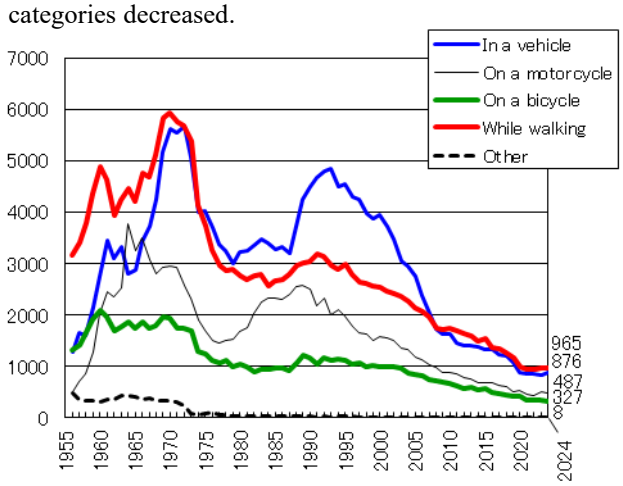
■ The number of deaths among the elderly (aged 65 and over) has become relatively high. In 2024, the elderly aged 65 and over accounted for 57% of the total.



Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

Figure 4 Changes in the number of traffic fatalities

■ Since 2008, pedestrian fatalities have consistently accounted for the largest share of total fatalities. In 2024, fatalities while riding in a vehicle increased, but all other categories decreased.

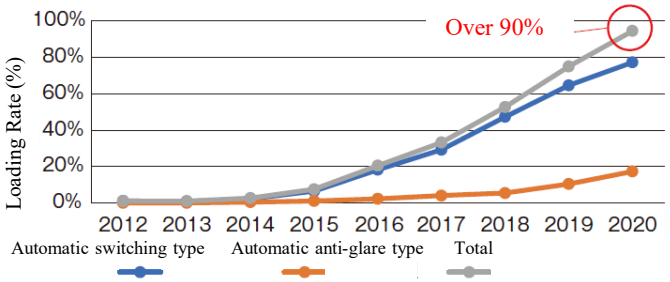


Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

□ When driving at night, it is standard practice to use high beams. However, when approaching oncoming or preceding vehicles, it is necessary to switch to low beams. In recent years, there has been a sharp increase in new vehicles equipped with advanced headlights that perform this adjustment automatically. This has contributed to a reduction in pedestrian fatalities during nighttime accidents.

Figure 5 Trend in Installation Rate of High-Performance Headlights in New Vehicles

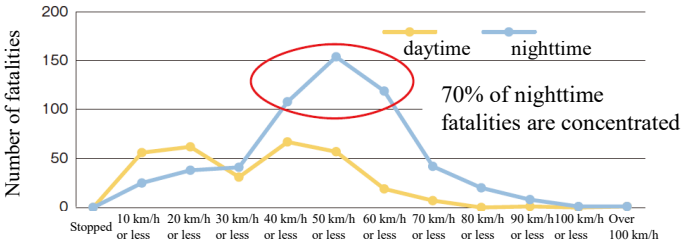
■ Over 90% of new vehicles are equipped with advanced headlights (automatic switching type or automatic anti-glare type) that automatically switch between high beam and low beam.



Source : Institute for Traffic Accident Research and Data Analysis, ITARDA INFORMATION No.147

Figure 6 Pedestrian Fatalities by Time of Day and Perceived Speed of Danger (2022)

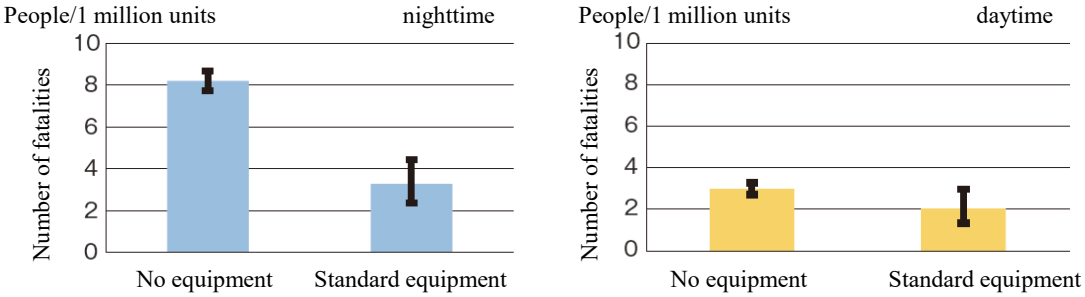
■ 70% of nighttime fatal accidents occur at speeds between 40 km/h and 60 km/h. When driving with low beams, even if a pedestrian 40 meters ahead is detected as the light begins to illuminate them, reaching the pedestrian's position takes 3.6 seconds at 40 km/h and a mere 2.4 seconds at 60 km/h. This delay in detection leads to accidents.



Source : Institute for Traffic Accident Research and Data Analysis, ITARDA INFORMATION No.147

Figure 7 Pedestrian-Vehicle Fatalities per Million Registered Vehicles in Pedestrian-Vehicle Fatal Accidents (2019-2022)

■ The number of fatalities per 1 million registered vehicles is compared between vehicles without high-performance headlights and those with standard equipment, separated by nighttime (left graph) and daytime (right graph). At night, standard equipment clearly results in fewer fatalities compared to vehicles without it. During the day, the confidence intervals overlap, indicating a difference, but not a statistically significant one (the black vertical bars in the graph represent the 95% confidence interval). Vehicles without the equipment tend to be older models and often lack collision mitigation braking systems (AEB). Since no significant difference is observed during daytime, the nighttime difference is likely attributable to the presence or absence of high-performance headlights.



Source: Institute for Traffic Accident Research and Data Analysis, ITARDA INFORMATION No.147

Table 1 Traffic Fatalities by Circumstance in Various Countries

situation / Country	Number of fatalities	In a car	On a motorcycle	On a bicycle	While walking	Other
Germany (2023)	2,839	1,192 42.0%	550 19.4%	446 15.7%	437 15.4%	214 7.5%
France (2023)	3,167	1,512 47.7%	706 22.3%	221 7.0%	439 13.9%	289 9.1%
Netherland (2023)	608	200 32.9%	79 13.0%	208 34.2%	73 12.0%	48 7.9%
U.K. (2023)	1,695	756 44.6%	328 19.4%	89 5.3%	425 25.1%	97 5.7%
U.S.A. (2022)	42,514	12,691 29.9%	6,218 14.6%	1,105 2.6%	7,661 18.0%	14,839 34.9%
South Korea (2023)	2,551	483 18.9%	556 21.8%	160 6.3%	886 34.7%	466 18.3%
Japan (2023)	3,263	639 19.6%	595 18.2%	500 15.3%	1,211 37.1%	318 9.7%

Note 1: According to the International Road Traffic Accident Database (IRTAD).
Note 2: The top row shows the number of deaths, and the bottom row shows the percentage composition.
Note 3: Countries multiplying by a coefficient to convert to deaths within 30 days may have discrepancies between the total value and the sum of the breakdown.

Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

Table 2 Traffic Fatalities by Age Group in Each Country

age / Country	Number of fatalities	5 and under	6-14	15-17	18-24	25-64	65 and over	Unknown
Germany (2023)	2,839	13 0.5%	31 1.1%	70 2.5%	272 9.6%	1,379 48.6%	1,071 37.7%	3 0.1%
France (2023)	3,167	19 0.6%	48 1.5%	98 3.1%	497 15.7%	1,618 51.1%	887 28.0%	0 0.0%
Netherlands (2023)	608	4 0.7%	16 2.6%	19 3.1%	66 10.9%	234 38.5%	266 43.8%	3 0.5%
U.K. (2023)	1,695	9 0.5%	37 2.2%	61 3.6%	246 14.5%	874 51.6%	468 27.6%	0 0.0%
U.S.A. (2022)	42,514	415 1.0%	714 1.7%	1,134 2.7%	5,619 13.2%	26,461 62.2%	7,971 18.7%	200 0.5%
South Korea (2023)	2,551	6 0.2%	12 0.5%	27 1.1%	88 3.4%	1,177 46.1%	1,240 48.6%	1 0.0%
Japan (2023)	3,263	18 0.6%	28 0.9%	33 1.0%	200 6.1%	1,113 34.1%	1,871 57.3%	0 0.0%

Note 1: According to the International Road Traffic Accident Database (IRTAD).
Note 2: The top row shows the number of deaths, and the bottom row shows the percentage composition.
Note 3: Countries multiplying by a coefficient to convert to deaths within 30 days may have discrepancies between the total value and the sum of the breakdown.

Source: Institute for Traffic Accident Research and Data Analysis, "Traffic Statistics"(2024)

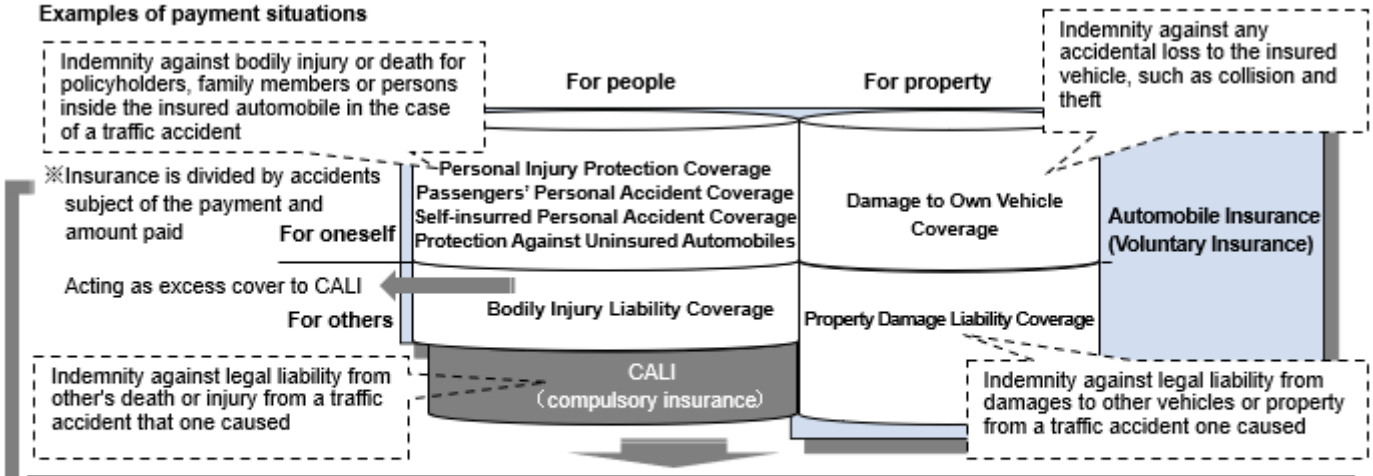
2-2 Automobile Insurance System In Japan

General Insurance Rating Organization of Japan
Makoto Kikegawa

Japan's automobile insurance system consists of two main components: Compulsory Automobile Liability Insurance (CALI) and Voluntary Automobile Insurance. CALI, mandated by law, provides basic indemnification for traffic accident victims. When the damages exceed CALI's coverage limits, Voluntary Automobile Insurance serves as an excess cover to compensate the shortfall. To ensure fair premium distribution among policyholders, voluntary insurance uses more detailed risk classifications, allowing premiums to be set appropriately based on individual risk levels.

Figure 1 Compulsory Automobile Liability Insurance (CALI) and Voluntary Automobile Insurance

■ Japan's automobile insurance system consists of Compulsory Automobile Liability Insurance (CALI), which provides indemnification for victims of accidents resulting in injury or death, and Voluntary Automobile Insurance, which acts as excess coverage for damages not compensated by CALI. Various voluntary insurance products are offered by combining different types of coverage to meet diverse needs.



A valid CALI certificate must be presented at each vehicle inspection which ensures that every automobile is insured by CALI (※1 compulsory insurance). Furthermore, it is stipulated that premium rates shall be as low as possible under ※2 no-loss, no-profit rule and CALI indemnifies within ※3 the limits of insurance.

※1 compulsory insurance
No automobile (including motorized bicycle) shall be operated without a contract for CALI.

※2 no-loss, no-profit rule
Under the Act, it is stipulated that premium rates shall be as low as possible within the range of compensating reasonable costs of insurance business under the efficient management.

※3 the limits of insurance
The limits of insurance currently in force are as follows.

Types of damage	The items of loss	The limits of insurance per victims
For bodily injury	- Hospital fees - Documentation fees - Loss of earnings due to absence from work - Damages for pain and suffering etc.	¥ 1.2 million
For permanent disability	- Loss of future earnings - Damages for pain and suffering etc.	¥750 thousand～40 million depending on the grade
For death	- Funeral expenses - Loss of future earnings - Damages for pain and suffering	¥ 30 million

	Accidents subject of the payment		Amount paid
	Accidents while being inside the automobile	Other accidents	
Personal Injury Protection Coverage	○ *		Actual amount of damage (calculate according to the standards under policy conditions)
Passengers' Personal Accident Coverage	○	×	Insured amount irrespective of actual amount of damage
Self-insured Personal Accident Coverage	○ (only self-insured personal accident)	×	Amount under policy conditions irrespective of actual amount of damage
Protection Against Uninsured Automobiles	○ * Will be paid only if -insured is killed or has sustained permanent disability -an automobile is not insured against bodily injury liability etc.		Amount in excess of CALI and Bodily Injury Liability Coverage within legal liability for an accident

＊Only "accidents while being inside the insured automobile" can be the subject of the payment depending on the contents of the contract.

Figure 2 Risk Classification for CALI and Voluntary Automobile Insurance

■ There are two types of risk classification. One is depending on characteristics and another is depending on coverage.

[CALI]

	Classification
Charac-teristics	Area (Ex. mainland, Okinawa, etc.)
	Vehicle Use & Type (Ex.passenger car, freight car, private car, business car, etc.)
Coverage	Term (Ex. 5 days, 1-37 months, 48 or 60 months depending on term of automobile inspection)

[Voluntary automobile insurance]

	Classification (Example＊)
Charac-teristics	Vehicle Use & Type (Ex.passenger car, freight car, private car, business car, etc.)
	Vehicle Model Code (17 classification depending on model code)
	New vehicle/ Old vehicle
	With AEB(Autonomous Emergency Braking)/ No AEB
	Main Driver's Age (Can be classified only when 26 years old or over)
	Bonus-Malus 20 grades according to claim history, the number of accidents, whether there was a contract previously Grade from 7 to 20 are divided into two, claim free and claim made
Coverage	Insured Amount, Deductible
	All ages / 21 years or over / 26 years or over (3 classifications depending on indemnified drivers' age) ※4
	the insured, and spouse / All drivers (2 classifications depending on the extent of indemnified drivers)

＊ It shows main classification of Reference Loss Cost Rates above, and insurance companies set their own classifications.

※ 4 Premium change depending on the age as it shows below. Premium for person of advanced age is quite high. The smaller coverage is, the lower premium is. Also, over 90% of drivers is 26 years or over.

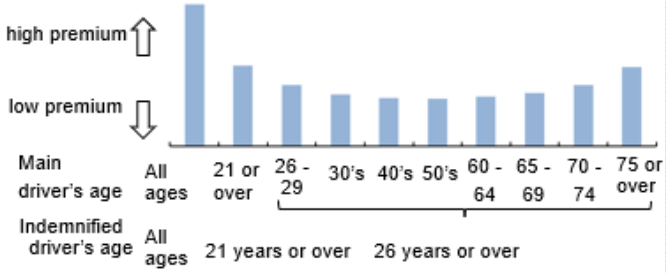


Table 1 Examples of Judicial Precedent for Large Amount of Compensation by traffic accident

■ Due to the existence of high-value compensation cases—both bodily injury and property damage—exceeding 100 million yen, the proportion of policyholders who choose unlimited coverage amounts is very high: 99.6% for Bodily Injury Liability and 96.5% for Property Damage Liability.

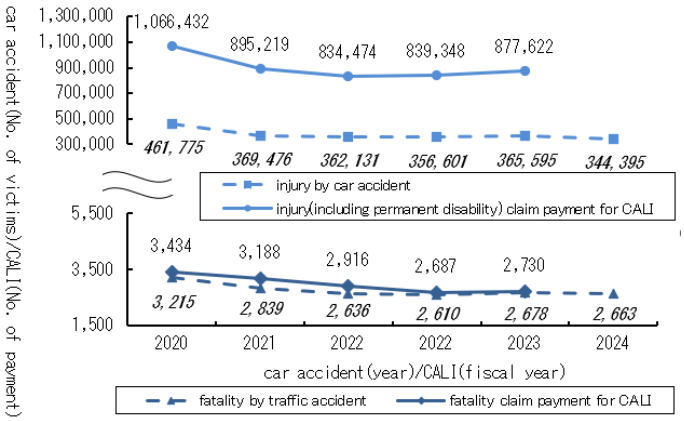
(Million yen)

Injury or death		Property damage	
Amount of damages	Date of judgment	Amount of damages	Date of judgment
¥528.53	1/11/2011	¥261.35	19/7/1994
¥453.81	30/3/2016	¥134.50	17/7/1996
¥453.75	18/7/2017	¥120.36	18/7/1980

Source: Disclosure document from General Insurance Rating Organization of Japan

Figure 3 Change in Number of Fatalities and Injuries by traffic Accidents and the Number of Payments for CALI

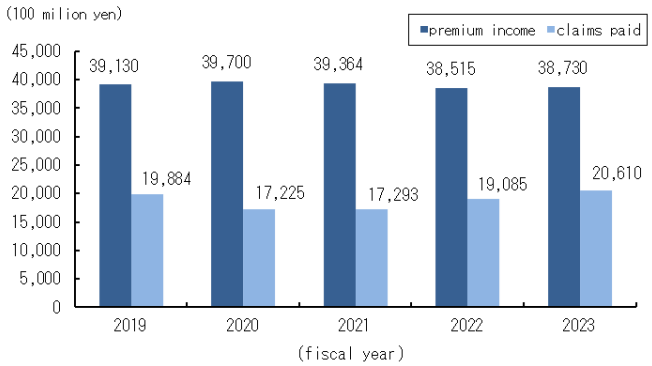
■ The number of fatalities and injuries has been generally decreasing in both traffic accidents and CALI claims



・Fiscal year represents the period starting on April 1 of the year and ending on March 31 of the following year

Source: Disclosure document from General Insurance Rating Organization of Japan and National Police Agency

Figure 4 The Change of the Premium Income and Claims Paid for Automobile Insurance (Voluntary Insurance)

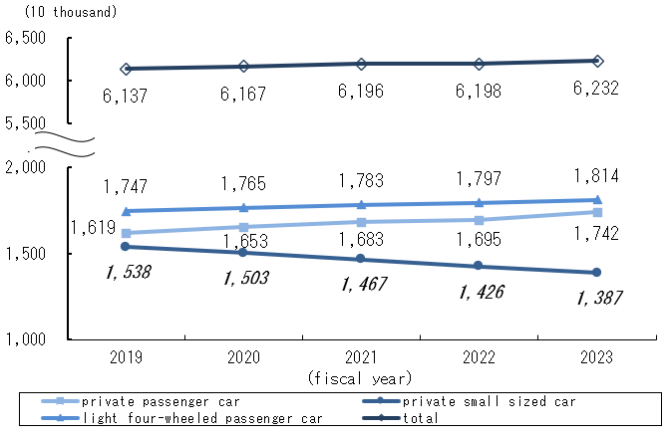


・Including expense loading in premium income

Source: Disclosure document from General Insurance Rating Organization of Japan

Figure 5 Change of the Number of Insured Cars for Voluntary Automobile Insurance (Bodily Injury Liability Coverage)

■ The total number of insured cars has increased, mainly due to growth in private passenger cars and light four-wheeled passenger cars.



・The total includes passenger cars, freight vehicles, taxis, buses, etc.

Source: Disclosure document from General Insurance Rating Organization of Japan

2-3 Traffic Safety Program

Professor, Akita University
Hidekatsu Hamaoka

In order to reduce traffic accidents, various measures have been implemented to date. As a result of these efforts, the number of traffic fatalities in Japan has been declining in recent years, falling below 3,000. At present, under the 11th Basic Traffic Safety Program, a goal has been set to reduce the number of fatalities within 24 hours to fewer than 2,000 by 2025, with the aim of achieving the world's safest road traffic. To this end, efforts are being made to enhance and strengthen various measures, including securing the safety of elderly people and pedestrians.

Table 1 11th Traffic Safety Basic Plan

■ On March 29, 2021, the 11th Basic Traffic Safety Program (FY2021–2025) was formulated at the Central Traffic Safety Measures Council.

Basic Philosophy of the 11th Basic Traffic Safety Program

○ In light of the need to appropriately address the progress of population aging and to realize a society that supports child-rearing, traffic safety initiatives that respond to the needs of the times are required.

○ With respect for human life as a guiding principle, we must remain mindful of the existence of traffic accident victims and others, while also considering the significant social and economic losses caused by traffic accidents. Ultimately, we aim to achieve a society free of traffic accidents.

○ For all forms of traffic, it is necessary to further ensure the safety of vulnerable road users, such as the elderly, persons with disabilities, and children. A society without traffic accidents is also one in which vulnerable road users can live independently. Based on the traffic safety philosophy of "putting people first," every policy measure shall be promoted.

○ We will work toward building a society in which people can move about safely even in old age, enjoy traveling with peace of mind, and lead fulfilling lives. Furthermore, we will create an inclusive society where everyone can live safely and securely, regardless of age or the presence of disabilities.

Source: Cabinet Office

Table 2 Revision of the Traffic Rules

■ On April 15, 2021, the traffic regulations were revised with the aim of improving safety when crossing roads without traffic signals, among other purposes.

Chapter 2, Section 3 (Excerpt)

When Crossing at Locations without Traffic Signals

○ If there are no safe crossing facilities nearby, such as pedestrian overpasses or underpasses, look for a spot where the road can be clearly seen.

○ Stop at the edge of the sidewalk or road and carefully look to the right and left to check whether any vehicles are approaching. Pay particular attention to vehicles coming from the left, as they may appear far away but could reach you while you are crossing.

○ If a vehicle is approaching, wait until it passes. Then, check again to the right and left to make sure no other vehicles are coming.

○ If no vehicles are approaching, begin crossing promptly. If a vehicle has stopped for you, pay attention to other vehicles and confirm it is safe before starting to cross. Do not cross diagonally or run.

○ When crossing, clearly signal your intention to drivers, for example by raising your hand.

○ Even while crossing, remain aware of approaching vehicles. Be careful, as other vehicles may suddenly appear from behind stopped cars.

Source: National Police Agency

Figure 1 Obligation for Bicycle Users to Make Efforts to Wear Helmets

■ Until now, it was required to make efforts to ensure that children and infants wear helmets when riding on bicycles. However, from April 2023, all bicycle users are obliged to make efforts to wear helmets while riding.

Source: National Police Agency

Table 3 Effort to Install Bicycle Safety Measures

■ Due to the continued failure of bicycle users to comply with traffic regulations, the Central Traffic Safety Measures Council decided on November 1, 2022, to implement the following measures.

○ Efforts shall be made to promote public awareness and education regarding bicycle traffic rules and the recent amendments to the Road Traffic Act. In addition, organizations shall ensure that their staff are thoroughly informed of the Bicycle Traffic Rules, etc., and provide strict guidance to ensure compliance.

○ At every possible opportunity—such as in traffic safety education conducted at schools, kindergartens, daycare centers, welfare facilities, and social education institutions, as well as in various training sessions attended by bicycle users—efforts shall be made to ensure thorough dissemination of the Bicycle Traffic Rules, etc.

○ Effective public awareness and education activities on the Bicycle Traffic Rules, etc., shall be carried out, including by requesting the cooperation of relevant organizations such as the Japan Bicycle Promotion Association and the Bicycle Association of Japan.

○ Instruction and enforcement against malicious and dangerous traffic law violations by bicycle users shall be strengthened, while activities to promote the safe use of bicycles shall be advanced in collaboration with community traffic safety promotion committees and other stakeholders.

○ Based on actual conditions of bicycle use and bicycle-related accidents, development of bicycle traffic spaces shall be promoted.

Source: National Police Agency

Table 4 Enforcement and Speed Regulations to Prevent Traffic Accidents

■ On December 26, 2013, based on more detailed traffic accident analyses, proposals were made to achieve more effective enforcement and to review the approach to speed limits and other measures that form the basis for traffic guidance and enforcement.

○ Common Understanding in Making the Proposals
○ On the Approach to Speed Regulations and Other Measures to Contribute to Traffic Accident Prevention
○ On the Approach to Enforcement Measures to Contribute to Traffic Accident Prevention
○ Matters to Further Promote in Future Traffic Accident Prevention Measures

Source: National Police Agency

Figure 2 Accident Prevention Measures for Foreign Rental Car Drivers

■ With the increase in inbound foreign tourists, accidents involving rental cars driven by foreign visitors have been on the rise. In Hokkaido, these accidents are thought to be caused by differences in traffic rules and drivers' unfamiliarity with snowy road conditions. Therefore, rental car companies provide safety warnings when vehicles are rented out.

Source: JAF Sapporo

Figure 3 Traffic Safety Measures Utilizing Big Data

■ In considering traffic safety measures, analyses of the risk of traffic accidents are conducted not only using traffic accident data but also utilizing big data such as ETC 2.0 probe data.

Source: White Paper on Traffic Safety

Figure 4 Prevention of Traffic Accidents on Expressways

■ On provisional two-lane roads, wire ropes have been installed as a measure against head-on collisions with oncoming straight-moving vehicles. At the same time, measures have also been implemented to reduce accidents involving contact with the wire ropes.

Status of Accidents Involving Contact with Wire Ropes

Trial Installation of Vehicle Guidance Lines
Source: Ministry of Land Infrastructure and Transport

Figure 5 Measures to Improve Pedestrian Safety

■ At unsignalized single-road intersections, pedestrian accidents are frequently observed. As a countermeasure, a two-stage crossing system with a traffic island in the center of the road has been introduced. This system is expected to make it easier for pedestrians to check for safety and to shorten the crossing distance.

Source: google map (Takashima-daira, Itabashi, Tokyo)

2-4 Efforts toward Traffic Calming

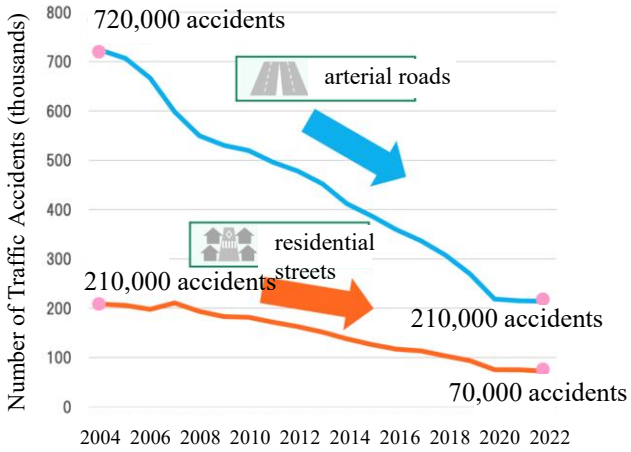
Professor, Okayama University
Seiji Hashimoto

Safety in residential areas is drawing increased attention. Regarding residential streets, in July 2024, the government approved a revised Road Traffic Act Enforcement Order in a cabinet meeting. This order limits the legal speed on narrow residential streets without center lines to 30 km/h. Accidents involving pedestrians and cyclists are relatively high on residential streets, and the accident rate per vehicle kilometer is also high. Therefore, the 30 km/h speed limit is expected to be effective. Furthermore, as a measure to ensure compliance with speed limits, “Zone 30 Plus” has been introduced. This initiative aims to enhance traffic safety by appropriately combining physical devices with the existing Zone 30 approach. Its implementation is progressing nationwide, and its effectiveness is anticipated.

□ The decline in traffic accident rates on residential streets has been smaller compared to arterial roads. Furthermore, when comparing residential streets to arterial roads on a per-kilometer basis, the accident rate per kilometer is approximately 2.4 times higher on residential streets, highlighting the need for speed reduction measures here. The planned reduction in the legal speed limit on residential streets, scheduled to take effect in September 2026, is anticipated to be an effective traffic safety measure for these streets.

Figure 1: Trends in Traffic Accident Counts by Road Type

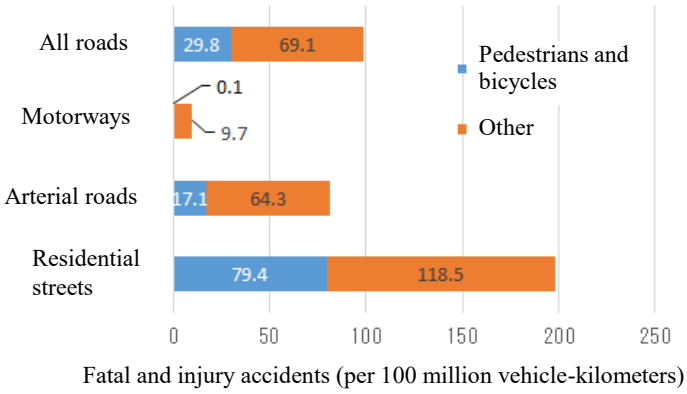
■ When roads with a width of less than 5.5 meters are counted as residential streets, the number of traffic accidents on residential streets is lower than that on arterial roads, but the rate of decrease is smaller.



Source: Ministry of Land, Infrastructure, Transport and Tourism

Figure 2: Comparison of Fatality and Injury Rates by Road Type (2009)

■ Although the data is somewhat outdated, the number of accidents (accident rate) occurring per unit distance traveled by vehicles is approximately 2.4 times higher on residential streets than on arterial roads.



Source: Ministry of Land, Infrastructure, Transport and Tourism

Figure 3: Changes to Legal Speed Limits on Residential Streets

■ With the enforcement of the amended Road Traffic Act Enforcement Order, the legal speed limit for vehicles on residential roads will be lowered from 60 km/h to 30 km/h in September 2026.

Source: Tokyo Metropolitan Police Department

Figure 4: Domestic Road Length by Speed Limit

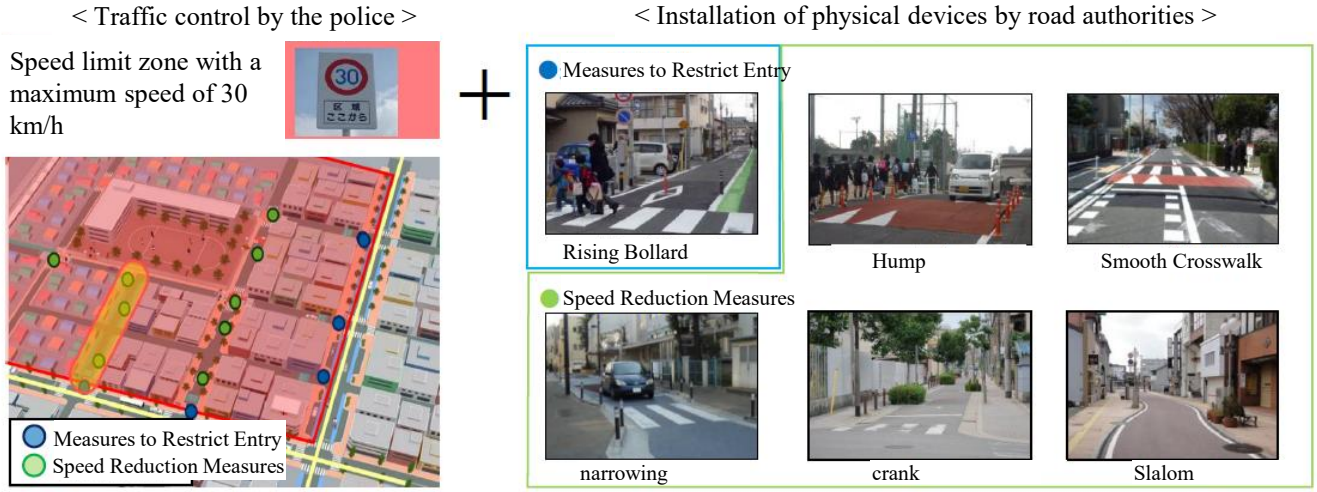
■ Currently, the speed limit on general roads is 60 km/h. However, a significant number of residential roads without center lines exist nationwide, and these are the targets for this speed limit change.

Expressway	
Maximum speed	80–120 km/h
total length	9,168 kilometers
General roads (excluding residential streets)	
Maximum speed	Unless otherwise specified, 60 km/h
total length	349,651 kilometers
Residential streets	
Maximum speed	Speed limit of 30 km/h in 2026
total length	871,569 kilometers

Source: Created from the Nikkei Asian Review (July 23, 2024)

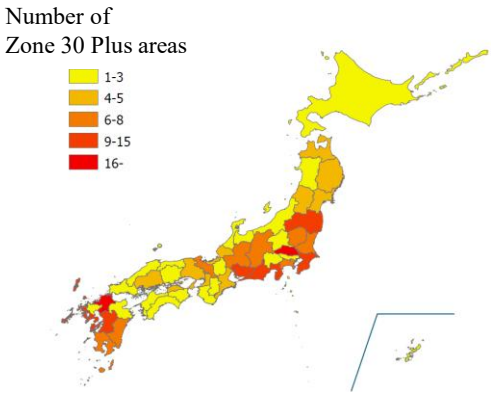
☐ The speed limit in residential areas will be changed, with residential roads now regulated at 30 km/h. This is expected to produce effects similar to those of the previous Zone 30 system. However, some point out that measures are needed to ensure compliance with the speed limit. Consequently, attention is turning to measures like "Zone 30 Plus," rising bollards, and smooth crosswalks. These aim to enhance traffic safety through an appropriate combination of 30 km/h zone regulations and physical devices.

Figure 5: Zone 30 Plus Concept



Source: Ministry of Land, Infrastructure, Transport and Tourism

Figure 6 Nationwide Zone 30 Plus Implementation Status (2025)



Source: Created from the Ministry of Land, Infrastructure, Transport and Tourism

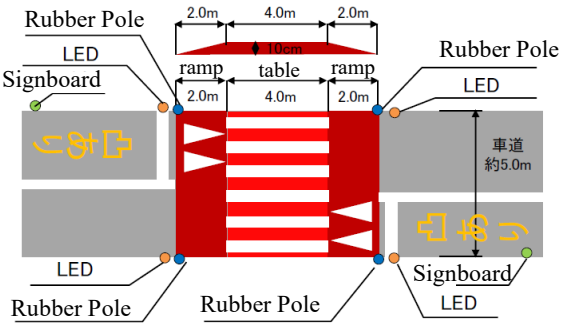
Figure 7 Rising Bollards in an Urban Area (Niigata City)

■ Rising bollards are expected to promote traffic safety by restricting access to authorized vehicles during permitted hours.

Photo by the author

Figure 8 Conceptual Image of Smooth Crosswalk

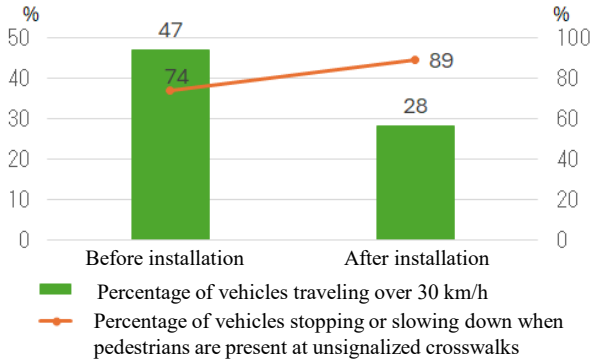
■ Smooth crosswalks are expected to slow vehicle speeds and enable pedestrians to cross safely by elevating the crosswalk to the same level as the sidewalk.



Source: Ministry of Land, Infrastructure, Transport and Tourism Kanto Regional Development Bureau

Figure 9 Effect of Smooth Crosswalks

■ The installation of smooth crosswalks reduced the proportion of vehicles traveling at speeds exceeding 30 km/h and increased the proportion of vehicles stopping when pedestrians were present at unsignalized crosswalks.



