

Chapter 6

Building Competitive Economy and Society

Section 1 Developing Trunk Road Networks

1 Developing Trunk Road Networks

(1) Developing Trunk Road Networks

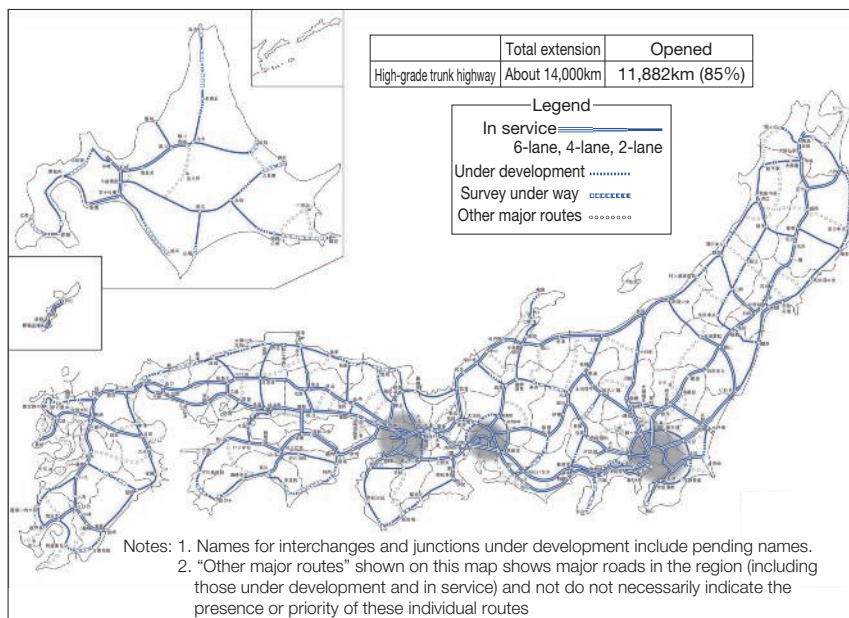
Since the First Five-Year Road Construction Plan formulated in 1954, Japanese highways have been continually constructed. For example, the construction of national highway networks, including expressways, has provided a major impetus in the rejuvenation of regional economies by encouraging plant locations near expressway interchanges. Additionally, it has helped enhance the quality and safety of national life by making broad-area medical services accessible to rural areas and allowing broad rerouting to avoid highway disruption by natural disasters.

For example, a section of 15.5 km of the Tokyo Outer Ring Road (Misato Minami IC to Koya JCT) opened on June 2, 2018, connecting about 60% of the Tokyo Outer Ring Road, helps reduce travel delay arising from congestion on the Inner Ring side of the Central Circular Route (including the Central Circular Route) by about 30%.

The MLIT will continue to advance the development of Japan's trunk road network in order to maximize stock effects of this type, with a focus on accelerating development of the metropolitan ring roads that form the core of the nation's logistical networks utilizing the current low interest rate and the Fiscal Investment and Loan Program.

Meanwhile, improvements, including expressways, are being systematically carried out to connect regions that are not yet part of the nationwide highway network.

Figure II-6-1-1 Development Status of High-grade Trunk Highway



As of March 31, 2019

Source) MLIT

(2) Promoting Smart Use of the Roads

In the interest of improving productivity and thereby achieving economic growth and improving traffic safety, efforts are under way to make intelligent use of all road network functions by developing necessary networks, as well as improving operations and small-scale enhancements. Electronic toll collection (ETC) 2.0 is one of these efforts, which started full service in August 2015.

(i) ETC 2.0 that supports smart use

With data communication both ways between about 1,700 roadside units across Japan and vehicles on the road, ETC 2.0 (compared to the previous ETC version) is capable of: (a) sending and receiving a large volume of data, and (b) capturing route information, in addition to IC entry/exit data. With these much more advanced functions, ETC 2.0 greatly contributes to the promotion of ITS.

(ii) Smart toll system

New expressway tolls were introduced in April 2016 in the Tokyo Metropolitan Area and in June 2017 in the Kinki region. These new tolls have begun to show effects including diversion of traffic to the outer ring roads to deconcentrate the inflow to the city center. We will continue to review these effects.

On April 1, 2018, the Minami Hanna Toll Road and Sakaisenboku Toll Road were transferred to Nexco West Japan. We have also begun a study of a smart toll system for expressways in the Chukyo region, taking into account the specific challenges of the region.

We have also conducted flexible toll tests at 20 locations nationwide in which vehicles equipped with ETC 2.0 devices were allowed to temporarily exit expressways to use rest facilities while being able to continue to use their original toll payment without interruption. The intention of this initiative is to eliminate sections of road with no rest facilities or gas stations nearby in order to improve the driving environment.

Figure II-6-1-2

Toll System for Making Intelligent Use of Tokyo Metropolitan Area Expressways (Implemented April 2016)

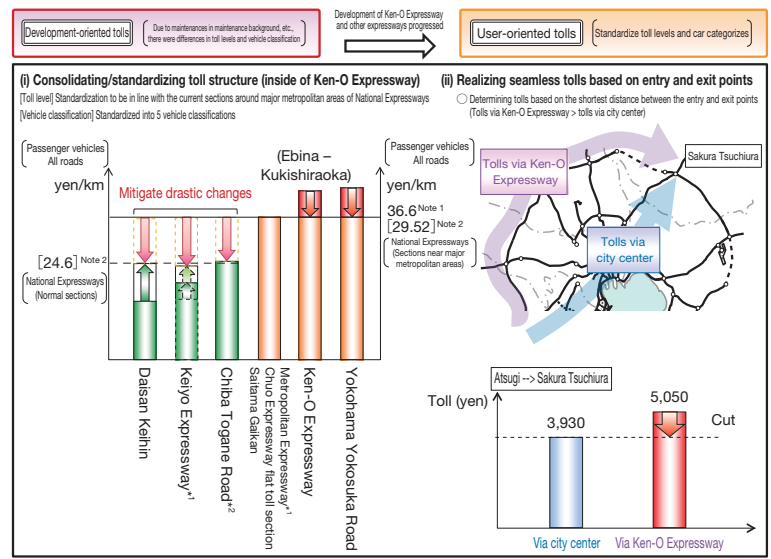
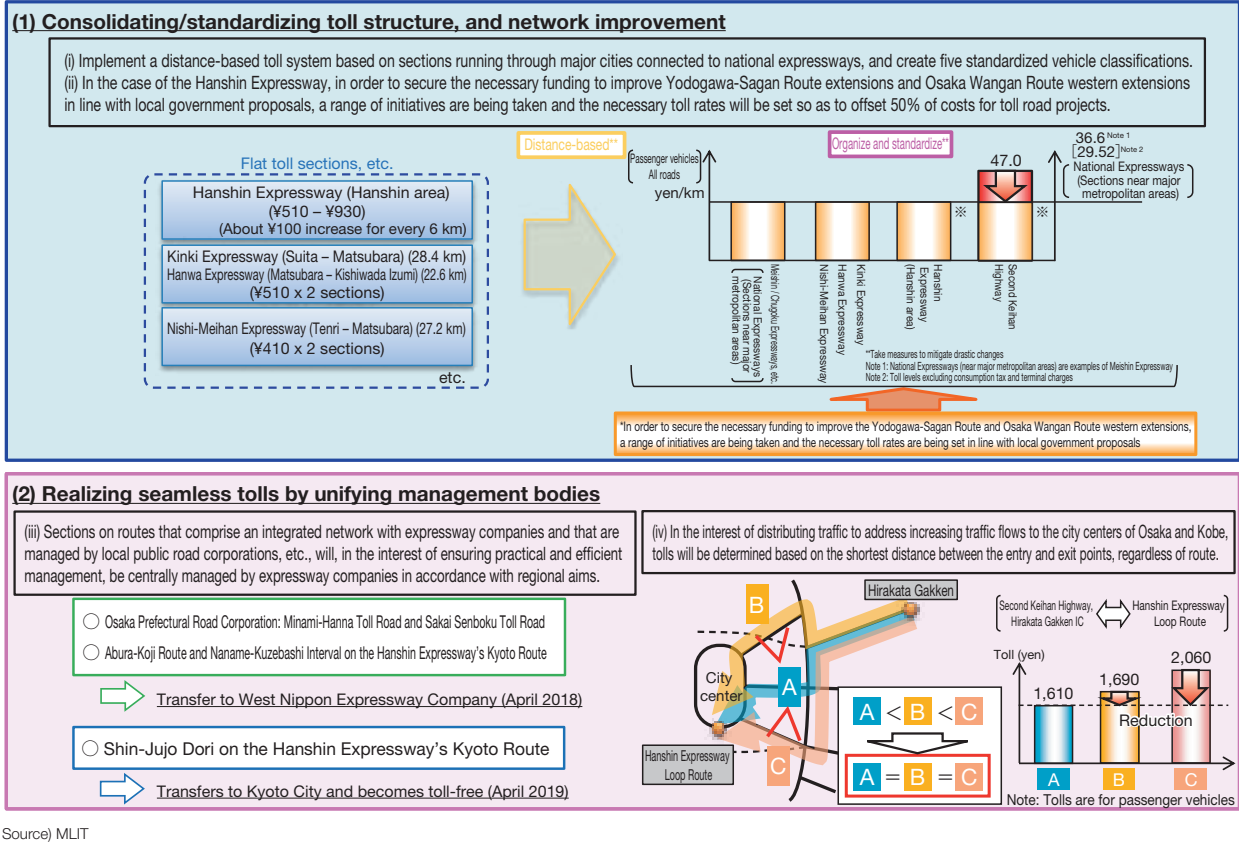


Figure II-6-1-3 Toll System for Making Intelligent Use of the Kinki Region Expressways (Implemented in June 2017)

**(iii) Smart toll stations**

Towards introduction of stress-free smart toll stations based on ETC, we experimented with the operation of keeping ETC bars open at Ken-O Expressway toll stations and mainstreaming the use of ETC lanes at Metropolitan Expressway toll stations.

(iv) Smart investments

As part of efforts to achieve maximum effect with the existing networks at minimum cost, we are implementing a specific point congestion measure to identify places where deceleration or traffic congestion occurs from structural factors, such as uphill sections and tunnels, by using detailed deceleration, acceleration, and other big data collected through ETC 2.0 and other means for effective measures. Until now, additional lanes and other features have been implemented within the existing road width at nine locations, including at Yokkaichi Junction on the Higashi-Meihan Expressway. Congestion relief measures are being taken at specific points at 10 locations, such as near the Takasaka SA on the Kan-etsu Expressway.

(vi) Other initiatives

In order to promote cooperation among local areas, the MLIT is improving accessibility, including direct connections between expressways and facilities. By being flexible in building additional Smart ICs, we are increasing accessibility to the distribution centers and tourism hubs from expressways through the consolidation and sophistication of measures based on the concept of “compact” and “networked” roads and reducing traffic congestion around the existing ICs. In July 2017, we established concrete rules for a Smart IC system that would directly connect expressways and private-sector facilities. In addition, in order to facilitate the development of these Smart ICs, in March 2018 we created a new system in which part of the development costs incurred by the private-sector businesses engaged in IC development is provided as interest-free loans, and introduced measures to exempt private-sector businesses from the registration and license tax when they acquire land related to IC development. Based on preparation phase surveys, the national government is implementing the prepa-

ration and examination of Smart ICs in systematic and efficient manner in places where necessity is found.

The Council for Traffic Congestion Relief Measures was established in order to institute effective measures for congested areas around the country. In FY2017, we enhanced cooperation between the Council for Traffic Congestion Relief Measures and user groups for buses, trucks and other modes of transportation, and, after identifying areas of congestion based on the perspective of these road users, advanced initiatives towards the implementation of measures that would have a rapid effect.

Advanced traffic assessments targeting developers of commercial facilities and other structures, as well as new initiatives for requesting additional measures after siting, are being planned with the goal of reducing congestion as more people begin to use the land along roads.

In tourist destinations that are prone to traffic congestion across wide areas, we will integrate ETC2.0, a range of sensors and analytic technologies using AI in order to strengthen traffic management that takes fluctuations in space and time into consideration.

2 Constructing Arterial Railway Networks

(1) Development of Shinkansen Railways

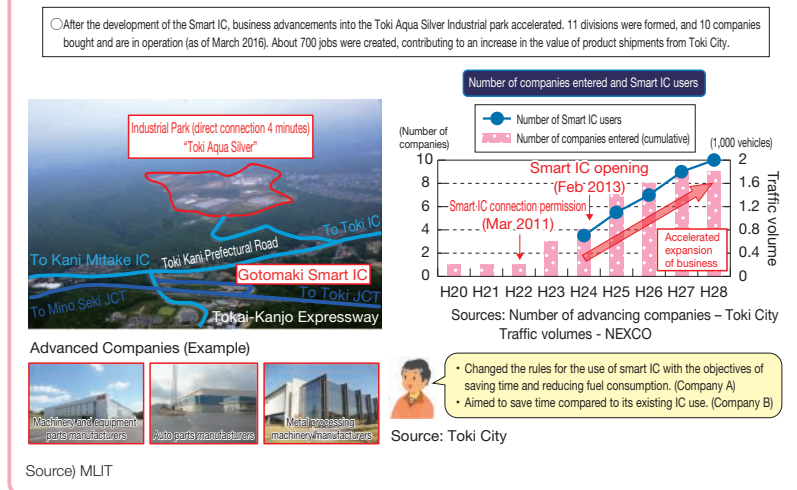
A rapid transit system of vital value to Japan, Shinkansen [bullet train] Lines significantly cut the time spent moving from region to region and help greatly boost regional activities and rejuvenate local economies. Shinkansen Lines feature safety (no record of passenger death accidents since opening of the Tokaido Shinkansen Line in 1964) and eco-friendliness (the railway CO₂ emissions per unit of energy (g-CO₂/passenger-kilometer) being one fifth of aircraft and one sixth of automobiles). With regard to the New Shinkansen routes specified by the Development Plan established in 1973 based on the Nationwide Shinkansen Railway Development Act, since the opening of the Hokuriku Shinkansen (between Takasaki and Nagano) in October 1997, the Tohoku Shinkansen, Kyushu Shinkansen, Hokuriku Shinkansen and Hokkaido Shinkansen have been successively opened.

Steady improvements are being made in preparation to complete and open the Hokkaido Shinkansen line (between Shin-Hakodate Hokuto and Sapporo), the Hokuriku Shinkansen line (between Kanazawa and Tsuruga) and the Kyushu Shinkansen line (between Takeo Onsen and Nagasaki), in accordance with the Handling of New Shinkansen Lines (agreed upon between the government and the ruling party on January 14, 2015). Construction costs for the Hokuriku Shinkansen (between Kanazawa and Tsuruga) and the Kyushu Shinkansen (between Takeo Onsen and Nagasaki) are expected to increase by about 345.1 billion yen, but in the process for organizing the budget for FY2019 a stable financial outlook has been established for the necessary additional expenses, and in January 2015 the government and ruling party agreed to continue steady development towards the target completion and opening dates.

Regarding the portions of the Hokuriku Shinkansen line that have not yet started operation (between Tsuruga and Shin-Osaka), environmental impact assessment procedures are moving forward (about 4 years) from FY2019, performed by railway and transportation organizations and based on the route selection decision of the ruling party's Development Shinkansen Construction Promotion Project Team in March 2017. Regarding the securing of development resources, this is to be considered by the ruling party during the period of the environmental impact assessment and will continue to be looked at as appropriate toward the opening of the entire line as soon as possible.

