

## Chapter 3

## Initiatives in the Land and Transport Sector

Based on the changing state of Japan analyzed in Chapter 1 and the public awareness and desires regarding lifestyle based on the results of the national attitude survey in Chapter 2, in Chapter 3 we will look at initiatives in the land and transport sector to address these issues, and similarly to Chapter 2, we will introduce them from the four perspectives of “work,” “leisure,” “housing” and “mobility.”

## Section 1 Initiatives Related to Work

As observed previously, workforce participation by women and the elderly, etc., and improving labor productivity, etc., are issues to be tackled in Japan, and in addition to providing opportunities for women and the elderly to newly engage in work or continue employment etc., achieving a work-life balance for the child-rearing generation and qualitative improvements such as reforming attitudes toward work and streamlining work through technological innovations such as AI and big data are required.

## 1 Initiatives to Provide Opportunities to Work

(Initiatives for new work and continued employment for women and the elderly)

■ Promotion of the establishment of childcare facilities, etc.

In order to support opportunities for women to start work and continue employment, it is necessary to eliminate childcare waiting lists and create an environment that is conducive to women starting new jobs or continuing employment, and it is essential to establish and supplement childcare centers, etc., in order to do this. The MLIT is promoting specific initiatives in cooperation with relevant parties at the Ministry of Health, Labour and Welfare, etc., in order to achieve this.

In order to respond to the increase in children on childcare waiting lists in recent years, it has been made possible to establish childcare centers, etc., through the exclusive use of urban parks. This has been implemented in national strategic special zones since 2015, and was expanded nationally in 2017 due to a revision of the Urban Park Act (Figure 3-1-1). In order to promote the appropriate establishment of childcare centers that utilize this program, we have created and disseminated a manual for local government bodies and business operators.

Furthermore, in order to promote the establishment of childcare facilities in large-scale apartment blocks, there has been demand for local government bodies to ensure appropriate childcare facilities, such as by working to achieve cooperation and information-sharing between cities, construction departments and childcare departments, from the point of drafting urban plans when constructing large-scale apartment blocks that make use of exceptional measures to alleviate floor area ratio, as there is a possibility that the demand for childcare facilities will increase, particularly locally.

Figure 3-1-1 Nursery school in an urban park



Source) MLIT

■ Securing and training female and elderly workers, etc., in land- and transport-related industries

In land- and transport-related industries, such as the construction industry and the transport industry, a range of initiatives, such as disseminating information and networking, are being conducted in order to secure and train female and elderly workers.

(1) Securing and training female and elderly workers, etc., in the construction and manufacturing industries

In the construction industry, it is expected that a large number of older workers will leave their jobs, and securing and training workers in the medium- to long-term has become a pressing issue. Therefore, it is necessary to create an environment in which women can actively participate alongside men, leading to the industry becoming more attractive and securing new workers, irrespective of their gender or age.

The MLIT provides support for the participation of female engineers and skilled workers in the construction industry through public-private partnerships, through such initiatives as creating female friendly workplaces, conducting seminars that allow female workers to express themselves, and establishing an advisory service for businesses that wish to encourage female participation (Figure 3-1-2).

Also, in autumn 2018, the construction career advancement system, which is a mechanism that records and stores the qualifications and work experience of each skilled worker, began operation.

Through this system, we will be able to maintain an objective understanding of the skills and experience of skilled workers, which is expected to lead to the development of an ability evaluation system that objectively divides people according to general levels, and the creation of an environment that is conducive to the appropriate evaluation and treatment of individual technicians by ensuring transparency of the construction capabilities of specialist construction companies that hire technicians (Figure 3-1-3 and Figure 3-1-4).