Source: Created from the Ministry of Land, Infrastructure, Transport and Tourism

2-5 Trends in Promoting Bicycle Use

Associate Professor, Osaka Metropolitan University
Nagahiro Yoshida

The 2017 “Bicycle Utilization Promotion Act” was enacted to reduce dependence on automobiles, followed by the 2021 “Second Bicycle Utilization Promotion Plan,” which guides local implementation and infrastructure expansion. In 2025, the “Guidelines for the Development of Bicycle Parking Facilities” were updated to address societal changes, such as the rise of electric micromobility and needs like short-term rentals. While the pandemic decreased national bicycle usage, the demand remains steady in major metropolitan areas. Regarding safety, the proportion of bicycle-related accidents is increasing, and public support for mandatory helmet laws in Japan remains lower than in other countries.

Table 1 Bicycle Policy

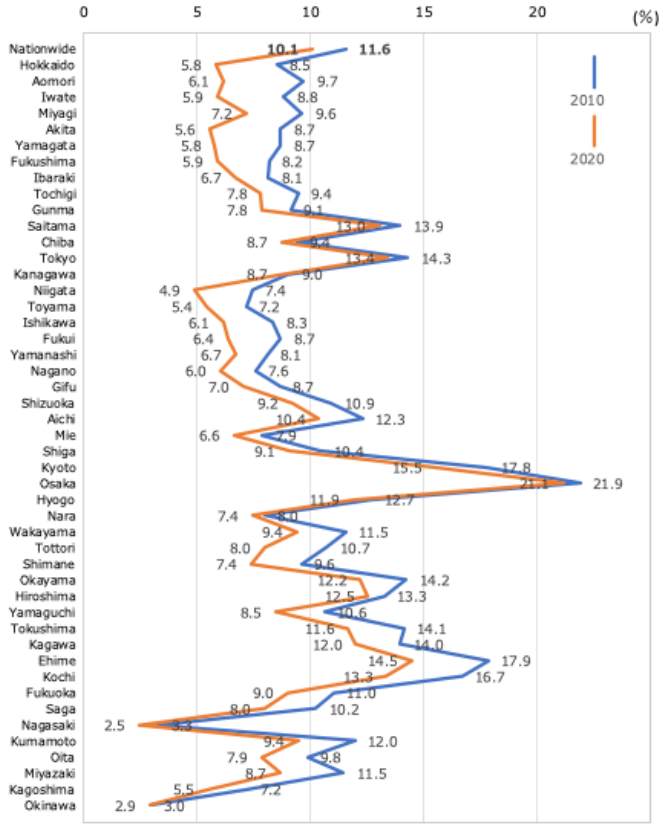
■ Revised in March 2025, the "Guidelines for the Development of Bicycle Parking Facilities" expanded on strategies for integrating bike-sharing with urban development. The update responds to recent societal shifts, including bicycle promotion initiatives, the emergence of new mobility options like specified small motorized bicycles, and changing user demands such as short-term rentals.

Year	Key Change
2007	**NPA/RTA**: Clarified conditions for bicycles to use sidewalks.
2008	**MLIT•NPA**: Designated 98 model districts nationwide for bicycle-friendly infrastructure.
2009	**MEXT**: Partial Amendment of the School Health Act, to mandated the creation of “School Safety Plans”.
2010	**MLIT/RMO**: Established a new category for "Bicycle Lanes".
2011	**MLIT/RMO**: Established a new sign for one-way restrictions for cyclists **NPA**: Notice on “Promotion of Comprehensive Measures for Achieving an Orderly Bicycle Traffic Environment”.
2012	**MLIT•NPA**: Formulated the “Guidelines for Creating a Safe and Comfortable Bicycle Use Environment,” introducing shared lane markings as an interim measure.
2013	**NPA•RTA**: Restricted bicycle traffic on roadside strips to one-way only.
2015	**NPA•RTA**: Established a mandatory training system for cyclists committing repeated violations, **JSTE:** Published an intersection design guide.
2016	**MLIT•NPA**: Revised the "Safe and Comfortable Bicycle Use”, **MLIT**: Revised “Guidelines for the Development of Bicycle Parking Facilities”.
2017	**MLIT**: Enacted the “Bicycle Utilization Promotion Act”, **MEXT**: Approved the ”First Second School Safety Plan".
2018	**Cabinet decision**: Approved the "First Bicycle Utilization Promotion Plan”, **METI**: Revised electric-assisted-bicycle certification standards.
2019	**RTA Ordinance:** Prohibited aggressive cycling, **MLIT/RSO**: Established new standards for bicycle lane and clarified requirements for bicycle track installation, **MLIT**: Created the National Cycle Route system, **PBU**: developed “A Guide for Introducing Bicycle Commuting”
2020	**JSTE:** Published a revised intersection design guide, **MLIT•NPA**: Amended to update the definition of a standard bicycle.
2021	**Cabinet decision**: Approved the "Second Bicycle Utilization Promotion Plan".
2022	**MEXT**: Approved the "Third School Safety Plan".
2023	**NPA/RTA**: Defined “Specified Small Motorized Bicycles” and their traffic rules, and make helmet use mandatory effort for bicycle users without age restrictions. **MLIT**: Issued “A Guide for Bicycle Trains/Buses” and “A Guide for Bicycle-Share Systems”.
2024	**NPA/RTA**: Established a traffic violation ticketing system for cyclists and a safe passing duty for motorists. **NPA•RTA**: Revised “A Guide for Introducing Bicycle Commuting”
2025	**MLIT**: Revised the "Guidelines for the Development of Bicycle Parking Facilities".

RTA: Road Traffic Act, **RSO**: Road Structure Ordinance, **RMO**: Road Signs and Markings Ordinance, **MLIT**: The Ministry of Land, Infrastructure, Transport and Tourism, **NPA**: the National Police Agency, **MEXT**: The Ministry of Education, Culture, Sports, Science and Technology, **METI**: The Ministry of Economy, Trade and Industry, **JSTE**: Japan Society of Traffic Engineers, **PBU**: Public-Private Partnership Council for Promoting Bicycle Utilization

Figure 1 Bicycle Commuting Trends

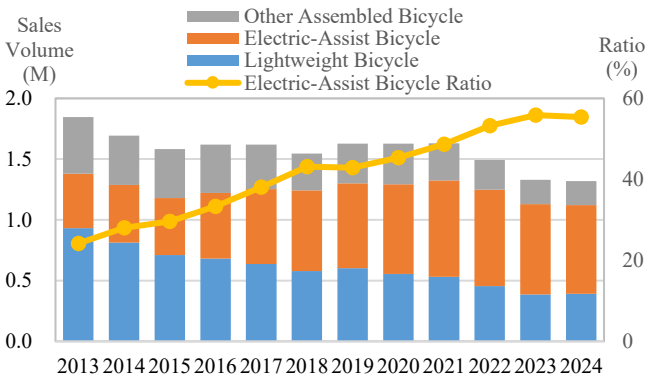
■ The modal share for bicycle commuting fell nationwide to 10.1% due to the pandemic, though the decline was less significant in major metropolitan areas like Tokyo and Kansai.



Source: Population Census (2010, 2020)

Figure 2 Bicycle Sales

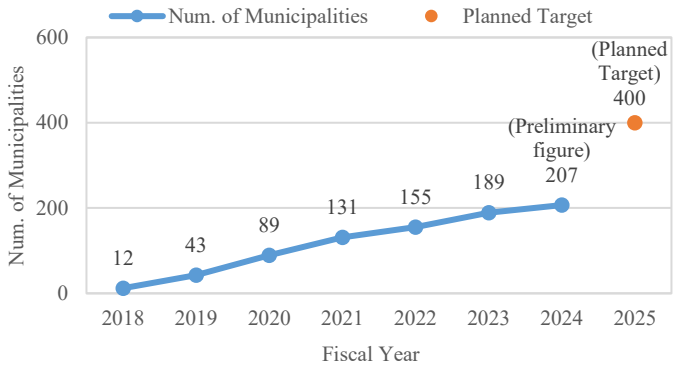
■ While total bicycle sales are decreasing, the market share of electric-assist bicycles is growing.



Source: METI(2024)

Figure 3 Progress on Promotion Plans

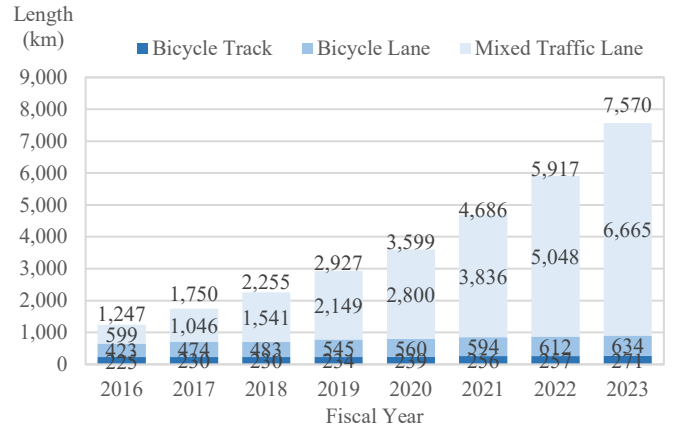
■ Only 207 municipalities have adopted promotion plans , falling short of the 2025 target of 400.



Source: MLIT (2025)

Figure 4 Infrastructure Development

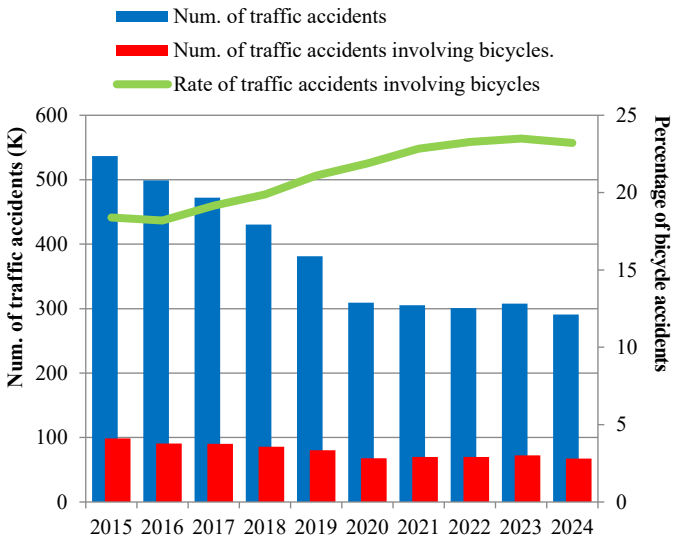
■ Bicycle infrastructure has expanded six-fold in seven years, reaching 7,570 km, primarily through on-road shared-lane markings (“Mixed traffic lane") rather than “Bicycle lane”.



Source: MLIT (2025)

Figure 5 Accident Statistics

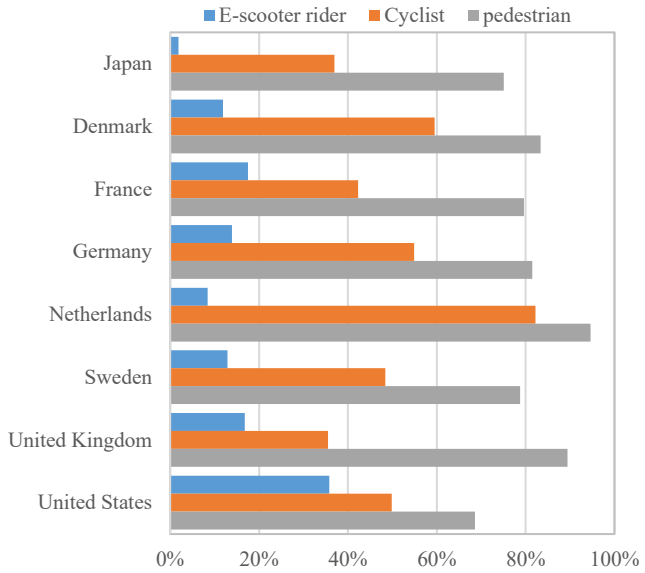
■ Though the number of bicycle accidents has stabilized, their proportion of all traffic accidents has increased, reaching 23.2% in 2025.



Source: NPA Bicycle related accidents etc.(2025)

Figure 6 International Comparison: Usage

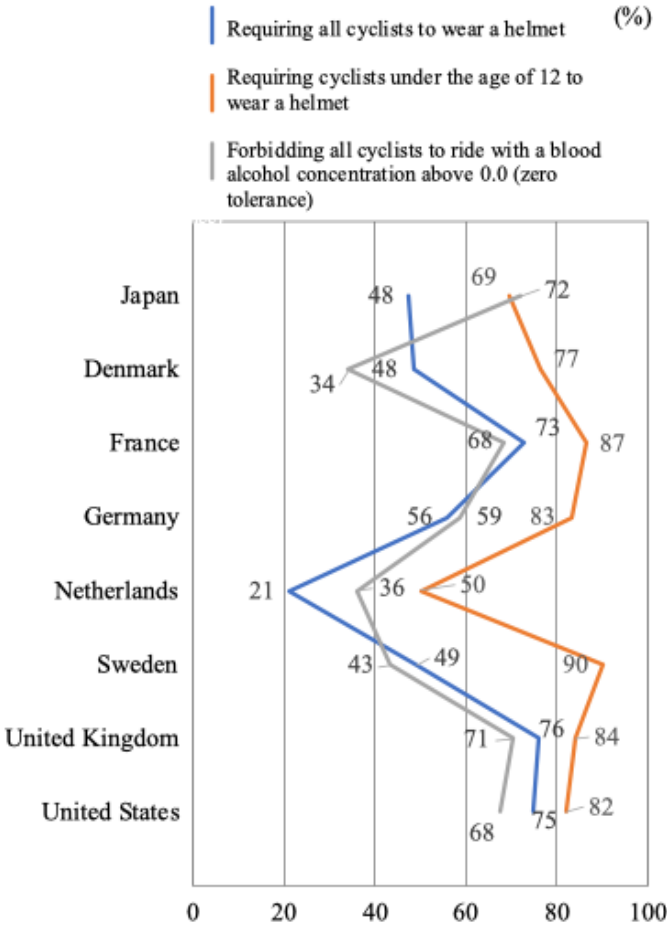
■ Self-reported data (use at least 2-3 days per month) indicates that cycling and walking rates in Japan are lower than in other surveyed countries. E-scooter usage is significantly more widespread in Europe and North America; in the United States, its usage rate is comparable to that of bicycles in Japan.



Source: ESRA3 (2023)

Figure 7 International Comparison: Support for policy measure

■ Compared to other countries, Japan has less public support for mandatory helmet laws.



Source: ESRA3 (2023)

2-6 Movements of Urban Parking Lot Policies

Professor, Nihon University
Masaharu Oosawa

In Japan, the Parking Lot Law was enacted in 1957. Since then, parking lots have been actively developed outside roadways. However, in recent years, in large cities where public transportation has developed, the supply of parking lots has exceeded demand. In such cities, parking lot management is necessary. The number of parking spaces required is being reviewed in accordance with parking demand. Parking policies have traditionally been formulated primarily from a transportation perspective, but land use considerations are also important. Parking policies are now being implemented in coordination with urban planning. In pedestrian-priority streets, efforts are being made to optimize the layout of parking lots.

Table 1 Parking Lots by Type and Actor under the Parking Lot Act (Nationwide)

■ The parking lot is maintained in accordance with the obligation to provide parking spaces attached to the building.

	Division	Parking lots	Rate	Year-on-year	Spaces	Rate	Year-on-year	Division: Parking lots					Division: Spaces				
								National and local governments	Municipalities	Investment organization	Tertiary sector	Private enterprise	National and local governments	Municipalities	Investment organization	Tertiary sector	Private enterprise
Cars	City planning parking lots	417	0.5%	-3.6%	107,280	1.9%	-3.7%	30	296	13	22	56	8,857	64,186	5,131	9,882	19,224
	Registered parking lots	10,059	11.0%	0.8%	1,953,940	34.8%	0.9%	210	1,231	77	197	8,344	76,301	231,790	16,328	57,794	1,571,727
	Mandatory attached parking facilities	81,142	88.6%	0.9%	3,553,085	63.3%	1.1%	968	1,284	305	295	78,290	80,806	93,762	21,606	43,323	3,313,588
	On-street parking lots	13	0.01%	0.0%	533	0.01%	0.0%	-	13	-	-	-	-	533	-	-	-
	Total	91,631	100%	0.9%	5,614,838	100%	0.9%	1,208	2,824	395	514	86,690	165,964	390,271	43,065	110,999	4,904,539
Motorcycles	City planning parking lots	122	3.7%	-10.7%	13,061	19.0%	-1.0%										
	Registered parking lots	496	15.1%	2.8%	37,485	54.6%	-0.7%										
	Mandatory attached parking facilities	2,656	81.1%	5.5%	18,111	26.4%	13.1%										
	Total	3,274	100%	4.5%	68,657	100%	2.9%										

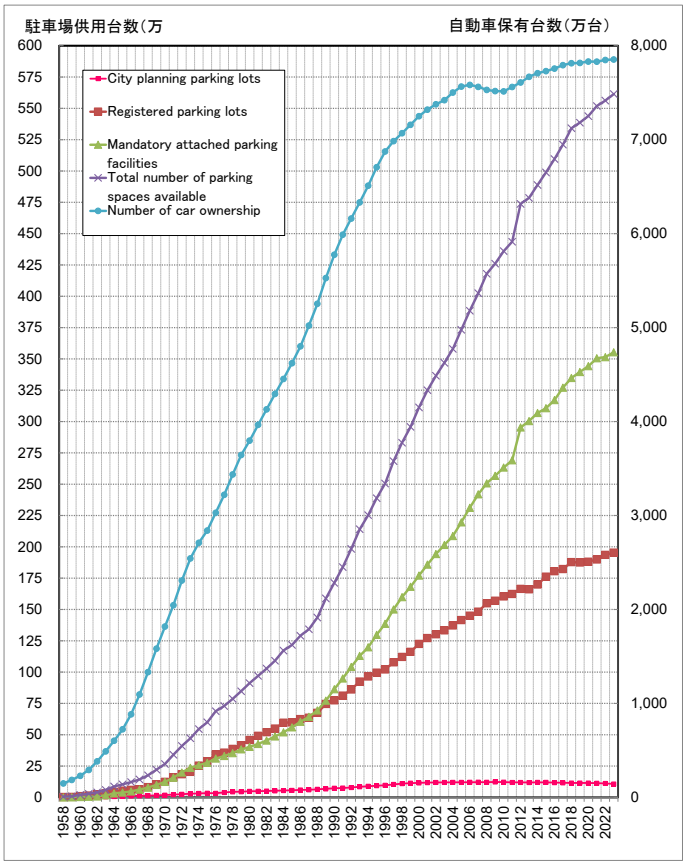
City planning parking lots : Parking lot specified in the city planning
Registered parking lots : Parking lot of more than 500㎡ and collecting fee in the city planning area
Mandatory attached parking facilities : Parking lot required by a regulation,when a building beyond the fixation scale is built and enlarged
On-street parking lots : Parking lot installed on the road surface in the zone to provide parking place

Note 1: Motorcycles parking lots = Total of motorcycle-only,motorcycle and car parking lots
Note 2: Investment organization = Only national and local governments
Note 3: Private enterprise = Excluding tertiary sector

Source: Created by the author using fiscal 2023 data from the 2023 Annual Report on Parking Lots (City Bureau, Ministry of Land, Infrastructure and Transport, 2024).

Figure 1 Nationwide Trend of Parking Spaces

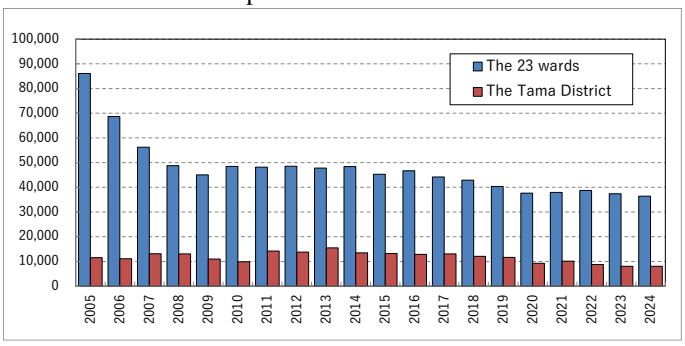
■ The number of parking spaces available has continued to increase. The number of parking spaces per 10,000 cars was 715 in 2023.



Source: Created by the author using fiscal 2019 data from the 2019 Annual Report on Parking Lots (City Bureau, Ministry of Land, Infrastructure and Transport, 2024).

Figure 2 Changes in the Momentary Number of Four-wheeled Vehicles Parked Illegally on the Streets in Tokyo

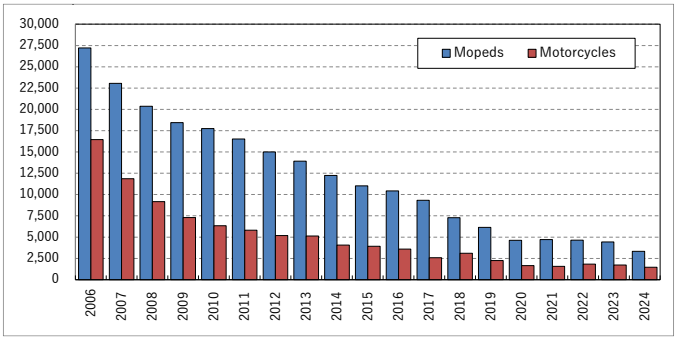
■ The number of cars parked on the streets has decreased.



Source: Created by the author using data from the Metropolitan Police Department.

Figure 3 Changes in the Momentary Number of Motorcycles Illegally Parked on Streets in the 23 Wards of Tokyo

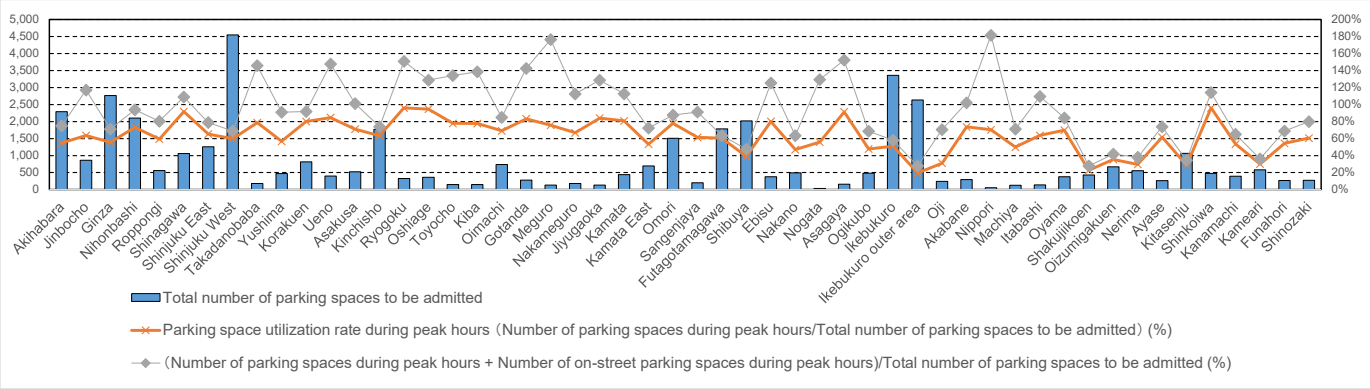
■ Illegal parking of motorcycles is also on the decline.



Source: Created by the author using data from the Metropolitan Police Department.

Figure 4 Parking Supply and Demand during Peak Hours in Tokyo 23 Wards

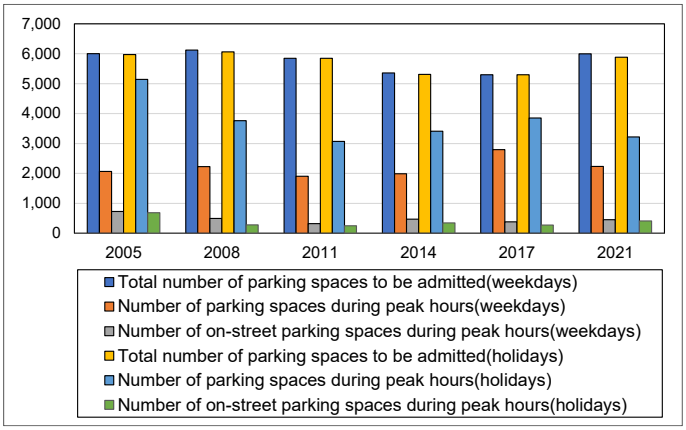
■ In many areas surrounding railway stations, the supply of parking spaces exceeds demand, even when including on-street parking demand, not only on weekdays but also on holidays.



Source: Created by the author using data from the 2021 Annual Report on Parking Lots (Tokyo Metropolitan Public Corporation for Road Improvement and Management, 2021).

Figure 5 Parking Supply and Demand during Peak Hours in Ikebukuro

■ At Ikebukuro Station, a sub-center of Tokyo, the supply of parking spaces has consistently exceeded demand.



Source: Created by the author using data from the 2021 Annual Report on Parking Lots (Tokyo Metropolitan Public Corporation for Road Improvement and Management, 2021).

Figure 6 Multi-level parking lots as evacuation sites during tsunamis

■ In the Great East Japan Earthquake, multi-level parking lots were used as evacuation sites.

Source: Proposal for a multi-level parking garage that contributes to disaster prevention and greening (Organization for Landscape and Urban Green Infrastructure)

Table 2 Building floor area per parking space in Ordinance-designated cities and the 23 wards of Tokyo

■ Installation standards vary depending on the region.

	Department store,Store (㎡)	Office (㎡)	Specific use (Excluding department store,store,office) (㎡)	Non-specific use (㎡)
Standard parking lot regulations	200	250	250	450
Sapporo	300	300	500	600
Sendai	350	350	550	900
Saitama	200	200	200	450
Chiba	250	250	250	350
The 23 wars	250	300	300	350
Yokohama	200	250	250	550
Kawasaki	300	350	350	600
Niigata	300	300	300	450
Sagamihara	200	250	–	–
Shizuoka	150	150	150	450
Hamamatsu	300	300	300	450
Nagoya	350	500	650	900
Kyoto	300	350	450	600
Osaka	350	350	350	450
Sakai	150	150	200	300
Kobe	200	350	350	550
Okayama	150	150	200	400
Hiroshima	150	250	250	450
Kitakyushu	300	300	300	450
Fukuoka	300	300	300	450
Kumamoto	600	600	600	900

Source: Created by the author using fiscal 2023 data from the 2023 Annual Report on Parking Lots (City Bureau, Ministry of Land, Infrastructure and Transport, 2025).

Table 3 Parking Lot Separation Distance Standards for Prefectural Capital

■ The Distance Standards are between 200m and 500m.

City	Distance (m)	Off-site ratio	City	Distance (m)	Off-site ratio	City	Distance (m)	Off-site ratio
Sapporo	350	3%	Niigata	200	18%	Okayama	200	15%
Aomori	200	5%	Toyama	200	6%	Hiroshima	300	1%
Morioka	200	4%	Kanazawa	200	3%	Yamaguchi	300	9%
Sendai	400	2%	Gifu	300	6%	Tokushima	200	14%
Akita	200	5%	Shizuoka	200	16%	Takamatsu	300	12%
Yamagata	200	10%	Hamamatsu	300	9%	Matsuyama	200	7%
Mito	200	23%	Nagoya	300	3%	Kochi	200	0%
Utsunomiya	200	8%	Tsu	200	5%	Fukuoka	300	3%
Maebashi	300	13%	Fukui	200	7%	Kitakyushu	200	2%
Saitama	300	5%	Kyoto	500	5%	Nagasaki	300	5%
Chiba	200	2%	Osaka	350	3%	Kumamoto	500	4%
Tokyo 23 wards	300	1%	Sakai	300	10%	Oita	300	7%
Yokohama	300	1%	Kobe	350	2%	Miyazaki	-	-
Kawasaki	300	2%	Nara	200	24%	Kagoshima	300	13%
Sagamihara	200	4%	Wakayama	200	12%	Naha	200	10%
Nagano	200	9%	Matsue	200	10%	The distance is approximate.		

Source: Created by the author using fiscal 2023 data from the 2023 Annual Report on Parking Lots (City Bureau, Ministry of Land, Infrastructure and Transport, 2025).

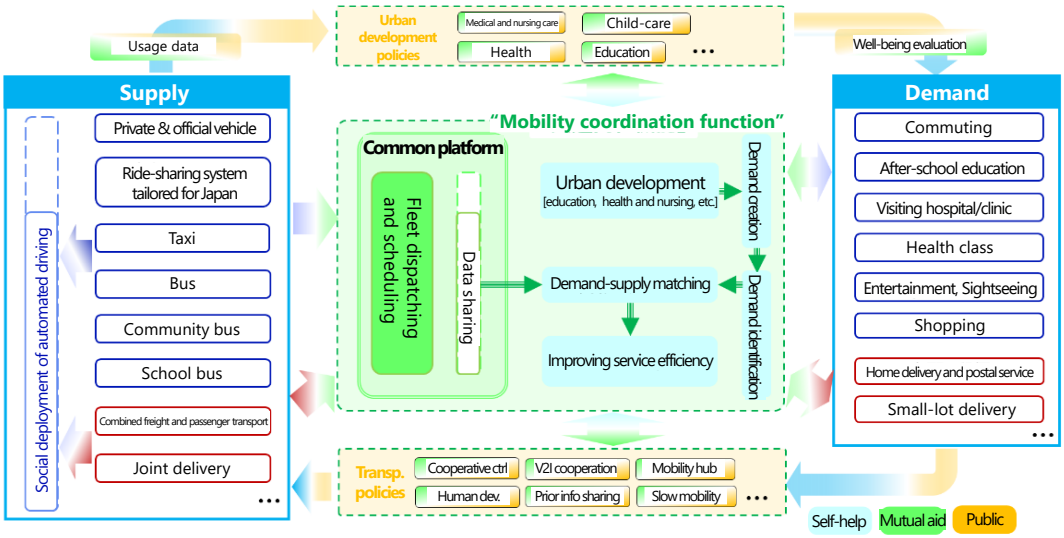
2-7 New Technologies, Trends & Initiatives

Project Associate Professor, The University of Tokyo **Azusa Toriumi**
Professor, The University of Tokyo **Takashi Oguchi**

In Japan, the “Vision for a Digital Garden City Nation” (2023 edition) set targets to implement unmanned automated mobility services in approx. 50 locations nationwide by FY2025, and over 100 locations by FY2027. Efforts are underway to realize Level 4 automated driving, which refers to fully automated driving under limited conditions. In 2024, the Digital Agency formulated the “Mobility Roadmap 2024” aimed at embracing new technologies that support local mobility such as automated vehicles. This roadmap has since been revised as “the Mobility Roadmap 2025”. Additionally, in 2023, the Cabinet Office launched the third phase of the Strategic Innovation Promotion Program (SIP), titled “Development of Smart Mobility Platform”, seeking to redefine mobility services, redesign the infrastructure, and developing the data platforms.

Figure 1 “Mobility Coordination Function” — bridging mobility demand and service supply

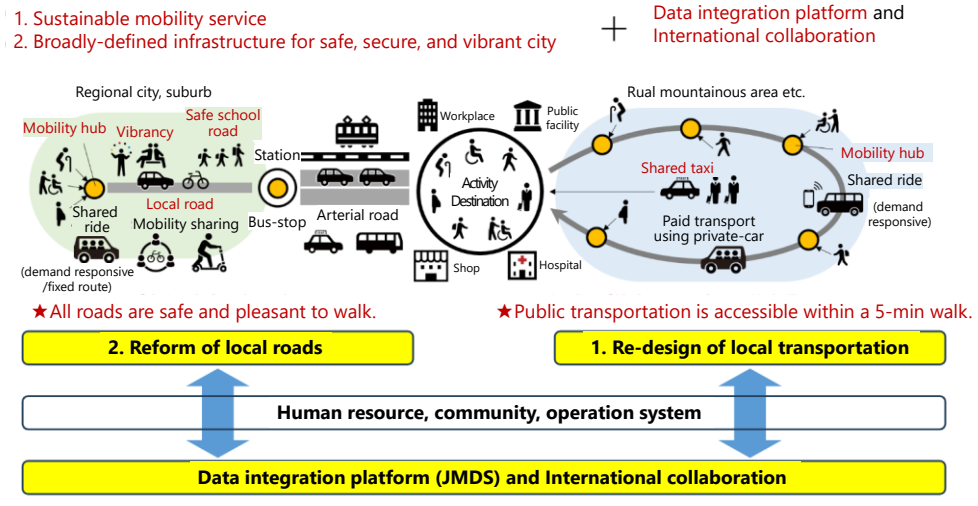
■ The Mobility Roadmap 2025 highlights the need for a function that identifies mobility demand—including currently unmet potential needs—and coordinates relevant service providers to deliver optimal mobility services using automated driving technologies in depopulating rural and suburban areas. This function is referred to as the “Mobility Coordination Function” in Figure 1.



Source: "Mobility Roadmap 2025" (translated by the authors)

Figure 2 Vision and key R&D areas under the “Development of Smart Mobility Platform” initiative

■ Since 2023, the third phase of SIP “Development of Smart Mobility Platform” has promoted R&D toward a society free from mobility divides, where people, goods, and services can travel freely, independently, safely, and comfortably in harmony with the environment and communities. The initiative focuses on redesigning mobility services, creating inclusive and enjoyable urban and road environments, and related efforts.

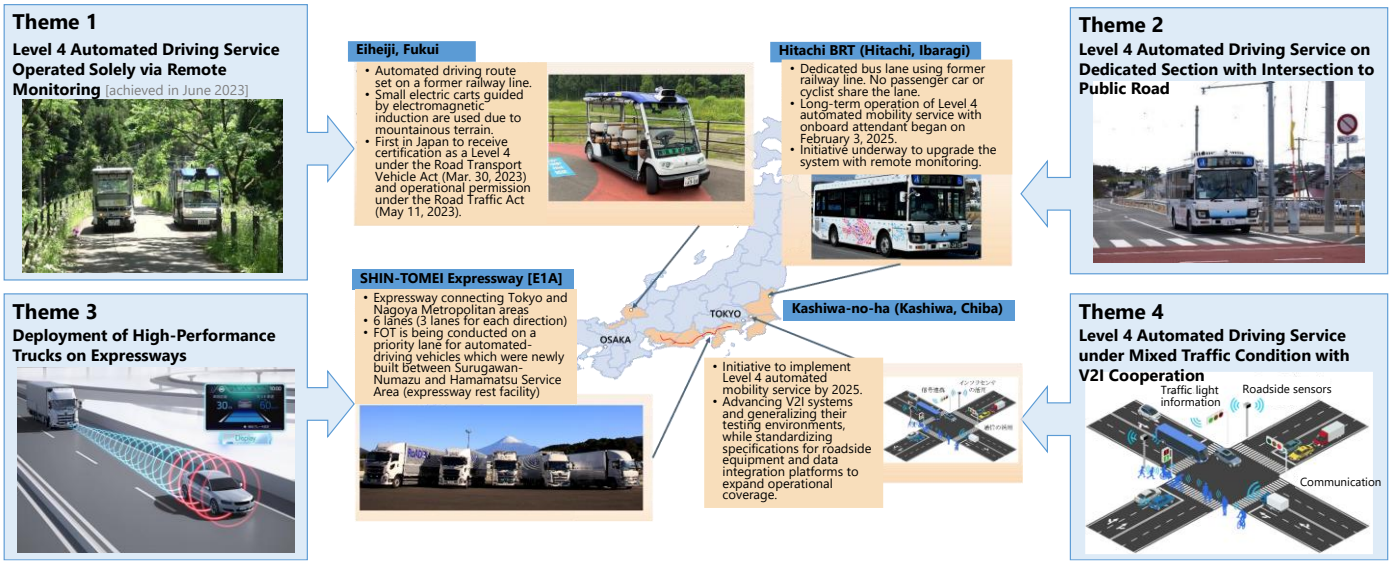


Source: Domestic symposium “Development of a Smart Mobility Platform” (translated by the authors)

□In FY2024, automated driving technologies have been tested in over 100 locations. As of the end of March 2025, Level 4 automated vehicles are operating year-round in five of these locations. Technical development and implementation efforts are ongoing to address challenges identified through these pilot programs and to expand operational areas and conditions.