Regarding the Kyushu Shinkansen (Nishi-Kyushu route), the ruling party's Development Shinkansen Construction Promotion Project Team Kyushu Shinkansen (Nishi-Kyushu Route) Review Committee examined three types of lines

Figure II-6-1-4 Examples of Smart IC Impacts



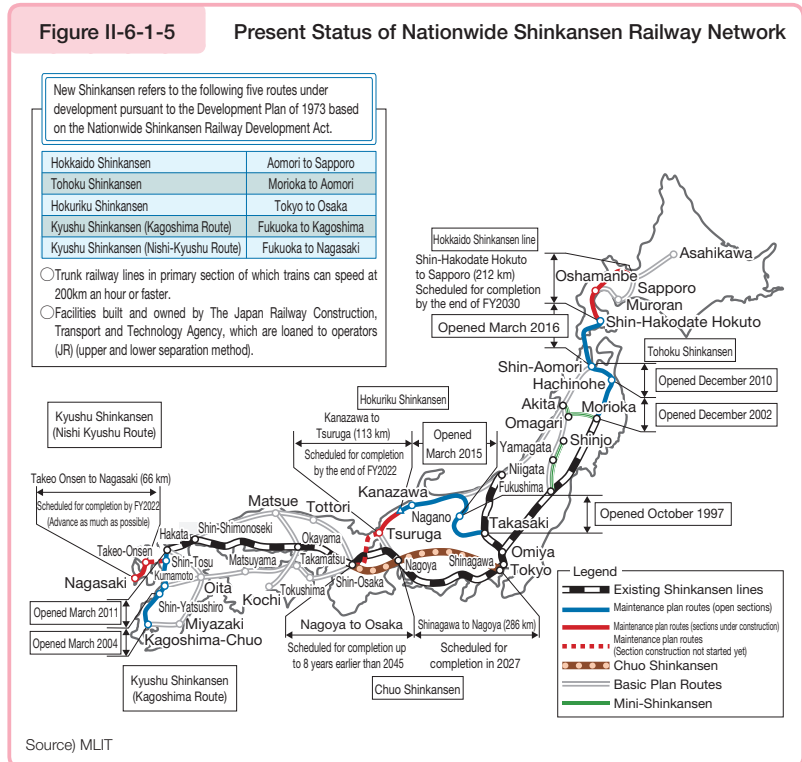
(free-gauge trains, full standard and mini Shinkansen) for transferring on the same platform after the start of service in FY2022, and according to the interim report issued in July 2018, it was decided that transferring on the same platform should not be permanent and that the introduction of free-gauge trains would have to be abandoned, given the need to select either a full standard or mini Shinkansen that would be capable of going directly to Shin-Osaka. In light of this, as of August of the same year, the ruling party's Development Shinkansen Construction Promotion Project Team had moved forward with considering the selection of either the full standard or mini Shinkansen system.

With respect to the Hokkaido Shinkansen, operation began in March 2019 at 160km/h in the Seikan Tunnel on the sections in which the Shinkansen trains travel on the same rails as freight trains. An examination will continue with full consideration of the dual functions of high-speed Shinkansen operation and rail freight transportation to ensure safety. In addition, given that the operator, JR Hokkaido, is currently facing a difficult business situation, we will also give consideration to matters including the status of efforts to contribute to increased profits on the Shin-Aomori to Shin-Hakodate-Hokuto section and the effect of opening the Shin-Hakodate-Hokuto to Sapporo section.

In addition, under the Nationwide Shinkansen Railways Construction and Improvement Act, a total of 11 routes including the Shikoku Shinkansen and Shikoku-Odan Shinkansen have been positioned as part of the so-called Basic Plan Routes. Since FY2017, a Survey on the Optimal State of the Shinkansen Network has been carried out, including for these Basic Plan Routes, and more specifically, a study is being conducted on the verification of the social and economic impacts of Shinkansen development, and methods for the effective and efficient development of Shinkansen, including single-line Shinkansen.

Turning to the Chuo Shinkansen, the opening of all lines will connect Tokyo and Nagoya in approximately 40 minutes and Tokyo and Osaka in approximately one hour. This will place Japan's three major cities within a traveling time of one hour from each other, and form an immense metropolitan area with a population of 70 million people. In addition to significantly changing Japan's national land structure and increasing the nation's international competitiveness, this development will generate growth potential that will ripple throughout the country, spurring the development of the Japanese economy as a whole. Regarding the timing of opening all lines, the Japan Railway Construction, Transport and Technology Agency Act was amended in 2016 to utilize the Fiscal Investment and Loan Program (3 trillion yen), making it possible to bring forward the opening of all lines to Osaka by up to 8 years from the previous plan of 2045. At present, in accordance with the Plan for Constructing the Chuo Shinkansen Line Section between Shinagawa and Nagoya Stations (No. 1) and (No. 2) approved by the Minister of Land, Infrastructure, Transport and Tourism, Central Japan Railway Company is proceeding with work including new construction at Shinagawa Station and the construction of tunnels in the Southern Alps, looking towards the opening of the Shinagawa to Nagoya section in 2027.

Regarding Shin-Osaka Station, the Basic Policy for Economic and Fiscal management and Reform 2018 (Cabinet Decision on June 15, 2018) included "examining project schemes such as private project composition etc. and enhancing the Shinkansen network to strengthen nodal functions and eliminate capacity restrictions from the perspective of transit convenience for the Linear Chuo Shinkansen and Hokuriku Shinkansen (detailed routes under review) etc.", and from FY2019 we have been working to conduct the necessary surveys and realize this initiative.



(2) Driving Technical Development

(i) Superconducting maglev trains

In the area of efforts to develop superconducting maglev trains, based on the basic plan for the technological development of the superconducting magnetically-levitated transport system, development will proceed aiming at the realization of greater maintenance efficiency and increased comfort in already developed technologies.

(ii) Gauge Changeable Train

Free-gauge trains connect line sections of different rail widths to enhance the convenience of users, and, for the moment, technical development is still ongoing as to where to utilize free-gauge trains, assuming direct operation between different conventional lines.

3 Constructing Aviation Networks

(1) Expanding Aviation Networks

(i) Enhancing metropolitan airports functionalities

Enhancing the functions of airports in Tokyo (Tokyo International Airport [Haneda Airport] and Narita International Airport [Narita Airport]) is essential in order to achieve government goals of 40 million overseas visitors in 2020 and 60 million in 2030 established in the Tourism Vision to support the Future of Japan, strengthening international competitiveness of Tokyo, revitalizing local economies, ensuring the smooth holding of the 2020 Olympic and Paralympic Games, and more. Initiatives are now underway to increase the number of slots to a million per year at two airports in total. This number is at the world's highest level rivaling London and New York.

In concrete terms, efforts are being made to increase the number of slots by approximately 40,000 by 2020, by means of initiatives including reviewing the flight paths to and from the airport. At present, steady progress is being made in areas including the development of necessary facilities and the establishment of countermeasures for noise and falling objects. In addition to this, CAB held fifth series of citizens' information sessions between December 2018 and February 2019, and we will continue to provide detailed information and obtain the understanding of citizens.

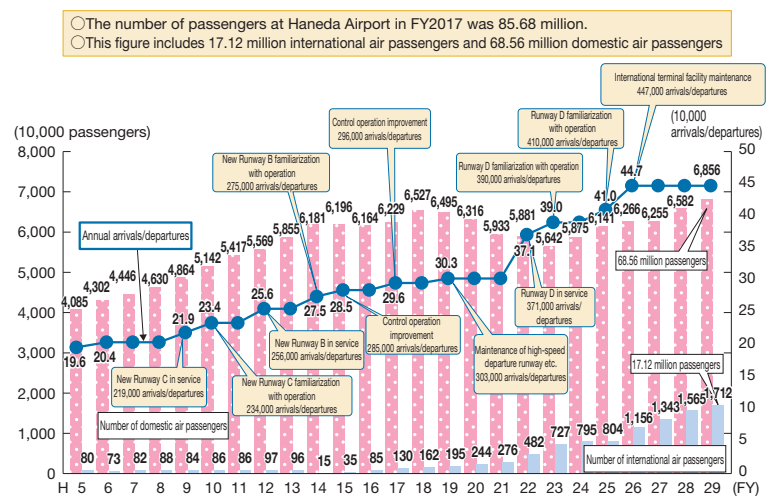
In addition, route selection has begun

Figure II-6-1-6 Overview of Tokyo International Airport



Source) MLIT

Figure II-6-1-7 Trend in Number of Passengers and Number of Arrivals and Departures at Tokyo International Airport

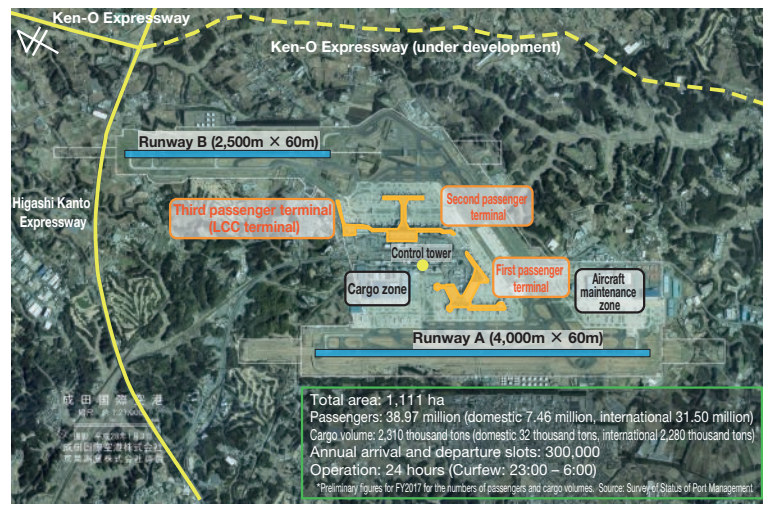


Source) MLIT

in line with this expansion of capacity.

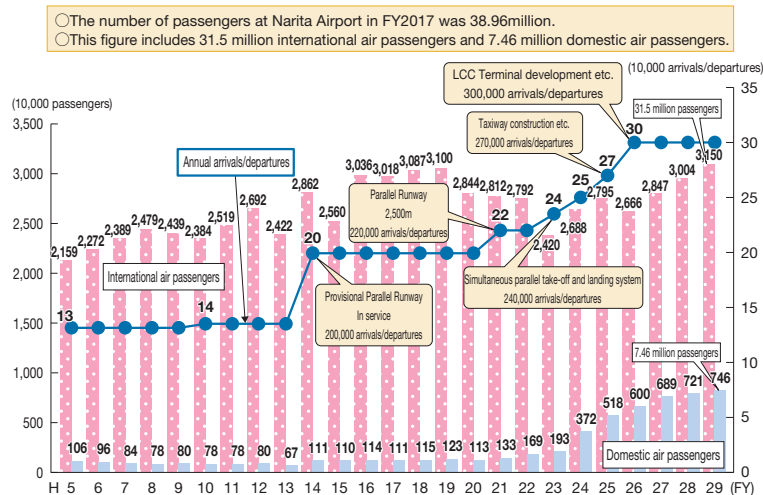
At Narita Airport, NAA(Narita International Airport Corporation) and CAB will increase the number of slots by approximately 40,000 by means of initiatives including the construction of high-speed exiting taxiways by 2020. NAA and CAB are also moving forward with the further enhancement of functions including the development of a third runway and the easing of restrictions on night flights based on the agreement of four-party council made up of NAA, CAB, Chiba Prefecture, and surrounding municipalities. Furthermore, in order to increase the number of slots to half a million per year after 2020, steady progress is being made including the establishment of countermeasures for noise and falling objects, and the development of necessary facilities in surrounding areas under the Act on State's Financial Special Measures for Improvement of Areas around Narita International Airport.

Figure II-6-1-8 Overview of Narita International Airport



Source) MLIT

Figure II-6-1-9 Trend in Number of Passengers and Number of Arrivals and Departures at Narita International Airport



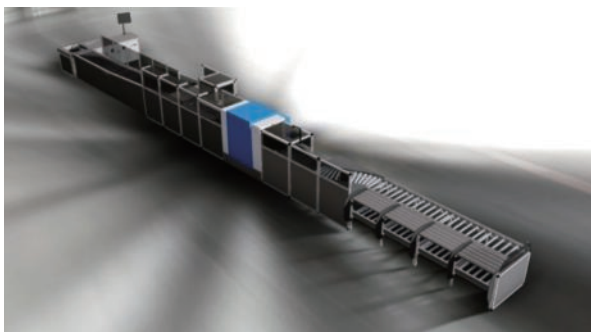
(ii) Enhancing functions at Kansai International Airport and Chubu Centrair International Airport

The operation of Kansai International Airport has been contracted to a private-sector operator since April 2016. Kansai Airports Co., Ltd., the airport operator, is introducing smart security into Terminal 1, following from the introduction into Terminal 2 (International), and is developing business jet facilities etc. to enhance functions to take advantage of private business ingenuity. The 2018 passenger record was surpassed, with more than 15 million international passengers on international flights arriving for the first time since the opening of the airport.

At Chubu Centrair International Airport, the construction of a dedicated LCC terminal proceeded in order to respond to new LCC services and other flights, and a commercial facility business operated by the airport corporation opened adjacent to this terminal on October 12, 2018.

Figure II-6-1-10

Kansai International Airport Smart Security System – Smart Lane



Source) Kansai Airports Co., Ltd.

Figure II-6-1-11

Commercial facility “Flight of Dreams,” located adjacent to Chubu Centrair International Airport dedicated LCC terminal



Source) Central Japan International Airport Co., Ltd.

(iii) Enhancing functions at regional airports

For further revitalization of Okinawa at Naha Airport, which plays critical roles as a travel and logistics base connecting Okinawa and mainland Japan/overseas, the project to increase runways was carried out. At Fukuoka Airport, the project to increase runways continued with the aim of fundamentally resolving the issue of chronic airport congestion at peak times.

Measures taken at New Chitose Airport include increasing the number of departures and arrivals per hour from 32 to 42 from the end of March 2017. Additionally, in order to relieve facility congestion caused by a sudden increase in international flight passengers, among other factors, and to accommodate greater demand for international flights, development projects are underway to expand the apron for international flights, construct a new taxiway, and improve the functions of the terminal building servicing those flights (CIQ facility). At other regional airports also, initiatives including apron expansions and CIQ facility renovations are being advanced in response to increases in the number of aircraft and the introduction of new flights.

Also, the MLIT has been implementing countermeasures against aging airport facilities based on strategic maintenance to ensure safe flights of airplanes, while pushing forward with quake-resistant technologies and structures at airports so that airports can maintain their operations in the event of an earthquake.

(iv) Driving the Open Skies strategically

The Ministry has strategically pursued the Open Skies^{Note 1}, including a metropolitan airport, to respond to changes in the competitive climate resulting from global trends towards air services liberalization while accommodating vigorous economic leaps in Asian and other overseas nations, and as of March 2019, open sky agreements have been realized with a total of 33 countries and regions^{Note 2}.

Note 1 Refers to the bilateral scrapping of restrictions on the number of companies involved in international air transportation, and on routes and the number of flights, in order to boost the level of service (for example by reducing fares) by means of realizing new entries to the market and increased flight numbers, and promoting competition between companies. Recently, numerous countries have advanced this type of measure.

Note 2 The number of passengers between Japan and these 33 countries represents approximately 92% of the total number of passengers arriving in or departing from Japan.

Also, discussions with ASEAN are ongoing with a view to concluding a regional air service agreement between Japan and ASEAN.

(v) Fostering and securing aircraft pilots, etc.

In the Japanese aviation industry, while drastic leaps in the demand for aviation focusing on international lines and massive retirement of pilots in their 40s, who form a primary workforce at present, are predicted in the future.

In response to this situation, in July 2014 the Joint Subcommittee for Studying Crew Policies, established under the Basic Policy Taskforce and Technology and Safety Taskforce of the Transport Policy Council’s Aviation Group, compiled a report concerning the orientation for concrete measures to be taken in future. In addition, the formulation of the Tourism Vision to support the Future of Japan in March 2016 set targets of 40 million overseas visitors to Japan in 2020 and 60 million in 2030. Against the background of increased demand for flights, the training and securing of pilots and mechanics is becoming an increasingly important issue.