Figure 3-1-2

Project to Support Female Participation in the Construction Industry (PR)



(Source) MLIT

Figure 3-1-3

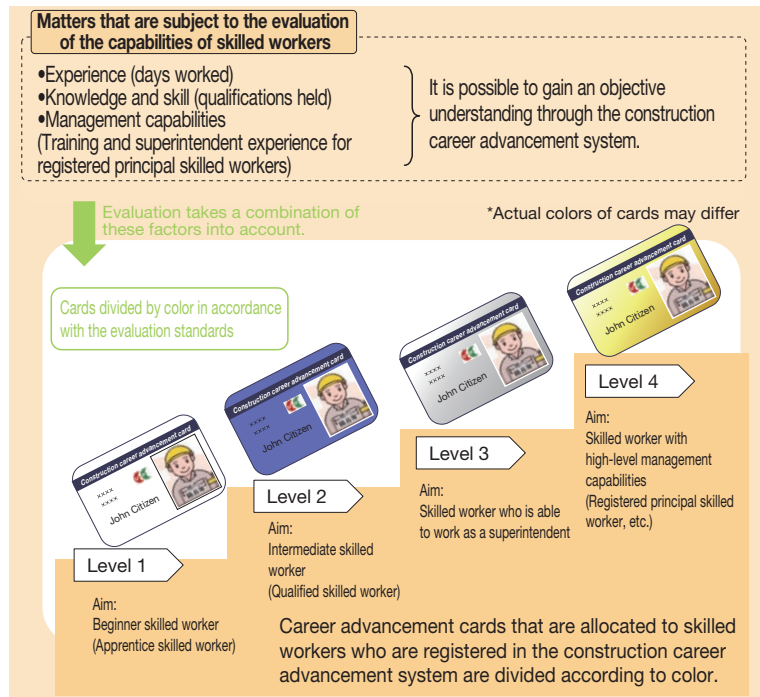
Establishing the Construction Career Advancement System



(Source) MLIT

Figure 3-1-4 Treatment According to Experience and Skills

- Consideration of ability evaluation standards according to the level of the skilled worker, using the work history and qualifications that are recorded in the system (Dividing career advancement cards by color according to level)
- Promoting transparency of the construction capabilities, etc., of specialist construction companies according to the ability evaluations of skilled workers, developing quality workers and creating an environment where the specialist construction companies that employ them are selected



Source) MLIT

## (2) Securing and training female and elderly workers, etc., in the automotive transportation industry

With regard to the automotive transportation industry, which includes trucks, busses, and taxis, drivers work in an environment in which annual work hours are 10 to 20 percent longer, and annual wages are 10 to 30 percent lower when compared to the average of all professions, so the lack of drivers is even more ingrained and securing workers is a pressing issue.

The MLIT established the Committee for Consideration of Trucks That Are Easy to Drive for Female Drivers, etc., in March 2018, and began discussions of vehicle designs from the perspective of female, etc., truck drivers, etc.

## 2 Initiatives for Quality of Work

(Initiatives to achieve work-life balance for the child-rearing generation)

### ■ Promotion of telework

Creating an environment in which workers are not restricted to their place of work and shortening work hours will achieve a flexible work-style that allows for both child-rearing and work, and lead to work-life balance, particularly for the child-rearing generation, as well as contribute to the alleviation of traffic congestion and crowding on trains.

An example of such an initiative is “telework,” which uses information and communication technology (ICT), and the MLIT is promoting wider acceptance of telework in cooperation with relevant government agencies and private organizations. As a step toward this, we designated July 24<sup>Note 21</sup> as “Telework Day” in 2017, and on this day, approximately 63 thousand people at approximately 950 organizations simultaneously engaged in telework. 2018 will be the second time Telework Day is held, but the period has been expanded to five days, from July 23 to July 27, and the event will

**Note 21** The scheduled date of the opening ceremony of the 2020 Olympic Games

be rebranded “Telework Days.” During this period, we will call for workers to simultaneously engage in telework and promote further initiatives.