Figure 3 "RoAD to the L4" — Project Topics and Pilot Sites

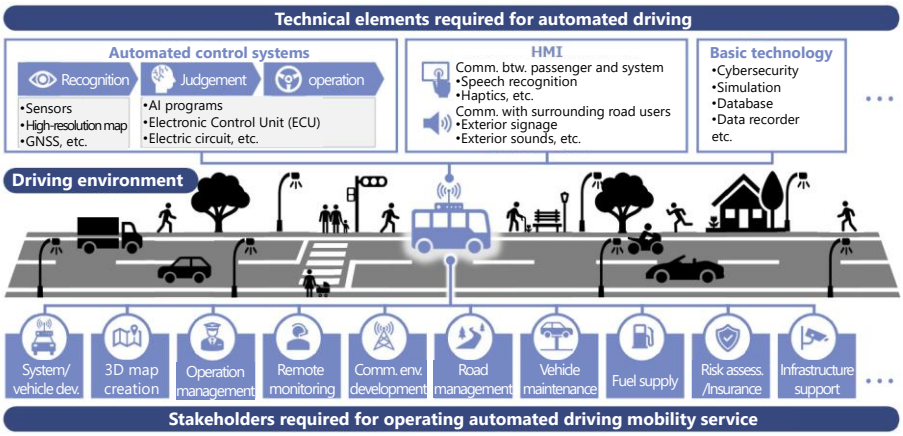
■From FY2021 to FY2025, METI and MLIT have been conducting a project called "RoAD to the L4" — the Project on Research, Development, Demonstration, and Deployment (RDD&D) of Automated Driving toward Level 4 and Enhanced Mobility Services.



Source: METI and MLIT ((1); (2)) (modified and translated by the authors)

Figure 4 Conceptual Image of Social Implementation of Automated Mobility Services

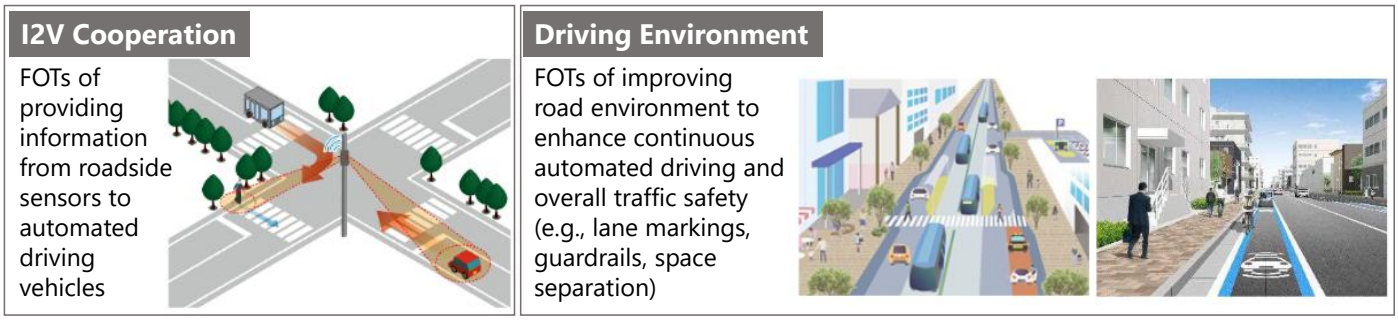
■In 2024, MLIT, METI, and NPA jointly published "the Guide for Social Implementation and Operationalization of Automated Mobility Services." It outlines the process for conducting field operational tests (FOT) using Level 2 automated vehicles (human-operated with automation under specific conditions) and explains the permits required for Level 4 implementation. The guide has been updated based on insights from pilot projects such as RoAD to the L4.



Source: "The Guide for Social Implementation and Operationalization of Automated Mobility Service" (translated by the authors)

Figure 5 FOTs on Infrastructure Support for Automated Driving on Public Roads

■MLIT is promoting FOTs on infrastructure support for Level 4 automated driving, including tests on infrastructure-vehicle cooperation using roadside sensors and road facilities needed for safe and smooth operation.



Source: MLIT (modified and translated by the authors)

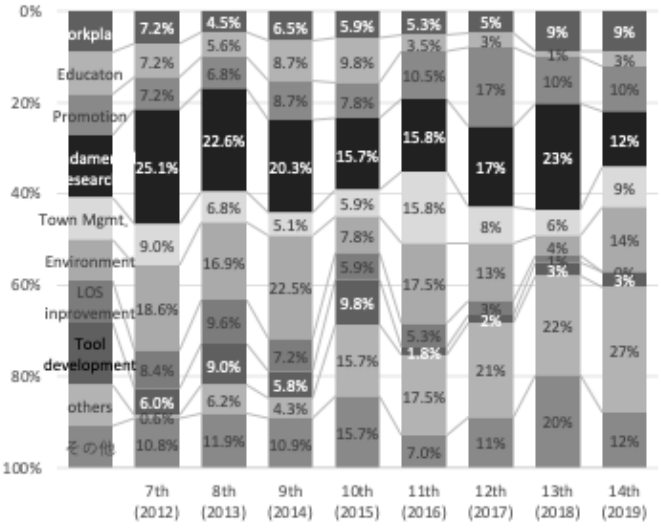
2-8 Recent Trends in TDM and Mobility Management Measures

Professor, National Institute of Technology, Kure college
Yusuke Kanda

Since the 1990s, Japan has implemented transport demand management (TDM), focusing on traffic facility/system development and pricing measures. In recent years, mobility management (MM), which emphasizes communication and influences individual awareness, has been carried out. Since the late 2000s, it has been promoted as a measure against congestion and to encourage public transport use. Recently, it has been applied to various issues in transport and urban development, and also developed as a communication measure to promote the introduction of new modes such as IT/IoT-based systems, automated driving, and AI on-demand transport. In addition, both the quantity and quality of data available for transport management have improved, and are increasingly reflected in MM policy.

Figure 1 Trends of MM Presentations in JCOMM

■ In the late 2000s, when MM began to be positioned in national and local policies and put into practice, many initiatives focused on promoting public transport use and targeting car users (residents and workplaces). Recently, however, reports have increased on fare-free days, mobility activation through hub development, and baseline analyses supported by improved data.



Source: Japanese Conference of Mobility Management (JCOMM)

Table 1 Session Topics of Recent JCOMM Conferences

■ In the discussions on MM in Japan, "strategy" and "subject" are continuously discussed, and recently, issues such as driver shortages, mobility deserts, and MM's role in cross-sector co-creation have been discussed.

FY	Special and Oral session titles of JCOMM
2022	•Redesigning People, Cities, Roads, and Mobility •Strategic Fare Setting, Mobility Management (MM), and the Regional Economy •New Technologies and Data
2023	•Next-Generation Transport Supporting Urban Axes •Key Points for Strengthening Transport Hubs •Rethinking Local Railways
2024	•Struggles in the Face of Regional Transport Crises •Urban Development through New Mobility and Transport Services •The Potential of Local Railways
2025	•Ensuring Mobility and Advancing MM through Cross-Sector Co-Creation •Envisioning the Future of Public Transport •Driver Shortages and the "Mobility Deserts"

Source: Japanese Conference of Mobility Management (JCOMM)

Table 2 Discussion of MM in ECOMM

■ The European Conference on Mobility Management (ECOMM), held annually in Europe, discusses issues such as the social implementation of new mobility options, including EVs, and their relationship with infrastructure development and policy. In recent years, the conference has also examined the potential of MM for creating better urban environments. Although the 2019 conference was scheduled to be held in Edinburgh, it was canceled.

■ The 2022 conference was held in person, with discussions focusing on changes in the use of urban and road spaces during the COVID-19 pandemic, as well as the application of data and digital technologies in MM.

■ Since 2023, the conference has not been held.

FY	Theme of ECOMM
2018	Mobility in disruption – fast-forward to smart and sustainable societies
2019	Cancelled
2020	New Mobility… New Governance… New Realities for People and Cities -
2021	Beginning of a New Era
2022	BE INSPIRED by…. sustainable mobility!

Source: European Conference of Mobility Management (ECOMM)

Figure 2 Fare-Free Public Transport Campaign

■ As a measure to promote the use of public transport, initiatives offering fare-free services on specific dates have been introduced across the country. In Fukuyama City, a campaign was launched in mid-December 2024 providing one week of free bus fares within the city. This initiative encouraged travel among people who normally seldom use buses, resulting in a significant increase in ridership.

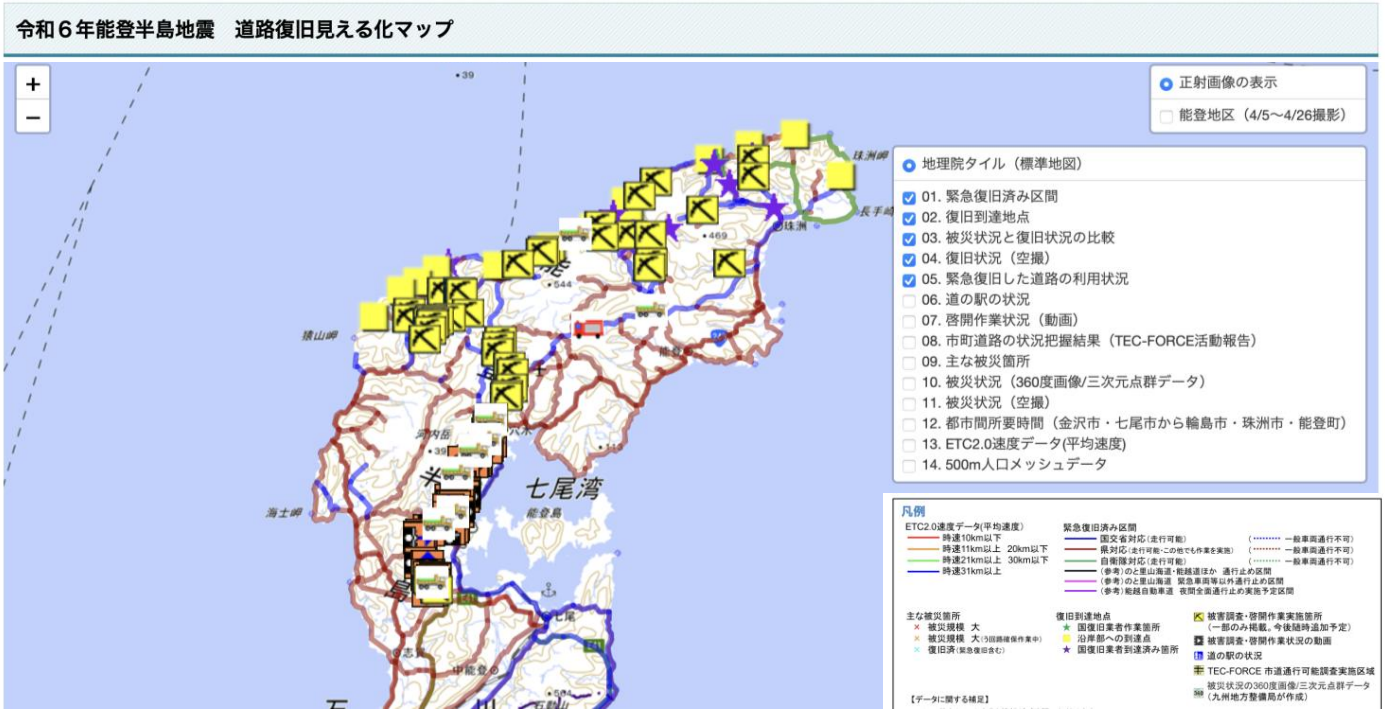
	Wed.	Thu.	Fri	Sat	Sun	Mon	Tue	Total
Before (A)	7,362	7,233	8,750	4,990	3,585	7,001	7,288	46,209
During (B)	9,708	11,241	12,303	8,476	7,539	11,641	12,286	73,194
B-A	2,346	4,008	3,553	3,486	3,954	4,640	4,998	26,985
B/A	1.3	1.6	1.4	1.7	2.1	1.7	1.7	1.6

Source: Fukuyama City Office (Hiroshima)

□ In the Noto Peninsula Earthquake that occurred in January 2024, road and railway networks were severely damaged, making travel to and from the affected areas extremely difficult. As recovery and reconstruction progressed, roads and public transport services gradually resumed. The information provided has also become increasingly detailed and sophisticated.

Figure 3 Road Transport Information Provision Under the Noto Peninsula Earthquake

■ After the earthquake, the Road Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) took the lead in establishing a Web-based GIS platform. This enabled centralized dissemination of information on road restoration status, service levels such as travel speed, and the progress of construction works.



Source: The Road Bureau of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

□ Volunteers from industry–government–academia collaborations, specializing in transport, also launched an information website to support access to data and mobility regarding the increasingly complex local public transport networks and their recovery status. This initiative continued the efforts initiated after the 2018 West Japan Heavy Rain Disaster, and has since provided ongoing information updates.

Figure 5 Public Transport Information Website for the Noto Peninsula Earthquake

Source: , Source: Noto Public Transport Information Study Group / Kanazawa Committee for the City and Transport (K.CAT) Website

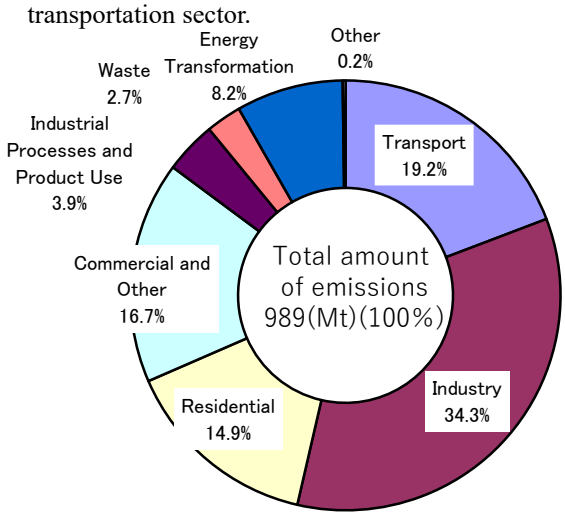
3-1 Mitigation of Climate Change

Professor, Institute of Science Tokyo
Yasunori Muromachi

Japan's greenhouse gas (GHG) emissions in fiscal year 2023 totaled 1.071 billion tons, a 4.0% decrease from fiscal year 2022 and a 23.3% decrease from fiscal year 2013. The transport sector's share of CO_2 emissions was 19.2%, a slight decrease from fiscal year 2022. In response to the Paris Agreement, a new Plan for Global Warming Countermeasures was announced, and Japan aims to reduce its GHG emissions by 60% and 73% from fiscal year 2013 levels by fiscal year 2035 and 2040, respectively. Among the measures and policies to achieve this goal, efforts in the transport sector include promotion of voluntary efforts by industry, measures concerning vehicles, road traffic flow measures among others.

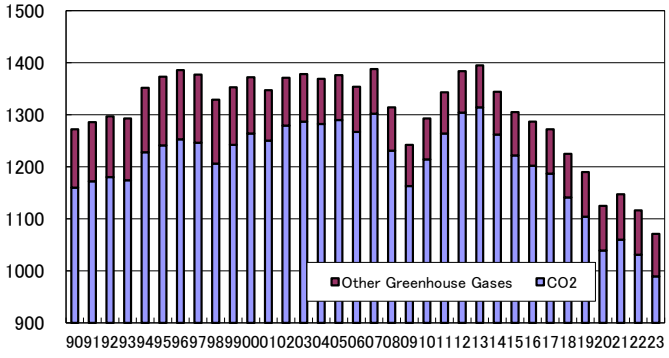
Figure 1 Breakdown of CO_2 Emissions by Sector (FY2023)

■ About 19.2% of the total emissions derived from the transportation sector.



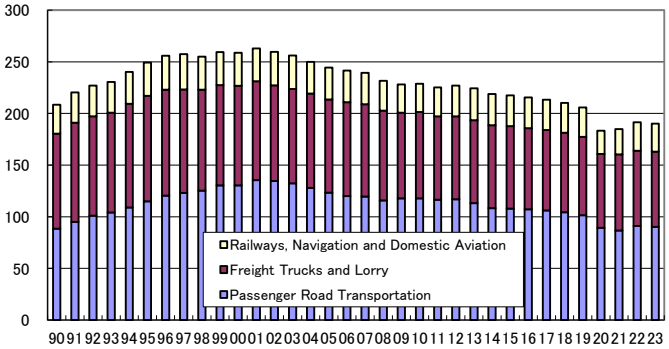
Source: Ministry of the Environment, 2025

Figure 2 Changes in the Amounts of Greenhouse Gas and CO_2 Emissions in Japan (Mt)



Source: Ministry of the Environment, 2025

Figure 3 Changes in the Amount of CO_2 Emitted from Transport Sector (Mt)



Source: National Institute for Environmental Studies, 2025

Table 1 Plan for Global Warming Countermeasures in 2025

■ Japan aims to reduce its GHG emissions by 46% in FY 2030, from its FY 2013 levels. Furthermore, Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emissions by 50%.

■ Japan also aims to reduce its GHG emissions by 60% in FY 2035 and by 73% in FY 2040, respectively, from its FY 2013 levels.

■ Countermeasures in transport sector for meeting the target include promotion of voluntary efforts by industry, measures concerning vehicles, road traffic flow measures among others.

(a) Promotion of voluntary efforts by industry
(b) Measures concerning vehicles
The aim is to achieve 100% of new car sales being electrified vehicles (EV, FCV, PHEV, and HV) by 2035. Also, with regard to commercial vehicles, for small-sized vehicles of eight tons or less, the aim is to make the ratio of electrified vehicles 20-30% of new commercial vehicles sales by 2030, and to make the ratio of electrified vehicles and decarbonized fuel vehicles, including synthetic fuels, etc., combined 100% of new commercial vehicles sales by 2040. Efforts aim to introduce 5,000 large commercial vehicles over eight tons as a trial in the 2020s, and will set an electrified vehicle promotion target for 2040 by 2030, based on the progress of initiatives to develop and promote technology intended to reduce the costs of hydrogen and e-fuels, etc.
The aim is to begin supplying low-carbon gasoline of up to 10% bioethanol by volume by FY 2030, and to pursue the supply of low-carbon gasoline of up to 20% bioethanol by volume from FY 2040, in order to advance low-carbonization and decarbonization of gasoline for internal combustion engines.
(c) Road traffic flow measures
While recognizing the possibility that so-called induced and diverted traffic may occur as a result of road construction, the following measures will be implemented: the strengthening of arterial road networks, including ring roads that will contribute to reducing CO_2 emissions and others.
(d) Transition to a decarbonized lifestyle
(e) Greening of the vehicle transportation business by promoting the use of environmentally friendly vehicles, etc.
(f) Promotion of the use of public transportation and bicycles
(g) Countermeasures for railways, ships, and aviation
(h) Promotion of decarbonized logistics systems
(i) Promotion of sector coupling of electricity, heat, and mobility
Considering that solar power systems generate electricity intensively during a certain time period, EVs, heat pump water heaters, fuel cells, cogeneration, etc., that provide demand-side flexibility will be introduced depending on the local characteristics.
(j) Other policies and measures

Source: Ministry of the Environment, Plan for Global Warming Countermeasures, 2025

Table 2 Targets for Each Greenhouse Gas and Other Category and Estimates for Sector-Specific Emissions of Energy-related CO_2 in FY 2030 and FY 2040

(Unit: Million t-CO_2)

	Actual for FY 2013[1]	FY2030[2] (compared to FY 2013)		FY2040[3] (compared to FY 2013)	
Greenhouse gas emissions and removals	1407	760	(▲46%[4])	380	(▲73%)
Energy-related CO_2	1235	677	(▲45%)	Approx. 360-370	(▲70-71%)
Industry	463	289	(▲38%)	Approx. 180-200	(▲57-61%)
Commercial and others	235	115	(▲51%)	Approx. 40-50	(▲79-83%)
Residential	209	71	(▲66%)	Approx. 40-60	(▲71-81%)
Transport	224	146	(▲35%)	Approx. 40-80	(▲64-82%)
Energy conversion[5]	106	56	(▲47%)	Approx. 10-20	(▲81-91%)
Non-energy-related CO_2	82.2	70.0	(▲15%)	Approx. 59	(▲29%)
Methane (CH_4)	32.7	29.1	(▲11%)	Approx. 25	(▲25%)
Nitrous oxide (N_2O)	19.9	16.5	(▲17%)	Approx. 14	(▲31%)
Four gases incl. alternative CFC[6]	37.2	20.9	(▲44%)	Approx. 11	(▲72%)
Hydrofluorocarbons (HFCs)	30.3	13.7	(▲60%)	Approx. 6.9	(▲77%)
Perfluorocarbons (PFCs)	3.0	3.8	(+26%)	Approx. 1.9	(▲37%)
Sulfur hexafluoride (SF_6)	2.3	3.0	(+27%)	Approx. 1.5	(▲35%)
Nitrogen trifluoride (NF_3)	1.5	0.4	(▲70%)	Approx. 0.2	(▲85%)
Greenhouse gas removals	-	▲47.7		▲Approx. 84[7]	
Joint Crediting Mechanism (JCM)	-	Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 100 million t-CO_2 by fiscal year 2030 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC.		Japan aims to contribute to international emission reductions and removals at the level of a cumulative total of approximately 200 million t-CO_2 by fiscal year 2040 through public-private collaborations. Japan will appropriately count the acquired credits to achieve its NDC.	

1 Actual values for FY 2013 have been partially updated from figures in the Plan for Global Warming Countermeasures (Cabinet decision on October 22, 2021), in line with the Greenhouse Gas Emissions and Removals (GHG inventory) (FY 2022) submitted to the United Nations Framework Convention on Climate Change Secretariat in April 2024. In line with this, some necessary adjustments have been made to the figures and estimates for FY 2030 as well.

2 Figures for FY 2030 energy-related CO_2 are estimated values.

3 Energy-related CO_2 emissions and figures for each sector in FY 2040 are calculated based on the final energy consumption volumes for FY 2040, based on multiple scenario analyses conducted when drafting the FY 2040 energy supply and demand projections.

4 Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50%.

5 Excluding statistical error from power and heat allocation. For this reason, the total sum of the actual emissions by each sector is not equal to the emissions of energy-related CO_2.

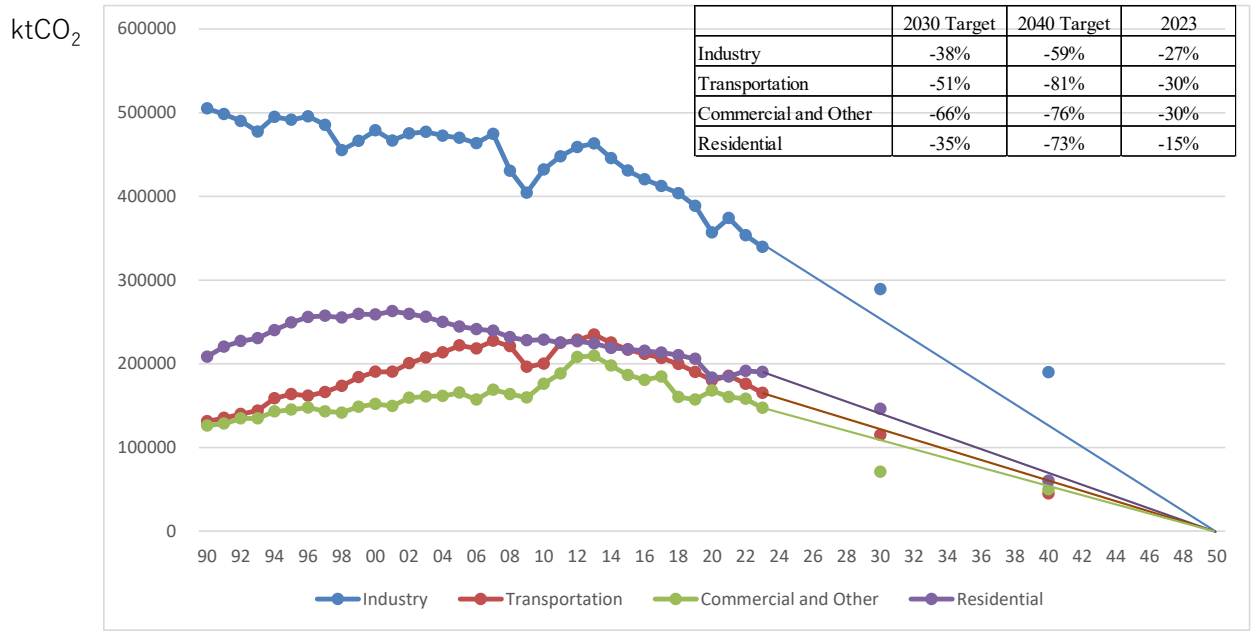
6 Figures for HFCs, PFCs, SF_6, and NF_3 are calendar year values.

7 Removals in FY 2040 are figures expected in the event that the new removals by the forest carbon sinks calculation method is applied as stated in Chapter 3, Section 2, 3. (1) of the Plan for Global Warming Countermeasures (Cabinet decision on February 18, 2025).

Source: Ministry of the Environment, Plan for Global Warming Countermeasures, 2025

Figure 4 CO_2 Emissions by Sector in Japan (after allocation of power and heat) (1990-2023)

■ CO_2 emissions from the transport sector increased from 2020 to 2022, but decreased slightly in 2023.



	2030 Target	2040 Target	2023
Industry	-38%	-59%	-27%
Transportation	-51%	-81%	-30%
Commercial and Other	-66%	-76%	-30%
Residential	-35%	-73%	-15%

Source: National Institute for Environmental Studies, 2025

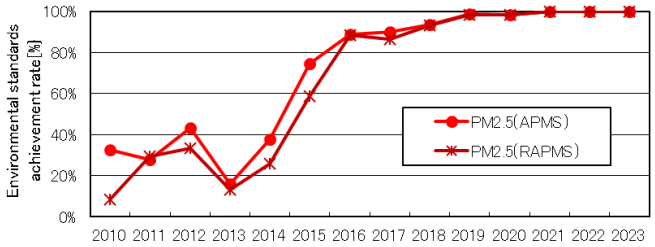
3-2 Current Status and Problems of Road Traffic Noise and Air Pollution

Professor, Tokyo Metropolitan University
Hiroyuki Oneyama

Regarding air pollution, by the effects of vehicle regulations such as automobile exhaust gas regulations and the Automobile NOx/PM Act, environmental standards for fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2), and suspended particulate matter (SPM) were achieved at all monitoring stations (FY2023). However, the rate of achievement of environmental standards for photochemical oxidants (Ox) remains extremely low. Various measures must continue to be implemented to preserve better air quality. Regarding noise, the rate of achievement of environmental standards has gone from stable to worsening, and there are many issues, particularly under special road conditions such as mixed road sections. To resolve road traffic noise issues, comprehensive measures are needed, including source, traffic flow, road structure, and roadside control.

Figure 1 Trends in the achievement of environmental standards for fine particulate matter ($PM_{2.5}$)

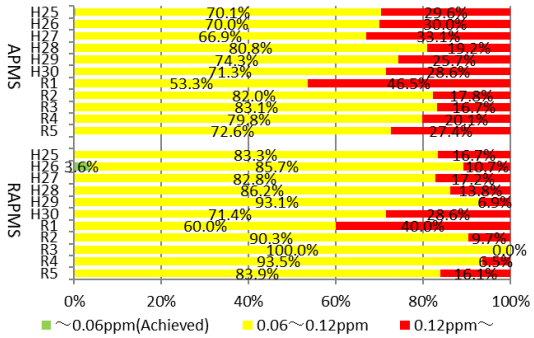
■ Improved dramatically since around 2015, and by 2023 almost all measurement stations had achieved the environmental standards



Note: APMS: Air Pollution Monitoring Station. RAPMS: Roadside Air Pollution Monitoring Station. The annual standard for $PM_{2.5}$ is less than or equal to 15.0 $\mu g/m^3$. The 24 hour standard, which means the annual 98th percentile values at designated monitoring sites in an area, is less than or equal to 35 $\mu g/m^3$.

Figure 2 Changes in the proportion of photochemical oxidants (Ox, maximum daytime hourly value) by concentration level

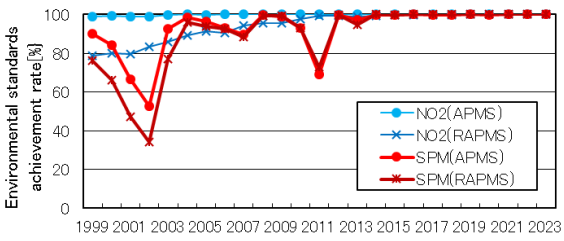
■ Environmental standards achievement rate is extremely low. The percentage of high concentration areas has also remained flat.



Note: The environmental standard for photochemical oxidants is 1-hour value must be 0.06 ppm or less.

Figure 3 Changes in the rate of achievement of environmental standards for nitrogen dioxide (NO_2) and suspended particulate matter (SPM)

■ In recent years, environmental standards have been met at all monitoring stations.

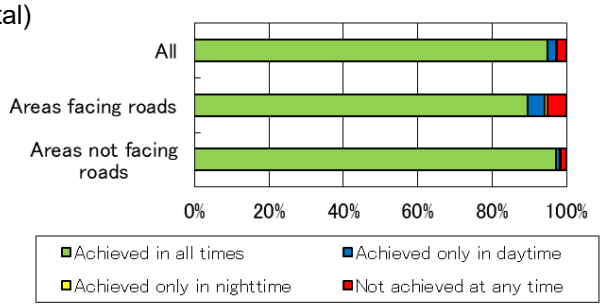


Source of Figure 1, 2 and 3: "FY 2023 Status of Air Pollution", Ministry of Environment

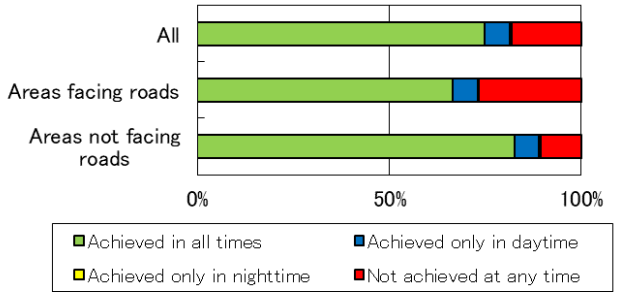
Figure 4 Environmental Quality Standard Compliance of Traffic Noise (2023)

■ Achievement of environmental quality standard in mixed road section is much lower than total.

(Total)



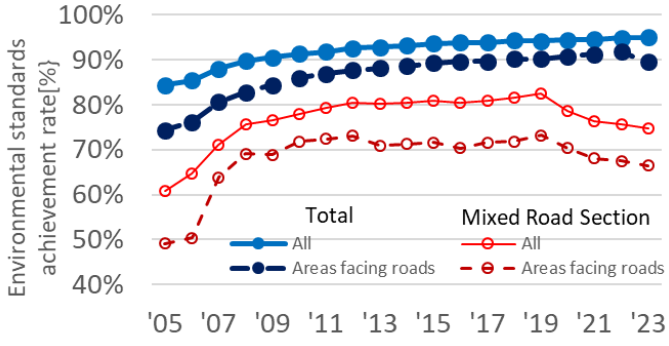
(Mixed Road Section)



Note: “Areas facing roads" is a certain distance (road Range of 15 to 20 m, depending on the classification of the road). “Areas not facing roads" refers to the area that faces the background of a section that is close to a road that carries highway traffic or a road other than a highway.

Figure 5 Trend in Proportion of Environmental Quality Standard Achievement of Traffic Noise

■ The status of achieving environmental standards has remained stable for about 10 years, but in recent years there has been a tendency to worsen, and further measures are required.



Source of Figure 4 and 5: "Status of Motor Vehicle Traffic Noise in FY 2023", Ministry of Environment

Table 1 Roadside Traffic Noise Measures

Classification of measures	Measures	Overview and achievements
Source measures	Vehicle exhaust noise measures	Reduction of vehicle exhaust noise by Improvement of vehicle structures - Harmonization with international standards (UN R41-04, R51-03) for acceleration noise test method - Move to relative regulations that require in-process vehicles to have the same proximity exhaust noise value as new vehicles - Introduction of noise regulation (UN R117-02) for automobile tires
Traffic flow measures	Traffic control and management	Sophistication of the traffic signal control, Effective traffic regulation, Traffic crackdown - Prohibition of large freight vehicles etc.: Within Ring 7 and part of Ring 8 (Saturday 22:00 to Sunday 7:00) - Regulations for center lanes of large freight vehicles etc.: Part of Ring 7 (all day) ・Part of National Route 43 (22-6) - Improvement of traffic signal control: 116,839 units (as of the end of 2023, total of centralized control, adaptive control, coordinated control) - Maximum speed limit regulation: Part of Route 43/Route 23 (40km/h)
	Development of the bypass	Reduction of inner city heavy vehicles and dispersion of traffic by the development of circular roads or bypasses etc.
	Development logistics Centers	Reduction of inner city heavy vehicles by proper placement of logistics facilities, rationalization of logistics such as joint transport and delivery. - Development status of distribution business complex: 26 locations nationwide (number of planned districts for which city planning has been decided at the end of 2022) - Normal truck terminal development status: 3,500 berths (Dec. 1, 2024)
Road structure measures	Installation of low-noise pavement	Installation of low-noise pavement with a lot of voids. - Environmental improvement effect: about 3 dB on average
	Installation of noise barriers	Installation of a high noise barrier with a high sound insulation effect. This is effective on motorways with limited access. - Environmental improvement effect: Approximately 10 dB (calculated value at a height of 1.2 m above the ground, behind a sound insulation wall with a planar structure and a height of 3 m)
	Installation of an environmental buffer zone	Securing the buffer space for noise reduction of 10 or 20m between the roadside and roadway. - Environmental improvement effect (width about 10 m): 5-10 dB
Roadside measures	Development of the roadside district plan	A roadside district plan is established in urban planning to promote the prevention of disorder caused by road traffic noise and the proper and reasonable land use. It promotes urban development worthy of the roadside of the main road. - Act on Improvement of Areas Along Trunk Roads - Roadside maintenance road designation requirements/night noise over 65 dB (LAeq) or daytime noise over 70 dB (LAeq), daily traffic volume over 10,000, etc. - Roadside maintenance road designation status / 11 routes 132.9 km designated by the prefectural governor (as of March 2022) National Road No. 4, National Road No. 23, National Road No. 43, National Road No. 254, Circular Road No. 7, 8 etc. - Roadside district plan formulation status / Roadside district plan formulated at 50 districts 107.1km (as of March 2022)
Impact prevention measures	Implementation of the grant for residential soundproofing	A reduction of the impact of road traffic noise by the soundproofing subsidies of housing, such as emergency measures. ・House soundproof construction subsidy by the road administrator ・Subsidy for soundproofing of houses around highways ・National interest-free loans for municipal land purchases ・Part of the cost of the buffer building by the road administrator
Development of a promotion organization	Creating an organization for promoting road traffic pollution measures	Work closely with related organizations to solve road traffic noise problems. - Promotion of road pollution countermeasures in close collaboration with the Ministry of the Environment/related ministries, and agencies - Promotion of measures by councils with local governments/national departments, environment departments, road departments, city departments of prefectural governments, prefectural police, etc. (established by all prefectures)

Source: "White Paper for Environment, 2025", Ministry of Environment (modified)

Figure 6 Regarding the Central Environment Council's "Future Measures to Reduce Automobile Emissions (15th Report)" (Sep.25, 2024)

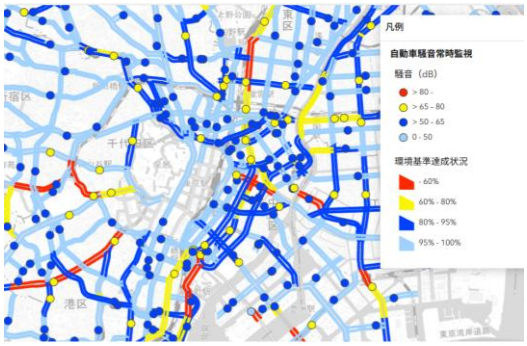
[Summary]
1. Measures to Reduce Exhaust Gas from Special Vehicles :
- Implementing PN (the number of particulate matter) regulations for diesel-powered special vehicles with rated outputs of 19kW to 560kW.
- Strengthening the PM mass regulations (previous regulations) to target allowable limits.

2. Future Issues to be Considered :
- Prioritizing consideration of measures to address fine particulate matter, brake dust, and tire dust.