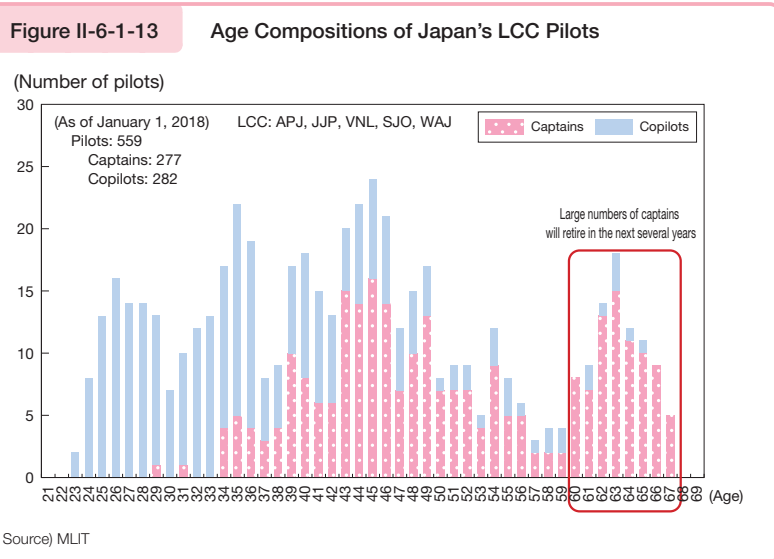
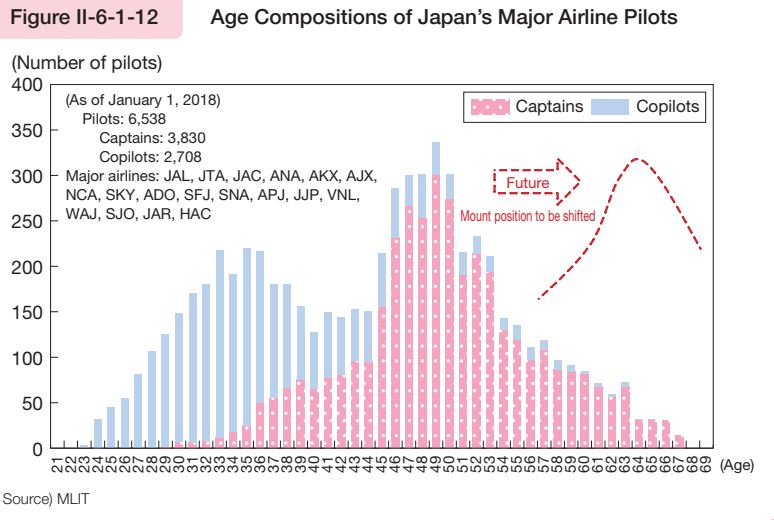
Based on this, regarding pilots, in addition to steadily expanding the scale of Civil Aviation College training from FY2018 (72 people to 108 people), efforts have been made to introduce efficient training for private activities and capabilities for SDF pilots. For mechanics, efforts have been made to utilize foreign human resources through the new resident status (specific skills), and to strengthen the foundations of domestic training facilities.

(2) Enhancement and Optimization of Airport Operations

(i) Driving airport management reforms

Using the Act on Operation of National Airports Utilizing Skills of the Private Sector, the MLIT is committed to driving airport management reforms at national airports and the like to suit specific local conditions through utilization of private-sector capabilities, integrated management of Aeronautical activities and Non-aeronautical activities and so on in order to expand the amount of population who are engaging in domestic and international interactions, etc. on the support of the airports and thus to encourage regional revitalization.

Amid these initiatives, in July 2016, Sendai Airport became the first of Japan’s national airports to begin undergoing privatization using concession scheme. Following on from Sendai Airport, the consignment management of Takamatsu Airport commenced in April 2018, and procedures are being advanced for Fukuoka Airport, Kumamoto Airport, 7 airports in Hokkaido and Hiroshima Airport.



(ii) Efforts to achieve sustainable growth for LCCs

An LCC originating from Japan went into service in March 2012. As of April 2019, Peach Aviation operated 16 domestic routes and 15 international routes; JetStar Japan, 22 domestic routes and seven international routes; Vanilla Air, six domestic routes and six international routes; and Spring Airlines, three domestic routes and four international routes, and Air Asia Japan, one domestic route and one international route.

Promoting the entry of LCC is expected to create new demand, for example increasing the number of overseas visitors to Japan and expanding domestic tourism.

The government has set a target for LCC passengers to make up 14% of total passengers on domestic routes and 17% of total passengers on international routes by 2020, and a variety of measures are being put in place nationally and at airports in order to promote the entry of LCC.

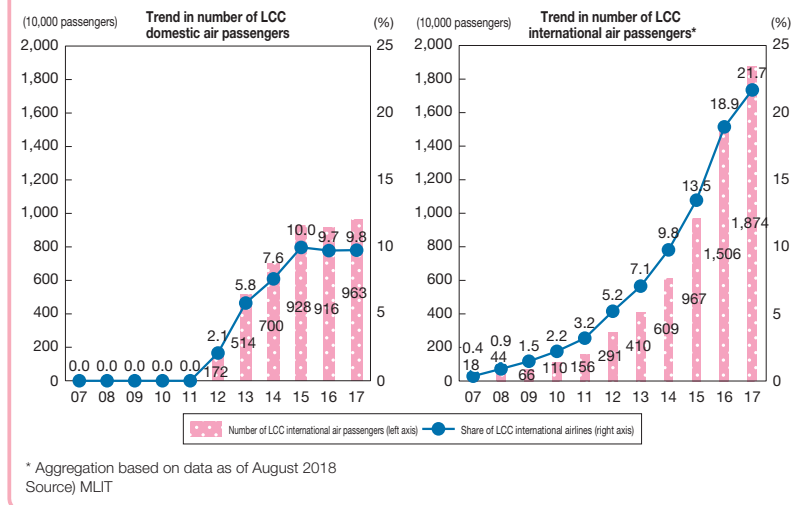
Government measures are being studied and implemented based on the following three perspectives: (1) Changing the airport fee structure; (2) Reforming airport management; and (3) Upgrading the environment for receipt of passengers by LCC. With regard to the airport fee structure, in order to promote LCC flights airport usage fees including landing fees are being reduced or reconsidered at Narita International Airport and Kansai International Airport, which are LCC hubs. Since FY2017, measures to provide relief for landing fees for domestic routes originating at Narita, Kansai or Chubu Centrair International Airports and landing at domestic airports have also been expanded. In addition, in July 2017, 27 airports throughout the country were certified as airports that help encourage travels to Japan, and the government is providing a full range of support, for example by providing support for the introduction of new international routes or the addition of more planes (including by LCC), and upgrading the environment for receiving passengers by LCC. In the area of reform of airport management, initiatives including integrating the operation of runways and other airport facilities with the management of airport buildings by introducing private sector operators will enable the introduction of strategic fee systems and business activities, revitalizing airports utilizing private sector knowledge and funding, and in FY2018 necessary procedures for privatization have been implemented for Fukuoka Airport, Kumamoto Airport, 7 airports in Hokkaido and Hiroshima Airport. Further, in relation to (3) upgrading the environment for the receipt of passengers by LCC, the development of dedicated LCC terminals is underway, and development is moving forward at Chubu Centrair International Airport for the commencement of service in the first half of 2019.

(iii) Accelerating the reception of business jets

A business jet is a small aircraft with the capacity to hold a few to more than a dozen passengers at the most. Business jets are typically used by businesspersons valuing time because they are able to adjust times according to their schedules or utilize the plane as a secure space to carry on business meetings and such on board.

Business jets have become a means of global corporate activity in the U.S. and Europe. As Japan's economy goes on global, further capitalizing on economic growth in Asia through mainly Tokyo International Airport and Narita International Airport has been an important aim, recent years have seen greater importance placed on winning more affluent passengers and otherwise capturing inbound tourism demand.

As a result, initiatives including the upgrading of facilities, in particular at airports in the Tokyo metropolitan area, in order to improve the environment for acceptance of business jets are being advanced. For example, at Tokyo International Airport, development is proceeding in order to increase the number of aircraft parking spots at the same time as the operation of existing parking spots is being modified in order to realize the maximum possible number of parked aircraft, and parking spot information is being made more visible in order to increase convenience for users. Discussions are also

Figure II-6-1-14 Trend in Number of LCC Passengers in Japan

being held at Narita Airport towards upgrading the airport's business jet acceptance system and expanding the number of spots available for the 2020 Tokyo Olympic and Paralympic Games.

(iv) Promotion of international flight services at regional airports

Enabling visitors to Japan to arrive and depart from regional airports via international flights will be extremely important to realizing the targets of 40 million overseas visitors to Japan in 2020 and 60 million in 2030 set out in the Tourism Vision to support the Future of Japan formulated in March 2016.

In the case of national airports, landing fees for international flights have already been reduced by 30% for regular flights and by 50% for charter flights. In FY2016 a measure was introduced as a cooperative scheme with regional areas seeking to be added to flight routes, under which landing fees are reduced by a further 50% when new routes are created or additional flights are added for international passengers at regional airports. In addition, in July 2017, 27 airports throughout the country were certified as airports that help encourage travels to Japan, and these airports are the target of measures including the reduction of landing and ground handling fees in order to support the introduction of new routes or additional flights, and support for efforts to improve passenger acceptance facilities, such as the upgrading of boarding bridges and CIQ facilities.

(3) Upgrading Our Air Traffic System

In 2010, air traffic experts from the industrial, academic and governmental sectors formulated a long-term vision for future air traffic systems as CARATS (Collaborative Actions for Renovation of Air Traffic Systems) with a view to realizing a globally interoperable air traffic system and addressing increases in long-term demand for air traffic capacity and diversified needs. Studies are underway to make this vision a reality in conjunction with ICAO's Global Air Navigation Plan (GANP).

As an initiative in FY2018 to introduce new technologies and methods, the introduction of the high-standard approach method RNP-AR, which is a high accuracy navigation system utilizing GPS, was promoted, with a total of 55 systems having been established at 30 airports. This installation will continue going forward, to improve the operational efficiency of aircraft, and to improve service rates in bad weather.

Also, at the Tokyo International Airport (Haneda Airport), the Ground Based Augmentation System (GBAS) was introduced to make precise approaches using GPS possible. A study is also ongoing concerning the introduction of a new information sharing platform to share aviation and flight information necessary for air traffic management around the world.

(4) Strategic Promotion of Overseas Aviation Infrastructures

The Asia and Pacific region is expected to grow into the world's largest aviation market before too long. Under these circumstances, important issues for the growth strategy of Japan are not only to contribute to strengthening of the aviation networks in this region, but also to actively capture the impetus of the emerging countries in which numerous aviation projects are in progress.

In FY2018, a survey was carried out in the Republic of Poland, under the activities of the Council for International Deployment of Aviation Infrastructure, and the information was shared with relevant companies. We have also promoted new initiatives toward future overseas airport deals to introduce Fast Travel, utilizing the face recognition technology in which Japanese companies have an advantage.

In addition, along with the agreement to extend the contract for the operation of the Laos Wattay International Airport International Terminal (August 2018), the shareholder agreement signed for the joint construction and operation of the new Russia Khabarovsk Novy Airport Terminal (December 2018), sales activities and invitations to key government officials in partner countries were carried out to seize opportunities for Japanese company projects such as the maintenance and management of the Long Thanh International Airport in Vietnam, the Hanthawaddy International Airport in Myanmar and the New Ulaanbaatar International Airport in Mongolia.

4 Facilitating Traffic Access to Airports

With respect to the rail networks for accessing these airports, efforts have been made to further improve railway access to international hub airports in accordance with the Approaches to Future Urban Railways in the Tokyo Area Report from the Council of Transport Policy, which was put together in April 2016, including promoting barrier-free construction at airport stations and stations providing access to airports. We have also promoted projects for the development of access lines to major international hub airports, such as through providing budget measures for the development of the Naniwasuji Line connecting the Kansai International Airport with Shin-Osaka Station and the Osaka city center. In addition, preparations are in progress to assess the environmental impact of implementing the JR East Haneda Access Line (Higashi-Yamanote Route) to connect the Tokyo city center with Haneda Airport.

In addition, to improve bus access to airports within National Strategic Special Zones, all necessary measures are being taken to ensure greater procedural flexibility, including shortening the time given to submit fare and service schedule plans.

Section 2 Implementing Comprehensive and Integrated Logistics Policies

We are advancing a logistics productivity revolution that seeks to improve the operational efficiency of logistics businesses and increase added value. In addition, logistics policies are being implemented in a comprehensive and integrated manner in coordination with related ministries and agencies and the public and private sectors in accordance with the Comprehensive Logistic Policy Guidelines (FY2017-FY2020).

1 Implementing Logistic Policies to Correspond with Deepening Global Supply Chains

To keep up with deepening global supply chains, efforts directed at reinforcing Japan's international logistic facilities are underway, including driving overseas deployment of the nation's logistic systems.

(1) Promoting Overseas Deployment of Japan's Logistics Systems

As supply chains continue to get globalized at a deeper level than ever, grabbing the evolving Asian markets would be essential to sustaining and enhancing the international competitiveness of Japan's industries. The formation of a sophisticated international logistics system should be of prerequisite importance to meet this urge. Capturing the Asian markets has become an urgent task for Japanese logistics companies that support the business expansion of the nation's industries in Asia.

However, the existence of institutional and customary constraints in the partner countries is posing challenges to Japan in expanding its high-quality logistics systems into Asian nations. Therefore, the MLIT is developing an environment to encourage overseas expansion of Japan's logistics systems in collaboration with the private sector through logistics pilot projects, intergovernmental logistics policy dialogues, support for the development of logistics-related infrastructure, projects for development of human resource, international standardization of logistics systems, and other means.

(2) Strengthening the Functioning of the International Marine Transportation Network

As the globalization of economy progresses, the volume of international marine transportation continues to grow year to year. From the perspective of optimizing marine transportation through large bundle shipments, container carriers and bulkers continue to grow in size. In the meantime, key Asian ports have successfully increased their volumes of freight handling, resulting in concentrated ports of call, international trunk routes making fewer calls at Japan. Furthermore, slow responses to larger vessels to carry bulk cargo^{Note} raise concerns over diminishing competitiveness in domestic industries forced into a mutually disadvantageous business environment.

In light of such conditions, Japan carries on its effort to streamline the flow of logistics that supports economic activity in Japan and life of citizens, improving the shipping entities at their location at home, which would in turn augment Japan's industrial competitiveness and realize economic reconstruction by maintaining and expanding the calls of international trunk routes at Japanese ports and simplifying and stabilizing imports of lifeblood materials, such as resources and energies.

Note Generic name for cargoes that are shipped without being packaged, such as grain, iron ore, coal, oil and timber.

In parallel with these approaches, efforts to shape an efficient network of marine transportation in which international and domestic transport services are integrated will be carried on, and relevant measures will be enhanced and developed at a deeper level of refinement.

(i) Enhancing the facilities of International Container Hubs

To strengthen Japanese economy's international competitiveness and to maintain and create citizens' employment, the international shipping trunk routes that directly connect Japan to North America, Europe, and other places need to be consistently maintained and even expanded.

For this purpose, MLIT chose Hanshin Port and Keihin Port as International Container Hubs in August 2010 to implement a full package of structural and non-structural measures. In terms of cargo collection, "the government's International Strategic Port Competitiveness Enhancement Project" which subsidizes the collection activities of port operators is starting to show some success. Specifically, in Hanshin Port, the container cargo volume handled at Kobe Port hits the highest record in 2018. New North American route services were also launched in April 2017 and August 2018 at Yokohama Port in Keihin Port.

In terms of cargo creation, the interest-free loan system was used at Yokohama Port for logistics facilities with distribution processing functions to contribute to the creation of demand for container cargo. In addition, the subsidy system was used at Kobe Port to reorganize and upgrade logistics facilities. Some effect of cargo creation expects to appear.

In terms of strengthening competitiveness, in addition to the formulation and announcement of specific goals and processes towards the realization of AI terminal with world-class productivity and good working environments, specific measures were taken, such as the formulation of Model Operating Regulations to ensure the Safety of Remote Control RTG and the development of new port information systems, "CONPAS" through demonstration projects from FY2016 to FY2018. In addition, a demonstration project on terminal operation efficiency improvement utilizing AI has been carried out since FY2018.

The above initiatives have been implemented, and it has been five years since the start of the International Container Hubs Policy. Therefore, we summarized comprehensive examination of the status of efforts already implemented and new main initiatives towards the sustainable development of this policy in "Final Summary Follow-up Report".

Based on "Final Summary Follow-up Report" formulated in March 2019, we will continue to move forward with efforts of cargo collection, cargo creation and strengthening competitiveness, to enhance the frequency and diversity of direct services, such as North American and European routes, as well as Latin American and African routes.

(ii) Development of LNG Bunkering Bases

With the strengthening of international regulations on the sulfur content of ship fuels starting in 2020, LNG fueled ships are expected to increase, and a subsidy system was established (subsidy rate of 1/3) in FY2018 for construction of facilities needed to build LNG bunkering bases. Two projects, the Ise and Mikawa Bay Project and Tokyo Bay Project, were adopted in June 2018. We promote the spread of LNG fueled ships with low environmental impact, and provide further support to the formation of two LNG bunkering bases in Japanese ports by FY2020, ahead of neighboring countries while promoting cooperation with the world's top oil bunkering port, Singapore Port, in order to increase port calls for container ships etc. to Japanese ports.

(iii) Forming a marine transportation network for moving resources, energy sources and so on with stability and efficiency

Supply-demand balances for resources, energy, and so on, assuring Japan of stable, low-cost imports of these substances to build up industrial competitiveness of the nation's industries and to maintain and even create employment and revenues should be one of the tasks of foremost importance as the nation depends on imports for virtually 100% of its requirements.

Ten "strategic international bulk ports" were therefore chosen in May 2011 to serve as bases for resources and energy. In order to enhance the functions of these ports to allow them to serve as marine transport network hubs for bulk freight and the promotion of cooperative transportation using large vessels through corporate partnerships are being targeted, and both structural, the development of quays that can accommodate large vessels and non-structural measures are being taken with the help of subsidies and preferential tax measures.

In FY2018, we are advancing the development on quay walls at five ports, Onahama, Kushiro, Tokuyamakudamatsu, Mizushima and Shibushi, and the Kushiro Port International Logistics Terminal commenced operation in March 2019.

Private investment has also been activated looking ahead to the service of strategic international bulk ports.

Going forward, we will seek to dramatically increase productivity and strengthen Japan's international competitiveness by means of efficient transportation using large ships and joint transportation involving cooperation between companies.

(iv) Building functionally core ports on the Japan Sea

Among the ports located on the coastal line of the Japan Sea geographically close to the fast economically growing nations across the sea, core ports were selected in an effort to capture the economic booms in these nations into Japan's growth through selection of functions and concentration of measures and through port-to-port linkage and efforts are being made to contribute to the building of a resilient logistics network in light of disasters such as the Great East Japan Earthquake.

(v) Enhancing functionalities of international ports

The MLIT not only develops international physical distribution terminals, etc. in the international maritime transport network or at regional hub ports for consolidated competitiveness, etc. of local key industries but also pushes efforts directed at enhancing the functionalities of these ports, as by pushing their migration to ICT. To address increasingly sophisticated and diversified needs for East Asian logistics, which is not much different from domestic logistics in both terms of time and distance and build a low-cost logistics system, the Ministry pushes ahead with functional enhancements to unit loading terminals^{Note} and with the construction of facilities designed to smooth the flow of cargo transshipment.

(vi) Developing a marine transportation environment

Among all international backbone routes, those that could interfere with bay navigation because of shallow waters, etc. have been improved and Aids to Navigation have been established to develop a marine transportation environment that combines the safety of navigation with the efficiency of marine transportation.

(3) Developing Advanced Aviation Logistics Facilities to Pursue Increased International Competitiveness

The MLIT pushes efforts to consolidate the functionalities of the metropolitan airports, drive an airfreight hub implementation of Japan's hub airports, such as Kansai International Airport and Chubu International Airport, and simplify the transportation process flow in its bid to positively capture airfreight originating from and arriving in Asia as it promises further leaps.

(4) Improving Logistics for Promoting Exports of Agricultural and Marine Products and Food Products

In 2018, the export value of agriculture, forestry and fisheries products and foodstuffs from Japan was 906.8 billion yen, the sixth consecutive year of increase. To achieve the government's target of an export value of 1 trillion yen in 2019, we are conducting research and development into a new type of refrigerated container for air transportation that is suited to the needs of air transportation from regional production areas, surveying the export strength from regional airports, developing port facilities that contribute to export promotion and promoting the international standardization of cold chain logistics services.

(5) Strategic Development and Utilization of a Logistically-Important Road Networks

Building an efficient logistics network is of crucial importance to motor-truck transportation, which accounts for about 90% of domestic transportation. Because of this, the construction of ring roads in the three major metropolitan areas, access roads to airports and ports is underway. In March 2018 the Road Act and other laws were revised in order to ensure stable transportation during both normal periods and natural disasters. The Minister of Land, Infrastructure Transport and Tourism designated the most important road transport network for logistics as "Logistically-Important Roads," and created a "Logistically-Important Road System" to enhance functions including strengthening the structure of roads to respond to the increasing size of trucks and speeding up the opening and restoration of roads following disasters and to provide priority support.

Note Terminals compatible with transportation systems that consolidate cargoes into chassis, containers, etc. (break them down into units) for loading and unloading, in order to increase the speed and efficiency of logistics.

In addition, we are steadily pushing forward with initiatives using ETC 2.0, such as the simplification of the overweight/oversize vehicle passage permit for vehicles with ETC 2.0 and a demonstration experiment of the operation management support services for ETC 2.0 vehicles etc., and the national government is working to promote an integrated review of the conversion of road structures into electronic data utilizing in-vehicle sensing technologies, including on regionally administered roads, and to speed up the approval process for overweight/oversize vehicle permit.

In another initiative, a strategy to save labor in truck transport and improve productivity saw the October 2016 launch of a demonstration project for double-trailer trucks (trucks able to transport the equivalent of two large trucks in a single unit) in the field, primarily on the Shin-Tomei Expressway, which was fully introduced in January 2019.

We have also enhanced the functions of the Shin-Tomei and Shin-Meishin Expressways with 6 lanes, etc., looking ahead to the convoying of trucks, with a project launched in August 2018 to develop 6 lanes for the Shin-Tomei Expressway on the Shizuoka Prefecture section (Gotemba JCT to Hamamatsu Inasa JCT). We will also implement 6 lanes for the Shin-Meishin Expressway (Kameyama Nishi JCT to Otsu JCT), using FILP. Further, efforts are also underway to effectively utilize and enhance the functions of existing road networks, for example by promoting the use of a smart IC system that directly connects expressways and private sector facilities and continuing to construct smart ICs.

We are also proceeding with a detailed study, focused on the Shin-Tomei Expressway, of the utilization of the expressway infrastructure towards the realization of a new logistics system with safe driving sections for truck convoying etc.

(6) Measures That Help Strengthening of International Logistics Facilities

The MLIT will push the development and redevelopment of physical distribution sites and facilities around international ports, etc., which are nodal areas for international physical distribution in metropolitan zones. They will also undertake this at the ports that are the strongpoints of physical distribution and industry. This will be done to build up international competitiveness and form an efficient network of physical distribution as an integral part of urban environment improvement activity, while also seeking better disaster preparedness to deal with massive disasters as they occur.

2 Measures Aimed at Building an Efficient and Sustainable Logistics System in Japan

Additional approaches are underway to build an efficient and sustainable logistics system at home to toughen Japan's industrial competitiveness and increase logistics productivity while easing environmental loads.

(1) Flow of Interregional Logistics

The MLIT proceeds to develop nodal points of logistics, such as ports and freight stations, to drive combined multimodal transportation. We are expecting improved efficiency in rain freight through utilization of facilities that have been developed for capacity enhancement. The construction of combined multimodal transport terminals is also being proceeded at Toyo Port and elsewhere to consolidate coordination between marine transportation and other modes of transport.

Key road networks will also be constructed to streamline the flow of truck transportation.

(2) Optimizing Local Logistics in Cities, Depopulated and Other Areas

Urban distribution centers^{Note} have been developed in 20 cities and 29 locations (27 of which were already in service) by the end of March 2018, in accordance with the Act on the Improvement of Urban Distribution Centers, to enhance the urban functions of logistics and streamline road traffic through the intensive location of distribution facilities.

To prevent roadside parking for cargo handling purposes, the Ministry has encouraged local governments to include the mandatory installation of parking spaces for cargo handling in their municipal parking ordinances. As of the end of March 2018, municipal ordinances that stipulate mandatory installation of parking spaces for cargo handling at commercial facilities of above certain size were established in 88 cities.

In addition, we have publicized a handbook concerning the design and operation of buildings that take logistics into consideration in order to promote design of large buildings that consider logistics, and we are promoting its use.

Measures taken to optimize traffic flow include making focused attempts at eliminating congestion bottleneck points, constructing graded intersections, and resolving railway crossings that are closed at nearly all times. In parallel, nonstruc-

Note A built-up area constructed in a suitable location, such as close to an expressway interchange, as a large-scale logistics hub, and featuring intensive siting of logistics-related facilities (truck terminals, warehouses, etc.)

tural measures, such as those aimed at encouraging joint transportation and delivery pursuant to the Low Carbon City Promotion Act to boost loading efficiency, have been promoted.

Furthermore, under the framework of the Act on Advancement of Integration and Streamlining of Distribution Business, we are working on efforts to promote the construction of regionally sustainable logistics networks in depopulated areas, such as with the support of a demonstration project for mixed passenger and local produce cargo on the Tadami Line. In addition, with the system revision in September 2017, efforts are underway to enable improved productivity such as by having passenger transportation and freight forwarding businesses in depopulated areas working together to commence a “two birds with one stone” approach to package collection and delivery.

As a shortage of truck drivers become serious, we are working on a public awareness campaign called “COOL CHOICE Campaign-Why Not Receive Packages For The First Time” to reduce redelivery for courier services by asking people. We also have established a Council for the Improvement of Home Delivery and EC Business Productivity, working with relevant ministries and agencies to promote initiatives such as summarizing and sharing opinions on examples of efforts to reduce redelivery and the creation of CO₂ Reduction Guidelines and information networks on open type delivery boxes etc.

(3) Further Efforts to Implement Logistic Services That Are More Sophisticated, Comprehensive, and Efficient

In response to a declining labor force and a rising volume of frequent, small-lot deliveries in the logistics sector, efforts are underway to economize on labor in logistics businesses and reduce their environmental impact, the Act on Advancement of Integration and Streamlining of Distribution Business seeks to support wide-ranging logistics integration and streamlining efforts conducted via collaboration between companies and organizations involved in the sector, and comprehensive efficiency plans for a total of 138 projects (as of March 31, 2019) have been certified for joint transportation, modal shifts and transport aggregation, with support provided in the form of operating expense subsidies and special tax measures. Also, by promoting quantity leveling and the standardization of packaging and data specifications through cooperation between logistics companies and shipping companies, we are aiming to improve loading efficiency and facilitate smooth collaboration between operators.

Figure II-6-2-1 Results and effects for the number of total efficiency plans certified as of the end of March 2019

By type Certified as good plans

Item	Cases
Modal shift	62
Joint transportation	12
Transport network consolidation	74
Other (business equalizing)	1

Note: Initiatives corresponding to multiple cumulative totals are aggregated for each type

CO₂ reduction

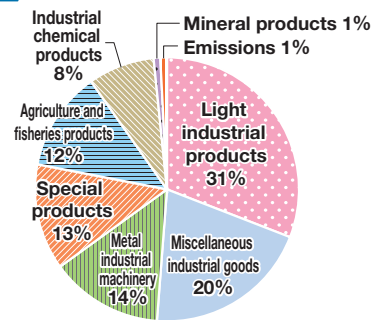


▲60,000 t-CO₂/year

Equivalent to CO₂ absorbed by about 6.8 million cedars (When converting the number of cedars to area, about 67.9km² = approx. area of Lake Hamana (64.92km²))

Source: Created by Logistics Policy Division based on formula on Forestry Agency website

Major handling items Widely certified for various items



Labor saving



Equivalent labor saving of ▲760,000 hours/year

Securing labor saving of the equivalent of about 351 truck drivers

Source: Created by Logistics Policy Division based on Labor Force Survey (Ministry of Internal Affairs and Communications)

Reduction of load waiting time

Introduction of 45 truck reservation reception systems

Reservation for arrival time by truck driver



Truck arrival times are equalized and load waiting times are reduced



(4) Realizing a “Logistics Revolution” through the Use of New Technologies (the IoT, BD, AI, etc.)

The utilization of new technologies in the field of logistics will turn current approaches on their heads and bring about revolutionary changes.

Unmanned aircraft (drones, etc.) are expected to be used for the delivery of packages in depopulated areas such as remote islands and mountainous areas, as well as in urban areas, and in September 2018 the review procedure for the approval of permits based on the Aviation Act was revised, with reference to the Roadmap for the Industrial Revolution of the Skies, compiled by the Public and Private Council for the Development of an Environment for Small Unmanned Aircraft. Following this, in October of the same year, package delivery was carried out by un-assisted non-visual flight.

In addition, in an effort to solve logistics issues in depopulated areas etc., demonstration tests were carried out in 5 regions nationwide, including with unassisted, non-visual flights, and the issues were investigated, while also assessing cost effectiveness.

The advancement of unmanned truck convoys is expected to greatly improve productivity and resolve the issue of driver shortages. Therefore, efforts are being made to develop this technology, with the start from January 2018 of a demonstration test on the Shin-Tomei Expressway with conveying and manned following vehicles.

(5) Reform of Work Styles in the Field of Logistics

Against the background of a falling birthrate and an aging and declining population, the aging of the workforce is also affecting the field of logistics, in particular the trucking and coastal cargo transportation industries, making measures to respond to large-scale retirement and the difficulty of securing human resources in the face of the decline of the productive-age population an ongoing necessity.

The Liaison Committee among Relevant Ministries and Agencies on the Reform of Work Styles in the Motor Carrier Industry was formed with a view towards the establishment of an environment allowing correction of the issues of long working hours in the motor carrier industry, including the trucking industry, formulating 88 measures incorporating the Government Action Plan for the realization of Work Style Reforms in the Motor Carrier Industry, and we are promoting initiatives to improve labor productivity, secure and develop diverse human resources and optimize transaction environments.

With regard to the coastal shipping industry, measures, such as improving the onboard living and working environments, are being advanced to promote the employment of young seafarers.

Section 3 Reactivating Industries

1 Trends in Railway Industries and Measures

(1) Initiatives to Improve Productivity in the Rail Sector

We are promoting initiatives in response to future shortages of human resources and to reduce local railway costs particularly in difficult to manage railways, such as considering the introduction of highly accurate position detection systems using autonomous driving and quasi-zenith satellites on general lines such as where there are level crossings etc., and contributing to improvements in productivity in the rail sector towards the spread of control systems for trains utilizing wireless communications between the ground and the train for information transmission.

(2) Railway Business

(i) Trends and measures in the railway business

The number of railway passengers carried in FY2016 increased from its year earlier level. At Japan Railway, transportation on the Shinkansen increased and as did transportation on conventional railway lines, with transportation on private railways on the increase, too.

In FY2016, the annual volume (tons) and distance (kilometers) of railway freight increased from the previous fiscal year for container freight, while carload freight slightly decreased.

The railway operators are working on such initiatives as presenting guidance information in multiple languages, showing route and station names along with their alphanumeric notation and offering free public wireless services in order to enhance railway competitiveness, increase convenience in coordination with livelihood services and be better prepared

in receiving inbound foreign tourists.

Additionally, traffic IC cards continue to gain growing popularity across the nation since their pioneer “Suica” was launched by JR East in 2001. Since March 2013, 10 kinds of traffic IC cards used by JR and major private railways and the like have been made interoperable. As IC cards penetrate more railway operators and areas, they could help improve passenger convenience and reactivate regional economies.

(ii) Initiatives towards the complete privatization of Japan Railways

Japan’s national railways were once operated as a centrally-managed organization run under a state-owned corporation. Improper business management and a failure to account for actual conditions in the areas of service led to high levels of long-term debt and eventual bankruptcy. This led to the division and privatization of Japanese National Railways in April 1987 and a rebirth of the rail business in Japan. April 2017 marked 30 years since the formation of the JR companies.

The breakup and privatization of Japanese National Railways resulted in the formation of a system characterized by efficient and responsible management. This led to a dramatic increase in the comfort and reliability of rail services as a whole. On the management front also, the anticipated goal of reform of Japanese National Railways is being fulfilled, for example with Kyushu Railway Company becoming a fully private entity following on from East Japan Railway Company, West Japan Railway Company, and Central Japan Railway Company.

Of these companies, Hokkaido Railway Company in particular is facing a difficult business situation, and has announced the sections of its routes that will be difficult to maintain independently, and has commenced holding explanatory meetings and discussions with regional stakeholders regarding the best direction for the realization of more efficient and convenient transportation services based on each line, depending on the specific region. In July 2018, the MLIT announced the details of national support for JR Hokkaido, including the issue of supervisory orders, for the steady progress of initiatives to improve management, including the review of business scope under the JR Companies Act. The MLIT is seeking to provide JR Hokkaido with all necessary support and cooperation, together with local officials, for the purpose of seeking thorough management efforts towards management independence by FY2031.

(3) Rolling Stock Industry

The production value of newly manufactured rolling stocks moved flatwise for domestic shipment and varied depending on the status of orders for overseas shipment. The production value in FY2017 stood at 196.6 billion yen (2,047 cars). The composition ratio of production value was 76.3% (150.1 billion yen) for domestic shipments and 23.7% (46.6 billion yen) for overseas shipments, with the former increasing by 4.7% and the latter by 159.6% over FY2016 values.

The production value of rolling stock parts (such as power generators and bogies) was 363.8 billion yen and that of signal protection devices (such as automatic train control devices and electrical interlocking devices) was 105.2 billion yen.