Source: Press release from the Ministry of the Environment

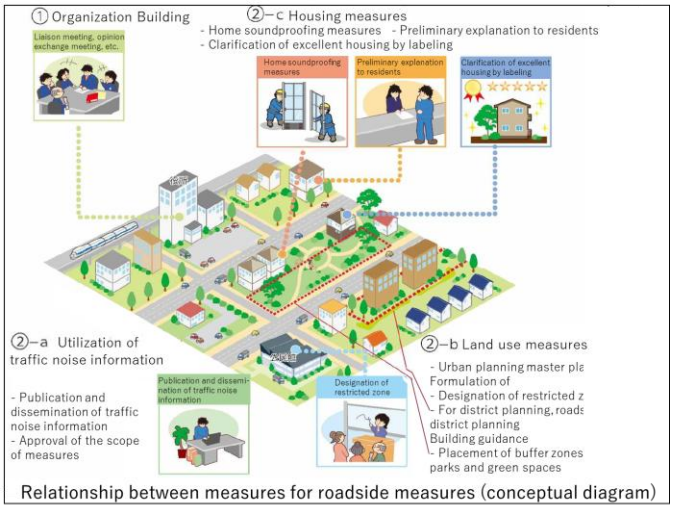
Figure 7 Visualization of environmental information using environmental GIS

■ The "Environmental GIS" at the "Kankyo Tenbo-dai (Environmental Observatory)" website makes it possible to visualize a variety of environmental information.



Source: "Kankyo Tenbo-dai" HP (National Institute for Environmental Studies)

Figure 8 Roadside Measures to Prevent Traffic Noise Problems



Source: Guidelines for roadside/railway measures to prevent traffic noise problems, Ministry of Environment, 2017 (modified)

Figure 9 Designation status of roadside improvement roads and roadside district plans within Tokyo CBD

Source: Homepage of Tokyo Metropolitan Government Bureau of Construction

3-3 Improving Energy Efficiency

Japan Automobile Manufacturers Association
Ryuji Osuga

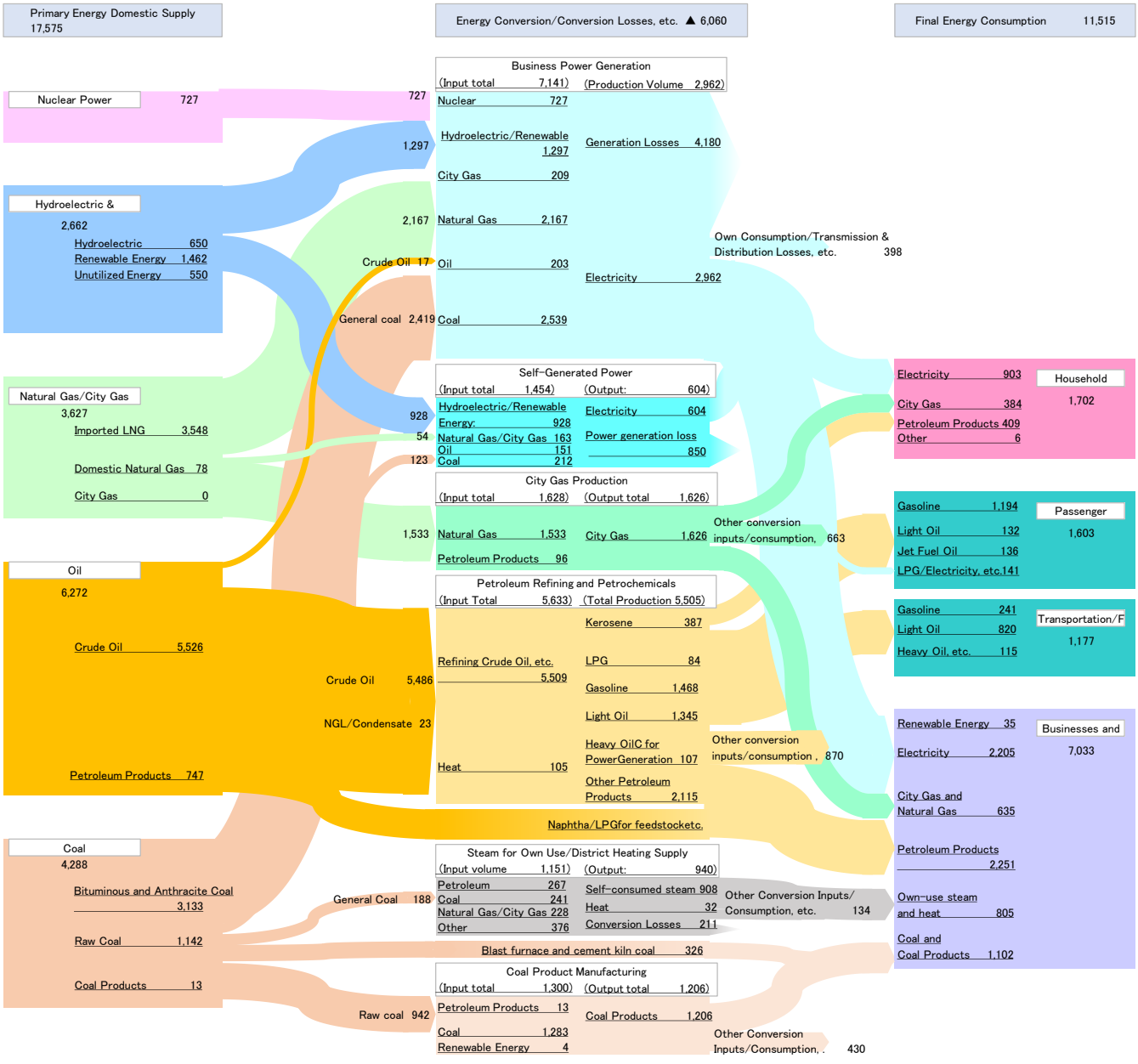
In October 2020, The Japanese government declared that it aims to achieve carbon neutrality by 2050. In this situation, Russia's invasion of Ukraine occurred, drastically altering the global energy landscape and highlighting the challenges Japan faces in its energy supply and demand structure. In Japan, as electricity demand is expected to increase due to digital transformation (DX) and green transformation (GX), the ability to sufficiently secure decarbonized power sources commensurate with this demand will determine Japan's economic growth and industrial competitiveness. In February 2025, the Cabinet approved the “Seventh Basic Energy Plan,” which sets ambitious new targets for greenhouse gas reduction and achieving net-zero emissions: a 60% reduction by fiscal year 2035 and a 73% reduction by fiscal year 2040, compared to fiscal year 2013 levels.

Figure 1 Overview of Energy Balance Flow in Japan (FY2023)

■ Energy passes through various stages before it reaches end-consumers. Since there are losses in the process of power generation, during transportation, and self-consumption in power generation and in the conversion process, final energy consumption equals the primary energy input after deducting these losses. Final energy consumption in fiscal year of 2023 was approximately 65, if Japan's domestic primary energy input counts as 100.

■ Much of the nuclear energy and renewable energy including hydro power is converted to electricity and consumed. Most of the oil is refined and consumed in the form of various products like transportation fuels such as gasoline and light oil, petroleum products such as kerosene and heavy oil, and petrochemical raw materials such as naphtha.

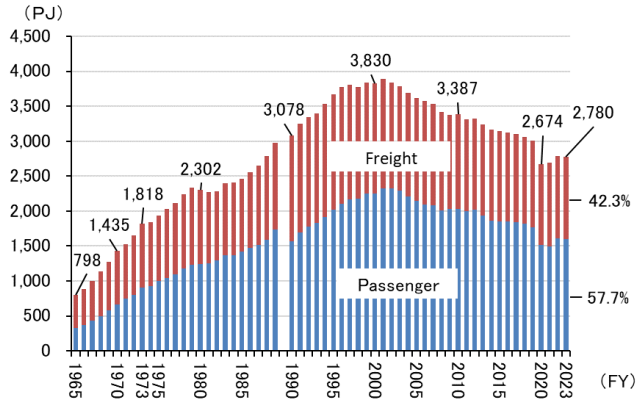
Unit: PJ



Source：ANRE Energy trends 2025 [[Figure 11-1-3 in Japanese]

Figure 2 Consumption ratio of passenger/freight in the transportation sector

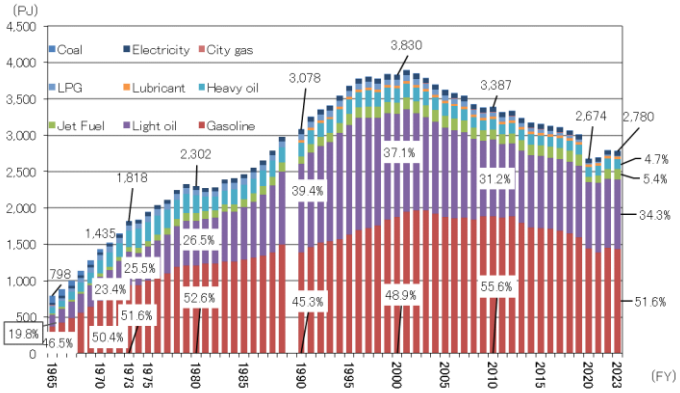
■ In fiscal year 2023, the transportation sector accounted for 23.6% of total final energy consumption. Within this sector, passenger transportation accounted for 57.7, and freight transportation accounted for 42.3%.



Source: ANRE Energy white paper 2025 [Figure 12-3-1 in Japanese]

Figure 3 Trends in Energy Consumption by Source in the Transport Sector

■ The composition of energy sources in the transportation sector for fiscal year 2023 shows gasoline accounting for 51.6%, light oil for 34.3%, jet fuel for 5.4%, and heavy oil for 4.7%.

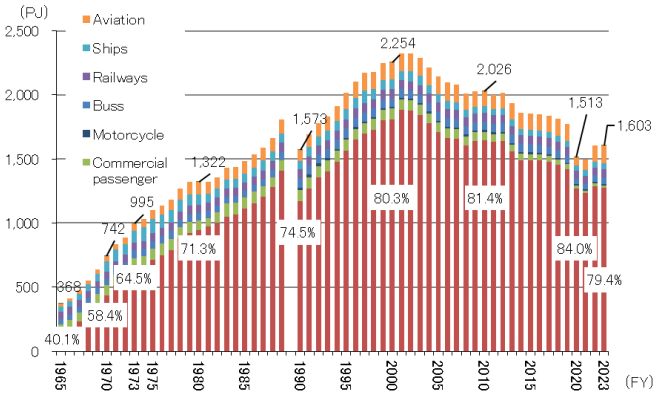


Source: ANRE Energy white paper 2025 [Figure 12-3-3 in Japanese]

Figure 4 Trends in Energy Consumption by Measure in the Passenger Sector

■ Energy consumption in the passenger sector had been increasing at a rate exceeding GDP growth, partly due to the rise in the number of vehicles owned. However, it peaked in fiscal year 2002 and has since shifted to a declining trend.

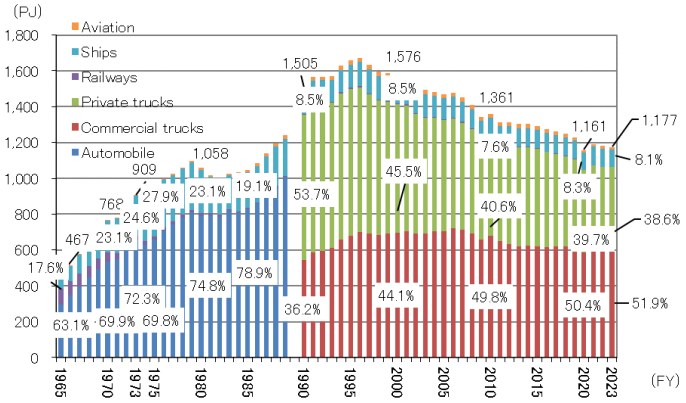
■ Energy consumption by sector decreased significantly in FY2020 and FY2021 due to COVID-19 stay-at-home restrictions, but consumption has recovered in FY2022.



Source: ANRE Energy white paper 2025 [Figure 12-3-4 in Japanese]

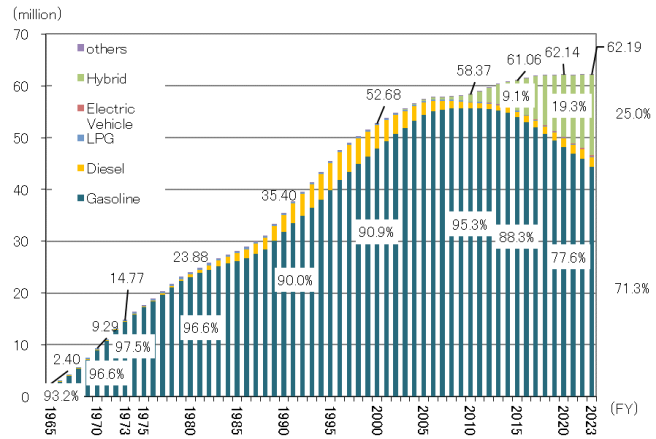
Figure 5 Trends in Energy Consumption by Measure in the Freight Sector

■ Total energy consumption in the freight sector has been declining since peaking in FY1996, with a slight decrease also observed in FY2023 compared to the previous year. Examining the breakdown of consumption, approximately 90% is accounted for by trucks. Energy consumption by commercial trucks constituted over half of the freight sector's total. In FY2023, this share rose to 51.9%, up from 51.0% in FY2022.



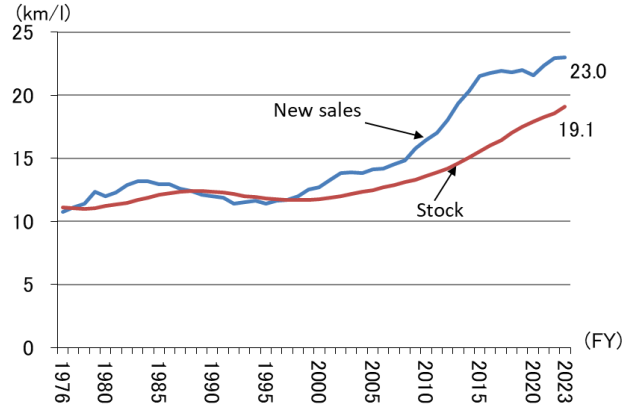
Source: ANRE Energy white paper 2025 [Figure 12-3-8 in Japanese]

Figure 6 Trends in the number of passenger vehicles in fleet by vehicle type



Source: ANRE Energy white paper 2025 [Figure 12-3-5 in Japanese]

Figure 7 Trend in Average Fuel Efficiency of Gasoline Passenger Cars (10-15 Mode)



Source: ANRE Energy white paper 2025 [Figure 12-3-6 in Japanese]

3-4 Environmentally Friendly Institutional Measures

Professor, Institute of Science Tokyo
Yasunori Muromachi

The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) published guidelines for the flexible use of sidewalks and road shoulders, introducing examples of how "people-centered road spaces" should be and the steps to achieve them. A new environmental action plan was also announced, outlining climate change mitigation and adaptation measures, as well as policies that prioritize building an environmentally friendly society. Even when constructing infrastructure, consideration must be given to GHG emissions at the construction stage, and some countries overseas include GHG reduction as one of the items in the cost-benefit analyses of road projects.

Figure 1 Guidelines for Flexible Use of Sidewalks and Road Shoulders

■ The guidelines explain how to utilize sidewalks and road shoulders, dividing them into two categories: (1) Utilization including road shoulders, and (2) Utilization including roadway sections. They also explain how to utilize these methods in conjunction with sidewalks by the Pedestrian Accessibility Improvement Road (Hokomichi) System.

Source: MLIT, Guidelines for Flexible Use of Sidewalks and Road Shoulders, 2025

Figure 2 Seven Key Pillars of MLIT Environmental Action Plan (2025)

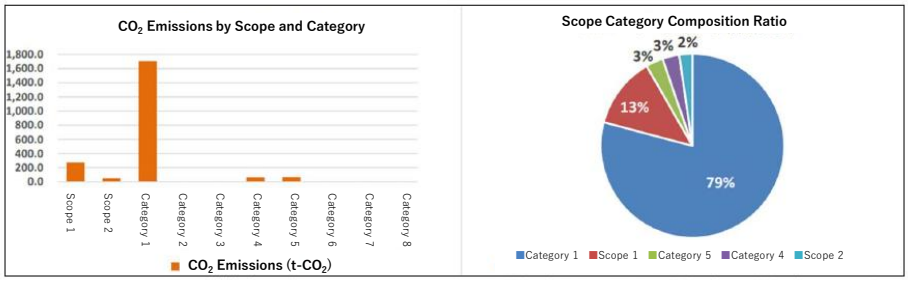
1.Promoting the Ministry of Land, Infrastructure, Transport and Tourism's GX (MLIT GX), including a thorough transition to energy conservation and clean energy, and expanding the supply of renewable energy.	4. Creating a regional economic society based on environmental resources
-Strengthening energy-saving measures for homes and buildings	-Biomass power generation using wood from infrastructure projects
-Promoting green logistics and promoting the use of public transport for eliminating "transit deserts"	-Utilizing sewage sludge as energy
-Promoting next-generation vehicles	-Local production and consumption of renewable energy by reusing degraded commercial electric vehicle batteries
-Optimizing road traffic	-Green living and urban development utilizing regional characteristics
-Decarbonizing rail, shipping, and aviation (utilizing bio, hydrogen, SAF, etc.)	-Initiatives to eliminate "transit deserts"
-Developing infrastructure necessary for the transition to clean energy	-Promoting energy-saving renovations of existing homes and buildings etc.
-Decarbonizing buildings throughout their lifecycle	5. Creating a society that can adapt to climate change
-Promoting the development and use of materials that contribute to CO_2 reduction at construction sites	-Reviewing flood control plans and accelerating and deepening River Basin Disaster Resilience and Sustainability by All
-Expanding the supply of renewable energy (solar, offshore wind, hydropower, snow and ice thermal, etc.) by utilizing diverse infrastructure spaces such as roads and airports	-Improving the effectiveness of elimination of road obstacles after disaster
-Strengthening sink measures, such as utilizing blue carbon ecosystems etc.	-Disaster prevention and mitigation measures utilizing new technologies and disaster prevention weather information
2.Restoring nature and creating a society where people and nature coexist	-Heat island countermeasures and summer heat countermeasures etc.
<Building a foundation for expanding green infrastructure>	6. Creating a market where environmental value is valued
-Fostering national momentum and understanding through collaboration with the business community	-Visualizing GHG emissions throughout the supply chain
-Visualizing diverse benefits and establishing evaluation methods	-Utilizing and improving systems for assessing and certifying environmental value
-Facilitating fundraising	-Utilizing environmental value through credit creation, etc.
-Supporting the efforts of stakeholders, including intermediary support organizations	-Promoting public procurement of green products
-Utilizing new technologies such as satellite imagery and expanding internationally	-Promoting behavioral change among citizens and companies etc.
-Securing urban green spaces	7. Building a system and infrastructure to support a green society
-Strengthening measures to prevent animal accidents on roads etc.	-Creating a forum for collaboration and cooperation with relevant ministries, local governments, industry, etc.
3. Building a production system that uses recycled resources	-Establishing an infrastructure for digital technology and data utilization
-Promoting the use of sewage sludge as fertilizer	-Promoting human resource development for MLIT GX
-Enhancing construction recycling (horizontal recycling, expanding demand, etc.)	-Promoting environmental education
-Reducing waste generation by extending the lifespan of materials	-Creating the institutional foundations necessary for sustainable initiatives etc.
-Developing ports as hubs for the circular economy that support artery-vein linkages etc.	

Source: MLIT, The Outline of MLIT Environmental Action Plan, 2025

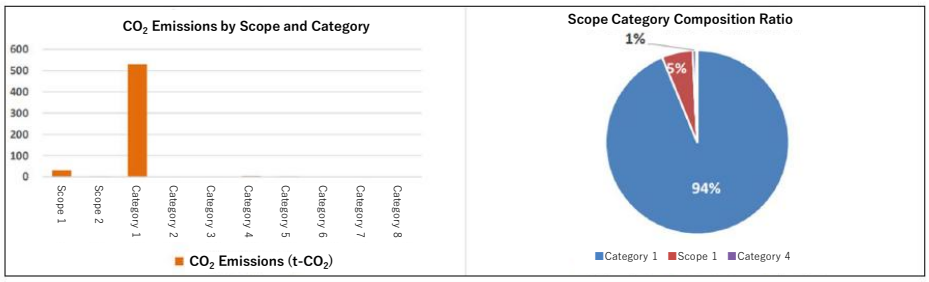
Figure 3 Calculation Example Based on the Draft Manual for Calculating GHG Emissions during Construction in the Infrastructure Sector

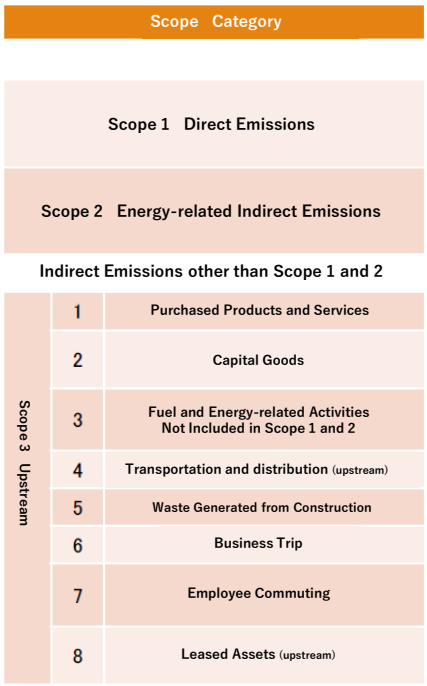
■ The proposed calculation manual targets the construction stage at a construction site and covers construction to which the "Operation of Civil Engineering Works Cost Estimation Guidelines and Standards" applies. In the calculation example below, Scope 1 (fuel) and Scope 3 Category 1 (materials) account for the majority of emissions.

Construction (NATM Tunnel)



Construction (Road Improvement)





Note: The draft manual excludes Category 2, 9-15 (of Scope 3), and Categories 6-8 (of Scope 3) for the time being.

Source: National Institute for Land and Infrastructure Management, Drafting a Manual for Calculating GHG Emissions during Infrastructure Construction, 2024

Table 1 Cost-benefit Analysis Comparison among Countries（Road Project）

-Each country handles the cost-benefit ratio (B/C) differently from Japan.

-While the effects of road construction are diverse, the benefits considered in Japan's cost-benefit analysis are limited compared to other countries.

		Japan	UK	Germany	France	Netherlands	Norway	Sweden	Australia	New Zealand	USA	British Columbia, Canada	South Korea
	B/C as a Project Requirement	*1	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
Evaluation items	Reduction in Travel Time	●	●	●	●	●	●	●	●	●	●	●	●
	Reduction in Travel Costs	●	●	●	●	●	●	●	●	●	●	●	●
	Reduction in Traffic Accidents	●	●	●	●	●	●	●	●	●	●	●	●
	Improved Travel Time Reliability		▲	●	▲	●		●	●	●	△		▲
	Improved Travel Comfort (Vehicles, Pedestrians, Bicycles)				●		●	△	△	●	▲		▲
	Amenity Value										▲		
	Option Value/Non-Use Value								△				▲
	Reduction in Greenhouse Gas Emissions		●	●	●	▲	●	●	●	●	▲	△	●
	Reduction in Air Pollution (Other Than Greenhouse Gas Reduction)		●	●	●	▲	●	●	●	●		△	●
	Noise Reduction		●	●	●	▲	●	●	●	●	▲	△	●
	Improvement in Water Pollution				△							△	
	Other Environmental Impacts											△	
	Wide-Range Economic Effects		▲		△		△	△	△	●	△		
	Industrial Promotion/Tourism								△				▲
	Reduction in Load Damage								△				
	Improved Health		●		△		●	△		●	●	△	▲
	Improved Life Saving Rate										▲		
	Increased Indirect Tax Revenue (Provider Benefits)		●			▲	●						
	Impact on Urban Development				△		△	△	△		▲	△	▲
	Impact on Land Prices								△				
	Reduction in Regional Division			●					△				
	Impact on Natural Disaster Risk				△					△	△		
	Impact on Man-Made Disaster Risk					△							
	Impact on Nature Conservation/Biodiversity				△	△	△	▲	△		▲	△	
	Impact on Landscape				△		△		△				
	Impact on Culture and Heritage				△	△	△		△				
	Impact during Construction					△							▲

Score Chart Legend ●: Items that have been added as benefits; ▲: Items that may be added as benefits depending on the project's characteristics; △: Items that are not added as benefits but may be subject to quantitative review.

*1: Prerequisite for project adoption: "Benefits exceed costs."

*2: In the evaluation manuals of each country, there is no rule that B/C > 1; it has been confirmed that judgments are made based on B/C (or NPV) and other effects.

Source: MLIT, Public Works Evaluation Methods Research Committee Materials, 2024

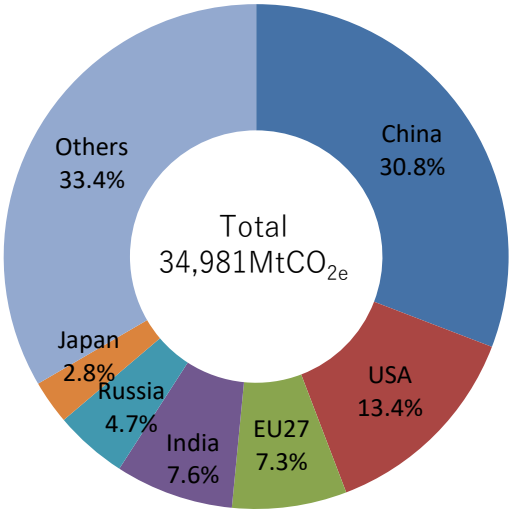
3-5 Actions for Sustainable Transport

Professor, Institute of Science Tokyo
Yasunori Muromachi

CO_2 emissions from fuel combustion reached 35 billion tons, and although they decreased in 2020 due to the impact of COVID-19, emissions in 2022 exceeded those of 2019. Trends in GHG emissions in the transport sector in major countries indicate that emissions in the transport sector decreased in 2020 but then turned to an increase in 2021. According to the IPCC, energy pathways for low-carbon transport technologies involve four types of primary fuels and five types of energy carriers. As such, mitigation options need to be diverse, not just through the widespread use of BEVs/FCEVs, but also through the use of carbon-neutral fuels.

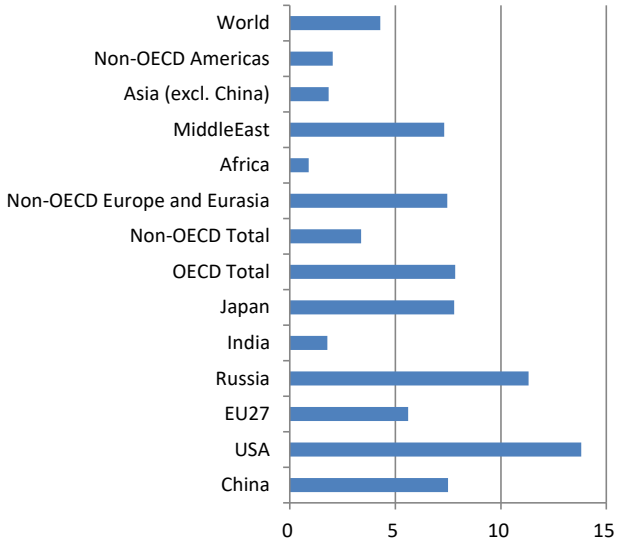
Figure 1 Share of CO_2 Emissions from Fuel Combustion in Major Countries and Regions (2022)

■ CO_2 Emissions in 2022 exceeded those in 2019.



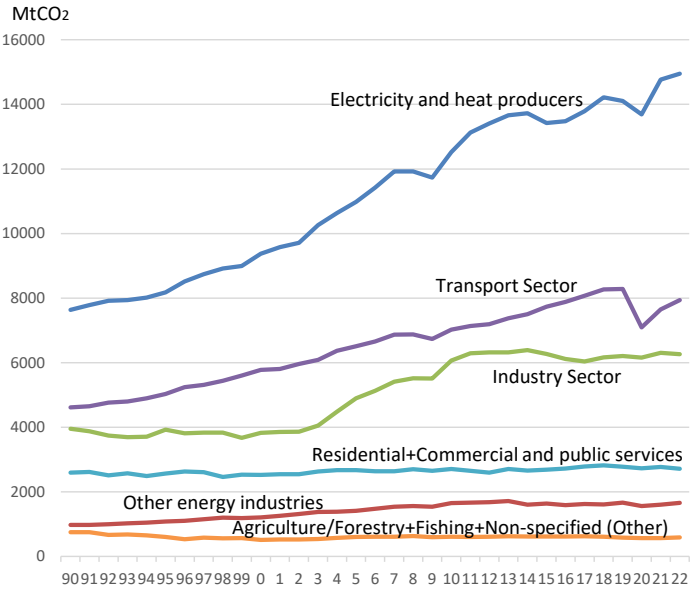
Source: IEA, CO_2 Emissions from Fuel Combustion Highlights 2024, 2024

Figure 2 CO_2 Emissions Per Capita in Major Countries and Regions (2022, t-CO_2)



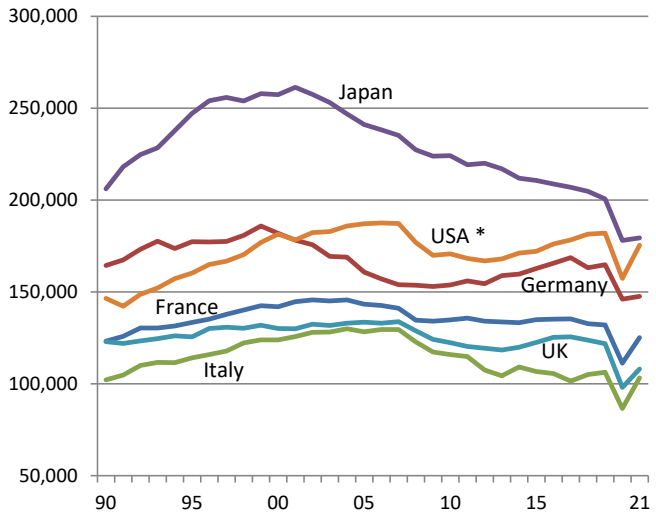
Source: IEA, CO_2 Emissions from Fuel Combustion Highlights 2024, 2024

Figure 3 Global CO_2 emissions from fuel combustion by sector (Mt)



Source: IEA, Energy Statistics Data Browser, 2025

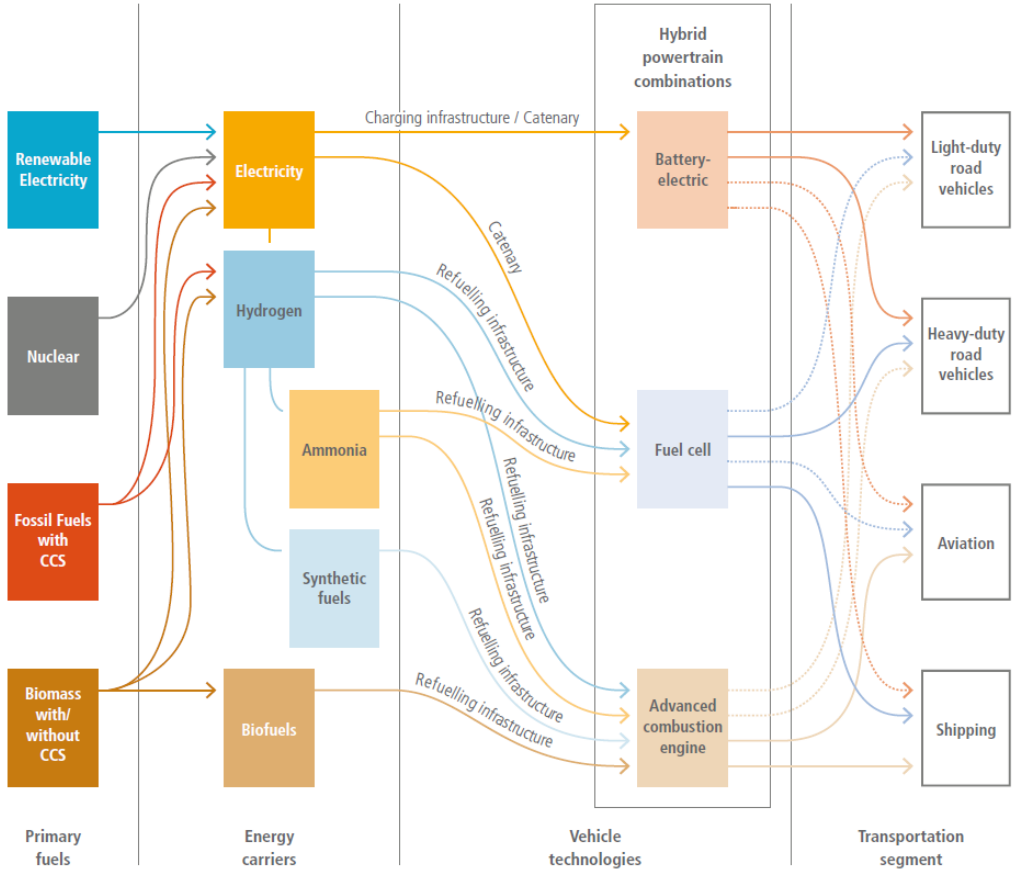
Figure 4 Trend of GHG Emissions from Transport Sector in Major Countries (1,000t-CO_2, except for USA, 10,000t-CO_2)



Source: UNFCCC, 2023

Figure 5 Energy Pathways for Low-carbon Transport Technologies

■ There are four types of primary fuels and five types of energy carriers in the energy pathway.

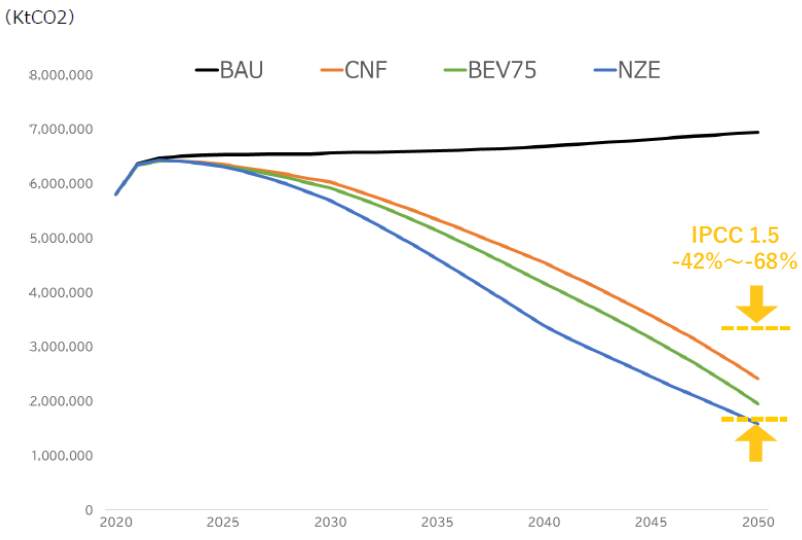


Note: Primary energy sources are shown in the far left, while the segments of the transport system are in the far right. Energy carriers and vehicle technologies are represented in the middle. Primary pathways are shown with solid lines, while dotted lines represent secondary pathways.

Source: IPCC, Climate Change 2022 Mitigation of Climate Change, 2022

Figure 6 Transitioning to Carbon Neutrality by 2050: A Scenario-Based Analysis (JAMA)

■ Regarding automotive transport, the global projections for 2050 show that all three scenarios suggest that reductions in line with the IPCC's 1.5℃ scenario are possible.



Scenario	Trends World		2050/2020 CO_2 emissions
All	Market	·Passenger cars and commercial vehicles: Significant increases in both new vehicles sales and in-use fleets; for motorcycles, gradual increases in new vehicles sales and in-use fleets.	
	Energy Mix	· Share of clean energy is approximately 80%.	
CNF	Electrified vehicles	· Share of BEVs/FCEVs in new passenger car and commercial vehicle sales is approximately 50%. · Share of BEVs/FCEVs in in-use passenger car and commercial vehicle fleets is approximately 30%.	-58% approx.
	Fuel mix	· Share of biofuels + electricity + hydrogen is approximately 60%. · CNF share represents approx. 30% of total fuel consumption in 2020.	
BEV75	Electrified vehicles	· Share of BEVs/FCEVs in new passenger car and commercial vehicle sales share is approximately 80%. · Share of BEVs/FCEVs in in-use passenger car and commercial vehicle fleets is approximately 60%.	-66% approx.
	Fuel mix	· Share of biofuels + electricity + hydrogen is approximately 70%. · CNF share represents approx. 20% of total fuel consumption in 2020.	
NZE	Electrified vehicles	· Share of BEVs/FCEVs in new passenger car and commercial vehicle sales is 100%. · Share of BEVs/FCEVs in in-use passenger car and commercial vehicle fleets is more than 80%.	-73% approx.
	Fuel mix	· Approximately 80% is biofuels + electricity + hydrogen. (Assumption: Synthetic fuel = 0%.) · Biofuel share = 7% of total fuel consumption in 2020.	