Rolling stock manufacturers and others are working to develop rolling stocks that fill diverse social needs, such as speed, safety, passenger comfort, low noise and being barrier-free, by partnering with railway operators.

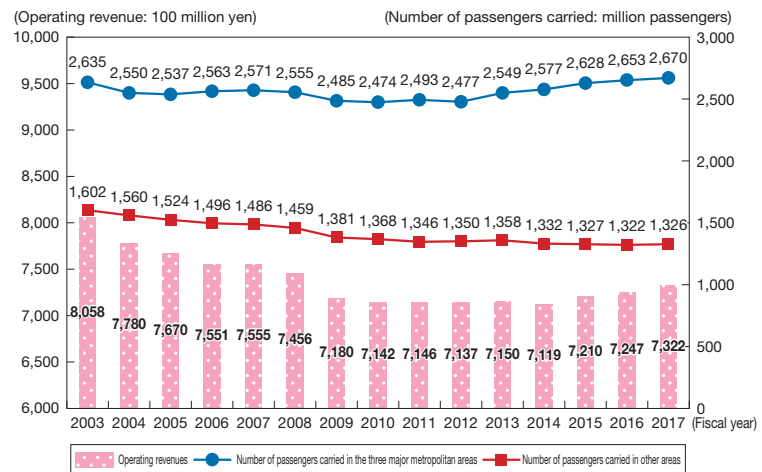
2 Trends in Motor Truck Transport Business and Measures

(1) Passenger Vehicle Transport Business

(i) Motor bus business

While motor buses in major cities in which populations have increased have seen slight increases in passenger volume and revenues, factors that include increasing ownership of private vehicles in rural areas continue to push down the demand for public transport. The climate surrounding the motor bus business remains extremely harsh.

Figure II-6-3-1 Changes in the Number of Passengers Carried by Motor Buses and Operating Revenues

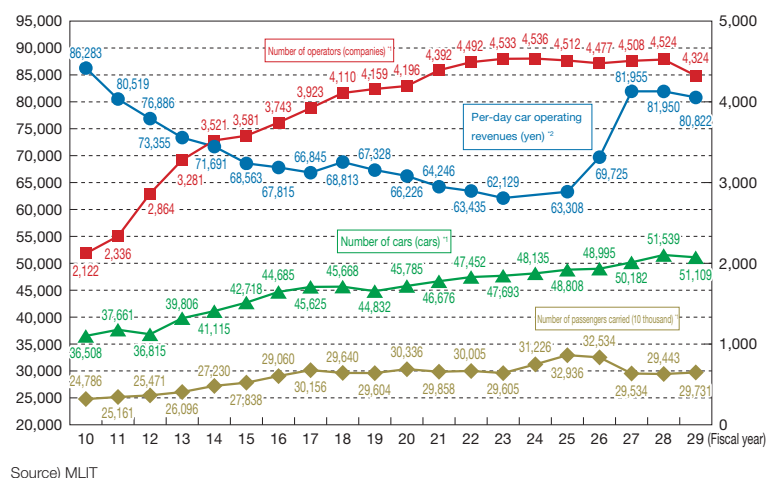


Source) MLIT

(ii) Chartered bus business

Since deregulations in February 2000, the chartered bus business has sponsored low-cost, diversified bus tours in its effort to deliver better user services, but competition is stiffening with increase in the population of operators in play, and based on the Comprehensive Measures for the Realization of Safe and Secure Charter Bus Operations in light of the Karuizawa ski bus incident, there has been a lowering of the number of operators as businesses withdraw from the sector with the introduction of the business license renewal system in April 2017 and the start of patrol guidance by designated private organizations from August of the same year. Transportation revenue was also on a downward trend with smaller group travel trips and the lowering of travel product prices, but this has started to correct as the environment surrounding the charter bus business has improved with the introduction of fares and charges that properly reflect the cost of safety and an increase in international visitors to Japan etc.

Figure II-6-3-2 Chartered Bus Business Overview



Source) MLIT

Transportation revenue was also on a downward trend with smaller group travel trips and the lowering of travel product prices, but this has started to correct as the environment surrounding the charter bus business has improved with the introduction of fares and charges that properly reflect the cost of safety and an increase in international visitors to Japan etc.

(iii) Taxi business

In the taxi business, the Act on Special Measures Concerning the Optimization and Revitalization of the General Passenger Car Transportation Business in Specified and Semi-Specified Areas was put into effect in January 2014 in order to, among other things, improve working conditions for drivers while providing better taxi services.

Pursuant to provisions of the law, the MLIT has designated 26 specified areas and 110 semi-specified areas, working to improve taxi business productivity by making efforts to rectify the current oversupply and stimulate demand.

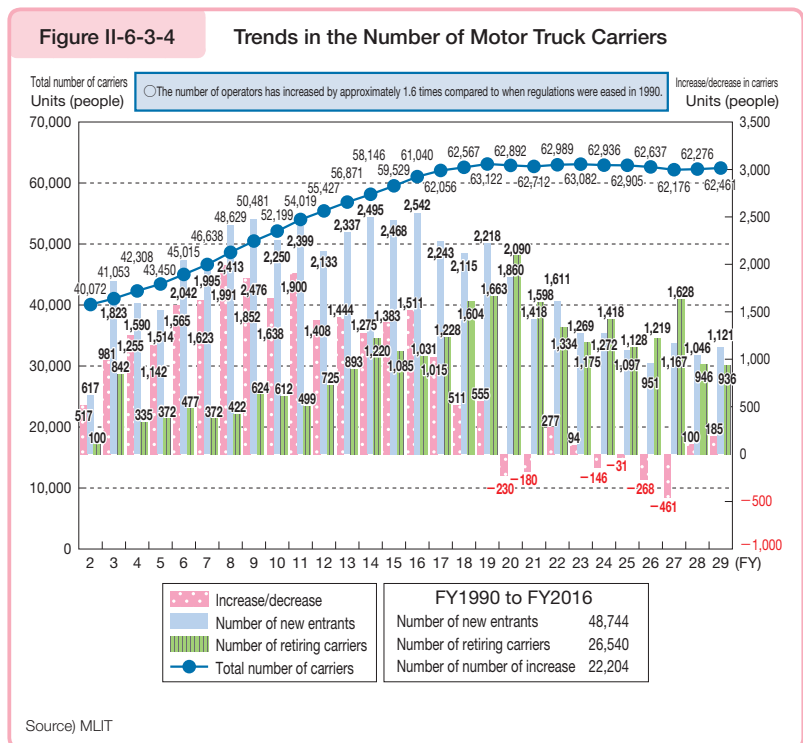
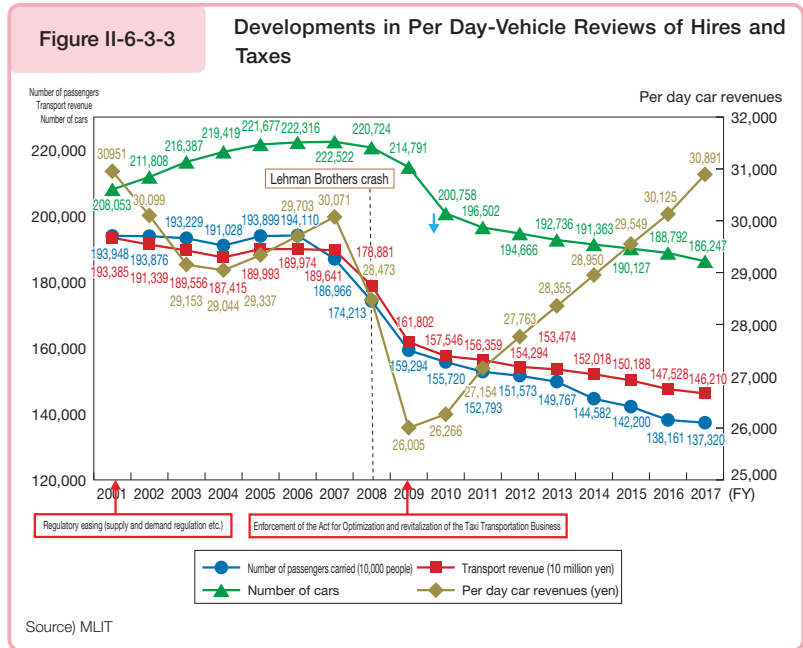
(2) Replacement Driver Service

The replacement driver service is used as an alternate means of transport for drunken drivers. As of the end of December 2018, 8,637 replacement driver service providers are in operation. Keen to add to further soundness of the replacement driver service, the MLIT has formulated “Measures for Making the Replacement Driver Service More Sound for Added Safety and Security” in collaboration with the National Police Agency in March 2012 as part of its continuing effort to drive various relevant measures. Furthermore, the MLIT developed “measures to address issues concerning user protection toward appropriate operation of replacement driver services” in March 2016 in order to further ensure protection of users in replacement driver service, and these measures were implemented from April 2016.

(3) Truck Transport Business

The number of motor truck carriers had been on the rise for long, but the number of carriers has been moving crabwise at about 62,000 since 2008.

Because 99% of truck transport business operators are small and medium-sized businesses, they face issues such as being forced to accept long waiting times due to the circumstances of shippers, resulting in long working hours for drivers, and being in a weak position in relation to shippers and thus unable to demand appropriate fares. Therefore, in July 2017, in an attempt to understand the actual status of waiting times in order to reduce them, a measure was introduced obliging trucking business operators to record waiting times occurring at due to the circumstances of shippers. In other initiatives, the shipper recommendation system used when shippers have been involved in violations of laws and regulations by trucking businesses has been revised in order to increase its effectiveness, and a



new approach to the operation of the system has been adopted; for example, the standards for judgment of the involvement of shippers have been clarified, and action is demanded from shippers at an early stage. In addition, from FY2016 to FY2017, the Guidelines for the Improvement of Trading Environments and Long Working Hours through the Cooperation of Shippers and Carriers were formulated as a result of a pilot program implemented in cooperation between truckers and shippers with the expectation of lower waiting times and an improvement to long working hours, and at the same time, an Investigative Commission for Proper Trucking Industry Fares and Fees has been established, and has begun holding discussions aimed at ensuring that the appropriate fares and fees are received. In order to clarify the scope of “fares,” the compensation for transportation, and “fees,” the compensation for services other than transportation, the standard truck freight transportation contract was revised in August 2017, and the revision went into effect on November 4 of the same year. Further, regarding the need for a certain level of cost to ensure sustainable truck transportation functions while preventing compliance violations, Guidelines on project implementation cost structures and operations were formulated and announced in December 2018 to promote a common understanding between shippers and carriers.

Efforts have also been made toward improving business terms for truck transport business operators and conducting projects that seek to improve productivity. As changing working arrangements is important to make working in the truck transport industry more attractive, efforts will continue to carry out these policies on a comprehensive scale.

(4) Securing and Fostering Bearers of Motor Carrier Businesses, etc.

Motor carrier businesses that undertake the movement of people and goods (trucking, bus and taxi businesses, and automotive maintenance business that contributes to safety assurance in these businesses) are a social infrastructural industry of vital importance to sustaining Japan’s economy and means of regional transportation.

A look into the employment structure of the motor carrier businesses, however, suggests that the workforce more or less depends on middle-aged and elderly workers, with female workers accounting only for about 2%. If this condition lasts, a serious shortage of bearers of these businesses is feared to occur in the future.

Because of this, motor carrier businesses (trucking, bus and taxi businesses), the Liaison Committee among Relevant Ministries and Agencies on the Reform of Work Styles in the Motor Carrier Industry, chaired by Deputy Chief Cabinet Secretary Kotaro Nogami, was launched in 2017, and is cooperating with related ministries and agencies to promote appropriate measures.

For trucks, in addition to organizing work initiatives and sharing handbooks for the spread of relay transportation, we are working on measures to secure bearers by, for example, disseminating information about the license for quasi-medium-size trucks program, enhancing information dissemination and awareness of business managers, leveraging “Female Truck Driver Promotion Project Site.”

The bus industry is advertising the job of bus driver as a choice for employment, and is creating flyers and leaflets targeting young female jobseekers. Bus companies are also working to recruit and train more bus drivers by creating recruiting and training handbooks.

In the taxi industry, June 2016 saw the launch of the Female Driver Support Enterprise certification program, which seeks to get and keep more women in the taxi workforce by supporting

Figure II-6-3-5 Employment Structure of the Motor Carrier Business etc.

	Buses	Taxis	Trucks	Auto maintenance	Total industry average
Number of drivers and mechanics	130,000 people (FY2015)	340,000 people (FY2015)	860,000 people (FY2018)	400,000 people (FY2017)	—
Female ratio	1.7% (FY2016)	2.7% (FY2016)	2.3% (FY2018)	1.4% (FY2017)	44.2% (FY2017)
Average age	49.8 years (2017)	59.3 years (2017)	48.6 years (2018)	45.0 years (2017)	42.5 years (2017)
Working house	210 hours (2017)	189 hours (2017)	215 hours (2018)	187 hours (2017)	178 hours (2017)
Annual income	4.57 million yen (2017)	3.32 million yen (2017)	4.57 million yen (2018)	4.27 million yen (2017)	4.91 million yen (2017)

Notes: 1. Number of drivers and mechanics: Figures for buses and taxis based on Road Transport Bureau Survey
 2. The ratio of females in auto maintenance is for second level auto mechanics
 3. Figures for working hours were estimated by the MLIT’s Road Transport Bureau from scheduled hours worked + nonscheduled hours worked in the Basic Survey on Wage Structure.
 Scheduled working hours indicate the number of hours actually worked during the hours from start time and finish time on scheduled work days in June each year as stipulated in employment rules or other such documents of the business office.
 Nonscheduled working hours indicate the number of hours actually worked outside the scheduled working hours and the number of hours actually worked on prescribed days off.
 4. Annual income = Value estimated by the MLIT Road Transport Bureau from the “Basic Wage Structure Survey” as the “regular cash salary payable x 12 + annual bonuses and other special salaries
 Regular cash salary = Cash salary paid for June (amount before the deduction of income tax, social insurance and premiums etc.), including the amount of basic salary, work allowance, employee allowance, commuting allowance, family allowance, overtime pay, annual bonus and other special salaries etc. = Salary, bonuses and special salaries for the year from January to December of the year prior to the survey
 Sources: Created by MLIT Road Transport Bureau based on Ministry of Internal Affairs and Communication “Labor Force Survey”, Ministry of Health, Labor and Welfare “Basic Wage Structure Survey”, Japan Bus Association “Japanese Bus Business”, Japan Federation of Hire-Taxi Associations “Hire Taxi Yearbook”, and the Japan Automobile Service Promotion Association “Automobile Maintenance White Book”.
 Sources: Created from the Labor Force Survey (Men and women), Basic Wage Structure Survey, Nihon Bus Association “Japanese Bus Business”, Japan Federation of Hire-Taxi Associations “Hire Taxi Yearbook”, Japan Trucking Association “Basic Truck Transportation Industry Data: and the Japan Automobile Service Promotion Association “Automobile Maintenance White Book”.

and advertising efforts aimed at improving female driver employment and by businesses trying to make it easier for women with children to continue working.

In the automotive maintenance industry, public and private entities are working together to conduct PR and improve the perception of being a maintenance mechanic among women and younger people by means of initiatives including visiting high schools and putting up posters, and in partnership with the industry, efforts are being made to accept internes to develop workplace experience, and to utilize the internet to share information. In addition, Human Resource Seminars are being held for motor vehicle maintenance companies with a plan to secure and foster human resources for motor vehicle maintenance.

3 Trends in Maritime Industries and Measures

(1) Achieving Stable Marine Transportation

(i) Achieving Japanese-flagged vessels and Japanese seafarers

As Japan is a nation with limited resources surrounded by the sea in all its sides, international shipping, which depends on 99.6% of the Japan's trade, plays a significant role in ensuring the country's economic security. As such, even in emergencies, it is critical to maintain a sufficient number of Japanese vessels and Japanese mariners to eliminate jurisdictional competition between Japan and the country of registry of vessels.

To address this issue, a tonnage tax system^{Note} went into effect in FY2009 for Japanese vessels owned by Japanese overseas ship operators who have been certified under the Japanese-flagged Vessels and Japanese Seafarers Securing Plan in accordance with the Marine Transportation Law, and in FY2013 a system was implemented to secure Japanese vessels and mariners by expanding overseas vessels to be flagged as Japanese (quasi-Japanese vessels) when navigation orders are given, to supplement the number of Japanese vessels to those foreign vessels operated as foreign subsidiaries of Japanese overseas vessel operators.

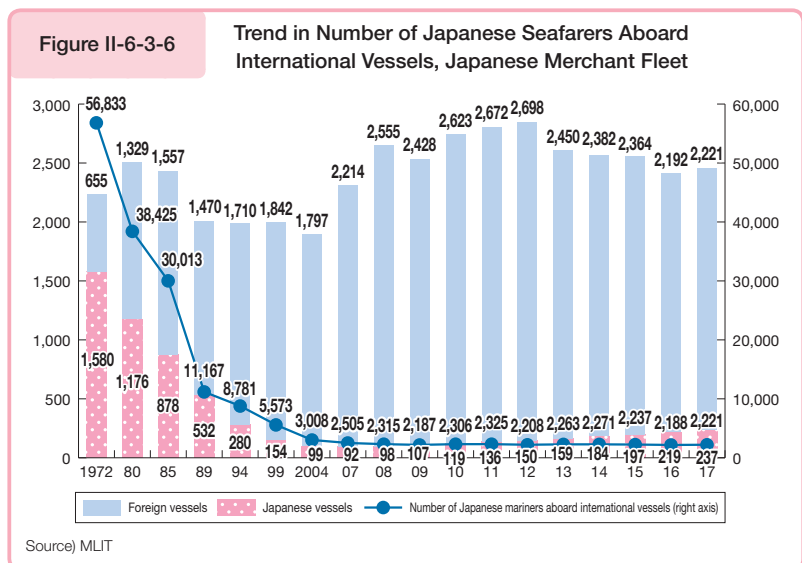
In addition, from FY2018, the system began to be expanded to foreign vessels which meet similar requirements as those quasi-Japanese vessels owned by Japanese shipowner subsidiaries, with the aim of securing stable maritime transportation as quickly as possible.

These measures aim to stabilize the maritime transport business in Japan as quickly as possible.

(ii) Acquiring and fostering seafarers (Seamen)

Acquiring and fostering Japanese ship's seafarers, human resources of marine transportation, is of essential importance to boosting Japan's economy and maintaining and upgrading national life. The ratio of coastal shipping seafarers aged 60 or older is increasing, but the number of young seafarers is also on the increase, in part as an effect of public-private efforts to secure young seafarers. However, it is also essential to secure and foster an adequate number of young seafarers in the future. In response, efforts are underway to expand employment opportunities for new seafarers. One such effort involves

strengthening the system for supplying seafarers, for example by diversifying the avenues by which seafarers are able to find employment through measures including providing support for conducting short-term training courses for individuals



Note A tax system in which the amount of corporate tax is calculated in relation to a fixed deemed profit based on the tonnage of the company's ships rather than annual profit. This system has been introduced by major shipping nations throughout the world.

who have not graduated from a mariner training institute, and offering direct invitations to culinary schools to participate in company briefing sessions. Another effort involves supporting business operators that systematically employ and foster new seafarers.

On the other hand, a certain number of ocean-going Japanese sailors need to be secured and fostered from economic security and other perspectives. Therefore, we are making efforts to secure Japanese seafarers, including steady implementation of the plan to secure Japanese vessels and seafarers.

As Asian seafarers account for a greater proportion of the total seafarers aboard Japanese merchant fleet, training aimed at improving the skills of mariner's instructors in the developing nations has been conducted to help secure and foster more capable Asian seafarers.

Japan agency of Maritime Education and Training for Seafarers (JMETS) is Maritime Education and Training institutions over which the MLIT holds jurisdiction. JMETS is the largest Maritime Education and Training institute in Japan. It provides education and training for newcomers, practical training according to needs of shipping companies, and on board training for students of maritime universities and colleges of technology.

Going forward, JMETS is steadily pushing forward the securing and fostering young seafarers by advancing training contents and making the best use of its resources.

In addition to these efforts to secure and foster seafarers, continued efforts will be directed at promoting On-board Occupational Health and Safety Management System and Work Improvement on Board (WIB), a continual approach to reducing seafarers accidents to add to the vocational charms of the job of being a seafarer.

(iii) Promotion of the understanding of ocean by the public

While achieving stable marine transportation is crucial in supporting the Japanese economy and national life, the understanding of sea by the public is not necessarily sufficient. To this end, the MLIT is working with local governments, businesses, related groups, schools, boards of education, and other organizations to promote the understanding by the public -young people in particular- on maritime affairs through initiatives that include a variety of events such as the Sea-Festa (held in Niigata City, Sado City and Seiro Town in 2018) in Ocean Month, which centers on Marine Day, and commending those who have been instrumental in helping Japan to grow into a maritime nation (Prime Minister's Commendation). In addition, we worked on "The Ocean and Japan Project" throughout the year.

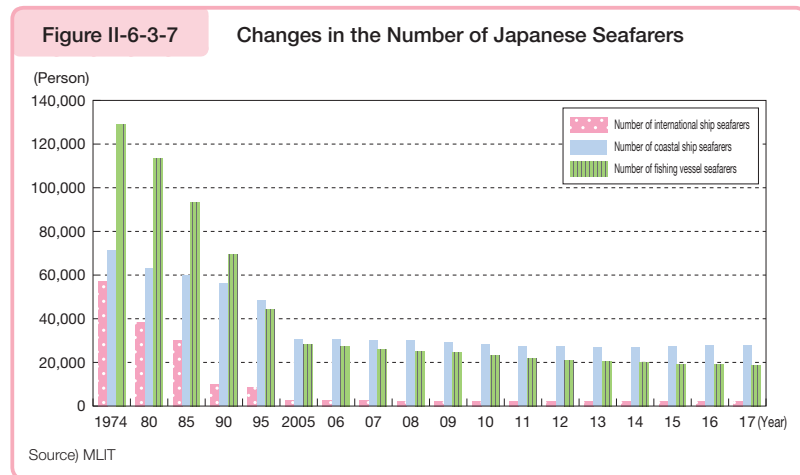
Further to this, maritime education programs for elementary and secondary school education have been created in response to the fact that the description of the importance of the oceans and maritime affairs has been enhanced in the Ministry of Education's curriculum guidelines revised in March 2017, and in FY2017 a marine education program was developed, with trial classes conducted in FY2018. We will continue to develop education curricula about the maritime industry for elementary and secondary schools.

(2) Marine Transportation Industry

(i) International shipping

The volume of cargo movement on ocean in the world for 2017 stood at 11.58700 billion tons (up 3.9% year-on-year) with Japan's volume of seaborne trade for the same year at 0.93302 billion tons (down 0.2% year-on-year).

Despite negative factors in international shipping in FY2017 such as increased fuel prices etc., there were improvements in international shipping business conditions in FY2017 such as overall improvements of cargo movement on the ocean as a result of global economic recovery, mainly in the US and China.



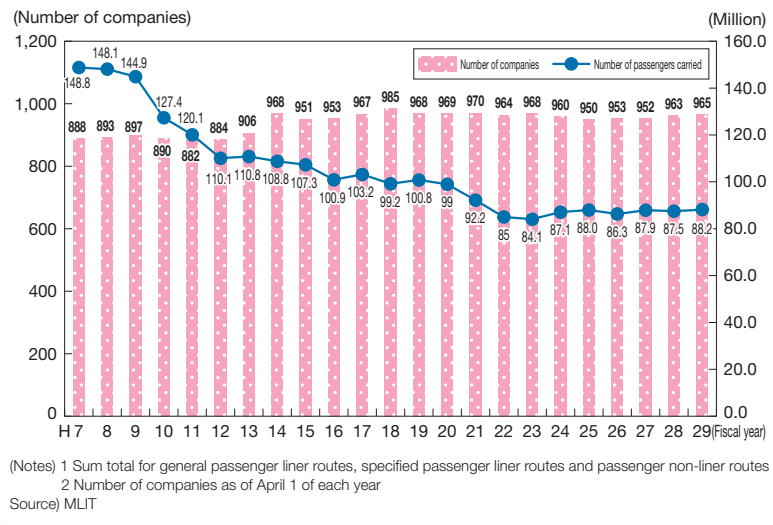
(ii) Domestic passenger shipping business

Domestic passenger shipping business demand was 88 million passengers (up 0.3% from the previous year) in FY2017, but the trend is downward on a long-term basis attributable to changes in Japan’s demographic structure, among other factors. Recently, fuel prices are stable, but business environment is still in difficult situation. The domestic passenger shipping business plays an important role as a means to transport people and daily commodities from region to region, and holds promise as a way to increase tourism among those interested in maritime scenery and other opportunities. The ferry business has modal shift potential and serves a key role in providing transport after natural disasters occur.

In response to these issues, MLIT has supported for the construction of highly energy-efficient vessels through preferential tax measures and the “Joint Ownership Shipbuilding” administrated by the Japan Railway Construction, Transport and Technology Agency. In addition, in order to further promote modal shift in shipping, “Council for the Promotion of Maritime Modal Shift” (established in November 2017), consisting of RORO ships, container ship and ferry companies, consigned freight forwarding businesses companies, trucking companies, shipping companies and the authorities etc., has discussed the creation of centralized search system for operating information on modal shift ships and the establishment of a new award, the “Maritime Modal Shift Award”.

Also, to promote the development of new boat tourism-related services, the “Model Zones for Boat Travel Revitalization” system was established for three years from April 2016, on a trial basis for flexible operating systems for the passenger ship businesses targeting use in tourism routes. Based on these results, the “Boat Travel Promotion for Inbound Tourist” system will be established in April 2019, with the aim of developing the environment for capturing inbound tourism demand. In addition, the “Project for Emergency Measures to Develop the Environment for Receiving Foreign Tourists Visiting Japan” is advancing necessary measures to increase convenience for overseas visitors, for example by supporting the establishment of free public wireless LAN environments and the use of multiple languages on information signs, etc.

Figure II-6-3-8 Trends in the Number of Domestic Passenger Ship Companies and Number of Passengers Carried



(iii) Coastal shipping

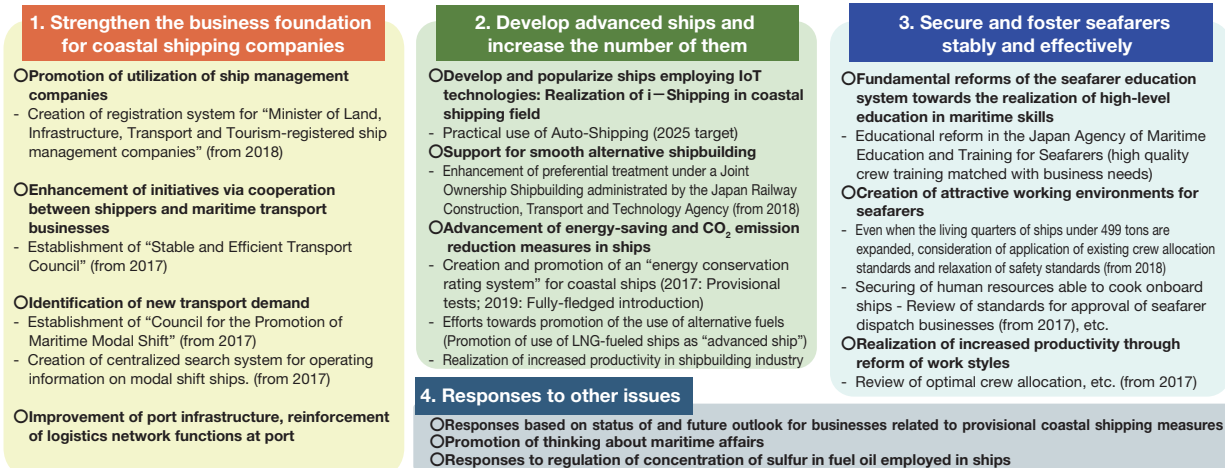
The coastal shipping volume in FY2017 was 180.9 billion ton-km. Although recent years have not seen any significant decline, the long-term view trends downward for transport demand for industrial base materials, in particular, due to factors that include a stagnant domestic economy, intensifying international competition, and business mergers among shippers. Coastal shipping accounts for about 40% of domestic logistics and roughly 80% of industrial basic materials transport and constitutes a core transport infrastructure supporting Japan's economy and the lifestyles of its people. However, with 70% of ships older than the legal service life (14 years), and mariners that tend to be older than in the past, there is a structural issue of "double aging" of ships and mariners. In response to these issues, the "Panel to Consider Future Measures for Coastal Shipping Revitalization" was established in April 2016, and commenced discussing directions for measures to promote development of coastal shipping that ensure the sustainable provision of safe, high-quality transport services. In June 2017, the panel compiled the "Plan for the Future of Coastal Shipping" as a new industrial policy. As a future vision for the coastal shipping, the plan positions "securing stable transportation" and "improved productivity" as its twin axes, and sets out concrete measures towards the realization of these goals, including strengthening the business foundation for coastal shipping companies, developing advanced ships and increasing the number of them, and securing and fostering seafarers stably and effectively, etc., and the Registered Ship Management Company System commenced in FY2018 (22 registered as of the end of March 2019), with the content compiled into the construction of the centralized search system for operating information on modal shift ships etc.

Figure II-6-3-9 Future vision and concrete measures specified by the "Plan for the Future of Coastal Shipping"

- Given the need in the future for coastal shipping for the transportation of basic industrial materials and as a foundation of transportation infrastructure in association with the modal shift, and given the need for improved productivity from the perspective of society overall, there is a need to first clarify the future image of domestic shipping to explore the rapid solution of various issues facing domestic shipping today. For this reason, "securing stable transportation" and "improved productivity" are seen as the two pillars for this future vision.
- To realize each of these, clarify the schedule for incorporating specific measures to "strengthen the business foundation for coastal shipping companies", "develop advanced ships and increase the number of them" and "secure and foster seafarers stably and effectively".



<Concrete measures towards the realization of the future vision>

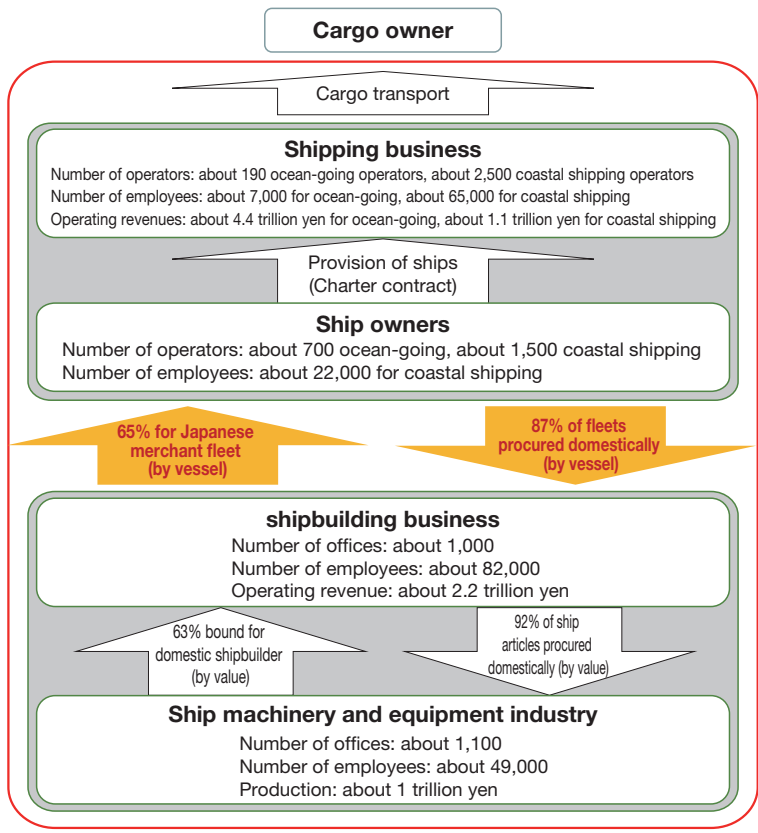


Source) MLIT

(iv) Port and harbor transportation business

The port and harbor transportation business plays a significant role as an interconnecting node between marine sea and land transportation in support of Japan's economy and national life. As of the end of March 2018, there were 861 transporters (0.5% down from the previous year) in the general port and harbor transportation business at the 93 ports nationwide that are governed by the Port and Harbor Transportation Business Act. Vessel loading and unloading volumes for FY2016 were approximately 1.4 billion 5,486 million tons nationwide (up 0.3% from the previous year).