Note: World CO_2 emissions in all the scenarios are within or lower than the IPCC 2050 1.5°C climate scenarios' -42% to -68% range.

Source: JAMA, Transitioning to Carbon Neutrality by 2050: A Scenario-Based Analysis, 2022

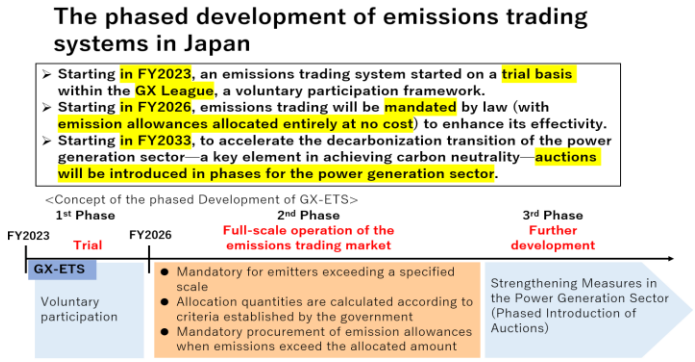
3-6 Development and Popularization of Eco-Vehicles

Japan Automobile Manufacturers Association
Ryuji Osuga

The Japan Automobile Manufacturers Association（JAMA） announced in April 2021 its “Challenge for Carbon Neutrality (CN) by 2050,” emphasizing that CN can be realized through multiple pathways (including synthetic fuels used by existing internal combustion engines, not only electrification). Automotive manufacturers are developing and promoting various types of electrified vehicles, including hybrid vehicles (HEVs), electric vehicles (EVs), plug-in hybrid vehicles (PHEVs), and fuel cell vehicles (FCVs). The government declared “CN by 2050,” formulated the “Green Growth Strategy for CN by 2050” in 2021. As part of various measures, it is promoting the EVs and charging infrastructure, the commercialization of synthetic fuels, the introduction of bioethanol, and the diversity of approaches to achieving CN.

Figure 1 Consideration of the emissions trading system by the “Revised GX Promotion Act”

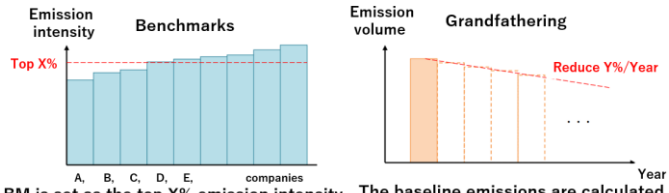
■ On May 28, 2025, the revised GX Promotion Act was adopted by the Diet. In response to the revised GX Promotion Act, the Ministry of Economy, Trade and Industry (METI) has been considering measures including: the emissions trading system (ETS) ,collecting a fossil fuel levy; establishing financial support for the GX sector; mandating the use of recycled resources; promoting eco-design; promoting the recycling of raw materials and other resources for GX; and promoting circular economy commerce.



Source: METI; 我が国のGX政策の進捗についてin Japanese

Figure 2 Mandatory for companies for the Emissions Trading System (ETS)

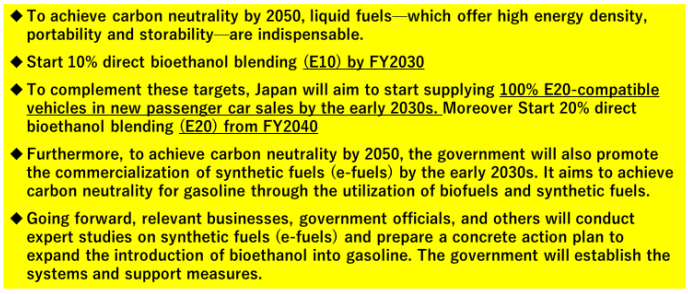
■ ETS mandates participation for companies with direct carbon dioxide emissions exceeding a certain threshold (100,000 tons).Benchmarks (BM) are established primarily for energy-intensive sectors, considering industry characteristics, and individual company allowances are calculated based on these benchmarks. Allowances are calculated by multiplying the average production volume over the preceding three years by the BM. For industries where setting a BM is difficult, a grandfathering approach is used, calculating allowances by multiplying the base year emissions by a specified reduction rate.



Source: METI;排出量取引制度の詳細設計に向けた検討方針 in Japanese

Figure 3 Enactment of the Policy to Expand the Blending of Bioethanol with Gasoline

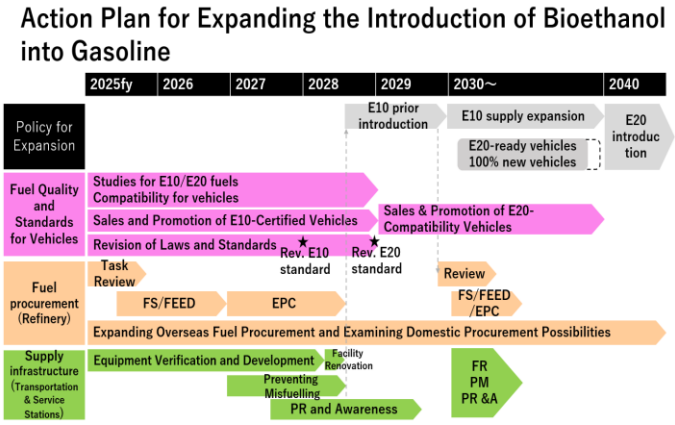
■ The government announced its “Policy to Expand the Blending of Bioethanol with Gasoline” in November 2024. It aims to begin supplying 10% ethanol-blended gasoline (E10) by fiscal year 2030. It targets the introduction of vehicles compatible with 20% ethanol blending (E20) by the early 2030s, with E20 supply set to begin from fiscal year 2040.



Source: METI; ガソリンのバイオエタノール導入拡大に向けた方針 in Japanese

Figure 4 Enactment of “Action Plan to Expand the Blending of Bioethanol”

■ The government established the Task Force for the “Action Plan to Expand the Blending of Bioethanol” involving both the petroleum and automotive industries. This task force examined an action plan to expand the introduction of E10 and E20 fuels and E20-compatible vehicles, and published it in June 2025.

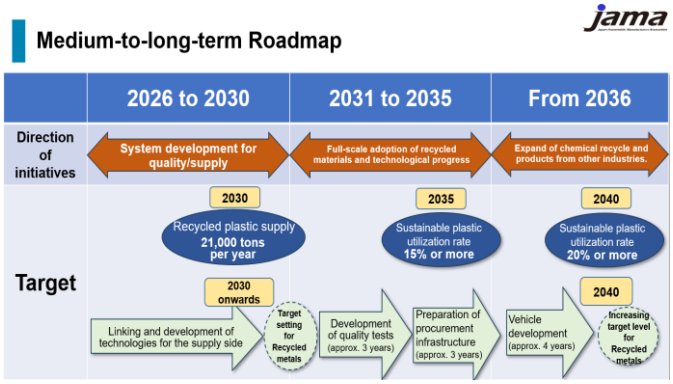


Source: METI;ガソリンのバイオエタノール導入拡大に向けたアクションプラン in Japanese

Figure 5 Initiatives to promote the use of recycled materials

■ JAMA announced its initiative to promote the use of recycled materials, including the "2050 Long-Term Vision and Roadmap," in July 2024. To establish a supply system for recycled plastics and other materials across society and further promote their use, the automotive industry—a major consumer of plastics—will actively lead society as a whole and proactively with related companies.

■ The mid-to-long-term roadmap estimates a recycled plastic supply of 21,000 tons by 2030, setting utilization targets of 15% by 2035 and 20% by 2040. Given that developing new materials and making various arrangements requires a preparation period of about 10 years, implementation will begin in 2035. Therefore, initiatives will focus on doubling the supply by around 2030 and establishing the infrastructure needed to achieve the 2035 targets.



Source: JAMA;再生材活用促進に向けた自工会の取組みについてin Japanese

Figure 6 JAMA's Initiatives to Promote the Use of Recycled Plastic Materials

■ In February 2025, JAMA announced "target values for general-purpose polypropylene (PP) and composite-reinforced PP" in addition to the above-mentioned initiatives. JAMA aims to promote the use of recycled plastics. Specifically, setting target values for recycled PP (the most used plastic in vehicles), requirements and evaluation/measurement methods. This initiative seeks to secure the volume of recycled plastics and encourage resource circulation for plastics and other materials across Japan's entire industrial sector.

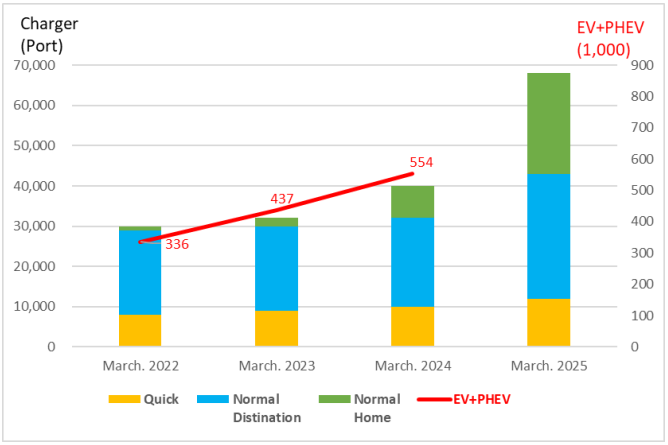
■ Five grades of general-purpose PP and compound-reinforced PP were specified. Evaluation and measurement methods were defined for six items: linear expansion coefficient, molding shrinkage rate, accelerated weather resistance, accelerated light resistance, outer ring, and foreign matter. Target values were published.

Item		General-purpose PP 1	General-purpose PP 2	Reinforced-composite PP 1	Reinforced-composite PP 2	Reinforced-composite PP 3
Formulation (PCR ratio)		25wt% or more	25wt% or more	25wt% or more	25wt% or more	25wt% or more
Compounds (ELV ratio in PCR)		Report	Report	Report	Report	Report
Formulation (PIR ratio)		Report	Report	Report	Report	Report
Density (g/cm³)		0.88-0.94	0.88-0.94	0.96-1.04	0.96-1.04	1.00-1.07
Tensile yield strength (MPa)	23℃	20 or more	19 or more	22 or more	22 or more	17 or more
Tensile modulus of elasticity (MPa)	23℃	1000 or more	940 or more	1900 or more	1900 or more	1250 or more
Tensile elongation at breakage (%)	23℃	15 or more	25 or more	40 or more	25 or more	20 or more
Flexural modulus (MPa)	23℃	1000 or more	940 or more	2000 or more	2000 or more	1350 or more
Bending strength (MPa)	23℃	25 or more	24 or more	27 or more	27 or more	22 or more
Charpy impact value (kJ/m²)	23℃	5 or more	10 or more	23 or more	10 or more	20 or more
	-30℃	2 or more	3 or more	3 or more	2 or more	2 or more
Deflection temperature under load (℃)	0.45MPa	80 or more	78 or more	100 or more	100 or more	90 or more
MFR (g/10min)	230℃, 2.16kg	18-28	20-30	25-35	25-35	22-32

Source: JAMA ;再生材プラスチックの活用促進に向けた自工会の取組みについてin Japanese

Figure 7 The Spread of EV/PHEV and Quick Chargers

■ The government has released its "Guidelines for Promoting Charging Infrastructure Development." The target for charger installations by FY 2030 is 300,000 ports. On expressways, chargers will be upgraded to high-power models of 90kW or more.



Source: METI, Initiatives for Charging Infrastructure Development in Japanese.

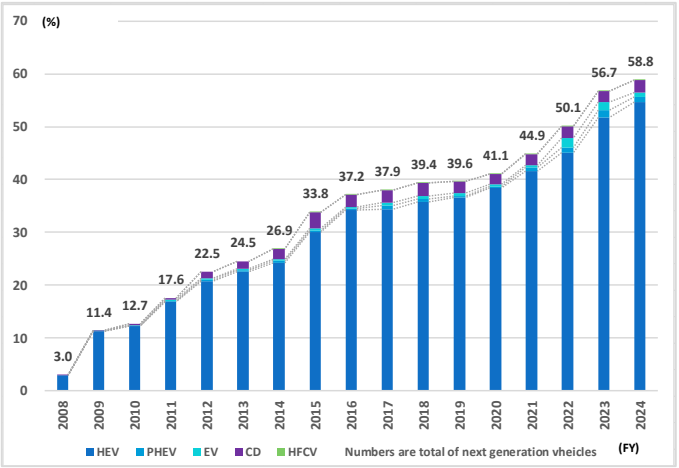
Table 1 Road map of Introduction of EV & PHEV

■ The government has specified the share of next generation vehicle sales by 2030 in the Revision of "Revitalization Strategy Japan" in 2015.

		2024FY Result	2030FY Plan
Conventional vehicles		41.2%	30～50%
Next generation vehicles		58.8%	50～70%
	Hybrid vehicles	54.7%	30～40%
	Electric vehicles Plug-in hybrid vehicles	0.9% 0.9%	20～30%
	Fuel cell vehicles	0.01%	～3 %
	Clean Diesel vehicles	2.3%	5～10%

Source: Japan Automobile Manufacturers Association

Figure 8 Sales share of next-generation vehicles in Japan



Source: Japan Automobile Manufacturers Association

Statistics and Data

1. Passenger and Freight Transport in Japan

1-1 Passenger transport in Japan

	Number of passengers transported x 1000 passengers (% in parentheses)					
	Motor Vehicles					
		Buses	Passenger cars total			
				Commercial use	Private use	
					Registered cars	Light cars
FY 1960	7 900 743 (38.9)	6 290 722	1 610 021	1 205 225	404 766	
1965	14 863 470 (48.3)	10 557 428	4 306 042	2 626 631	1 679 411	
1970	24 032 433 (59.2)	11 811 524	12 220 909	4 288 853	7 932 056	
1975	28 411 450 (61.5)	10 730 770	17 680 680	3 220 221	14 460 459	
1980	33 515 233 (64.8)	9 903 047	23 612 186	3 426 567	20 185 619	
1985	34 678 904 (64.4)	8 780 339	25 898 565	3 256 748	22 641 817	
1990	55 767 427 (71.6)	8 558 007	36 203 558	3 223 166	30 847 009	2 133 383
1995	61 271 653 (72.8)	7 619 016	43 054 973	2 758 386	35 018 454	5 278 133
2000	62 841 306 (74.2)	6 635 255	47 937 071	2 433 069	36 505 013	8 998 989
2005	65 946 689 (74.9)	5 888 754	52 722 207	2 217 361	37 358 034	13 146 812
2010	65 705 843 (74.2)	-	-	6 241 395	59 464 448	-
2011	64 991 077 (74.0)	-	-	6 073 486	58 917 591	-
2012	68 667 586 (74.7)	-	-	6 076 806	62 590 780	-
2013	67 245 001 (73.9)	-	-	6 152 915	61 092 086	-
2014	66 699 706 (73.7)	-	-	6 057 426	60 642 280	-
2015	67 061 710 (73.3)	-	-	6 031 303	61 030 407	-
2016	68 270 487 (73.4)	-	-	6 034 928	62 235 559	-
2017	69 402 303 (73.5)	-	-	6 084 966	63 317 337	-
2018	70 220 258 (73.4)	-	-	6 036 558	64 183 700	-
2019	69 696 854 (73.3)	-	-	5 799 913	63 896 941	-
2020	60 665 654 (77.4)	-	-	4 000 083	56 665 571	-
2021	59 190 373 (75.8)	-	-	4 269 925	54 920 448	-
2022	63 502 803 (75.0)	-	-	4 783 393	58 719 410	-
2023	63 447 959 (73.6)	-	-	5 009 174	58 438 785	-

	Passenger–kilometers transported x 1 million passenger–kilometers (% in parentheses)					
	Motor Vehicles					
		Buses	Passenger cars total			
				Commercial use	Private use	
					Registered cars	Light cars
FY 1960	55 531 (22.8)	43 998	11 533	5 162	6 370	
1965	120 756 (31.6)	80 134	40 622	11 216	29 406	
1970	284 229 (48.4)	102 893	181 335	19 311	162 024	
1975	360 868 (50.8)	110 063	250 804	15 572	235 232	
1980	431 669 (55.2)	110 396	321 272	16 243	305 030	
1985	489 260 (57.0)	104 898	384 362	15 763	368 600	
1990	853 060 (65.7)	110 372	575 507	15 639	536 773	23 095
1995	917 419 (66.1)	97 288	664 625	13 796	594 712	56 117
2000	951 253 (67.0)	87 307	741 148	12 052	630 958	98 138
2005	933 006 (66.1)	88 066	737 621	11 485	587 657	138 479
2010	876 878 (65.1)	-	-	77 677	799 201	-
2011	866 347 (64.9)	-	-	73 916	792 431	-
2012	914 609 (65.3)	-	-	75 668	838 941	-
2013	889 795 (63.9)	-	-	74 571	815 224	-
2014	876 322 (63.5)	-	-	72 579	803 743	-
2015	879 935 (62.9)	-	-	71 443	808 492	-
2016	891 479 (63.1)	-	-	70 119	821 360	-
2017	904 967 (63.0)	-	-	69 815	835 152	-
2018	917 921 (62.9)	-	-	70 101	847 820	-
2019	909 598 (63.1)	-	-	65 556	844 042	-
2020	769 440 (72.2)	-	-	25 593	743 847	-
2021	750 471 (68.9)	-	-	30 189	720 282	-
2022	820 484 (65.1)			44 185	776 299	
2023	826 296 (62.6)	-	-	53 835	772 461	-

Source: Annual Statistical Report on Motor Vehicle Transport; Annual Statistical Report on Railway Transport; Annual Statistical Report on Air Transport; Shipping, Ships and Crew-Related Information and Data; Transportation-related Statistics Data Collection (Ministry of Land, Infrastructure, Transport and Tourism)

Note: 1. Starting from FY 1987, motor vehicles include light motor vehicles and trucks in private use

Note: 2. Regarding the number of passengers transported and passenger-kilometers for railways: figures from FY 1987 onward are not in sequence with those of the previous fiscal year and before because of overlaps between JR (Japan Railway) Companies

Trucks in private use		Railways	Passenger ships	Aircraft	Total	
Registerd trucks	Light trucks					
		12 290 380 (60.6)	98 887 (0.5)	1 260 (0.01)	20 291 270 (100.0)	FY 1960
		15 798 168 (51.3)	126 007 (0.4)	5 194 (0.02)	30 792 839 (100.0)	1965
		16 384 034 (40.3)	173 744 (0.4)	15 460 (0.04)	40 605 671 (100.0)	1970
		17 587 925 (38.1)	169 864 (0.4)	25 467 (0.06)	46 194 706 (100.0)	1975
		18 004 962 (34.8)	159 751 (0.3)	40 427 (0.08)	51 720 373 (100.0)	1980
		18 989 703 (35.3)	153 477 (0.3)	43 777 (0.08)	53 865 861 (100.0)	1985
3 454 128	7 551 734	21 938 609 (28.2)	162 600 (0.2)	65 252 (0.08)	77 933 888 (100.0)	1990
3 133 874	7 463 790	22 630 439 (26.9)	148 828 (0.2)	78 101 (0.09)	84 129 021 (100.0)	1995
2 484 914	5 784 066	21 646 751 (25.6)	110 128 (0.1)	92 873 (0.1)	84 691 058 (100.0)	2000
2 083 356	5 252 372	21 963 024 (24.9)	103 175 (0.1)	94 490 (0.1)	88 098 313 (100.0)	2005
-	-	22 669 011 (25.6)	85 047 (0.3)	82 211 (0.3)	88 542 112 (100.0)	2010
-	-	22 632 357 (25.8)	84 066 (0.1)	79 052 (0.1)	87 786 552 (100.0)	2011
-	-	23 041 825 (25.1)	87 134 (0.1)	85 996 (0.1)	91 882 541 (100.0)	2012
-	-	23 606 410 (25.9)	88 018 (0.1)	92 488 (0.1)	91 031 917 (100.0)	2013
-	-	23 599 851 (26.1)	85 859 (0.1)	95 197 (0.1)	90 480 613 (100.0)	2014
-	-	24 289 894 (26.5)	87 947 (0.1)	96 063 (0.1)	91 535 614 (100.0)	2015
-	-	24 598 362 (26.5)	87 461 (0.1)	98 124 (0.1)	92 966 945 (100.0)	2016
-	-	24 972 608 (26.4)	88 198 (0.1)	102 119 (0.1)	94 477 030 (100.0)	2017
-	-	25 269 594 (26.4)	87 625 (0.1)	103 903 (0.1)	95 681 380 (100.0)	2018
-	-	25 189 733 (26.5)	80 200 (0.1)	101 873 (0.1)	95 068 660 (100.0)	2019
-	-	17 669 659 (22.5)	45 300 (0.1)	33 768 (0.0)	78 414 381 (100.0)	2020
-	-	18 805 399 (24.1)	49 100 (0.1)	49 695 (0.1)	78 094 567 (100.0)	2021
-	-	21 053 533 (24.9)	(0.0)	90 662 (0.1)	84 646 998 (100.0)	2022
-	-	22 613 829 (26.2)	(0.0)	104 805 (0.1)	86 166 593 (100.0)	2023

Trucks in private use		Railways	Passenger ships	Aircraft	Total	
Registerd trucks	Light trucks					
		184 340 (75.8)	2 670 (1.1)	737 (0.3)	243 278 (100.0)	FY 1960
		255 484 (66.8)	3 402 (0.9)	2 952 (0.8)	382 594 (100.0)	1965
		288 815 (49.2)	4 814 (0.8)	9 319 (1.6)	587 177 (100.0)	1970
		323 800 (45.6)	6 895 (1.0)	19 148 (2.7)	710 711 (100.0)	1975
		314 542 (40.2)	6 132 (0.8)	29 688 (3.8)	782 031 (100.0)	1980
		330 101 (38.5)	5 752 (0.7)	33 119 (3.9)	858 232 (100.0)	1985
74 659	92 523	387 478 (29.8)	6 275 (0.5)	51 623 (4.0)	1 298 436 (100.0)	1990
73 887	81 620	400 056 (28.8)	5 527 (0.4)	65 012 (4.7)	1 388 014 (100.0)	1995
59 431	63 366	384 441 (27.1)	4 304 (0.3)	79 698 (5.6)	1 419 696 (100.0)	2000
49 742	57 576	391 228 (27.7)	4 025 (0.3)	83 220 (5.9)	1 411 397 (100.0)	2005
-	-	393 466 (29.2)	3 004 (0.5)	73 750 (13.5)	1 347 098 (100.0)	2010
-	-	395 067 (29.6)	3 047 (0.2)	71 165 (5.3)	1 335 626 (100.0)	2011
-	-	404 394 (28.9)	3 092 (0.2)	77 917 (5.6)	1 400 012 (100.0)	2012
-	-	414 387 (29.8)	3 265 (0.2)	84 144 (6.0)	1 391 591 (100.0)	2013
-	-	413 970 (30.0)	2 923 (0.2)	86 763 (6.3)	1 379 978 (100.0)	2014
-	-	427 486 (30.6)	3 139 (0.2)	88 216 (6.3)	1 398 776 (100.0)	2015
-	-	431 799 (30.5)	3 275 (0.2)	90 576 (6.4)	1 413 854 (100.0)	2016
-	-	437 362 (30.4)	3 191 (0.2)	94 427 (6.6)	1 436 756 (100.0)	2017
-	-	441 614 (30.3)	3 364 (0.2)	96 171 (6.6)	1 459 070 (100.0)	2018
-	-	435 063 (30.2)	3 076 (0.2)	94 490 (6.6)	1 442 227 (100.0)	2019
-	-	263 211 (24.7)	1 523 (0.1)	31 543 (3.0)	1 065 717 (100.0)	2020
-	-	289 891 (26.6)	1 847 (0.2)	46 658 (4.3)	1 088 867 (100.0)	2021
		352 853 (28.0)	(0.0)	86 382 (6.9)	1 259 719 (100.0)	2022
-	-	393 706 (29.8)	(0.0)	99 354 (7.5)	1 319 356 (100.0)	2023

Note: 3. For passenger ship transport, figures for FY 1970 and before include only scheduled transport services; figures from FY 1975 onward are the total of scheduled and nonscheduled transport services. Passenger-kilometers transported in FY 1965 and before were estimated by multiplying the number of passengers by 27 kilometers (the average kilometers per person transported).

Note: 4. The car of the number after the FY 2010 is only the distinction between commercial use and private use

Note: 5. The survey method for motor vehicles has changed since FY 2020, and the data is not continuous with previous data

1-2 Freight transport in Japan

	Tonnage transported x 1000 tons (% in parentheses)						
	Motor Vehicle						
		Commercial use			private use		
			Registerd vehicles	Light vehicles		Registerd vehicles	Light vehicles
FY 1960	1 156 291 (75.8)	380 728	380 728		775 563	775 563	
1965	2 193 195 (83.8)	664 227	664 227		1 528 968	1 528 968	
1970	4 626 069 (88.1)	1 113 061	1 113 061		3 513 008	3 513 008	
1975	4 392 859 (87.4)	1 251 482	1 251 482		3 141 377	3 141 377	
1980	5 317 950 (88.9)	1 661 473	1 661 473		3 656 477	3 656 477	
1985	5 048 048 (90.2)	1 891 937	1 891 937		3 156 111	3 156 111	
1990	6 113 565 (90.2)	2 427 625	2 416 384	11 241	3 685 940	3 557 161	128 779
1995	6 016 571 (90.6)	2 647 067	2 633 277	13 790	3 369 504	3 230 135	139 369
2000	5 773 619 (90.6)	2 932 696	2 916 222	16 474	2 840 923	2 713 392	127 531
2005	4 965 874 (91.2)	2 858 258	2 840 686	17 572	2 107 616	1 983 974	123 642
2010	4 600 624 (91.8)	3 069 416	3 050 476	18 940	1 531 208	1 410 779	120 429
2011	4 619 486 (92.0)	3 153 051	3 133 872	19 179	1 466 435	1 343 904	122 531
2012	4 495 208 (91.7)	3 011 839	2 988 696	23 143	1 483 369	1 354 088	129 281
2013	4 481 702 (91.4)	2 989 496	2 967 945	21 551	1 487 624	1 356 256	131 368
2014	4 315 836 (91.3)	2 934 361	2 912 691	21 670	1 513 398	1 381 475	131 923
2015	4 289 001 (91.3)	2 916 827	2 895 373	21 454	1 501 082	1 372 174	128 908
2016	4 377 822 (91.4)	3 019 328	2 999 112	20 216	1 488 183	1 358 494	129 689
2017	4 381 246 (91.5)	3 031 940	3 011 702	20 238	1 476 940	1 349 306	127 634
2018	4 453 201 (91.8)	3 018 819	2 998 823	19 996	1 434 382	1 310 965	123 417
2019	4 449 868 (92.0)	3 053 766	3 033 389	20 377	1 396 102	1 275 366	120 736
2020	3 786 998 (91.6)	2 550 515	2 530 865	19 650	1 349 562	1 236 483	113 079
2021	3 888 397 (91.4)	2 602 052	2 580 357	21 695	1 392 905	1 286 344	106 561
2022	3 825 999 (91.4)	2 557 548	2 537 357	20 191	1 377 731	1 268 451	109 280
2023	3 889 904 (91.9)	2 512 059	2 489 494	22 565	1 377 845	1 268 446	109 399

	Ton-kilometers transported x 1 million ton-kilometers (% in parentheses)						
	Motor Vehicle						
		Commercial use			private use		
			Registerd vehicles	Light vehicles		Registerd vehicles	Light vehicles
FY 1960	20 801 (15.0)	9 639	9 639		11 163	11 163	
1965	48 392 (26.1)	22 385	22 385		26 006	26 006	
1970	135 916 (38.8)	67 330	67 330		68 586	68 586	
1975	129 701 (36.0)	69 247	69 247		60 455	60 455	
1980	178 901 (40.8)	103 541	103 541		75 360	75 360	
1985	205 941 (47.4)	137 300	137 300		68 642	68 642	
1990	274 244 (50.2)	194 221	193 799	422	80 023	78 358	1 665
1995	294 648 (52.7)	223 090	222 655	435	71 558	69 911	1 647
2000	313 118 (54.2)	255 533	255 012	522	57 585	56 025	1 559
2005	334 979 (58.7)	290 773	290 160	613	44 206	42 752	1 455
2010	244 750 (54.9)	213 288	212 832	456	31 462	29 862	1 600
2011	232 693 (54.3)	202 441	201 984	457	30 252	28 620	1 632
2012	211 669 (51.5)	180 336	179 865	471	31 333	29 620	1 713
2013	215 885 (51.1)	184 840	184 360	480	30 990	29 252	1 738
2014	210 008 (50.6)	181 160	180 720	440	30 593	28 848	1 745
2015	204 316 (50.2)	175 981	175 558	423	30 044	28 335	1 709
2016	210 314 (50.9)	180 811	180 393	418	31 221	29 503	1 718
2017	210 829 (50.9)	182 526	182 114	412	29 996	28 303	1 693
2018	212 110 (51.5)	182 490	182 086	404	29 620	27 977	1 643
2019	215 447 (53.1)	186 377	185 967	410	29 070	27 459	1 611
2020	214 939 (55.5)	186 999	146 084	354	27 940	26 421	1 519
2021	225 536 (55.6)	196 439	153 053	401	29 097	27 656	1 441
2022	228 359 (55.8)	199 149	156 367	401	29 210	27 737	1 473
2023	230 655 (57.2)	202 143	158 117	431	28 512	27 037	1 475

Source: Annual Statistical Report on Motor Vehicle Transport; Annual Statistical Report on Railway Transport; Annual Statistical Report on Air Transport; Annual Statistical Report on Domestic Shipping; Transportation-related Statistics Data Collection (Ministry of Land, Infrastructure, Transport and Tourism)

Note: 1. Starting from FY 1987, motor vehicles include light motor vehicles and trucks in private use

Note: 2. in FY 2010, research and aggregation methods have been changed. Therefore, the number of the before and after of 2010 is not continuous

Note: 3. Air cargo figures for FY 2018 and earlier include excess baggage and mail.

Note: 4. The survey method for motor vehicles has changed since FY 2020, and data from previous years is no longer continuous.

Railways	Coastal shipping	Aircraft	Total	
229 856 (15.1)	138 849 (9.1)	9 (0.00)	1 525 005 (100.0)	FY 1960
243 524 (9.3)	179 645 (6.9)	33 (0.00)	2 616 397 (100.0)	1965
250 360 (4.8)	376 647 (7.2)	116 (0.00)	5 253 192 (100.0)	1970
180 616 (3.6)	452 054 (9.0)	192 (0.00)	5 025 721 (100.0)	1975
162 827 (2.7)	500 258 (8.4)	329 (0.01)	5 981 364 (100.0)	1980
96 285 (1.7)	452 385 (8.1)	538 (0.01)	5 597 256 (100.0)	1985
86 619 (1.3)	575 199 (8.5)	874 (0.01)	6 776 257 (100.0)	1990
76 932 (1.2)	548 542 (8.3)	960 (0.01)	6 643 005 (100.0)	1995
59 274 (0.9)	537 021 (8.4)	1 103 (0.02)	6 371 017 (100.0)	2000
52 473 (1.0)	426 145 (7.8)	1 082 (0.02)	5 445 574 (100.0)	2005
43 647 (0.9)	366 734 (7.3)	1 004 (0.02)	5 012 009 (100.0)	2010
39 886 (0.8)	360 983 (7.2)	960 (0.02)	5 021 315 (100.0)	2011
42 340 (0.9)	365 992 (7.5)	977 (0.02)	4 904 517 (100.0)	2012
44 101 (0.9)	378 334 (7.7)	1 016 (0.02)	4 905 153 (100.0)	2013
43 424 (0.9)	369 302 (7.8)	1 024 (0.02)	4 729 586 (100.0)	2014
43 210 (0.9)	365 486 (7.8)	1 014 (0.02)	4 698 711 (100.0)	2015
44 089 (0.9)	364 485 (7.6)	1 005 (0.02)	4 787 401 (100.0)	2016
45 170 (0.9)	360 127 (7.5)	999 (0.02)	4 787 542 (100.0)	2017
42 321 (0.9)	354 445 (7.3)	875 (0.02)	4 850 842 (100.0)	2018
42 660 (0.9)	341 450 (7.1)	781 (0.02)	4 834 759 (100.0)	2019
39 124 (0.9)	306 076 (7.4)	428 (0.01)	4 132 626 (100.0)	2020
38 912 (0.9)	324 659 (7.6)	480 (0.01)	4 252 448 (100.0)	2021
38 264 (0.9)	320 929 (7.7)	550 (0.01)	4 185 742 (100.0)	2022
38 294 (0.9)	304 404 (7.2)	555 (0.01)	4 233 157 (100.0)	2023

Railways	Coastal shipping	Aircraft	Total	
53 916 (39.0)	63 579 (46.0)	6 (0.00)	138 302 (100.0)	FY 1960
56 678 (30.5)	80 635 (46.4)	21 (0.01)	185 726 (100.0)	1965
63 031 (18.0)	151 243 (43.2)	74 (0.02)	350 264 (100.0)	1970
47 058 (13.1)	183 579 (50.9)	152 (0.04)	360 490 (100.0)	1975
37 428 (8.5)	222 173 (50.6)	290 (0.07)	438 792 (100.0)	1980
21 919 (5.0)	205 818 (47.4)	482 (0.11)	434 160 (100.0)	1985
27 196 (5.0)	244 546 (44.7)	799 (0.15)	546 785 (100.0)	1990
25 101 (4.5)	238 330 (42.6)	924 (0.17)	559 002 (100.0)	1995
22 136 (3.8)	241 671 (41.8)	1 075 (0.19)	578 000 (100.0)	2000
22 813 (4.0)	211 576 (37.1)	1 075 (0.19)	570 443 (100.0)	2005
20 398 (4.6)	179 898 (40.3)	1 032 (0.23)	446 078 (100.0)	2010
19 998 (4.7)	174 900 (40.8)	992 (0.23)	428 583 (100.0)	2011
20 471 (5.0)	177 791 (43.3)	1 017 (0.25)	410 948 (100.0)	2012
21 071 (5.0)	184 860 (43.7)	1 049 (0.25)	422 865 (100.0)	2013
21 029 (5.1)	183 120 (44.1)	1 050 (0.25)	415 207 (100.0)	2014
21 519 (5.3)	180 381 (44.3)	1 056 (0.26)	407 272 (100.0)	2015
21 265 (5.1)	180 438 (43.7)	1 057 (0.26)	413 074 (100.0)	2016
21 663 (5.2)	180 934 (43.7)	1 066 (0.26)	414 492 (100.0)	2017
19 369 (4.7)	179 089 (43.5)	977 (0.24)	411 545 (100.0)	2018
19 993 (4.9)	169 680 (41.8)	834 (0.21)	405 954 (100.0)	2019
18 340 (4.7)	153 824 (39.7)	464 (0.12)	387 567 (100.0)	2020
18 042 (4.4)	161 795 (39.9)	528 (0.13)	405 901 (100.0)	2021
17 984 (4.4)	162 663 (39.7)	599 (0.15)	409 605 (100.0)	2022
17 801 (4.4)	154 015 (38.2)	601 (0.15)	403 072 (100.0)	2023

2. Passenger and Freight Transport in Japan and Other Countries

2-1 Passenger transport in Japan and other countries (passenger-kilometers)

x 1 billion passenger-kilometers (% in parentheses)

	Survey year	Passenger cars	Buses	Railways	Coastal shipping	Aircraft	Total
Japan	2022	776.3 (61.6)	44.2 (3.5)	352.9 (28.0)	—	86.4 (6.9)	1 259.8 (100)
U.S.A	2022	6 907.2 (80.3)	630.8 (7.2)	35.5 (0.7)	—	1 141.0 (13.1)	8 714.5 (100)
U.K.	2019	636.8 (86.1)	25.2 (4.0)	61.7 (10.0)	—	—	723.7 (100)
France	2022	809.4 (82.0)	47.0 (6.2)	118.8 (11.8)	—	—	975.2 (100)
Germany	2022	848.6 (83.4)	46.5 (5.7)	106.8 (10.9)	—	—	1 001.9 (100)

Source: Annual Statistical Report on Motor Vehicle Transport, Annual Statistical Report on Railway Transport,
Annual Statistical Report on Air Transport (Ministry of Land, Infrastructure, Transport and Tourism) (Japan)
EU Transport in Figures Statistical Pocketbook 2024 (USA, UK, France, Germany)

Note: In Japan, the UK, France and Germany, "buses" are values for commercial vehicles, including small cars.

2-2 Freight transport in Japan and other countries (ton-kilometers)

x 1 billion ton-kilometers (% in parentheses)

	Survey year	Trucks	Railways	Coastal shipping	Aircraft	Pipeline	Total
Japan	2022	228.4 (55.7)	18.0 (4.4)	162.7 (39.7)	0.6 (0.1)	—	409.7 (100)
U.S.A	2022	3 175.3 (41.3)	2 238.7 (32.8)	405.6 (5.5)	—	1 554.8 (21.1)	7 374.4 (100)
U.K.	2019	160.8 (86.1)	16.9 (8.7)	0.2 (0.1)	—	10.0 (5.1)	187.9 (100)
France	2022	291.2 (84.8)	35.3 (9.3)	6.6 (2.4)	—	10.1 (3.5)	343.2 (100)
Germany	2022	476.4 (71.4)	128.6 (18.2)	44.1 (7.7)	—	17.7 (2.7)	666.8 (100)

Source: Annual Statistical Report on Motor Vehicle Transport, Annual Statistical Report on Railway Transport,
Annual Statistical Report on Air Transport (Ministry of Land, Infrastructure, Transport and Tourism) (Japan)
EU Transport in Figures Statistical Pocketbook 2024 (USA, UK, France, Germany)

Note: The "Trucks" figures for the UK, France and Germany are the combined domestic and international figures.

3. Road Traffic in Japan and Other Countries

3-1 Vehicle kilometers traveled in Japan

(unit: 1 million kilometers)

	Passenger cars			Trucks			Total
	Passenger cars (excl. light vehicles)	Buses	Sub total	Commercial use (excl. light trucks)	Private use (excl. light trucks)	Sub total	
FY 1960	8 725	1 994	10 719	4 377	13 068	17 445	28 164
1965	34 002	3 590	37 592	8 465	36 098	44 563	82 155
1970	120 582	5 394	125 976	15 592	84 448	100 040	226 017
1975	176 035	5 451	181 486	17 922	86 938	104 859	286 345
1980	241 459	6 046	247 505	26 883	114 664	141 547	389 052
1985	275 557	6 352	281 908	34 682	111 851	146 533	428 442
1990	350 317	7 112	357 429	48 459	122 077	170 536	527 964
1995	407 001	6 768	413 769	60 341	122 253	182 594	596 363
2000	438 204	6 619	444 823	69 204	116 728	185 932	630 755
2005	417 537	6 650	424 187	70 829	97 473	168 302	592 489
2006	405 388	6 655	412 043	73 103	95 337	168 440	580 483
2007	398 579	6 726	405 305	74 271	94 229	168 500	573 805
2008	382 499	6 568	389 067	72 148	91 015	163 163	552 230
2009	382 740	6 549	389 289	69 488	86 265	155 753	545 042

	Gasoline		Light oil		LPG	CNG	Total
	Commercial	Private	Commercial	Private			
2010	7 668	564 084	66 309	55 963	12 161	429	706 614
2011	7 482	572 516	64 535	53 632	11 245	424	709 834
2012	7 809	602 209	58 021	52 814	10 689	401	731 943
2013	7 495	588 594	63 335	53 509	10 258	370	723 561
2014	7 613	583 984	63 297	52 973	9 802	347	718 016
2015	7 749	586 920	63 627	53 275	9 239	309	721 119
2016	7 815	597 642	63 118	52 430	8 493	260	729 758
2017	7 997	607 020	63 438	53 158	8 067	218	739 898
2018	8 361	614 108	63 542	54 374	7 365	179	747 929
2019	8 521	610 623	63 116	55 747	6 495	141	744 643
2020	7 244	544 564	58 869	51 294	3 786	107	665 864
2021	7 247	524 690	61 413	52 846	3 714	84	649 994
2022	8 176	560 723	62 365	56 252	4 269	72	691 857
2023	8 237	564 017	62 531	57 540	3 977	63	696 365
2024	8 559	565 021	60 894	59 250	3 724	57	697 505

Source: Annual Statistical Report on vehicle fuel consumption, Transportation-related Statistics Data Collection (Ministry of Land, Infrastructure, Transport and Tourism)

Note: The survey method and aggregation method has been changed in FY 2010. Because the numbers are aggregated by fuel, also number of the light car is added, the number is not continuous in this year.

3-2 Vehicle kilometers traveled in Japan and other countries

(unit: 1 million vehicle-kilometers)

	Survey year	Passenger cars	Buses	Trucks	Total
Asia					
Japan	2018	—		—	747 929
Korea	2018	342 556	12 504	122 734	477 794
Chinese-Taipei	2018	88 357	1 869	17 752	107 978
China	2010	418 330	—	422 630	840 960
Hong-Kong	2017	8 470	1 324	3 511	13 305
Singapore	2014	10 904	558	5 371	16 833
India	2002	208 581	63 500	297 374	569 455
Turkey	2018	170 801	23 871	99 538	294 210
Europe					
U.K.	2018	410 727	3 694	109 536	523 957
Germany	2018	642 200	4 600	90 700	737 500
France	2018	458 510	3 746	130 107	592 363
Netherlands	2018	110 185	655	25 806	136 646
Bergium	2017	80 076	614	20 849	101 539
Spain	2018	103 331	871	25 258	129 460
Portugal	2018	—	482	—	—
Greece	2010	54 848	1 277	15 542	71 667
Switzerland	2018	59 344	139	6 768	66 251
Austria	2018	68 538	526	13 368	82 432
Norway	2018	35 988	579	9 431	45 998
Sweden	2018	68 639	998	14 253	83 890
Finland	2018	30 923	420	7 245	38 588
Denmark	2018	41 222	642	9 320	51 184
Russia	2018	—	—	22 778	—
Poland	2018	199 660	1 761	38 289	239 710
Hungary	2018	31 578	731	11 820	44 129
Ukraine	2018	3 805	2 084	6 418	12 307
America					
U.S.A.	2018	3 592 993	29 456	1 560 028	5 182 477
Canada	2009	213 734	—	119 147	332 881
Mexico	2017	136 500	4 852	36 196	177 548
Africa					
Morocco	2004	4 905	10 948	12 840	28 693
South Africa	2007	75 573	9 007	47 278	131 858
Oceania					
Australia	2018	185 408	2 514	73 028	260 950
New Zealand	2018	44 874	312	3 074	48 260

Source: World Road Statistics (IRF)

4. Road Traffic in Japan

4-1 Traffic volume by type of road / average travel speed at peak hours

Type of road	FY	Length of road surveyed (km)	Vehicle-kilometers traveled in 12 hours (x 1000 vehicle-kilometers)					Estimated vehicle-kilometers traveled in 24 hours (x 1000 vehicle-kilometers)			Average travel speed at peak hours (km/h)
				Passenger cars	Small trucks	Buses	Ordinary trucks		Passenger cars	Trucks	
				Small vehicles (2010～)		Ordinary vehicles (2010～)			Small vehicles	Ordinary Vehicles	
National expressways	1980	2 698.8	38 933	15 424	9 590	1 130	12 789	55 512	21 352	34 160	82.95
	1990	4 675.3	80 526	34 973	16 838	2 256	26 460	121 629	55 180	66 449	84.99
	1999	7 094.9	128 829	69 668	22 972	2 692	33 498	187 687	94 167	93 521	79.11
	2010	7 807.6	149 665	110 153		39 512		214 564	138 596	75 968	71.10
	2015	8 687.2	158 515	116 342		42 173		230 694	148 066	82 629	83.90
	2021	9 097.2	147 055	100 745		46 309		211 807	124 628	87 179	80.70
Urban expressways	1980	250.8	12 316	5 638	3 943	102	2 632	17 118	8 638	8 480	42.27
	1990	421.0	20 820	9 750	5 766	235	5 068	32 172	15 322	16 850	51.28
	1999	604.1	28 032	16 578	5 107	335	6 012	41 262	25 283	15 979	44.31
	2010	738.7	31 239	25 126		6 113		44 142	34 635	9 507	41.70
	2015	786.6	32 268	25 866		6 581		45 581	35 340	10 241	39.90
	2021	801.9	39 919	32 030		7 889		43 658	33 891	9 767	37.80
Expressways total	1980	2 949.6	51 249	21 062	13 533	1 232	15 422	72 630	29 990	42 640	79.42
	1990	5 096.3	101 346	44 724	22 604	2 490	31 528	153 802	70 502	83 300	80.62
	1999	7 699.0	156 861	86 246	28 079	3 026	39 510	228 949	119 450	109 500	74.50
	2010	10 083.7	197 788	148 403		49 385		281 170	189 733	91 436	67.50
	2015	11 775.7	215 896	161 113		54 783		309 680	207 466	102 213	76.00
	2021	12 693.7	211 258	150 248		61 010		297 415	187 770	109 646	72.90
National roads (government management)	1980	19 025.0	191 007	91 783	59 238	3 457	36 530	254 878	130 363	124 515	40.86
	1990	20 052.3	242 582	119 468	72 413	3 365	47 336	336 002	169 790	166 212	36.92
	1999	20 837.4	279 297	164 875	58 869	2 867	52 685	389 786	234 203	155 583	34.62
	2010	21 874.0	266 801	220 098		46 702		364 001	291 259	72 743	36.50
	2015	22 563.0	264 288	218 935		45 353		356 307	288 896	67 411	34.70
	2021	22 822.7	252 325	210 755		41 570		333 438	272 873	60 565	34.40
National roads (other)	1980	20 920.9	93 836	46 721	31 900	2 048	13 167	119 232	65 154	54 078	38.01
	1990	26 672.3	148 720	74 334	50 639	2 366	21 381	194 672	100 544	94 128	37.63
	1999	32 558.2	202 744	123 706	47 695	2 433	28 911	266 163	170 278	95 885	38.21
	2010	32 450.1	203 166	176 179		26 987		263 489	226 923	36 566	38.10
	2015	33 121.9	204 811	177 402		27 409		266 688	226 668	40 020	35.60
	2021	32 607.4	200 497	173 232		27 265		258 274	217 491	40 784	35.30
National roads total	1980	39 945.9	284 843	138 504	91 137	5 505	49 697	374 110	195 517	178 593	39.37
	1990	46 724.6	391 302	193 802	123 052	5 732	68 717	530 674	270 334	260 340	37.32
	1999	53 395.6	482 041	288 581	106 565	5 299	81 596	655 949	404 481	251 468	36.72
	2010	54 324.1	469 967	396 277		73 690		627 490	518 181	109 309	37.40
	2015	55 684.9	469 100	396 337		72 762		622 996	515 565	107 431	35.30
	2021	55 430.1	452 821	383 987		68 835		591 712	490 363	101 349	34.90
Principal local roads	1980	43 582.3	156 748	79 204	54 995	3 079	19 470	201 848	114 493	87 355	36.22
	1990	49 710.0	216 726	110 233	75 183	3 191	28 119	287 033	150 468	136 565	35.63
	1999	56 377.4	284 268	177 061	67 562	3 137	36 508	377 036	250 254	126 782	33.83
	2010	56 512.7	279 402	246 035		33 367		365 228	320 821	44 407	33.60
	2015	57 824.2	279 235	246 315		32 919		363 132	314 996	48 137	31.10
	2021	56 476.8	268 599	238 387		30 212		345 096	299 727	45 370	29.90
General prefectural roads	1980	86 583.6	165 874	85 537	60 391	3 132	16 814	210 507	121 844	88 663	—
	1990	75 730.9	195 980	99 843	72 168	2 743	21 226	253 172	133 017	120 155	33.60
	1999	67 971.2	198 329	124 321	50 310	2 195	21 502	237 908	172 310	85 598	33.01
	2010	68 176.5	193 546	173 974		19 573		250 817	224 373	26 444	32.70
	2015	71 178.8	195 579	176 085		19 494		249 433	220 663	28 770	30.50
	2021	68 384.4	189 730	171 561		18 169		239 780	212 140	27 640	28.70
Local roads total	1980	130 165.9	322 622	164 741	115 387	6 211	36 284	412 355	236 337	176 018	36.22
	1990	125 440.9	412 706	210 077	147 351	5 934	49 345	540 205	283 485	256 720	34.19
	1999	124 730.0	482 597	301 383	117 872	5 332	58 010	634 944	422 564	212 380	33.38
	2010	124 689.2	472 948	420 008		52 940		616 045	545 194	70 851	33.10
	2015	129 003.0	474 814	422 401		52 514		612 565	535 659	76 906	30.80
	2021	124 861.2	458 329	409 948		48 381		584 877	511 867	73 010	29.20
Total of national roads and local roads	1980	170 111.8	607 466	303 245	206 524	11 716	85 981	786 466	431 854	354 612	37.74
	1990	172 165.5	804 008	403 879	270 403	11 665	118 061	1 070 879	533 819	517 060	34.41
	1999	178 125.6	964 638	589 964	224 437	10 631	139 606	1 290 893	827 045	463 848	34.32
	2010	179 013.3	942 915	816 285		126 629		1 243 535	1 063 376	180 160	34.30
	2015	184 687.9	943 914	818 738		125 176		1 235 561	1 051 223	184 338	32.00
	2021	180 291.3	911 150	793 935		117 215		1 176 589	1 002 230	174 359	30.80
Overall total	1980	173 061.4	658 715	324 307	220 057	12 948	101 402	859 115	461 863	397 252	39.15
	1990	177 261.8	905 351	448 602	293 007	14 156	149 586	1 224 681	624 321	600 360	34.41
	1999	185 186.7	1 115 622	672 885	251 516	13 504	177 718	1 511 810	942 060	569 750	35.04
	2010	187 559.6	1 123 819	951 564		172 255		1 502 241	1 236 607	265 635	35.10
	2015	194 161.7	1 134 696	960 766		173 930		1 511 836	1 234 629	277 207	33.00
	2021	190 190.4	1 090 216	920 365		169 851		1 432 054	1 160 749	271 305	31.70

Source: Road Traffic Census (Japan Society of Traffic Engineering)
Note: In FY 2010, Investigation methods for segmenting of car model have been changed from 4 classification to 2 classification.

4-2 Traffic volume in major cities / average travel speed at peak hours

(FY)

	Lengs of road Surveyer(km)	Vehicle-kilometers traveled in 12 hours (x 1000 vehicle-kilometers)						Average travel speed at peak hours (km/h)					
	2021	1980	1990	1999	2010	2015	2021	1980	1990	1999	2010	2015	2021
Sapporo City, Hokkaido	152.3	2 572	3 099	3 574	3 080	3 215	2 912	29.4	30.3	24.6	25.9	26.4	25.0
Sendai City, Miyagi Pref.	142.1	—	2 373	2 845	3 080	3 328	3 023	—	19.6	22.2	30.0	24.7	24.9
Special Wards of Tokyo	192.1	5 491	5 663	6 156	5 241	4 977	4 694	21.4	19.1	18.0	16.2	15.3	14.8
Yokohama City, Kanagawa Pref	166.3	3 428	4 968	6 152	5 579	5 671	5 444	31.4	27.0	23.0	23.0	22.1	20.6
Kawasaki City, Kanagawa Pref.	54.6	444	861	1 219	1 231	1 322	1 312	24.6	19.3	20.0	21.1	18.6	17.3
Nagoya City, Aichi Pref.	131.6	3 181	3 629	3 671	3 953	3 971	3 695	25.6	19.3	19.6	17.6	17.7	16.7
Kyoto City, Kyoto Pref.	181.0	1 923	2 292	2 276	2 192	2 081	2 184	29.7	20.2	21.6	26.4	27.0	26.6
Osaka City, Osaka Pref.	113.9	2 177	2 945	3 216	2 986	2 809	2 798	21.5	18.3	17.0	16.5	15.8	14.5
Kobe City, Hyogo Pref.	138.8	2 463	3 340	3 458	3 184	3 188	3 126	38.6	30.4	33.6	27.5	27.1	24.9
Hiroshima City, Hiroshima Pref.	170.4	1 909	2 503	2 888	3 013	2 861	2 900	30.9	25.7	20.2	28.6	22.8	20.7
Kitakyushu City, Fukuoka Pref.	167.6	3 251	3 688	3 257	3 151	3 010	2 955	33.6	26.6	25.7	23.1	20.6	19.7
Fukuoka City, Fukuoka Pref.	111.3	1 673	2 223	1 954	2 208	2 390	2 431	24.5	22.2	18.4	17.7	18.4	16.0

Source: Road Traffic Census (Japan Society of Traffic Engineering)
Note: Figures are those measured on national highways.

5. Roads in Japan and Other Countries

5-1 Length of roads in Japan

(km, at beginning of each fiscal year)

	National expressway	National Highways	Prefectural roads	Principal local roads	General prefectural roads	Municipal roads	General roads total	Total
FY 1955	—	24 092	120 536	28 019	92 517	—	—	144 628
1960	—	24 918	122 124	27 419	94 705	814 872	961 914	961 914
1965	181	27 858	120 513	32 775	87 738	836 382	984 753	984 934
1970	638	32 818	121 180	28 450	92 730	859 953	1 013 951	1 014 589
1975	1 519	38 540	125 714	33 503	92 211	901 775	1 066 028	1 067 547
1980	2 579	40 212	130 836	43 906	86 930	939 760	1 110 808	1 113 387
1985	3 555	46 435	127 436	49 947	77 489	950 078	1 123 950	1 127 505
1990	4 661	46 935	128 782	50 354	78 428	934 319	1 110 037	1 114 698
1995	5 677	53 327	125 512	57 040	68 472	957 792	1 136 631	1 142 308
2000	6 617	53 777	128 182	57 438	70 745	977 764	1 159 723	1 166 340
2005	7 383	54 264	129 139	57 821	71 318	1 002 085	1 185 589	1 192 972
2006	7 392	54 347	129 294	57 903	71 390	1 005 975	1 189 616	1 197 008
2007	7 431	54 530	129 329	57 914	71 415	1 009 599	1 193 459	1 200 890
2008	7 560	54 736	129 393	57 890	71 502	1 012 088	1 196 217	1 203 777
2009	7 642	54 790	129 377	57 877	71 500	1 016 058	1 200 225	1 207 867
2010	7 803	54 981	129 366	57 868	71 499	1 018 101	1 202 449	1 210 252
2011	7 920	55 114	129 343	57 901	71 442	1 020 286	1 204 744	1 212 664
2012	8 050	55 222	129 397	57 924	71 473	1 022 248	1 206 867	1 214 917
2013	8 358	55 432	129 375	57 931	71 444	1 023 962	1 208 769	1 217 127
2014	8 428	55 626	129 301	57 872	71 429	1 025 416	1 210 344	1 218 772
2015	8 652	55 645	129 446	57 850	71 596	1 026 980	1 212 071	1 220 723
2016	8 776	55 565	129 603	57 898	71 705	1 028 375	1 213 543	1 222 319
2017	8 795	55 637	129 667	57 905	71 762	1 029 787	1 215 091	1 223 886
2018	8 923	55 698	129 721	57 913	71 808	1 030 424	1 215 843	1 224 766
2019	9 021	55 874	129 754	57 956	71 798	1 031 840	1 217 469	1 226 490
2020	9 082	55 944	129 724	57 891	71 833	1 033 030	1 218 698	1 227 780
2021	9 100	56 111	129 827	57 888	71 939	1 034 201	1 220 138	1 229 238
2022	9 168	56 144	129 881	57 879	72 002	1 035 195	1 221 220	1 230 388
2023	9 235	56 158	129 931	57 903	72 028	1 035 760	1 221 850	1 231 085

Source: Annual Report on Road Statistics ((～2009)Japan Highway Users Conference, (2010～)Ministry of Land, Infrastructure, Transport and Tourism)

5-2 Length of roads in Japan and other countries

(km)

	Survey year	Expressways	Principal roads	Second-class roads	Other roads	Total	Road density (expressway & principal roads)	
							by area (m/km2)	by vehicle owned (m/vehicle)
Asia								
Japan	2018	8 921	52 018	93 581	198 415	352 935	161.2	0.8
Korea	2018	4 767	13 851	16 844	67 003	102 465	186.1	0.7
Chinese Taipei	2018	1 050	5 283	3 656	33 144	43 133	175.0	0.8
China	2018	142 593	111 703	393 471	4 198 763	4 846 530	26.6	0.8
Hong-Kong	2018	2 123	—	—	—	2 123	1 923.0	3.0
Thailand	2018	225	51 813	47 961	356 488	456 487	101.4	2.8
Malaysia	2018	—	19 810	227 647	2 567	250 024	—	—
Indonesia	2018	—	47 017	54 554	440 739	542 310	24.6	2.0
Singapore	2017	164	704	576	2 056	3 500	1 215.7	1.1
India	2018	114 158	175 036	586 181	5 022 296	5 897 671	53.2	2.1
Turkey	2018	2 842	31 021	34 153	179 537	247 553	43.2	1.7
Europe								
U.K.	2018	3 838	49 699	123 875	245 323	422 735	220.8	1.3
Germany	2018	13 141	37 879	178 806	413 000	642 826	142.7	1.0
France	2018	12 398	8 457	377 890	704 999	1 103 744	37.8	0.4
Netherlands	2017	7 403	5 863	3 583	168 515	185 364	355.1	1.3
Bergium	2015	1 763	13 229	1 349	138 869	155 210	491.1	2.2
Italy	2018	6 966	23 335	135 691	69 098	235 090	100.6	0.7
Spain	2018	17 228	14 385	134 011	372 872	538 496	62.5	1.0
Portugal	2018	3 065	6 457	4 791	—	—	103.3	1.6
Greece	2018	2 098	9 299	30 864	75 600	117 861	86.4	1.7
Switzerland	2018	1 859	17 816	51 880	—	71 555	476.6	3.5
Austria	2018	2 233	10 337	23 673	94 146	130 389	149.9	2.2
Norway	2017	983	9 700	44 622	39 457	94 762	30.0	2.9
Sweden	2013	2 057	6 438	90 079	488 278	586 852	18.9	1.5
Finland	2018	1 063	12 847	64 032	51 053	128 995	41.1	4.1
Denmark	2018	1 284	2 577	—	70 923	74 784	89.6	1.3
Russia	2018	1 293	54 337	510 421	966 718	1 532 769	3.3	0.8
Poland	2018	1 637	17 766	153 497	251 664	424 564	62.2	0.6
Hungary	2018	1 982	6 987	23 101	181 365	213 435	96.4	2.3
Ukraine	2018	15	44 507	53 972	63 429	161 923	73.8	4.5
America								
U.S.A.	2018	107 227	251 474	1 214 297	5 123 160	6 696 158	37.7	1.2
Canada	2009	17 000	86 000	115 000	1 191 000	1 409 000	10.3	4.0
Mexico	2018	10 614	40 584	133 698	223 062	407 958	26.1	1.1
Brasil	2018	—	75 728	1 504 706	—	1 580 434	8.9	1.6
Argentina	2016	—	39 938	201 100	—	241 038	14.4	2.8
Africa								
Egypt	2014	—	24 177	131 031	—	155 208	24.1	4.1
South Africa	2001	239	2 887	60 027	300 978	364 131	2.6	0.2
Oceania								
Australia	2017	51 805	181 900	—	642 209	875 914	30.4	11.9
New Zealand	2018	—	10 992	84 394	—	95 386	40.6	2.7

Source: World Road Statistics (IRF), World Road Statistics (Japan Road Association)
Note: Only vehicles that have at least four wheels are counted as vehicles owned.

5-3 Changes in the amount of investment for road construction in Japan

(x 100 million yen)

	General road construction		Toll road construction		Independent construction by local government		Total	
	Amount of investment	From the previous FY, increased by (%)	Amount of investment	From the previous FY, increased by (%)	Amount of investment	From the previous FY, increased by (%)	Amount of investment	From the previous FY, increased by (%)
FY 1960	1 243	8.4%	281	92.1%	589	26.5%	2 113	20.1%
1965	4 109	15.4%	1 254	2.7%	1 628	13.3%	6 991	12.4%
1970	7 784	17.9%	3 100	15.0%	5 095	31.9%	15 979	21.4%
1975	14 140	0.7%	7 517	7.6%	7 893	▲3.1%	29 550	1.3%
1980	26 428	▲1.6%	13 067	3.3%	18 795	10.5%	58 290	3.2%
1985	31 581	20.5%	18 819	7.1%	21 473	▲3.9%	71 874	8.7%
1990	43 675	1.4%	27 339	6.3%	36 253	13.9%	107 328	6.6%
1995	66 131	31.9%	35 677	▲2.2%	50 937	3.2%	152 745	12.3%
2000	62 168	▲2.2%	25 810	▲9.4%	39 708	▲7.6%	127 686	▲5.4%
2005	48 343	▲3.2%	16 201	▲13.2%	23 986	▲10.7%	88 530	▲7.3%
2006	47 870	▲1.0%	14 277	▲11.9%	23 200	▲3.3%	85 347	▲3.6%
2007	46 198	▲3.5%	14 343	0.5%	20 916	▲3.9%	81 457	▲2.9%
2008	43 631	▲5.6%	13 563	▲5.4%	19 386	▲7.3%	76 580	▲6.0%
2009	47 910	9.8%	10 776	▲20.5%	18 027	▲7.0%	76 713	0.2%
2010	39 851	▲16.8%	9 081	▲15.7%	17 941	▲0.5%	66 873	▲12.8%
2011	39 077	▲1.9%	9 198	1.3%	18 040	0.6%	66 315	▲0.8%
2012	38 094	▲2.5%	10 727	16.6%	18 211	0.9%	67 032	1.1%
2013	46 969	23.3%	9 589	▲10.6%	17 010	▲6.6%	73 568	9.8%
2014	43 242	▲7.9%	11 627	21.3%	18 224	7.1%	73 093	▲0.6%
2015	38 862	▲10.1%	12 906	11.0%	18 312	0.5%	70 080	▲4.1%
2016	40 854	5.1%	13 486	4.5%	18 697	2.1%	73 037	4.2%
2017	42 422	3.8%	15 462	14.7%	19 274	3.1%	77 158	5.6%
2018	40 932	▲3.5%	16 237	5.0%	19 673	2.1%	76 842	▲0.4%
2019	44 688	8.4%	15 392	▲5.5%	21 809	9.8%	81 889	6.2%
2020	47 211	5.3%	16 944	9.2%	20 568	▲6.0%	84 723	3.3%
2021	48 016	1.7%	16 126	▲5.1%	19 979	▲2.9%	84 121	▲0.7%
2022	44 373	▲6.4%	15 545	▲9.0%	20 597	0.1%	80 515	▲5.2%

Source: Annual Statistical Report of Road (Ministry of Land, Infrastructure, Transport and Tourism), Road Handbook (Japan Highway Users Conference)

6. Number of Motor Vehicles Owned in Japan and Other Countries

6-1 Number of motor vehicles owned in Japan

(prior to 1999, vehicles were counted at the end of December; afterward, at the end of March)

	Passenger cars		Trucks		Buses	Vehicles for special use	Total
		Light four-wheeled passenger cars		Light four-wheeled trucks			
1950	42 588	–	152 109	–	18 306	12 494	225 497
1955	153 325	–	250 988	–	34 421	32 572	471 306
1960	457 333	37 530	775 715	36 648	56 192	64 286	1 353 526
1965	2 181 275	393 786	3 865 478	1 405 442	102 695	150 572	6 300 020
1970	8 778 972	2 244 417	8 281 759	3 005 017	187 980	333 132	17 581 843
1975	17 236 321	2 611 130	10 043 853	2 785 182	226 284	584 100	28 090 558
1980	23 659 520	2 176 110	13 177 479	4 527 794	230 020	789 155	37 856 174
1985	27 844 580	2 016 487	17 139 806	8 791 289	231 228	941 647	46 157 261
1990	34 924 172	2 584 926	21 321 439	12 535 415	245 668	1 206 390	57 697 669
1995	44 680 037	5 775 386	20 430 149	11 642 311	243 095	1 500 219	66 853 500
2000	52 449 354	10 084 285	18 064 744	9 958 458	235 550	1 431 162	72 180 810
2005	57 097 670	14 350 390	16 707 445	9 547 749	231 696	1 293 236	75 330 047
2006	57 510 360	15 280 951	16 490 944	9 476 686	231 758	1 272 655	75 505 717
2007	57 551 248	16 082 259	16 264 317	9 380 627	230 981	1 251 465	75 298 011
2008	57 682 475	16 883 230	15 858 749	9 291 247	229 804	1 202 242	74 973 270
2009	57 902 835	17 483 915	15 533 270	9 170 836	228 295	1 188 275	74 852 675
2010	58 139 471	18 004 339	15 137 641	8 922 794	226 839	1 175 676	74 679 627
2011	58 729 343	18 585 902	15 008 821	8 872 908	226 270	1 171 571	75 136 005
2012	59 357 223	19 347 873	14 851 666	8 783 528	226 047	1 654 739	76 089 675
2013	60 051 338	20 230 295	14 749 266	8 708 181	226 542	1 669 679	76 696 825
2014	60 517 249	21 026 132	14 652 701	8 622 311	227 579	1 683 313	77 080 842
2015	60 831 892	21 477 247	14 539 289	8 520 458	230 603	1 700 014	77 301 798
2016	61 253 300	21 761 335	14 451 394	8 420 858	232 793	1 720 030	77 657 517
2017	61 584 906	22 051 124	14 382 846	8 345 314	233 542	1 737 221	77 938 515
2018	61 770 573	22 324 893	14 384 930	8 321 590	232 992	1 751 502	78 139 997
2019	61 808 586	22 528 178	14 367 134	8 438 069	231 051	1 766 102	78 172 873
2020	61 917 112	22 735 611	14 395 843	8 442 504	222 326	1 780 194	78 315 475
2021	61 867 152	22 850 114	14 427 520	8 457 212	216 416	1 793 160	78 304 248
2022	61 953 135	23 070 718	14 516 947	8 524 204	212 180	1 807 770	78 490 032
2023	61 978 954	23 226 180	14 523 260	8 528 411	210 103	1 820 924	78 533 241
2024	62 056 197	23 375 922	14 519 830	8 535 763	208 774	1 834 287	78 619 088

Source: (～1999) survey by Ministry of Transport; (2000～2011) Transportation-related Statistics Data Collection (Ministry of Land, Infrastructure, Transport and Tourism); (2012～)Automobile Inspection & Registration Information Association, Light Motor Vehicle Inspection Organization

Note: 1. For statistics for light passenger cars owned and light trucks owned: those that had not had a vehicle inspection were erased from the data in October, 1975; data from 1975 onward are not in sequence with data of 1970 and before. Figures for 1999 onward are those collected at the end of the fiscal year; they are not in sequence with figures from before 1999.

Note: 2. Since source of data are different, number of vehicle for special use are not continuous.

6-2 Number of motor vehicles owned in Japan and other countries (2022)

(vehicle)

	Passenger cars (×1000)	Number of cars per 1000 inhabitants	Buses, trucks, etc. (×1000)	Number of buses, trucks, etc. per 1000 inhabitants	Total (×1000)	Number of vehicles per 1000 inhabitants
Asia						
Japan	62 158	497.7	16 366	131.0	78 524	628.7
Korea	21 257	411.2	4 604	89.1	25 861	500.2
Chinese Taipei*	6 763	286.3	1 121	47.4	7 884	333.7
China	259 094	182.1	57 556	40.5	316 650	222.6
Hong-Kong*	553	75.1	160	21.7	713	96.8
Thailand	11 806	164.7	6 975	97.3	18 781	261.9
Malaysia*	12 900	407.9	1 475	46.6	14 375	454.6
Indonesia	17 176	61.1	5 770	20.5	22 946	81.6
Singapore*	635	111.2	185	32.4	820	143.6
India	44 399	30.9	37 413	26.0	81 812	56.9
Turkey	14 269	163.4	5 892	67.5	20 161	230.9
Europe						
U.K.	35 148	511.6	5 576	81.2	40 724	592.8
Germany	48 763	577.1	4 296	50.8	53 059	627.9
France	41 847	630.2	6 663	100.3	48 510	730.6
Netherlands	8 941	494.0	1 277	70.6	10 218	564.5
Bergium	5 878	506.2	1 011	87.1	6 889	593.3
Italy	40 213	675.8	5 473	92.0	45 686	767.8
Spain	25 562	533.7	4 585	95.7	30 147	629.4
Portugal*	4 640	449.2	1 215	117.6	5 855	566.8
Greece*	5 236	469.2	1 370	122.8	6 606	591.9
Switzerland	4 721	543.2	858	98.7	5 579	641.9
Austria	5 151	577.3	564	63.2	5 715	640.6
Norway*	2 719	512.5	588	110.8	3 307	623.4
Sweden	4 981	475.9	709	67.7	5 690	543.6
Finland*	2 988	541.0	428	77.5	3 416	618.5
Denmark*	2 530	441.2	451	78.7	2 981	519.9
Russia	59 236	407.4	9 610	66.1	68 846	473.5
Poland	26 794	690.6	4 317	111.3	31 111	801.8
Hungary*	3 472	357.1	481	49.5	3 953	406.6
Ukraine*	8 639	195.4	1 341	30.3	9 980	225.7
America						
U.S.A.	114 746	334.0	186 880	544.0	301 626	878.1
Canada	9 618	244.7	16 211	412.5	25 829	657.2
Mexico	33 561	258.8	11 341	87.4	44 902	346.2
Brasil	38 251	181.2	8 131	38.5	46 382	219.7
Argentina	10 697	235.1	3 462	76.1	14 159	311.2
Africa						
Egypt*	4 384	44.9	1 446	14.8	5 830	59.8
South Africa	11 448	181.1	5 231	82.8	16 679	263.9
Oceania						
Australia	15 342	578.9	4 301	162.3	19 643	741.2
New Zealand*	3 314	704.2	756	160.6	4 070	864.9

Source: World motor vehicle statistics (Japan Automobile Manufacturers Association)

7. Number of People Who Hold a Driver's License in Japan (end of 2024)

(persons, %)

	Male		Female		Total	
		% of license holders		% of license holders		% of license holders
Age 15～19*	448 555	16.0	319 332	12.0	767 887	14.0
Age 20～24	2 439 024	75.3	2 076 198	68.5	4 515 222	72.1
Age 25～29	2 835 388	84.4	2 484 698	78.6	5 320 086	81.7
Age 30～34	2 957 301	89.6	2 626 369	84.4	5 583 670	87.1
Age 35～39	3 276 783	93.6	2 956 399	88.3	6 233 182	91.1
Age 40～44	3 702 308	95.9	3 406 529	90.8	7 108 837	93.4
Age 45～49	4 237 716	96.1	3 918 122	91.3	8 155 838	93.7
Age 50～54	4 766 049	96.1	4 415 902	90.9	9 181 951	93.5
Age 55～59	4 098 204	96.2	3 793 015	89.2	7 891 219	92.7
Age 60～64	3 592 984	95.3	3 283 898	85.7	6 876 882	90.5
Age 65～69	3 300 129	93.5	2 914 456	78.3	6 214 585	85.8
Age 70～74	3 364 906	88.1	2 630 276	61.6	5 995 182	74.1
Age 75～79	2 809 024	77.8	1 856 543	42.5	4 665 567	58.5
Age 80～84	1 569 042	61.5	773 051	21.6	2 342 093	38.2
Age 85 and over	704 944	32.0	185 158	4.0	890 102	13.1
Total	44 102 357	73.2	37 639 946	59.2	81 742 303	66.1

Source: Driver's License Statistics (License Division, Traffic Bureau, National Police Agency); Monthly General Statistics Data (Ministry of Internal Affairs and Communications)

* A driver's license can be obtained only from the age of sixteen up. However, because population statistics are calculated over five-year intervals, the first item is shown as "Age 15-19".