Figure II-6-3-10 Japan's Maritime Industry Cluster



Source) MLIT

(3) Shipbuilding Industry

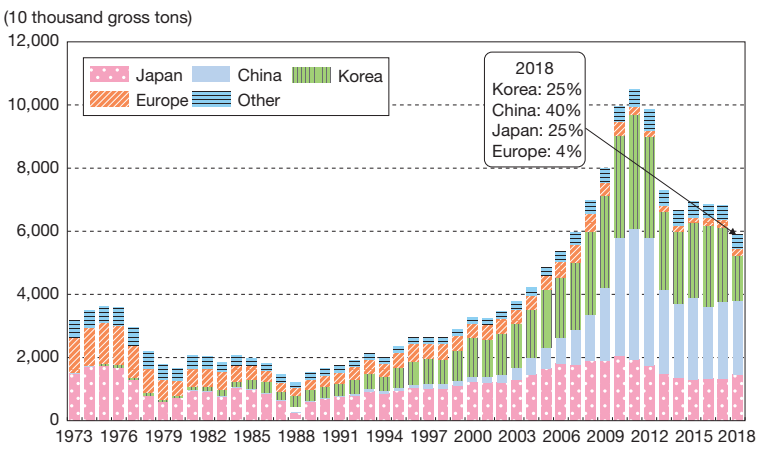
(i) Present status of the shipbuilding industry

Japan's shipbuilding industry is an extremely important industry that contributes to regional economy and employment by providing a stable supply of quality vessels tailored to ship owner's varied needs. Japan possesses a clustered integration of maritime industries in which the marine transport business, shipbuilding business and ship machinery business are closely linked to one another.

The global shipbuilding industry is in a difficult condition due to excess maritime shipping volumes and excess shipbuilding capacity, etc., and global shipbuilding orders bottomed out in 2016, but Japan's share rose significantly in 2018.

The 2018 domestic construction volume was 14.53 million gross tons (versus 58.86 million gross tons globally), giving Japan 24.7% of the global market (a 5.3% year-over-year increase). The manufacture of ship machinery products for 2016 was valued at 975.7 billion yen (down approximately 4.5% year-over-year), with an export amount of 387 billion yen (up about 9.8% year-over-year).

Figure II-6-3-11 Developments in the Volume of Newly Built Ships in the World



Source) Prepared by MLIT from IHS (former Lloyd's Register of Shipping)

(ii) Approaches to consolidating the international competitiveness of the shipbuilding industry

The MLIT has strongly promoted the maritime productivity revolution around “i-Shipping” to improve the competitiveness of shipbuilding and shipping, “autonomous ships” to realize efficient maritime logistics, and the j-Ocean initiative which is aimed at entering the ocean development market to contribute to securing resources. Based on changes to the shipbuilding market and trends in shipbuilding policies among major shipbuilding nations in recent years, and in response to the changing situation of active international

discussions on the introduction of autonomous vessels, the Transportation Policy Council’s Maritime Innovation Subcommittee has compiled a report examining measures to focus on future issues to deepen the maritime productivity revolution. The MLIT is currently engaging in efforts based on this report.

More specifically, to improve shipbuilding productivity in all phases from development and construction to operation, a demonstration project is being implemented towards the practical application of autonomous vessels, including support for the development of innovative technologies using ICT etc., as well as tax measures for capital investment.

Also, to improve the professional teaching of young instructors to take charge of shipbuilding education at high schools and secure and develop human resources for the shipbuilding industry, we are promoting teacher training programs and working to strengthen shipbuilding education systems at technical high schools. In addition, with the partial revision of the Immigration Control and Refugee Recognition Act in December 2018, a new system to accept already-trained foreign human resources with certain expertise began operation from FY2019, with shipbuilding and the maritime industry positioned as target fields for the appropriate acceptance of foreign workers.

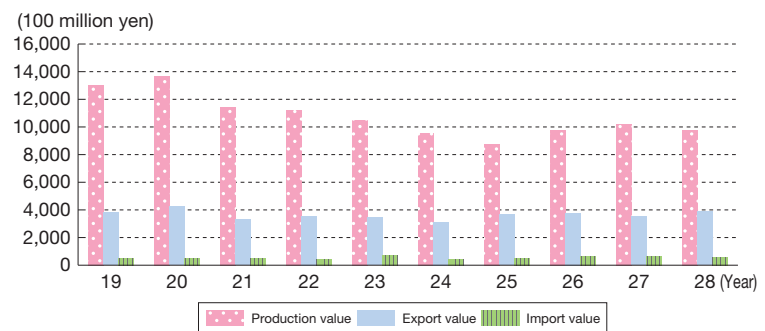
Further, as the global oversupply issue continues in the shipbuilding sector, discussions are under way with the OECD Shipbuilding Division for the development of new international regulations to prevent public subsidies in the shipbuilding industry for a fairer competitive environment. At the same time, the Korean government has engaged in large-scale public subsidies for their domestic shipbuilding industry through government financial institutions, and dispute settlement procedures were commenced in November 2018 under the WTO Agreement to attempt to resolve this issue.

(4) Offshore Industries

Offshore development, represented by offshore oil and natural gas production, is an area in which medium- to long-term growth is expected, making this an important market for the Japan’s maritime industry (shipping, shipbuilding, marine industry). However, as there is no domestic field for offshore resource development, the offshore industries in Japan are still immature. j-Ocean, one element of the MLIT’s Productivity Revolutionization Project, is therefore aiming to improve such areas as the technical capabilities of Japan’s maritime industries in a wide range of fields, from the design to the construction to the operation of facilities used in the area of offshore development, and gain business in offshore development market. Since FY2018, MLIT has promoted technological development of products and services with additional value which can contribute to cost reduction and better risk management on offshore development, and we are promoting initiatives for the spread of floating offshore wind turbine and autonomous underwater vehicles.

Figure II-6-3-12

Trends in manufacture and import and export of marine engineering products for Japan



(Note) Import value refers to the amount imported by shipbuilding operators
Source) MLIT

(5) Promoting Awareness of Maritime Affairs (C to Sea Project)

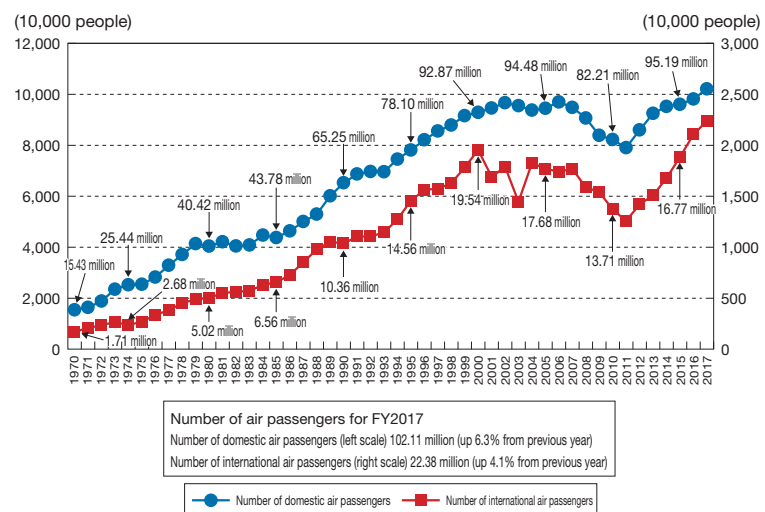
On Marine Day in 2017, the Prime Minister issued a message expressing his hope that each and every citizen of Japan would bring interest and understanding to the ocean, would make contact with the ocean, and would come to know the ocean. Based on this message, MLIT commenced the “C to Sea Project” as part of its “Sea and Japan Project”, strategically providing information in cooperation with ambassador “STU48”, utilizing its website and social media, and engaging in various joint public and private sector initiatives to create opportunities to get close to the sea and ships, including boarding experiences and tours etc.

4 Trends in Air Transport Business and Measures

With regard to circumstances surrounding the aviation industry, while fuel market conditions remained low for the first half of the year, the fuel market soared in the second half, and the number of domestic and international air passengers rose for the 6th consecutive year, due to the expansion of LCC lines and an increase of international visitors to Japan. Looking at the transportation results of Japanese airline companies, FY2017 set records in both the number of domestic passengers, with 102.11 million people (up 4.1% from the previous year) and international passengers, with 22.38 million people (up about 6.3% from the previous year).

Since March 2012, LCC have successively entered the Japanese market, and as of April 2019, five Japanese LCC were in operation. Peach Aviation operates 16 domestic and 15 international routes; JetStar Japan, 22 domestic routes and seven international routes; Vanilla Air, six domestic routes and six international routes; Spring Airlines, three domestic routes and four international routes; and Air Asia Japan, one domestic route and one international route. In FY2017, Japanese LCC held a 9.8% share of passengers on domestic routes, and a 21.7% share of passengers on international routes.

Figure II-6-3-13 Trends in Number of Air Passengers (Japan-based Airlines)



Source) Prepared by MLIT based on the “Air Transportation Statistical Year Book”

5 Trends in the Consigned Freight Forwarding Business and Measures

The consigned freight forwarding business^{Note} is combined with multiple means of transport to provide services specific to varied user needs. Recent years have witnessed growing entry into the use of shipping for international transportation, reflecting the cargo owners’ needs for globalization.

While international trade is becoming more important and its quickness is required, it is also important to ensure safety. The MLIT works to ensure the availability of safe and secure logistics services, as by conducting audits, etc. to consolidate thorough operator code compliance.

Note Businesses that provide cargo transportation services using the transport methods (motor freight vehicles, rail, airplanes, ships) of actual transportation companies (i.e., companies that actually transport freight themselves) to provide door-to-door service, from cargo collection to delivery.

6 Trends in the Warehousing Business and Measures

Commercial warehouses play a significant role as nodal points for logistics. With an increase in the scale of logistics facilities in order to increase operational efficiency and introduce a greater range of functions in warehouse work in response to an increase in mail order sales and the need to concentrate functions, demand for human resources to work in logistics facilities including warehouses is increasing. On the other hand, there have been difficulties in securing human resources due to increasing relocation to suburbs. Based on this, we are promoting initiatives which contribute to improved productivity at logistics facilities.

7 Trends in the Truck Terminal Business and Measures

The truck terminal business plays a significant role in improving transportation efficiency as a nodal point of trucking between a trunk line and a terminal. In recent years, facilities have been improved with distribution center functions (sorting and distribution processing etc.) to meet increasingly sophisticated and diverse logistics needs.

8 Trends in the Real Estate Business and Measures

(1) Real Estate Business Trends

The real estate business is one of the key industries that command 2.8% of the total sales of all industries and 11.5% of the total number of corporations (FY2017).

According to the results of land price announcements for 2019 (as of January 1, 2019), in terms of average variance, the national averages have risen for residential land for the second consecutive year, for commercial land for the fourth consecutive year, and for industrial land for the third consecutive year. In the three major metropolitan areas, increases were seen in each of residential, commercial and industrial land. In regional areas, residential land rose for the first time in 27 years, while commercial and industrial land rose for the second consecutive year. In the existing housing distribution market, the number of successful deals was 1,820,000 in FY2018 (up 1.3% from the previous fiscal year) according to the Real Estate Information Network System (REINS)^{Note}.

(2) Status of the Real Estate Industry

The Ministry endeavors to ensure precise administration of the Real Estate Brokerage Act to protect consumer interest involved in housing land and building deals and to expedite distribution. The number of real estate dealers was 123,782 at the end of FY2017.

The MLIT, along with prefectural and municipal governments, endeavor to prevent complaints and disputes by working in conjunction with the bodies concerned while imposing severe supervisory dispositions on those entities that have breached the law. In FY2017, 208 supervisory dispositions were imposed (including 146 revocations of licenses, 36 suspensions of business and 26 orders).

To ensure the proper management of condominiums, the MLIT is taking measures aimed at registering condominium managers and ensuring proper business operations in accordance with the Act on Advancement of Proper Condominium Management. As of the end of FY2017, the number of condominium management service entities was 2,001.

Moreover, on-site inspections are being conducted and the necessary guidance and oversight is being provided to condominium management service entities in the interest of, among other things, preventing wrongdoing.

Since December 2011, a “system of rental housing management entity registration” that places a certain set of rules on the fulfillment of rental housing management services has been put into effect to foster sound rental housing management. The number of registered contractors at the end of FY2017 was 4,065. Also, in response to problems with sub-leasing, measures were implemented in FY2018 in cooperation with relevant ministries and agencies to spread awareness of sub-lease contracts. In addition, based on the Residential Accommodation Business Act (effective from June 2018), efforts have been made to promote the registration of those running rental accommodation businesses to ensure proper operation

Note A system by which the parties to a real estate transaction register information regarding the transaction with a designated distribution mechanism, and the information is exchanged between businesses. Information including the transaction price of contracted properties is accumulated by the designated distribution mechanism.

and that residential accommodation management companies are thoroughly compliant with relevant laws etc.

(3) Conditioning the Environment for Market Reactivation

(i) Status quo of the real estate investment market

Japan's real estate had a total asset value of about 2,607 trillion yen as of the end of 2017^{Note 1}.

Under the MLIT Future Investment Strategy 2017, the goal was set of total REIT assets of about 30 trillion yen by around 2020^{Note 2}, but the J-REIT which is the center of the real estate investment market had 4 new listings in FY2018. As of March 31, 2019, 63 stocks were listed on the Tokyo Stock Exchange, and the total value of target real estate as of the end of March 2018 was about 18.6 trillion yen, with private placement REIT and real estate specified joint ventures totally 21.8 trillion yen.

The TSE REIT Index, which shows price movements across the J-REIT market rose to the mid 1,700 point range in the first half of 2018 as funds flowed from the high US stock market into the relatively cheap J-REIT market, but later fell to the 1,600 point range due to worsening investor sentiment on the back of a fall in domestic stocks caused by a rising US long-term interest rate. It later rose back to the high 1,700 point range due to strong real estate market conditions, in spite of the impact of the long-term interest rates etc. In the second half of 2018, the index remained stable in the 1,700 point range, before rising above 1,800 points due to the inflow of funds to this stable investment vehicle from stocks and commodities. As stock prices continued to fall towards the end of the year, the index temporarily fell back to the low 1,700 point range, before rising back to the mid-1,700 point range.

Also, the total assets acquired in J-REIT for the year of 2018 was about 1.8 trillion yen.

(ii) Promotion of real estate specified joint enterprises

Regarding the crowdfunding regulations related to real estate specified joint enterprises under The Act for the Partial Revision of the Act on Specified Joint Real Estate Ventures, enforced from December 2017, in addition to the development of guidelines for business management systems and information disclosures, other measures included support for model projects utilizing real estate securitization for small scale real estate specified joint ventures etc. and the promotion of efforts to regenerate obsolete real estate utilizing private funds and ideas. Also, to promote the composition of long-term, stable real estate investment products into which private individuals can safely invest, Regulations on the Enforcement of the Real Estate Specified Joint Project Act were revised, to include the rationalization of regulations relating to real estate conversion contracts.

(iii) Promotion of spread of environmental real estate

Environmental development was examined, based on the expanding movement demanding consideration for ESG. It was also decided in FY2018 to invest 4.5 billion yen into seismic and environmental real estate promotion projects to promote the formation of strong environmental real estate assets.

(iv) Creation of an environment for real estate information

MLIT is publishing information related to real estate by the following means, in order to increase the transparency of the real estate market and facilitate and invigorate transactions in the market.

(a) Real estate transaction price information

We conduct surveys of real estate transaction prices throughout the country. Based on the information that we obtain by means of these surveys, we publish information including the location, area and price of the real estate subject to the transactions (there were about 3.6 million offers as of the end of March 2019).