8. Traffic Accidents in Japan

8-1 Number of traffic accidents, fatalities, and injuries

(person)

	Number of traffic accidents		Number of fatalities	Number of injuries	The number of all traffic accidents, that occurred on expressways (National & designated expressways)		
		Number of fatal accidents				Number of fatal accidents	Number of Fatalities
1950	33 212	—	4 202	25 450	—	—	—
1955	93 981	—	6 379	76 501	—	—	—
1960	449 917	—	12 055	289 156	—	—	—
1965	567 286	11 922	12 484	425 666	—	—	—
1970	718 080	15 801	16 765	981 096	—	—	—
1975	472 938	10 165	10 792	622 467	—	—	—
1980	476 677	8 329	8 760	598 719	3 623	155	175
1985	552 788	8 826	9 261	681 346	4 741	223	250
1990	643 097	10 651	11 227	790 295	9 060	401	459
1995	761 789	10 227	10 679	922 677	11 304	375	416
2000	931 934	8 707	9 066	1 155 697	14 325	327	367
2005	933 828	6 625	6 871	1 156 633	13 775	249	285
2010	725 773	4 726	4 863	896 208	12 200	166	188
2011	691 937	4 481	4 612	854 493	11 708	188	214
2012	665 138	4 280	4 411	825 396	11 299	196	225
2013	629 021	4 278	4 373	781 494	11 520	208	227
2014	573 842	4 013	4 113	711 374	10 202	189	204
2015	536 899	4 028	4 117	666 023	9 842	200	215
2016	499 201	3 790	3 904	618 853	9 198	176	196
2017	472 165	3 630	3 694	580 850	8 758	155	169
2018	430 601	3 449	3 532	525 846	7 934	159	173
2019	381 237	3 133	3 215	461 775	7 094	150	163
2020	309 178	2 784	2 839	369 476	4 649	104	114
2021	305 196	2 583	2 636	362 131	4 863	129	136
2022	300 839	2 550	2 610	356 601	5 655	135	152
2023	307 930	2 618	2 678	365 595	6 324	128	138
2024	290 895	2 598	2 663	344 395	6 181	130	139

Source: Traffic Statistics (Institute for Traffic Accident Research and Data Analysis)

8-2 Number of fatalities by age group and by circumstances of accident (2024)

(person)

Age group	Situation	in a vehicle			on a motorcycle				Total	On a bicycle	While walking	Other	Total
					motorcycles			Mopends					
		Driver	Passenger	Subtotal	Driver	Passenger	Subtotal						
15 and under	Fatalities	0	15	15	0	2	2	0	2	8	15	0	40
	increased/decreased by*	0	▲ 3	▲ 3	0	2	2	0	2	0	2	▲ 1	0
Age 16～19	Fatalities	6	9	15	34	3	37	11	48	9	6	0	78
	increased/decreased by*	▲ 2	▲ 3	▲ 5	9	▲ 2	7	5	12	4	0	0	11
Age 20～24	Fatalities	23	6	29	49	3	52	3	55	6	18	1	109
	increased/decreased by*	▲ 7	▲ 7	▲ 14	▲ 10	▲ 1	▲ 11	▲ 8	▲ 19	▲ 2	4	1	▲ 30
Age 16～24	Fatalities	29	15	44	83	6	89	14	103	15	24	1	187
	increased/decreased by*	▲ 9	▲ 10	▲ 19	▲ 1	▲ 3	▲ 4	▲ 3	▲ 7	2	4	1	▲ 19
Age 25～29	Fatalities	24	4	28	32	0	32	3	35	4	20	0	87
	increased/decreased by*	2	2	4	5	0	5	2	7	▲ 2	2	0	11
Age 30～39	Fatalities	30	11	41	29	0	29	12	41	17	42	0	141
	increased/decreased by*	▲ 4	2	▲ 2	0	0	0	6	6	2	7	▲ 1	12
Age 40～49	Fatalities	69	13	82	50	1	51	6	57	10	58	0	207
	increased/decreased by*	▲ 2	4	2	▲ 18	1	▲ 17	▲ 3	▲ 20	▲ 15	2	▲ 1	▲ 32
Age 50～59	Fatalities	95	10	105	93	0	93	13	106	34	95	0	340
	increased/decreased by*	8	▲ 1	7	5	0	5	2	7	▲ 9	2	0	7
Age 60～64	Fatalities	45	9	54	27	0	27	6	33	13	48	0	148
	increased/decreased by*	▲ 10	4	▲ 6	▲ 12	0	▲ 12	▲ 5	▲ 17	▲ 15	▲ 3	0	▲ 41
Age 65～69	Fatalities	61	10	71	28	0	28	14	42	24	50	1	188
	increased/decreased by*	▲ 1	8	7	8	0	8	1	9	1	▲ 15	0	2
Age 60～69	Fatalities	106	19	125	55	0	55	20	75	37	98	1	336
	increased/decreased by*	▲ 11	12	1	▲ 4	0	▲ 4	▲ 4	▲ 8	▲ 14	▲ 18	0	▲ 39
Age 70～74	Fatalities	79	25	104	8	0	8	19	27	34	106	0	271
	increased/decreased by*	1	2	3	0	0	0	2	2	▲ 17	9	0	▲ 3
Age 75 and over	Fatalities	233	99	332	13	0	13	29	42	168	507	5	1054
	increased/decreased by*	24	22	46	▲ 6	0	▲ 6	▲ 3	▲ 9	34	▲ 18	▲ 5	48
Age 70 and over	Fatalities	312	124	436	21	0	21	48	69	202	613	5	1325
	increased/decreased by*	25	24	49	▲ 6	0	▲ 6	▲ 1	▲ 7	17	▲ 9	▲ 5	45
Total	Fatalities	665	211	876	363	9	372	116	488	327	965	7	2663
	increased/decreased by*	9	30	39	▲ 19	0	▲ 19	▲ 1	▲ 20	▲ 19	▲ 8	▲ 7	▲ 15

Source: Traffic Statistics (Institute for Traffic Accident Research and Data Analysis)
* Compared with previous year

9. The Number of Traffic Fatalities in Japan and Other Countries

	Survey year	Population (×1000)	Number of fatalities	Number of fatalities per 100,000 inhabitants	Number of fatalities per 10,000 motor vehicles owned	Number of fatalities per 100 million vehicle-kilometers
Asia						
Japan	2018	124 900	4 166	3.3	0.53	0.6
Korea	2018	51 700	3 781	7.3	1.46	0.8
Chinese Taipei	2018	23 626	1 493	6.3	1.89	1.4
China	2018	1 422 600	63 194	4.4	2.00	7.5
Hong-Kong	2018	7 365	135	1.8	1.89	1.0
Thailand	2018	71 700	8 358	11.7	4.45	
Malaysia	2017	31 624	6 740	21.3	4.69	
Indonesia	2018	281 200	29 472	10.5	12.84	
Singapore	2017	5 709	121	2.1	1.48	0.7
India	2018	1 438 100	151 417	10.5	18.51	26.6
Turkey	2018	87 300	6 675	7.6	3.31	2.3
Europe						
U.K.	2018	68 700	1 784	2.6	0.44	0.3
Germany	2018	84 500	3 275	3.9	0.62	0.4
France	2018	66 400	3 248	4.9	0.67	0.5
Netherlands	2018	18 100	678	3.7	0.66	0.5
Bergium	2018	11 611	604	5.2	0.88	0.6
Italy	2018	59 500	3 334	5.6	0.73	
Spain	2018	47 900	1 806	3.8	0.60	1.4
Portugal	2018	10 330	704	6.8	1.20	
Greece	2018	11 160	700	6.3	1.06	1.0
Switzerland	2018	8 691	233	2.7	0.42	0.4
Austria	2018	8 922	409	4.6	0.72	0.5
Norway	2018	5 305	108	2.0	0.33	0.2
Sweden	2018	10 467	324	3.1	0.57	0.4
Finland	2018	5 523	239	4.3	0.70	0.6
Denmark	2018	5 734	171	3.0	0.57	0.3
Russia	2018	145 400	18 214	12.5	2.65	
Poland	2018	38 800	2 862	7.4	0.92	1.2
Hungary	2018	9 722	633	6.5	1.60	1.4
Ukraine	2018	44 223	3 409	7.7	3.42	
America						
U.S.A.	2018	343 500	36 560	10.6	1.21	0.7
Canada	2018	39 300	1 922	4.9	0.74	0.6
Mexico	2018	129 700	4 227	3.3	0.94	2.4
Brasil	2018	211 100	5 269	2.5	1.14	
Argentina	2017	45 500	5 300	11.6	3.74	
Africa						
Egypt	2018	97 553	3 087	3.2	5.30	
South Africa	2017	63 200	14 500	22.9	8.69	11.0
Oceania						
Australia	2018	26 500	1 136	4.3	0.58	0.4
New Zealand	2018	4 706	378	8.0	0.93	0.8

Source: World Road Statistics (IRF); World Population Prospects (United Nations)
Note: 1. The number refers to those who died within 30 days.
Note: 2. The population are estimates in 2013 by UN.

10. Implementation of Traffic Safety Facilities in Japan

(at the end of each fiscal year)

				FY 1985	FY 1990	FY 1995	FY 2000	FY 2005	FY 2010		FY 2015	FY 2020	FY 2021	FY 2022	FY 2023
Traffic control centers			(number of cities)	74	74	75	75	75	75	(spot)	163	161	161	159	158
Traffic information devices	Traffic information boards			-	1 604	2 175	-	Optical Beacon		(unit)	55 849	54 985	54 479	53 862	53 194
	Roadside communication terminals			-	192	274	-	Trafic Imformation Boards		(unit)	3 598	3 410	3 386	3 343	3 295
Trafic Signals	Centralized control units			32 585	43 019	50 556	57 908	66 037	72 211	→	73 702	72 931	72 823	72 654	72 469
	Synchronized control system	Automatic traffic-actuated units		5 576	4 682	4 585	4 023	2 293	481	→	0	0	0	0	0
		Programmed multi-stage units		12 814	14 355	17 340	20 218	22 653	23 382	→	25 717	27 704	28 441	28 734	29 120
		Push-button units		1 164	801	1 213	963	1 106	1 168	→	960	883	874	866	859
	Independent control system	Traffic-actuated control	Full traffic-actuated units	1 120	984	959	867	802	739	→	786	789	777	776	763
			Semi traffic-actuated units	6 640	7 788	10 110	11 535	13 032	14 533	→	15 275	14 019	13 883	13 796	13 454
			Bus-actuated units	238	101	165	154	127	116	→	32	33	27	27	27
			Train-actuated units	228	162	180	177	183	184	→	148	150	149	148	147
		Fixed-cycle units (including programmed multi-stage units)		35 577	41 200	45 282	48 802	51 087	52 059	→	52 531	56 086	55 803	55 903	56 214
		Push-button units		23 113	20 713	23 083	25 696	28 200	30 599	→	32 507	30 830	30 747	30 734	30 713
		Single flashing units		465	1 829	4 319	5 670	6 250	6 406	→	6 080	4 423	3 897	3 419	2 983
	Total units			119 520	135 634	157 792	176 013	191 770	201 878	→	207 738	207 848	207 421	207 057	206 749
Lights	For vehicles			-	720 725	885 383	1 001 623	1 125 659	1 222 359	→	1 262 112	1 271 934	1 262 261	1 265 493	1 262 801
		(LED lights)						144 013	390 561	→	653 669	840 128	869 813	901 308	944 877
	For pedestrians			-	524 122	634 959	764 976	869 188	942 451	→	999 086	1 030 579	1 028 778	1 041 671	1 046 296
		(LED lights)						46 461	214 243	→	450 218	626 065	656 885	690 324	735 299
Traffic signs	Variable signs			23 089	24 109	23 259	30 186	27 526	19 816	(piece)	12 901	9 984	9 641	9 306	8 746
	Fixed signs	Large signs		420 640	500 347	582 255	617 279	642 270	614 753	(piece)	351 329	316 299	310 315	302 532	299 045
		Roadside signs		9 705 165	10 020 616	10 379 062	10 183 538	9 422 368	9 416 920	(piece)	5 950 131	5 791 744	5 777 272	5 703 900	5 665 961
Road markings	Crosswalks		(number of)	719 548	801 464	890 723	967 355	1 054 219	10 031 673	→	1 142 663	1 159 542	1 160 511	1 161 113	1 161 606
	Solid lines		(km)	110 465	116 248	115 898	125 838	131 141	124 129	→	122 386	116 902	116 650	114 608	114 438
	Graphic markings		(number of)	3 238 374	3 913 961	3 995 149	3 945 511	4 506 671	4 637 370	→	4 649 172	4 476 595	4 394 349	4 419 727	4 427 140

Source: Traffic Statistics (Institute for Traffic Accident Research and Data Analysis)
Note: Programmed multi-stage units also include single-stage units.

11. Parking Facilities in Japan

11-1 Changes in parking capacity

(vehicles; at fiscal year's end)

	Urban planning parking facilities	Officially designated	Mandated parking facilities	On-street parking areas	Total	Parking spaces per 10,000 vehicles
FY 1960	1 313	9 908	2 830	6 576	20 627	89.5
1965	8 948	53 597	39 448	2 189	104 182	143.7
1970	18 120	124 429	123 997	750	267 296	147.0
1975	33 781	287 457	276 285	2 400	599 923	211.2
1980	48 627	458 053	403 355	2 339	912 374	240.3
1985	56 535	598 808	559 709	2 033	1 217 085	263.3
1990	73 092	774 504	863 955	1 417	1 712 968	296.6
1995	93 431	995 735	1 297 958	1 381	2 388 505	356.1
2000	115 696	1 225 194	1 771 028	1 275	3 113 193	429.4
2005	120 091	1 415 252	2 212 069	1 386	3 748 798	495.5
2010	121 651	1 604 463	2 634 973	1 032	4 362 119	580.5
2011	119 317	1 623 951	2 689 925	785	4 433 978	586.4
2012	119 214	1 664 443	2 949 036	775	4 733 468	622.1
2013	118 877	1 661 432	3 004 444	775	4 785 528	623.8
2014	119 943	1 699 455	3 068 737	606	4 888 741	631.9
2015	119 872	1 762 050	3 106 853	601	4 989 376	645.4
2016	118 009	1 805 432	3 171 713	601	5 095 755	656.2
2017	116 332	1 823 115	3 271 052	601	5 211 100	668.6
2018	114 835	1 878 182	3 347 922	601	5 341 540	683.6
2019	115 024	1 874 730	3 396 053	601	5 386 408	689.0
2020	114 816	1 881 067	3 442 350	601	5 438 834	694.5
2021	113 318	1 899 396	3 505 529	533	5 518 776	704.8
2022	111 280	1 936 137	3 514 442	533	5 562 392	708.7
2023	107 280	1 953 940	3 553 085	533	5 614 838	715.0

Source: Annual Report of Motor Vehicle Parking (Ministry of Land, Infrastructure, Transport and Tourism)

Note: 1. Urban planning parking facilities that are also officially designated parking facilities are included in the number of urban planning parking facilities. Mandated parking facilities that are also officially designated parking facilities are included in the number of mandated parking facilities.

Note: 2. The number of vehicles owned includes light vehicles.

11-2 Number of parking meters and parking permit ticket devices installed

(at the end of March)

	Parking meters	Parking permit ticket dispensing devices		Total	
		Number	Number of vehicles allowed to park	Number	Number of vehicles allowed to park
1986	14 157	0	-	14 157	14 157
1990	19 039	1 333	10 793	20 372	29 832
1995	27 627	1 635	13 043	29 262	40 670
1996	27 682	1 642	12 926	29 324	40 608
1997	27 636	1 630	12 748	29 266	40 384
1998	27 561	1 602	12 467	29 163	40 028
1999	27 488	1 587	12 329	29 075	39 817
2000	26 988	1 574	12 320	28 562	39 308
2001	26 341	1 540	12 216	27 881	38 557
2002	25 828	1 520	11 931	27 348	37 759
2003	24 308	1 416	10 684	25 724	34 992
2004	23 284	1 381	10 409	24 665	33 693
2005	22 929	1 329	9 976	24 258	32 905
2006	22 453	1 321	9 421	23 774	31 874
2007	22 453	1 321	9 421	23 774	31 874
2008	21 930	1 291	9 168	23 221	31 098
2009	21 589	1 291	9 147	22 880	30 736
2010	21 533	1 290	9 123	22 823	30 656
2011	21 040	1 339	9 349	22 379	30 389
2012	20 772	1 431	9 459	22 203	30 231
2013	18 211	1 194	7 746	19 405	25 957
2014	17 338	1 187	7 584	18 525	24 922
2015	16 742	1 135	7 229	17 877	23 971
2016	16 064	1 143	7 209	17 207	23 273
2017	15 730	1 126	7 057	16 856	22 787
2018	15 392	1 119	6 992	16 511	22 384
2019	15 056	1 112	6 910	16 168	21 966
2020	14 525	1 126	6 940	15 651	21 465
2021	13 540	1 126	6 907	14 666	20 447
2022	13 087	1 102	6 880	14 189	19 967
2023	12 585	1 096	6 589	13 681	19 174
2024	12 153	1 093	6 529	13 246	18 682

Source: Annual Report of Motor Vehicle Parking (Japan Parking System Manufacturers Association Incorporated)

11-3 Parking Facilities in Major Cities

2023	Urban planning parking facilities		Officially designated parking facilities		Mandated parking facilities		On-street parking areas		Total	
	Number of facilities	Number of parking spaces	Number of facilities	Number of parking spaces	Number of facilities	Number of parking spaces	Number of facilities	Number of parking spaces	Number of facilities	Number of parking spaces
Sapporo City, Hokkaido	2	596	177	31 192	3 772	213 339	-	-	3 951	245 127
Sendai City, Miyagi Pref.	1	520	95	18 529	1 145	92 585	-	-	1 241	111 634
Saitama City, Saitama Pref.	2	518	124	21 995	204	24 355	-	-	330	46 868
Special Wards of Tokyo	46	15 972	705	102 874	27 558	705 400	-	-	28 309	824 246
Yokohama City, Kanagawa Pr	7	3 351	198	35 626	7 337	373 151	-	-	7 542	412 128
Kawasaki City, Kanagawa Pre	1	338	97	14 705	1 139	64 058	-	-	1 237	79 101
Nagoya City, Aichi Pref.	14	5 004	340	93 862	3 087	162 928	-	-	3 441	261 794
Kyoto City, Kyoto Pref.	4	1 017	127	35 580	961	37 282	-	-	1 092	73 879
Osaka City, Osaka Pref.	10	4 290	839	70 723	8 152	315 515	-	-	9 001	390 528
Kobe City, Hyogo Pref.	12	3 600	267	58 531	1 122	65 988	-	-	1 401	128 119
Hiroshima City, Hiroshima Pre	5	1 709	177	22 946	1 922	76 751	13	533	2 117	101 939
Fukuoka City, Fukuoka Pref.	7	2 787	401	74 759	3 561	134 793	-	-	3 969	212 339

Source: Annual Report of Motor Vehicle Parking (Ministry of Land, Infrastructure, Transport and Tourism)

12. Travel Time in Daily Activities of Japanese People

12-1 Changes in time spent for daily activities of Japanese People (average of whole nation, average of doers)

(hours : minutes)

			Sleep	Personal care	Eat	Going to work or school	Work	Study	Housework	Medical treatment / recuperation	Childcare	Shopping	Other travel	Mass media contact	Rest	Learning, self-development and training	Leisure	Sports	Volunteer and social interactions	Dating, socializing	Consultation, medical treatment	Other / unknown
1991	Weekday	Male	7:41	1:00	1:33	1:24	8:53	6:43	1:43	2:23	1:21	1:05	1:32	2:51	1:47	2:18	2:33	2:02	2:34	2:48	3:02	1:40
		Famale	7:27	1:19	1:40	1:15	7:01	6:53	3:51	2:47	3:14	1:05	1:13	2:48	1:53	2:11	2:15	1:47	2:34	2:17	2:28	1:33
	Saturdays	Male	7:52	1:02	1:36	1:17	8:08	5:11	2:09	2:30	1:52	1:24	1:46	3:24	2:08	2:39	3:18	2:41	3:04	3:33	3:04	2:10
		Famale	7:35	1:20	1:43	1:08	6:29	5:11	3:54	2:44	3:17	1:18	1:25	3:03	2:06	2:17	2:37	2:09	2:43	2:56	2:36	1:49
	Sundays	Male	8:36	1:08	1:41	1:09	7:22	5:05	2:16	2:25	2:38	1:36	1:49	4:11	2:35	2:55	3:53	3:18	3:29	3:58	5:11	2:25
		Famale	8:10	1:24	1:46	1:05	6:15	4:49	3:47	2:51	3:19	1:33	1:34	3:15	2:19	2:36	3:03	2:58	3:03	3:28	5:07	2:09
1996	Weekday	Male	7:45	1:03	1:35	1:18	8:56	6:34	1:39	2:35	1:20	1:09	1:30	2:59	1:48	2:04	2:32	1:57	2:27	2:46	2:33	1:21
		Famale	7:31	1:24	1:42	1:06	6:58	6:35	3:45	2:47	3:06	1:05	1:14	2:55	1:52	2:02	2:12	1:40	2:26	2:16	2:08	1:21
	Saturdays	Male	8:03	1:06	1:38	1:09	8:13	4:47	1:49	2:23	2:06	1:28	1:47	3:40	2:13	2:27	3:36	2:55	3:07	3:43	2:20	1:59
		Famale	7:48	1:24	1:44	1:00	6:25	4:44	3:47	2:33	3:08	1:24	1:33	3:15	2:07	2:16	2:40	2:16	2:43	3:07	2:10	1:47
	Sundays	Male	8:40	1:11	1:42	1:05	7:16	4:32	1:53	2:16	2:25	1:38	1:51	4:20	2:31	2:35	3:55	3:31	3:30	3:59	3:42	2:09
		Famale	8:18	1:28	1:47	1:00	6:06	4:32	3:40	2:37	3:05	1:36	1:39	3:28	2:18	2:24	2:56	3:02	3:00	3:28	3:33	1:59
2001	Weekday	Male	7:42	1:07	1:35	1:17	8:56	6:14	1:29	2:01	1:23	1:02	1:29	3:03	1:49	2:14	2:42	1:47	2:31	2:36	2:28	1:27
		Famale	7:29	1:27	1:40	1:05	6:52	6:17	3:35	2:18	3:11	1:03	1:15	2:55	1:52	2:09	2:10	1:32	2:28	2:12	2:08	1:21
	Saturdays	Male	8:05	1:10	1:38	1:08	8:04	4:32	1:42	2:12	2:05	1:25	1:46	3:42	2:10	2:42	3:29	2:35	3:17	3:25	2:19	1:53
		Famale	7:50	1:28	1:44	0:57	6:13	4:24	3:36	2:08	3:10	1:21	1:34	3:08	2:03	2:26	2:36	1:55	2:50	2:52	2:10	1:41
	Sundays	Male	8:36	1:14	1:41	1:05	7:16	4:02	1:43	1:59	2:13	1:30	1:52	4:21	2:26	2:49	3:44	3:04	3:51	3:44	3:27	2:01
		Famale	8:16	1:31	1:47	0:58	6:01	3:49	3:25	2:14	2:57	1:30	1:41	3:22	2:11	2:43	2:49	2:22	3:07	3:05	3:32	1:49
2006	Weekday	Male	7:38	1:11	1:35	1:19	9:08	6:46	1:38	2:14	1:32	1:04	1:28	3:05	1:56	2:13	2:42	1:56	2:30	2:39	2:37	1:40
		Famale	7:26	1:30	1:41	1:06	7:06	6:46	3:37	2:11	3:14	1:04	1:15	2:58	1:59	2:06	2:17	1:32	2:31	2:15	2:17	1:29
	Saturdays	Male	8:05	1:16	1:31	1:11	8:12	4:43	1:50	2:06	2:22	1:26	1:51	3:52	2:27	2:48	3:38	3:03	3:22	3:38	2:23	2:09
		Famale	7:50	1:32	1:46	0:59	6:28	4:40	3:31	2:22	3:25	1:24	1:40	3:16	2:17	2:30	2:50	2:13	3:10	3:03	2:20	1:55
	Sundays	Male	8:33	1:19	1:44	1:05	7:24	4:16	1:50	2:08	2:34	1:37	1:53	4:22	2:43	2:54	3:55	3:10	3:52	3:40	3:37	2:16
		Famale	8:11	1:35	1:49	0:57	6:19	4:08	3:29	2:19	3:09	1:34	1:42	3:26	2:23	2:41	2:59	2:20	3:10	3:11	2:46	1:58
2011	Weekday	Male	7:37	1:14	1:35	1:19	9:10	7:05	1:40	2:00	1:31	1:08	1:32	3:20	2:07	2:19	2:54	1:55	2:25	2:42	2:28	1:45
		Famale	7:26	1:34	1:41	1:07	7:04	7:25	3:36	2:03	3:15	1:08	1:16	3:06	2:05	2:04	2:20	1:33	2:25	2:18	2:07	1:28
	Saturdays	Male	8:10	1:18	1:40	1:11	8:14	4:28	1:41	2:05	2:37	1:32	1:45	4:13	2:46	2:57	3:48	2:46	3:25	3:41	2:16	2:03
		Famale	7:55	1:36	1:45	1:00	6:36	4:23	3:25	2:04	3:25	1:28	1:34	3:33	2:29	2:34	2:53	2:02	3:03	3:03	2:09	1:53
	Sundays	Male	8:27	1:23	1:44	1:08	7:36	4:04	1:47	2:14	2:51	1:37	1:53	4:35	2:55	2:59	4:02	3:03	3:52	3:43	3:39	2:13
		Famale	8:06	1:38	1:48	1:00	6:20	3:48	3:28	2:10	3:21	1:37	1:43	3:38	2:31	2:39	3:01	2:16	3:10	3:12	3:07	1:56
2016	Weekday	Male	7:34	1:19	1:37	1:25	9:08	6:53	1:39	2:10	1:49	1:06	1:32	3:30	2:15	2:15	3:03	1:53	2:23	2:41	2:26	2:00
		Famale	7:25	1:29	1:42	1:11	7:10	6:14	3:31	2:01	3:34	1:08	1:19	3:09	2:11	1:58	2:24	1:31	2:21	2:21	2:21	1:41
	Saturdays	Male	8:04	1:26	1:44	1:15	8:09	4:34	1:47	1:54	3:10	1:32	1:54	4:09	2:58	2:43	4:08	2:56	3:31	3:39	2:14	2:25
		Famale	7:52	1:41	1:48	1:07	6:34	3:57	3:26	2:06	3:48	1:30	1:41	3:29	2:37	2:27	3:03	2:07	3:03	3:15	2:13	2:14
	Sundays	Male	8:25	1:30	1:48	1:12	7:37	4:08	1:49	1:58	3:09	1:42	1:58	4:37	3:15	2:56	4:17	3:05	3:39	3:41	3:12	2:27
		Famale	8:09	1:44	1:52	1:06	6:23	3:22	3:26	2:04	3:47	1:40	1:45	3:40	2:45	2:27	3:08	2:20	3:03	3:14	3:14	2:14
2021	Weekday	Male	7:47	1:25	1:37	1:24	9:00	6:40	1:37	2:14	1:53	1:09	1:26	3:45	2:37	2:20	3:14	1:47	1:56	2:25	2:31	2:15
		Famale	7:39	1:42	1:41	1:11	7:19	6:31	3:31	2:05	3:40	1:10	1:16	3:23	2:24	1:51	2:08	1:23	1:52	2:07	2:08	2:02
	Saturdays	Male	8:20	1:32	1:46	1:17	7:56	4:08	1:50	2:22	3:26	1:35	1:54	4:29	3:29	2:51	4:17	2:35	2:50	3:22	1:53	2:35
		Famale	8:08	1:45	1:50	1:05	6:34	3:53	3:27	2:07	3:59	1:34	1:39	3:44	3:03	2:18	3:08	1:51	2:19	2:54	1:59	2:20
	Sundays	Male	8:40	1:38	1:49	1:14	7:26	3:42	1:52	2:14	3:30	1:42	1:52	4:57	3:51	2:53	4:33	2:34	2:41	3:19	2:38	2:31
		Famale	8:25	1:47	1:53	1:04	6:26	3:27	3:29	2:09	4:10	1:40	1:39	3:58	3:14	2:26	3:15	1:45	2:06	2:57	3:10	2:15

Source: Basic Survey on Social Life (Statistics Bureau, Ministry of Internal Affairs and Communications)

Note: 1. Total hours of all activities don't add up to 24 hours because they don't include the people who didn't make the activity.

Note: 2. Item "Medical treatment / recuperation" was applied from 1991 survey.

12-2 Travel time by different population segments (weekdays, average time spent by the doer, total of both)

(hours : minutes)

		1990		2000		2005		2010		2015		2020	
		Going to work	Going to school	Going to work	Going to school	Going to work	Going to school	Going to work	Going to school	Going to work	Going to school	Going to work	Going to school
Whole nation		1:07	1:06	1:16	1:05	1:16	1:05	1:16	1:12	1:19	1:16	1:19	1:16
By gender	Male	1:13	1:05	1:21	1:06	1:21	1:06	1:23	1:13	1:27	1:17	1:27	1:17
	Female	:57	1:08	1:09	1:04	1:09	1:04	1:06	1:12	1:08	1:14	1:08	1:14
Male: by age group	10～15	:35	:50	:15	:52	:15	:52	-	-	-	-	-	-
	16～19	:56	1:22	:43	1:31	:43	1:31	-	-	-	-	-	-
	10s	-	-	-	-	-	-	0:53	1:09	:47	1:14	:49	1:07
	20s	1:09	1:38	1:16	1:46	1:16	1:46	1:16	2:00	1:24	1:53	1:05	1:39
	30s	1:10	:46	1:18	1:17	1:18	1:17	1:17	1:15	1:27	1:08	1:32	
	40s	1:16	:46	1:20	:40	1:20	:40	1:33	:33	1:25	:48	1:28	:45
	50s	1:17	:42	1:26	:51	1:26	:51	1:27	:39	1:31	:54	1:29	:54
	60s	1:16	1:48	1:28	:49	1:28	:49	1:22	-	1:30	:39	1:36	:30
	70s and over	1:00	1:50	1:10	:15	1:10	:15	1:39	-	1:23	:47	1:10	:30
Female: by age group	10～15	:34	:52	-	:50	-	:50	-	-	-	-	-	-
	16～19	1:02	1:29	:57	1:26	:57	1:26	-	-	-	-	-	-
	10s	-	-	-	-	-	-	1:16	1:11	1:08	1:14	:42	1:05
	20s	1:13	1:40	1:20	1:05	1:20	1:05	1:17	1:54	1:25	1:51	1:27	1:44
	30s	:50	:31	1:14	1:02	1:14	1:02	1:09	:49	1:11	:40	1:14	1:00
	40s	:48	:35	1:01	:40	1:01	:40	1:02	:39	1:07	:43	1:19	:41
	50s	:55	:51	1:03	:39	1:03	:39	:56	:20	1:01	:35	1:08	:43
	60s	:56	:31	1:12	:35	1:12	:35	1:13	:49	1:00	:52	1:06	:38
	70s and over	:55	1:00	:58	-	:58	-	1:14	:45	1:03	1:04	1:20	:45
By occupation	Farmer / fisher / forest worker	:46	:29	1:04	-	1:04	-	:48	-	1:27	:35	1:06	:30
	Self-employed	:53	1:05	1:18	1:00	1:18	1:00	1:09	:50	1:18	:45	1:08	:15
	Sales or service person	1:02	:51	1:17	:37	1:17	:37	1:12	:42	1:13	1:07	1:17	:56
	Blue-collar worker (skilled / unskilled	1:02	:48	1:12	:36	1:12	:36	1:17	:31	1:14	:43	1:17	:26
	Office worker / technical expert	1:15	:46	1:20	:53	1:20	:53	1:19	:59	1:26	:46	1:28	:59
	Management & administration	1:28	1:27	1:23	1:15	1:23	1:15	1:23	:55	1:28	:43	1:44	1:09
	Professional or free-lance worker, or othe	1:12	:58	1:18	1:00	1:18	1:00	1:19	:36	1:19	:30	1:15	1:15
	Housewife	:51	:48	1:03	:25	1:03	:25	1:19	:35	:49	:50	:50	1:08
	Unemployed	1:11	:58	1:27	1:15	1:27	1:15	1:44	:39	1:11	1:06	1:11	:50
By size of city	Tokyo area	1:32	1:17	1:39	1:13	1:42	1:19	1:37	1:25	1:42	1:27	1:40	1:10
	Osaka area	1:20	1:09	1:28	1:11	1:25	1:24	1:28	1:05	1:26	1:18	1:35	1:13
	City of a half million or more	1:03	1:04	1:11	:55	1:12	1:07	1:09	1:00	1:09	1:08	1:13	1:00
	City of 100,000 or more and less than 500	:59	:59	1:05	1:02	1:05	0:58	1:05	1:10	1:11	1:14	1:17	1:00
	City of less than 100,000	:55	1:03	:55	:54	1:03	0:58	1:10	1:04	1:11	1:11	1:12	:56
	Town / village	:56	1:06	1:05	1:13	1:06	1:06	1:03	1:27	1:08	1:12	1:05	1:16

Source: National Time Use Survey (NHK Broadcasting Culture Research Institute)

Note: 1. The survey method was changed starting from 1995 so that the data of 1995 onward cannot be directly compared with the data of 1990 and before.

Note: 2. Size of city in 2010 are "City of 300,000 or more", "City of 100,000 or more", "Cities, towns and villages of 50,000 or more", "Cities, towns and villages less than 50,000".

13. Transport and Communications Expenditures of Japanese Households

13-1 Transport and communications expenditures of households (monthly average; working-class, nationwide)

	1990	1995	2000	2005	2010	2015	2016	2020	2021	2022	2023	2024	
Consumption expenditures	331 595	349 663	341 896	296 790	283 401	276 567	268 289	262 359	263 907	273 417	272 285	275 568	100.0%
Food	79 993	78 947	75 174	64 282	63 031	66 217	65 523	67 012	65 737	67 166	70 609	73 128	26.5%
Housing	16 475	23 412	21 716	23 713	22 479	21 757	21 783	22 535	23 094	24 148	23 187	23 368	8.5%
Utilities	16 797	19 551	21 282	18 004	18 400	19 150	17 233	18 124	17 734	20 019	19 501	18 681	6.8%
Funiture / housework supplies	13 103	13 040	11 268	8 634	8 725	8 913	8 916	10 820	10 543	10 435	10 230	10 326	3.7%
Clothing & shoes	23 902	21 085	17 195	13 374	12 343	12 192	11 175	9 297	8 967	9 776	9 237	9 621	3.5%
Health maintenance / medical expenditures	8 670	9 334	10 901	10 240	9 655	9 472	9 505	10 731	10 941	11 424	11 159	11 879	4.3%
Transport / communicatuons	33 499	38 524	43 632	43 296	42 916	43 080	41 672	41 177	40 987	41 438	42 769	40 826	14.8%
Transport & motor vehicle related expenditures	27 072	31 419	33 118	31 372	30 173	29 257	27 625	27 548	27 979	29 290	31 295	29 967	10.9%
Transport	7 543	8 064	7 873	8 090	6 747	7 461	6 858	4 126	4 505	5 841	6 644	6 441	2.3%
Railway fares	2 730	2 654	2 453	2 533	2 164	2 491	2 165	1 107	1 397	2 125	2 385	2 468	0.9%
Railway passes	1 877	2 269	2 198	2 311	2 041	2 188	2 116	1 669	1 744	1 645	1 928	1 767	0.6%
Bus fares	423	356	326	342	373	401	364	187	194	245	287	263	0.1%
Bus passes	463	474	395	400	250	220	173	129	164	145	156	193	0.1%
Taxi fares	671	545	460	406	445	516	466	239	192	214	293	336	0.1%
Airplane fares and other	1 379	1 766	2 041	2 099	1 473	1 646	1 575	794	815	1 467	1 594	1 414	0.5%
Vehicle related expenditures	19 529	23 355	25 245	23 282	23 426	21 796	20 767	23 422	23 474	23 449	24 651	23 526	8.5%
Purchace of motor vehicle, etc.	6 842	7 734	8 847	6 187	6 462	5 701	5 725	7 261	6 296	6 357	6 585	6 147	2.2%
Purchace of bicycle	369	337	342	199	272	249	333	301	320	366	346	277	0.1%
Maintenance of motor vehicle	12 319	15 284	16 055	16 896	16 692	15 846	14 709	15 860	16 857	16 726	17 720	17 103	6.2%
Communication	6 426	7 104	10 514	11 924	12 744	13 824	14 047	13 629	13 008	12 149	11 474	10 859	3.9%
Education	16 827	18 467	18 261	13 934	13 707	13 083	13 749	11 301	12 869	12 100	11 115	11 978	4.3%
Cultural matters / entertainment	31 761	33 221	33 796	31 332	31 575	27 486	27 497	23 983	24 887	26 855	27 823	28 487	10.3%
Other expenditures	90 569	94 082	88 670	69 979	60 569	55 218	51 237	47 381	48 149	50 056	46 654	47 275	17.2%

Source: Family Income And Expenditure Survey: Annual Report (Ministry of Internal Affairs and Communications)

Note: Individual transport expenditures are estimated by dividing total transport expenditures (monthly average) by the annual share for each item.

13-2 Changes in consumer prices for transport and communications

(annual average; figures for 1995 are set as 100)

	1990	1995	2000	2005	2010	2015	2020	2021	2022	2023	2024
Overall consumer prices	93.5	100.0	101.5	99.3	98.9	101.7	104.3	104.1	106.7	110.1	113.2
Transport / communication	99.0	100.0	97.8	96.6	95.1	98.5	97.3	92.4	91.0	93.2	94.8
Transport	93.5	100.0	105.6	106.1	105.4	114.6	117.5	118.0	118.6	121.3	123.4
Railway fees (excl. Japan Railway)	86.8	100.0	110.7	111.2	111.8	114.5	117.7	117.8	117.8	122.9	125.2
Railway fees (Japan Railway)	100.0	100.0	103.2	102.8	102.8	105.6	107.9	107.9	108.0	109.3	109.8
General route bus fares	88.8	100.0	105.5	105.3	106.1	109.6	112.9	113.8	114.8	117.0	123.3
Taxi fares	82.2	100.0	106.3	106.2	113.1	117.1	127.3	128.6	129.2	136.8	144.2
Air fares	100.3	100.0	102.4	108.3	109.4	119.4	113.1	113.6	121.8	124.4	127.0
Toll road fares	95.2	100.0	103.7	104.4	92.5	132.9	138.6	140.8	137.1	137.2	137.5
Motor vehicle related expenditures	100.1	100.0	95.2	98.5	99.1	103.4	105.1	107.4	110.0	111.4	114.1
Motor vehicles	100.4	100.0	101.0	99.7	98.4	101.1	104.0	104.5	106.0	107.7	110.3
Maintenance of motor vehicles	100.0	100.0	93.1	98.1	99.1	103.7	104.7	107.6	110.7	111.7	114.4
Gasoline	110.4	100.0	91.0	107.4	115.2	119.3	119.2	134.5	148.5	150.5	152.9
Rent for parking spaces	82.0	100.0	101.6	100.3	98.5	96.9	98.2	98.0	98.1	98.1	98.3
Parking fees	87.7	100.0	99.1	95.4	92.1	92.3	96.5	96.7	97.1	97.4	98.5
Communications	105.8	100.0	93.4	79.5	74.2	73.8	67.2	52.7	45.9	48.8	48.4
Postage	81.0	100.0	100.0	100.0	100.0	104.0	126.0	126.0	126.0	126.0	137.0
Fixed telephone charge**	110.0	100.0	93.7	75.0	75.2	77.6	80.2	80.2	80.2	80.2	70.6
Shipping fees	89.8	100.0	101.8	101.8	95.3	97.9	111.9	111.9	111.9	118.6	123.6

Source: Annual Report on Consumer Price Index (Ministry of Internal Affairs and Communications)
* The "General route Bus fares" for 1990 and 2010 means the "bus fares".
** The "Fixed telephone charge" for 1990 and 1995 means the charge per telephone call.

13-3 Monthly transport / communications expenditures per household by size of city or by city area

(average of all households, 2024)

	All Cities	City size				Metropolitan areas				
		Big Cities	Middle-size cities	Small cities A	Small cities B & towns / villages	Kanto (Tokyo area)	Tokai (Nagoya area)	Kinki (Osaka area)	Chugoku (Hiroshima area)	Kyushu (Fukuoka area)
Consumer expenditures	250 929	252 678	256 087	242 384	248 828	265 914	257 829	247 721	247 115	230 449
Food	69 530	69 876	70 737	69 112	66 541	73 232	71 036	72 227	64 253	62 766
Housing	20 068	24 724	20 865	14 072	15 969	23 417	17 164	19 519	17 482	18 070
Utilities	19 228	16 957	19 838	20 304	22 032	18 778	19 261	18 051	19 517	16 372
Funiture / housework utensils	10 052	9 428	9 954	10 211	11 651	10 355	11 042	9 309	10 310	10 284
Clothing & shoes	7 826	8 544	7 787	7 433	6 690	8 750	8 076	7 741	8 305	6 753
Health maintenance / medical treatment	12 679	12 967	12 758	12 168	12 572	13 851	12 120	12 818	12 238	11 612
Transport / communication	33 600	30 844	34 328	34 497	37 772	32 686	36 254	30 339	36 967	34 264
(Ratio to the total consumption expenditure)	13.4%	12.2%	13.4%	14.2%	15.2%	12.3%	14.1%	12.2%	15.0%	14.9%
Transport	4 973	6 963	4 653	3 715	2 564	6 554	4 576	5 720	3 778	3 166
(Ratio to the total consumption expenditure)	2.0%	2.8%	1.8%	1.5%	1.0%	2.5%	1.8%	2.3%	1.5%	1.4%
Vehicle related expenditures	18 890	15 142	19 669	20 994	23 531	16 630	22 161	15 096	22 996	21 316
(Ratio to the total consumption expenditure)	7.5%	6.0%	7.7%	8.7%	9.5%	6.3%	8.6%	6.1%	9.3%	9.2%
Purchase of motor vehicles, etc.	4 487	4 161	4 763	4 239	5 166	3 915	4 816	2 645	6 184	5 857
Purchace of bicycle	218	250	282	117	157	254	137	394	142	152
Maintenance of motor vehicle	14 185	10 732	14 624	16 639	18 208	12 460	17 209	12 058	16 670	15 307
Communication	9 736	8 738	10 006	9 788	11 678	9 503	9 517	9 523	10 193	9 781
(Ratio to the total consumption expenditure)	3.9%	3.5%	4.0%	3.9%	4.7%	3.8%	3.8%	3.8%	4.1%	3.9%
Education	7 293	7 592	8 149	6 643	5 594	9 220	9 600	7 471	4 719	4 858
Cultural matters / entertainment	25 486	28 168	25 580	23 556	21 464	29 672	25 813	25 940	22 865	20 016
Other expenditures	45 168	43 579	46 091	44 389	48 543	45 953	47 462	44 307	50 460	45 453

Source: Annual Report of Family Income and Expenditure Survey (Ministry of Internal Affairs and Communications)
[City size] Big city: population of one million and over
Middle-size city: population between 150,000 and less than one million
Small city A: population between 50,000 and less than 150,000
Small city B: population is less than 50,000

14. Energy Consumption in Japan and Other Countries

14-1 Energy consumption by transport modes in Japan

(10 billion kcal)

	FY 1975	FY 1980	FY 1985	FY 1990	FY 1995	FY 2000	FY 2005	FY 2010	FY 2015	FY 2020	FY2021	FY 2022	FY 2023
Passenger transport	23 805	29 728	34 016	44 922	54 192	58 100	59 041	54 873	49 213	40 313	40 285	41 538	41 813
Railways	1 456	1 513	1 520	1 847	1 947	1 941	2 007	1 987	1 959	1 630	1 701	1 751	1 781
Buses	1 414	1 339	1 297	1 530	1 505	1 378	1 503	1 623	1 589	1 084	1 071	1 211	1 325
Passenger cars	19 129	24 385	28 764	38 537	46 903	51 104	51 419	47 110	41 283	35 200	34 546	34 836	34 632
Commercial passenger cars	2 089	1 870	2 113	2 384	1 735	1 532	1 494	1 284	1 006	424	420	466	445
Private passenger cars	17 040	22 515	26 651	36 153	45 168	49 572	49 925	45 826	40 277	34 776	34 126	34 370	34 187
Passenger ships	140	130	99	167	140	208	173	144	149	386	455	578	585
Aircraft	1 665	2 360	2 336	2 840	3 697	3 469	3 940	4 007	4 234	2 014	2 513	3 161	3 490
Freight transport	22 491	25 274	24 864	29 464	32 448	32 639	31 459	28 251	27 596	25 264	26 413	25 658	25 565
Railways	407	320	198	160	154	134	140	124	125	105	108	110	109
Passenger cars	15 690	18 901	19 574	25 278	27 977	26 657	25 970	24 371	24 951	23 163	24 187	23 495	23 611
Coastal shipping	6 268	5 833	4 769	3 613	3 794	5 279	4 792	3 245	2 010	1 639	1 757	1 724	1 536
Aircraft	126	221	323	414	523	570	557	511	509	356	360	331	309
Total (Passenger & Freight)	46 296	55 002	58 880	74 386	86 640	90 739	90 500	83 124	76 809	65 577	66 998	67 196	67 378

Source: EDMC Handbook of Japan's & World Energy & Economic Statistics (The Institute of Energy Economics)

14-2 Energy consumption in Japan and other countries (2022)

	Japan	U.S.A.	Germany	U.K.	France	China	Russia
Energy consumption per person (oil-equivalent; tons / person)	3.14	6.52	3.24	2.26	3.11	2.69	5.60
Oil consumption per person (oil-equivalent; tons / person)	1.21	2.27	1.08	0.78	0.95	0.48	1.15
Total energy consumption (oil-equivalent; x 1 million tons)							
As primary energy	392	2 173	271	153	211	3 800	808
As final consumption	259	1 579	209	114	141	2 290	531
Breakdown of final energy consumption (oil-equivalent; x 1 million tons)							
Industrial sector	75	281	54	21	27	1 129	151
(%)	(29.0)	(17.8)	(25.8)	(18.4)	(19.1)	(49.3)	(28.4)
Transport sector	64	619	51	38	45	318	103
(%)	(24.7)	(39.2)	(24.4)	(33.3)	(31.9)	(13.9)	(19.4)
Commercial & residential sector	92	531	85	50	59	599	191
(%)	(35.5)	(33.6)	(40.7)	(43.9)	(41.8)	(26.2)	(36.0)

Source: EDMC Handbook of Japan's & World Energy & Economic Statistics (The Institute of Energy Economics)

15. Travel in Japan

15-1 Number of trips made per person by trip purpose

(unit: number of trips per person per day / weekdays)

City area \ Purpose	Going to work / school	Going home	Business	Other	Total
Tokyo metropolitan area	0.51	0.84	0.09	0.56	2.00
Keihanshin (Kyoto-Osaka-Kobe) metropolitan area	0.47	0.84	0.12	0.53	1.96
Chukyo (Nagoya) metropolitan area	0.64	1.19	0.24	0.78	2.85

Note: Data for Tokyo are from the sixth survey (2018); for Keihanshin (weekdays & holidays), from the sixth survey (2020); and for Chukyo, from the fifth survey (2011).

15-2 Number of trips made per person by trip purpose and by automobile ownership

(unit: number of trips per person per day)

	Three major metropolitan area			local city area		
	Owning a car	Family shared a car	Not owning a car	Owning a car	Family shared a car	Not owning a car
1992	2.85	2.61	2.24	3.12	2.70	2.16
1999	2.59	2.58	2.17	2.63	2.50	1.99
2005	2.52	2.49	2.11	2.65	2.44	1.93
2010	2.73	2.56	2.20	2.78	2.58	2.07
2015	2.47	2.20	1.99	2.44	2.31	1.84
	All modes			Car only		
	Owning a car	Family shared a car	Not owning a car	Owning a car	Family shared a car	Not owning a car
2021	2.23	1.92	1.72	1.49	0.83	0.30

Source: Movement of people in the City (Ministry of Land, Infrastructure and Transport)
Note: Weekday net figures

15-3 Comparison of trip purposes by city type

(Unit: %)

			Going to work	Going to school	Business	Going home	Personal matters
Weekdays	Nationwide	1987	13.3	9.5	12.6	40.6	24.0
		1992	14.3	8.5	10.4	40.9	25.9
		1999	15.7	7.2	9.3	41.5	26.2
		2005	15.8	7.1	8.3	41.7	27.1
		2010	15.4	6.3	8.4	40.6	29.3
		2015	16.3	7.0	6.9	41.5	28.4
		2021	16.3	6.6	5.7	44.1	27.3
	Three major metropolitan area	1987	13.9	10.1	10.9	41.3	23.7
		1992	14.7	8.8	9.1	41.5	25.9
		1999	15.8	7.0	8.7	41.9	26.5
		2005	16.3	6.9	7.2	42.3	27.2
		2010	15.8	6.3	7.9	41.1	28.9
		2015	16.8	7.0	6.6	42.0	27.7
		2021	–	–	–	–	–
	Local city areas	1987	12.6	8.9	14.1	40.0	24.3
		1992	13.9	8.3	11.7	40.2	25.9
		1999	15.6	7.4	10.0	41.2	25.8
		2005	15.3	7.3	9.4	41.0	27.0
		2010	15.0	6.3	9.0	40.2	29.6
		2015	15.7	6.9	7.2	41.1	29.1
		2021	–	–	–	–	–
Holidays	Nationwide	1987	3.4	2.3	4.3	41.9	48.2
		1992	3.0	2.0	1.7	41.8	51.5
		1999	3.9	0.7	1.8	41.5	52.1
		2005	4.0	0.9	2.9	41.1	51.2
		2010	3.9	0.8	2.7	40.3	52.3
		2015	4.2	0.9	2.6	40.5	51.9
		2021	4.3	0.5	1.8	41.8	51.6
	Three major metropolitan area	1987	3.2	2.2	3.5	42.4	48.7
		1992	2.8	1.9	1.3	42.3	51.7
		1999	3.6	0.5	1.6	41.6	52.7
		2005	3.8	0.6	2.5	41.6	51.4
		2010	3.7	0.6	2.4	40.7	52.6
		2015	4.3	0.8	2.4	41.0	51.6
		2021	–	–	–	–	–
	Local city areas	1987	3.6	2.3	4.9	41.4	47.8
		1992	3.2	2.0	2.1	41.3	51.4
		1999	4.2	1.0	1.9	41.3	51.5
		2005	4.1	1.2	3.3	40.5	50.9
		2010	4.1	1.1	2.9	39.9	52.0
		2015	4.1	1.0	2.8	40.0	52.1
		2021	–	–	–	–	–

Source: Movement of People in the City (Ministry of Land, Infrastructure and Transport)

15-4 Comparison of transport mode by city type

(Unit: %)

			Railways	Buses	Motor vehicles	Motorcycles	Walking & other
Weekdays	Nationwide	1987	11.6	3.9	34.0	23.2	27.4
		1992	13.6	3.9	39.0	19.4	24.0
		1999	13.4	3.3	42.5	19.4	21.4
		2005	13.2	2.8	45.2	18.5	20.3
		2010	14.9	2.9	45.7	16.8	19.7
		2015	16.4	2.7	45.0	16.2	19.7
		2021	14.2	2.4	46.5	14.4	22.5
	Three major metropolitan area	1987	22.3	3.3	26.4	19.8	28.2
		1992	25.5	3.2	29.1	16.9	25.2
		1999	23.8	2.8	33.6	18.2	21.7
		2005	23.1	2.5	33.9	18.5	22.0
		2010	26.0	2.7	33.0	16.8	21.5
		2015	28.5	2.3	31.4	16.3	21.5
		2021	24.5	2.2	32.0	15.6	25.7
	Local city areas	1987	2.5	4.5	40.4	26.0	26.7
		1992	2.9	4.6	48.0	21.6	22.9
		1999	3.3	3.8	51.2	20.5	21.1
		2005	3.5	3.0	56.3	18.6	18.5
		2010	3.9	3.1	58.2	16.8	18.0
		2015	4.3	3.1	58.6	16.1	17.8
		2021	3.7	2.6	61.1	13.2	19.3
Holidays	Nationwide	1987	7.3	3.2	45.9	21.9	21.7
		1992	7.6	2.6	53.8	17.6	18.4
		1999	7.5	2.1	60.0	15.8	14.6
		2005	7.1	1.7	63.5	13.1	14.5
		2010	8.6	1.9	61.3	12.9	15.3
		2015	9.3	1.9	61.6	11.7	15.6
		2021	8.1	1.6	62.4	10.7	17.4
	Three major metropolitan area	1987	14.4	3.0	37.7	20.7	24.2
		1992	15.0	2.4	44.5	16.8	21.4
		1999	13.2	2.1	52.3	16.0	16.3
		2005	12.5	1.6	54.1	14.2	17.6
		2010	15.1	1.9	50.1	14.4	18.4
		2015	16.3	2.0	50.6	12.3	18.8
		2021	14.1	1.8	48.6	13.2	22.4
	Local city areas	1987	1.9	3.3	52.3	22.8	19.7
		1992	1.9	2.8	61.0	18.2	16.2
		1999	2.2	2.1	67.0	15.6	13.1
		2005	2.0	1.7	72.5	12.0	11.7
		2010	2.3	1.8	72.0	11.6	12.4
		2015	2.6	1.7	72.1	11.1	12.5
		2021	2.2	1.3	75.9	8.2	12.4

Source: Movement of People in the City (Ministry of Land, Infrastructure and Transport)

15-5 Number of trips per person by city type

		Weekdays			Holidays		
		Nationwide	Three major metropolitan area	Local city areas	Nationwide	Three major metropolitan area	Local city areas
Gross* (unit: trips)	1987	2.63	2.52	2.74	2.13	1.94	2.32
	1992	2.51	2.46	2.56	2.03	1.84	2.22
	1999	2.34	2.37	2.32	1.90	1.86	1.93
	2005	2.31	2.31	2.31	1.85	1.82	1.88
	2010	2.44	2.42	2.46	2.08	2.02	2.13
	2015	2.17	2.16	2.18	1.68	1.63	1.73
	2021	1.96	–	–	1.47	–	–
Net** (unit: trips)	1987	3.04	2.91	3.17	3.06	2.94	3.18
	1992	2.94	2.84	3.04	3.01	2.86	3.16
	1999	2.77	2.75	2.79	2.84	2.78	2.90
	2005	2.76	2.72	2.81	2.86	2.79	2.93
	2010	2.84	2.80	2.88	2.91	2.84	2.98
	2015	2.68	2.65	2.71	2.79	2.75	2.84
	2021	2.64	–	–	2.80	–	–
Percentage of travelers** (%)	1987	86.3	86.3	86.2	69.3	65.9	72.8
	1992	85.4	86.6	84.2	67.2	64.2	70.2
	1999	84.6	86.0	83.1	66.6	67.0	66.3
	2005	83.6	85.0	82.1	64.6	65.1	64.2
	2010	85.8	86.5	85.2	71.3	71.2	71.4
	2015	80.9	81.4	80.4	59.9	59.0	61.0
	2021	74.1	–	–	52.5	–	–

Source: Movement of People in the City (Ministry of Land, Infrastructure and Transport)
Note: 1. Gross: Trips per person (persons = both those who went out and those who did not)
Note: 2. Net: Trips per person (of persons who went out)
Note: 3. Percentage of travelers: Percentage of people who made a trip on that day

15-6 Percentage of the main transport mode by trip purpose (nationwide)

(Unit: %)

			Railways	Buses	Motor vehicles	Motorcycles	Walking & othes
Weekdays	Going to work	1987	23.2	5.8	41.5	21.3	8.2
		1992	25.2	5.3	45.9	16.9	6.7
		1999	23.6	3.9	48.2	16.8	7.5
		2005	23.7	3.1	48.3	17.7	7.2
		2010	27.4	3.4	44.9	17.2	7.2
		2015	29.4	3.1	43.9	16.6	7.0
		2021	25.2	2.9	48.0	15.8	8.1
	Going to school	1987	12.7	3.2	5.4	20.1	58.6
		1992	16.9	3.4	7.3	19.5	52.9
		1999	16.4	2.8	7.9	19.6	53.4
		2005	17.7	2.5	8.8	20.3	50.8
		2010	16.5	2.6	8.8	18.5	53.7
		2015	19.9	2.3	9.2	18.4	50.2
		2021	16.9	1.8	10.8	16.3	54.3
	Business	1987	6.7	1.6	71.4	12.8	7.5
		1992	7.9	1.1	76.6	8.4	6.0
		1999	8.9	1.2	75.5	8.4	6.0
		2005	7.8	1.0	76.1	8.1	7.1
		2010	11.2	1.0	71.6	8.6	7.7
		2015	13.6	1.4	68.7	8.3	8.1
		2021	11.9	1.1	73.5	6.6	6.8
	Going home	1987	12.0	4.2	28.9	25.1	29.9
		1992	14.4	4.3	34.5	21.0	25.8
		1999	13.9	3.5	39.2	20.8	22.6
		2005	13.9	2.9	42.2	19.8	21.2
		2010	15.3	3.1	42.9	18.2	20.6
		2015	17.2	2.7	42.4	17.2	20.4
		2021	–	–	–	–	–
	Private matters	1987	6.6	4.0	29.9	27.7	31.9
		1992	7.2	3.9	37.7	22.6	28.5
		1999	7.3	3.4	42.0	22.6	24.7
		2005	6.5	3.0	48.2	19.7	22.6
		2010	7.7	2.9	51.2	16.5	21.6
		2015	7.6	2.9	52.4	15.7	21.5
		2021	–	–	–	–	–
	All purpose	1987	11.6	3.9	34.0	23.2	27.4
		1992	13.6	3.9	39.0	19.4	24.0
		1999	13.4	3.3	42.5	19.4	21.4
		2005	13.2	2.8	45.2	18.5	20.3
		2010	14.9	2.9	45.7	16.8	19.7
		2015	16.4	2.7	45.0	16.2	19.7
		2021	14.2	2.4	46.5	14.4	22.5
Holidays	Going to work	1987	16.0	6.0	45.1	22.9	9.9
		1992	15.6	5.3	51.8	19.3	8.0
		1999	15.0	4.0	53.2	19.1	8.7
		2005	16.0	2.7	54.2	18.4	8.7
		2010	17.5	2.9	51.8	18.9	8.9
		2015	19.6	2.4	50.9	18.0	9.0
		2021	–	–	–	–	–
	Going to school	1987	9.1	3.6	5.7	23.5	58.1
		1992	10.9	1.8	7.1	24.0	56.1
		1999	11.5	3.3	17.7	34.8	32.7
		2005	17.1	3.2	18.2	33.9	27.5
		2010	14.3	2.7	11.3	36.3	35.4
		2015	23.2	2.8	15.6	30.7	27.6
		2021	–	–	–	–	–
	Business	1987	5.2	1.7	62.1	19.5	11.5
		1992	4.5	0.5	80.0	9.1	5.9
		1999	6.6	0.9	72.3	12.8	7.3
		2005	6.3	1.2	67.3	13.0	12.2
		2010	8.1	1.3	67.7	11.6	11.2
		2015	9.8	1.0	63.0	13.3	13.0
		2021	–	–	–	–	–
	Going home	1987	7.5	3.4	43.3	23.6	22.2
		1992	7.8	2.9	51.1	19.3	18.9
		1999	7.7	2.3	57.9	17.3	14.8
		2005	7.4	1.8	61.6	14.4	14.8
		2010	8.5	1.9	59.7	14.3	15.7
		2015	9.5	2.1	60.3	12.8	15.4
		2021	–	–	–	–	–
	Private matters	1987	6.7	2.9	48.7	20.5	21.2
		1992	7.0	2.3	57.0	16.1	17.6
		1999	6.7	1.9	62.3	14.2	14.9
		2005	6.1	1.5	66.4	11.2	14.8
		2010	7.6	1.7	64.3	11.0	15.5
		2015	7.7	1.7	64.9	9.7	16.0
		2021	–	–	–	–	–
	All purpose	1987	7.3	3.2	45.9	21.9	21.7
		1992	7.6	2.6	53.8	17.6	18.4
		1999	7.5	2.1	60.0	15.8	14.6
		2005	7.1	1.7	63.5	13.1	14.5
		2010	8.6	1.9	61.3	12.9	15.3
		2015	9.3	1.9	61.6	11.7	15.6
		2021	8.1	1.6	62.4	10.7	17.4

Source: Movement of People in the City (Ministry of Land, Infrastructure and Transport)

15-7 Transport used by trip purpose (percentages of the main transport mode)

(Unit: %)

City area	Purpose \ Transport	Railways	Buses	Motor vehicles	Motorcycles	Walking & other	Total
Tokyo metropolitan area (weekdays)	Going to work	54	2	23	12	8	100
	Going to school	32	2	6	10	50	100
	Going home	33	3	25	14	24	100
	Home to place of business	41	2	39	10	8	100
	Between workplace and place of business	31	1	56	4	8	100
	Home to private destination	13	4	34	19	40	100
	Other private matters	24	3	31	11	31	100
	All purposes	33	3	27	13	23	100
Keihanshin metropolitan area (weekdays)	Going to work	36	2	35	20	7	100
	Going to school	22	4	5	14	55	100
	Going home	20	2	34	20	23	100
	Business	13	2	59	14	13	100
	Personal	9	3	41	21	26	100
	All purposes	19	2	36	20	22	100
Chukyo metropolitan area (weekdays)	Going to work	22	2	59	12	5	100
	Going to school	19	1	8	15	57	100
	Going home	13	1	56	13	17	100
	Business	5	0	87	4	4	100
	Personal	5	1	69	11	14	100
	All purposes	12	1	59	12	16	100
Chukyo metropolitan area (holidays)	Going to work	16	1	63	14	6	100
	Going to school	21	1	13	32	33	100
	Going home	7	1	75	8	9	100
	Business	4	0	84	7	5	100
	Personal	5	1	80	6	8	100
	All purposes	6	1	77	7	9	100

Source: Data for Tokyo are from the sixth survey (2018); for Keihanshin (weekdays & holidays), from the sixth survey (2020); and for Chukyo, from the fifth survey (2011).

16. Basic Transport Data for Major World Cities (2015, 57 Cities)

Cities	Population	Gross product of the area per person	Motor vehicle Ownership		Annual average distance traveled by private cars	Shares of transport modes			Average number of trips	Average travel time for private cars
			Passenger Car	Motorcycles		Public transport	Walking & bicecles	Private cars		
	(x1000persons)	(euro/person/Year)	(vehicles/1000persons)	(vehicles/1000persons)	(km/vehicle/year)	(%)	(%)	(%)	(trips/person/day)	(min.)
Abu Dhabi	913	78,700	528	6.0	12,618	4.9	11.8	83.3	2.06	22.0
Addis Abeba	3,384		35	3.8	4,637	48.2	42.7	9.1	1.11	60.0
Amsterdam	1,450	36,100	371	29.5						
Ankara	4,606	8,700	195	8.1	8,999					
Athens	3,828	26,200	718							
Barcelona	3,220	23,500	383	106.8		23.8	51.7	23.9	3.22	
Beijing	20,693	11,500	209							
Berlin	3,375	27,900	339	29.4		26.0	43.0	31.0	3.00	22.0
Birmingham	2,762	21,300	450	12.1	8,813	12.2	23.9	63.8	2.38	24.0
Brisbane	2,880	48,000	624	36.6	10,900	6.4	10.5	83.1	3.00	
Brussels	1,154	30,300	441	26.4	4,718	26.9	40.5	33.6	2.77	19.0
Budapest	1,727	22,300	327	13.4		37.0	24.7	38.3	2.13	
Casablanca	4,055	3,700	369			13.0	53.0	34.0	2.71	
Chicago	8,444		391	27.7	27,945	6.9	11.5	81.6	3.11	22.0
Copenhagen	1,691	57,700	360	18.8						
Delhi	16,753	2,900	147	296.2		21.5	45.0	25.1	1.43	
Dubai	2,003	32,100	461	10.0	17,937	10.9	13.2	75.9	1.81	32.0
Dublin	1,804	39,900	396	8.9		12.0	13.0	75.0	2.00	21.0
Geneva	470	81,400	467	110.1		16.0	42.0	41.0	3.40	27.0
Glasgow	2,162		440	8.3	14,182	12.1	25.0	62.9	2.80	
Gothenburg	1,600	36,800	453	30.6	14,442	10.6	28.1	59.7	2.74	
Hamburg	3,327	35,900	452	36.5		13.4	40.4	51.7	2.87	23.0
Helsinki	1,165		391	30.0		26.1	33.8	40.0	2.95	
Hong Kong	7,071	29,400	70	8.1	11,400	52.2	36.9	11.5	2.39	
Jerusalem	1,130		190	10.4		15.3	37.3	42.2	2.49	14.0
Johannesburg	4,434		171	6.5	8,134	10.0	30.9	57.0	1.10	
Lagos	20,621	4,800	75	1.5	6,867	48.0	40.0	12.0	1.07	60.0
Lisbon	2,800	20,100	433							
London	8,310	44,300	307	14.9	8,950	35.0	26.1	38.8	3.13	
Madrid	6,498	26,900	506	45.3		28.6	30.4	40.8	2.45	
Melbourne	4,194		593	24.4		7.5	18.0	73.7	2.85	19.0
Milan	2,123	43,000	570	111.5	3,747	42.3	13.1	44.5	2.47	22.0
Montreal	3,772		573			17.9	12.3	69.1	2.32	
Moscow	12,197	23,700	319	6.1	6,000					
Mumbai	20,748		28	50.4		45.0	33.0	22.0	1.66	
Munich	1,439	51,900	452	38.4		21.0	42.0	37.0	3.40	27.0
Nairobi	4,500		72			7.6	47.8	15.2	1.32	
Oslo	1,169	71,500	450	51.0	10,700	23.5	28.1	48.4	2.76	
Paris	11,978	45,800	414	41.8		20.3	40.4	39.2	3.40	23.0
Phoenix	4,087	36,700	584	22.5	15,641	1.4	10.1	84.3	3.76	14.0
Portland	1,489		840	28.4	8,873	4.2	12.0	83.7	3.70	17.0
Prague	1,246	27,300	538	63.9	9,898	52.8	21.8	25.4	2.95	14.0
Rome	2,913	42,800	641	142.2		25.7	14.0	60.2	1.97	
Seoul	24,734		271	33.4		36.9	23.7	39.3	2.37	30.0
Singapore	5,312	39,400	116	27.1	18,183	44.0	23.1	33.2	2.45	26.0
Stockholm	2,127	52,000	389	19.0	14,691	20.9	35.1	44.1	2.53	
Stranbourg	473	49,400	545			12.2	41.4	46.4	3.82	19.0
Sydney	4,676	47,900	500	20.9	13,088	5.9	19.1	72.9	3.48	19.0
Taipei	2,673		283	411.5		32.0	19.0	48.0	2.67	
Tallinn	416	16,200	378	16.0		40.0	34.0	26.0		
Tehran	8,400		370	38.0		12.7	36.2	51.1	2.76	25.0
Tokyo	37,239	39,600	329	30.6	7,742	33.0	36.0	29.0	2.45	
Turin	1,515	27,200	661			18.9	26.3	54.6	2.44	18.0
Vancouver	2,410		439	21.2		14.0	13.0	73.0	2.52	
Vienna	1,741	40,500	390	47.9	5,908	39.4	33.8	26.9	2.66	
Warsaw	1,715	25,600	575	19.2						
Zurich	1,406	71,400	484	72.2		21.4	29.6	49.1	3.47	

Source: MOBILITY IN CITIES DATABASE 2015

Annual supply of public transport	Length of roads	Average travel spped			Annual use		Population density in city		Urbanization rate
		Private cars	Railways	Buses	Private cars	Public transport	Population	Employment	
(Capacity: person kilometers /person)	(km/1000 persons)	(km/hour)	(km/hour)	(km/hour)	(person kilometers/person)	(person kilometers/person)	(persons/ha)	(persons/ha)	(%)
3,548	8.9	58.0		18.0	9,676	128	5.3	3.0	81.9
	1.4				654				
	3.6						42.8	26.2	33.7
6,949	12.9	29.0	38.5	22.2		2,502	26.4	9.6	25.1
	4.7						64.4		15.6
16,476		20.9	40.5	12.1	3,274	2,196	145.7	59.1	34.7
	1.0	24.8					164.0		10.3
13,678	1.6	24.9	34.0	19.5	3,224	1,968	53.9	19.1	70.1
3,694	2.8	21.3	39.7	19.0	6,284	1,084	55.5	25.6	55.8
6,093	10.9	41.2	43.0	28.0	7,471	721	6.8	2.8	20.1
9,342	1.6				2,794	2,046	86.2	53.4	83.3
10,314	2.5	25.0	19.9	15.8		3,008	63.2	27.5	52.0
	0.2						178.0	55.0	14.1
4,354	5.7		39.6	16.4	12,038	802	13.9	6.5	58.4
	3.2					2,246	22.9	12.3	28.7
3,206		23.5					238.7	75.5	47.3
4,129	1.9		42.1	15.5	11,595	789	19.6	12.9	24.8
6,451	0.3		46.4	19.4	3,730	730			
7,450	3.9	31.1	21.2	15.6		1,017	49.9	26.4	38.8
	6.8								
	17.2				11,153	1,536	10.6	5.2	6.5
10,690					8,439	2,196	21.6		17.7
8,279			42.8	27.1	4,024	1,909	18.8	10.3	41.1
22,029	0.3	28.4	31.9	18.6	1,230	4,606	255.2	102.6	25.0
4,161	2.1				2,402		88.3	27.4	26.0
3,839	2.0								
106	0.4	22.0			718	168	216.9	44.3	81.1
6,676				14.7		1,414	36.1	15.1	25.8
16,454	1.8	29.0			4,481	2,841	58.1	32.2	89.6
					2,838		80.2	37.3	10.0
					6,912		21.5		22.0
11,756	1.0	25.4			2,564		72.0	59.5	53.4
3,802			35.0	16.8		1,140	42.1	27.8	23.3
30,161	0.5	35.0	42.7	17.5		4,867	92.2	51.8	51.6
		16.0							
12,336			36.2	18.6		2,825	61.2	31.2	75.6
130									
9,887	5.1	25.6	47.5	16.8	4,269	2,091	28.0	16.7	8.3
12,443	3.1		37.7	17.0	2,907	2,497	40.1	20.3	24.8
		46.7			11,250	139	13.9	5.9	12.2
	11.7		22.8	19.1	9,864	514	15.0	7.6	81.6
18,641	3.2	25.7	27.7	16.7	2,521	4,827	53.5	27.8	46.9
8,607	2.7		37.1	15.4		2,856	100.4	41.1	22.5
	1.0				1,912		125.5	62.8	17.3
12,324	0.6	28.6	38.5	17.8	2,611	2,659	104.6	63.6	70.8
	5.2		43.4	25.2		2,482	24.1	12.9	13.5
6,572	3.8	21.7			4,393		106.8	55.4	14.0
			37.9	21.0	8,993	1,155	10.0	4.6	37.4
14,120	0.6		33.5	15.2		3,772	205.7	94.1	47.8
7,278	2.4		21.9	18.1		1,118	34.1	16.9	77.0
4,050	0.3	26.5	44.3	14.0	3,188	1,648			
	4.5	32.7	45.1	13.5	3,516	5,684			
4,418			26.0	17.1	4,425	1,221	61.6		29.3
4,944			37.7	19.9	6,270	1,222	26.8	13.9	31.1
13,523	1.6	25.0	30.8	17.3	2,725	1,733	75.0	41.6	55.8
12,456	1.1						53.7	41.9	61.6
12,195	5.2		48.9	17.8	6,457	2,189	37.2	20.0	23.0

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The Japan Research Center for Transport Policy
Morizumi Bldg. 4F., 1-12-6, Kudankita, Chiyoda-ku, Tokyo 102-0073, Japan
TEL: 03-3263-1945
FAX: 03-3234-4593
https://www.nikkoken.or.jp
E-mail: office@nikkoken.or.jp

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