(b) Property price index

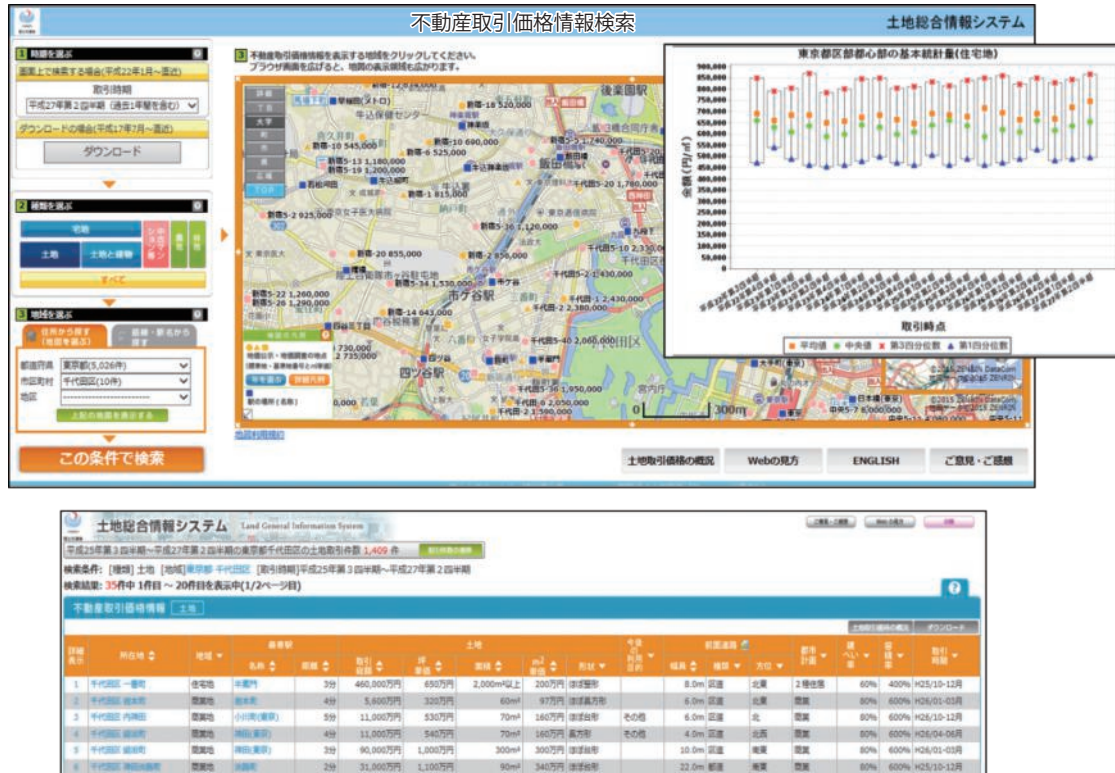
Based on standards formulated by the IMF and other international organizations, we publish a property price index (residential) every month. We also publish property price index (commercial) on a quarterly basis, but this is currently at the stage of test operation.

Note 1 Total of buildings, structures and land assets based on national accounts

Note 2 J-REIT, private placement REIT, real estate specified joint ventures

Figure II-6-3-14 Land General Information System

- Since April 2006, transaction price information based on questionnaires conducted among parties to real-estate deals has been posted every quarter on an MLIT website, with care to protect the properties in question from being identified easily.
- As of the end of March 2018, information on 3,265,830 properties was posted, attracting a total of about 790 million Web accesses.



Source) MLIT

(v) Conditioning the existing home circulation market

The MLIT is working to condition the existing home trading environment to promote the circulation of existing homes, which have a low share of the total volume of housing in circulation when compared with the U.S. and Europe. In FY2018, the Reliable R Housing system commenced operation, whereby existing houses that satisfy certain requirements such as obtaining building condition inspections are permitted to use the nationally trademarked logo. Also, based on the 2016 revision to the Building Lots and Building Transaction Business Act (enforced from April 2018), the use by residential building contractors of building condition inspections by experts was encouraged to establish a market environment in which consumers can make transactions for existing homes with peace of mind. Further, the operation of the National Vacant House/Vacant Land Bank by two selected public operators went live from April 2018, for easily accessing and searching information on vacant houses etc. throughout Japan, and other efforts to strengthen matching for vacant houses were made, including support for advanced initiatives by real estate organizations to utilize vacant houses.

(vi) Utilization of land tax system

Under the 2019 tax reform, in addition to extending deadlines for the application of land ownership registration license tax etc., special measures related to assets were implemented including extending the application period for special measures related to real estate acquired by J-REIT etc., and the extension and expansion of application periods for the acquisition of real estate by special operators (the abolition of requirements to “transfer target real estate within 10 years of the completion of construction” and review of “land and building” acquisition requirements (addition of building floors) among the requirements for tax registration by special operators or related qualified special investors under the Special Measures Act), as well as assets for regional welfare promotion projects as specified under the Special Measures Act for the Facilitation of Land for Whom the Owner is Unknown.

(vii) Improvement of institutional infrastructure supporting the real estate market

The monitoring of appraisals was conducted, including the content of on-site inspections to real estate appraisers, to further improve the reliability of real estate appraisal. A study was also made to respond appropriately to changes in social needs and environment with respect to real estate appraisal standards etc.

9 Building a Sustainable Construction Industry

(1) Conditions Surrounding the Construction Business

As an essential player in developing social infrastructure, the construction industry plays a major role in helping to achieve a bright future for Japan through efforts that include urban revitalization and rural area development. It is also a very important defender of Japan’s communities, helping with recovery from earthquakes, taking measures to prevent and mitigate disasters, carrying out strategies to address aging facilities, and performing maintenance.

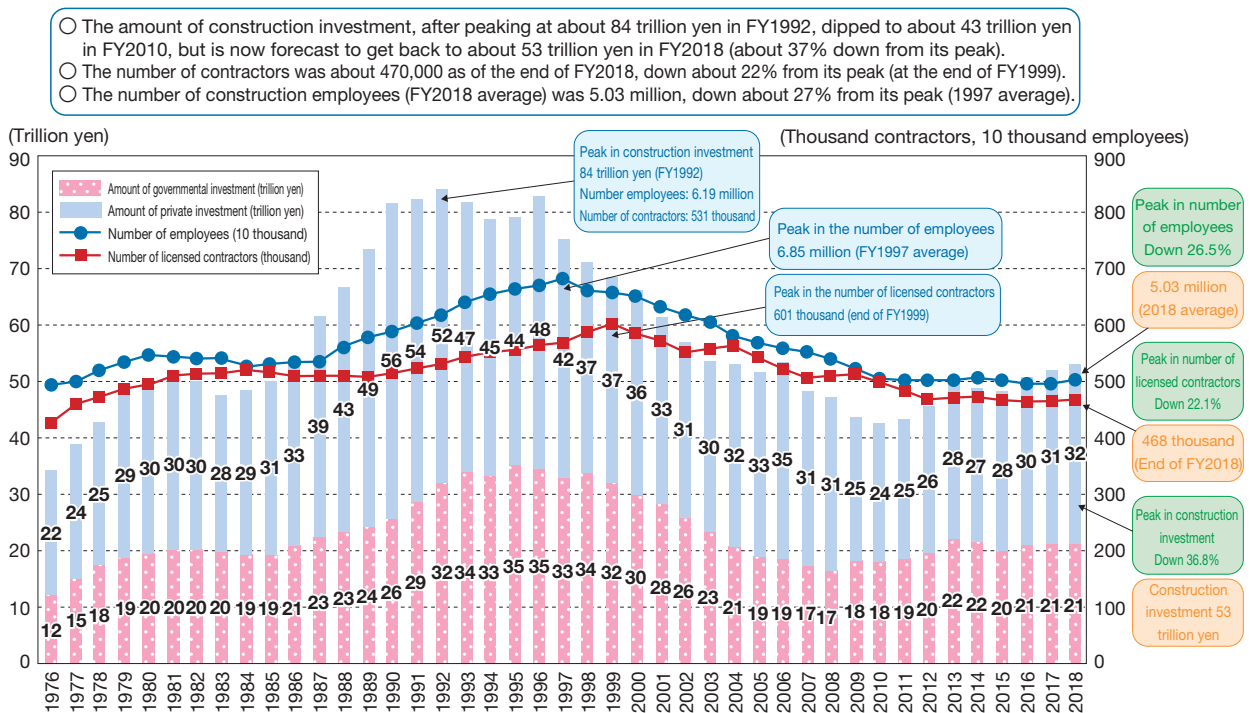
On the other hand, workers on site in the construction industry are aging, creating an issue for securing future workers. In July 2018, the government revised the Guidelines for Appropriate Setting of Construction Periods (formulated August 2017) to promote work style reforms in the construction industry based on changes to the circumstances surrounding the industry.

Also, to accelerate productivity gains associated with work style reforms in the construction industry, the Bill for the Partial Revision of the Construction Industry Act and the Act on Promoting Quality Assurance in Public Works were introduced into the 198th Ordinary Diet session.

Based on the Act on the Promotion of Safety and Health of Construction Workers, established in December 2016, and the Basic Plan developed in accordance with this Act, guidelines were provided for procedures to calculate safety and health expenses for producers and private operators, as a measure of supporting the calculation of safety and health measure costs and the follow-up of payments of safety and health expenses, extending to subcontractors.

Trends in the amount of construction investment and the numbers of licensed companies and workers are shown in Fig. II-6-3-15.

Figure II-6-3-15 Trend in Construction Investment, Number of Licensed Contractors and Number of Employees



(Notes) 1 The amount of investment is the actual results up to FY2015, estimates for FY2016 and FY2017 and a forecast for FY2018.
 2 Number of licensed contractors at the end of each fiscal year (end of March of the next year)
 3 The number of employees is a yearly average. Supplementary estimates for the three quake-stricken prefectures (Iwate, Miyagi, Fukushima) in 2011 have been calculated by retrospectively correcting the estimated population based on the findings of the 2010 National Census.
 Source) "Construction Investment Forecasts" and "Licensed Constructor Count Survey" by the MLIT and "Labor Force Survey" by the Ministry of Internal Affairs and Communications

(2) Securing and Fostering Human Resources to Work for the Construction Industry

The construction industry is an industry made up of large numbers of people. While the number of construction industry employees in Japan has been holding steady in recent years, large-scale age-related resignations are expected in future, and in order to ensure that the construction industry continues in its role as a pillar of support for Japan's rural areas, it will be important to secure and foster workers, in particular young people, in addition to making efforts to reform work styles in the industry.

To this end, based on the Construction Industry Work Style Reform Acceleration Program formulated in March 2018, we are working to improve conditions in the industry by attempting to correct the problem of long working hours, in addition to advancing initiatives including guaranteeing appropriate wage levels, ensuring enrolment in social insurance, and creating a system to allow construction industry employees to develop their careers. In addition, taking into consideration the future decline in Japan's workforce, we are working to increase productivity via initiatives including the introduction of i-Construction to worksites, the improvement of multi-layer subcontracts and by promoting multi-skilled workers and the streamlining of site management such as in document creation etc.

To enable young people to get up to speed in the industry as quickly as possible, we are also proceeding with reform of the skills certification system, and, in order to ensure the smooth passing on of skills, enhancing education and training. In addition to this, we are promoting the further participation of female employees in the industry.

These initiatives are being advanced on the basis of public-private cooperation, and we are working to create an environment that encourages the seeking of employment in the construction industry and allows workers to devote themselves to their jobs with pride.

In addition, the project of receiving foreign construction workers is in place since April 1, 2015 as a time limited measure to handle increased construction demand due to one-off factors such as hosting of the 2020 Tokyo Olympic and Paralympic Games. Under this framework, 4,505 foreign construction workers entered Japan (as of January 31, 2019).

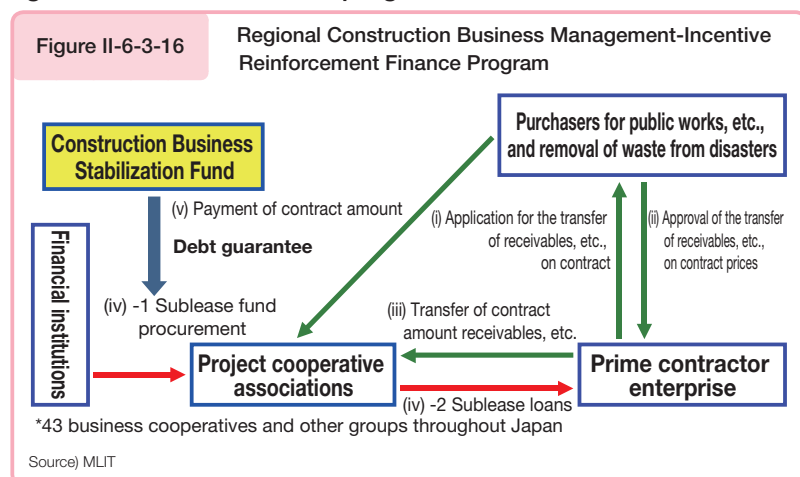
(3) Establishing a Framework of Fair Competition

The construction industry must establish a framework of fair competition among contractors, including thorough legal compliance, to enable those of them who are superior in their technical strength, construction capability and management power to keep up with their growth. Accordingly, MLIT has conducted surveys including surveys of the status of subcontracting transactions and on-the-spot surveys, established the "Construction Business Transaction Normalization Center" as a liaison for consultation regarding issues such as problems related to contracts for construction work, and established Construction Business Normalization Promotion Month. In addition, we are working to ensure appropriate transactions between prime contractors and subcontractors in the construction industry by formulating and distributing a Handbook for Appropriate Transactions in the Construction Industry.

(4) Measures Aimed at Supporting Construction Companies

(i) Regional construction business management-incentive finance program

The regional construction business management-incentive finance program allows prime contractors to acquire loans from money lending business operators (e.g., cooperative association) on security of the public works contract price credit obligations, according to the completed amount of works. Its purpose is to smooth their cash flow. This program aims to secure loan funding and reduce the borrowing rate and other costs by providing debt guarantee to sublease loans, which the money-lending operator borrows from financial institutions when extending loans.

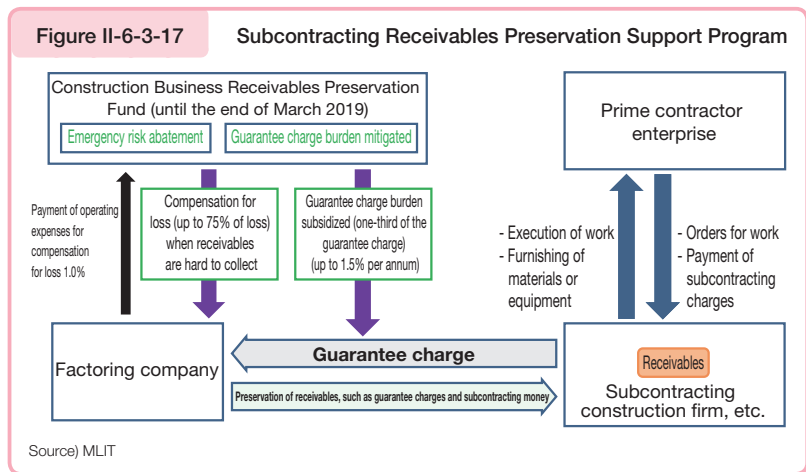


Effective since November 2008, this program will be carried forward through FY2019 and onwards.

(ii) Subcontracting receivables preservation support program

The subcontracting receivables preservation project aims to prevent chain-reaction bankruptcies of subcontractors in association with failure of their primary contractor by reducing the burden of guarantee charge when the payment of such receivables is guaranteed by a factoring company^{Note} and by indemnifying the factoring company for part of losses, it may suffer upon fulfillment of the guaranteed obligations.

This program has been implemented since March 2010 and will be carried on through FY2019.



(iii) Promotion of multi-skilled construction workers in the regional construction industries

To improve the productivity of the SMEs that support local communities, we have implemented a model project to boost company efforts to develop multi-skilled workers by expanding their range of specialized skills through collaborations between engineers and companies, and have surveyed and investigated their current status and effectiveness and implemented measures to develop horizontal expertise through the promotion of multi-skilled workers at construction companies with seminars and handbooks etc.

(5) Promoting Construction-related industry

Information about the total number of companies registered in the construction-related industry (such as surveying, construction consulting and geological surveying) is published each month and analyses of the financial conditions by sector based on that information are released at the end of the next fiscal year. In addition, the MLIT works to encourage sound development of the construction-related industry and make effective use of the registration system, as by holding explanatory sessions for students before attending society in collaboration with the associated bodies.

(6) Present Status of Construction Machinery and Growth of Construction Production Technologies

The number of units of major construction machinery owned by organizations and people in Japan totaled approximately 940,000 in FY2015. Market share by industry for units of construction machinery purchased was about 49% for the builder's equipment leasing industry and around 27% for construction businesses.

As part of the efforts of i-Construction, we are promoting the spread of ICT construction and the active use of machine control/machine guidance technologies for highly accurate and efficient construction by the automatic control of construction machinery using 3D data. Given the current lack of ICT construction equipment to promote the spread of ICT construction, sound training and development for construction machinery and equipment rental operators with large shares of the construction industry is indispensable.

(7) Settling Disputes Arising from the Execution of Construction Works

To promptly resolve disputes arising from the execution of construction work contracts, the Construction Works Dispute Review Panel implements dispute settlement procedures. In FY2017, the Panel received 34 applications (nine of arbitration, 19 for conciliation and six for mediation) at the central level and 96 applications (23 for arbitration, 53 for conciliation and 20 for mediation) at the prefectural level.

Note Finance business companies that guarantee or purchase and collect accounts receivable held by other parties. At present, 10 factoring companies, including bank companies, pre-payment guarantee companies and leasing companies are operating this type of business.