Also, an example of a site that has utilized telework in recent years is a shared office known as SALT, for which Smart Design Association Co., Ltd. and others in Fukuoka City, Fukuoka Prefecture, have used vacant space by the seaside, approximately 30 minutes by car from the center of Fukuoka City, with the support of the local community. This initiative not only targets local residents, but also users who wish to make use of the seaside location to engage in resort work for a few days or even a few months, and the companies are recommending or providing accommodation in renovated vacant buildings in the vicinity. The concept of this initiative is to achieve a new style of work, wherein workers temporarily leave the location of their usual work and life in order to improve their productivity while enjoying sightseeing, before coming back refreshed, and it is supported by the MLIT as a leading example of a telework center (Figure 3-1-5).

Figure 3-1-5

Share Office SALT Satellite Office



Source) MLIT

(Initiatives for work efficiency through technological innovation, etc.)

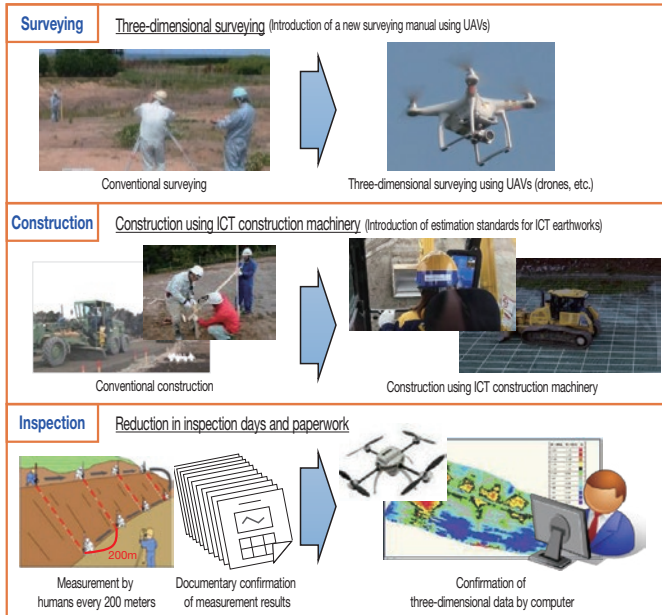
#### ■ Promotion of i-Construction

As the population ages and declines, the construction industry bears the brunt of maintaining social infrastructure and fills the role of a “regional protector” that is indispensable for national land conservation, so it is necessary to conduct work-style reforms by increasing the level of wages and the number of holidays, etc., and increase productivity in the construction industry. Therefore, it is necessary to increase construction productivity and create attractive construction sites where a diverse workforce that includes women and the elderly, etc., can participate, by achieving work-style reforms through increasing the level of wages, and providing regular holidays, etc.

The MLIT is promoting “i-Construction,” which utilizes ICT, etc., in all construction processes from exploration and measurement through design, construction, inspection, maintenance and renewal, with the aim of increasing construction site productivity by 20% by fiscal 2025 (Figure 3-1-6). As part of this, we are promoting initiatives to introduce drones to increase the efficiency of measurement work, introduce construction machinery with semi-automated controls that utilize ICT to increase the efficiency of on-site construction, and introduce robot technology to assist in inspection and construction, etc., in locations where work is difficult, as specific measures to support the labor of workers at construction sites (Figure 3-1-7).

Fiscal 2017 is the second year since the commencement of i-Construction, and we have been thoroughly promoting ICT civil engineering as a Top-Runner measure, while also working to expand the varieties of work that incorporate ICT to paving and dredging, to promote three-dimensional model design, to standardize concrete work standards, to level construction schedules and to promote development and introduction of technology through a consortium featuring cooperation between industry, academia and government. Going forward, we will continue the initiatives we have promoted until now and engage in expanding the introduction of ICT to the maintenance and construction fields, expanding three-dimensional design for large-scale construction, etc., promoting the introduction of new technology to create innovation in public projects and providing comprehensive support to accelerate the initiatives of small and medium-sized businesses.

Figure 3-1-6 i-Construction



Source) MLIT

[Visualization of increased productivity]

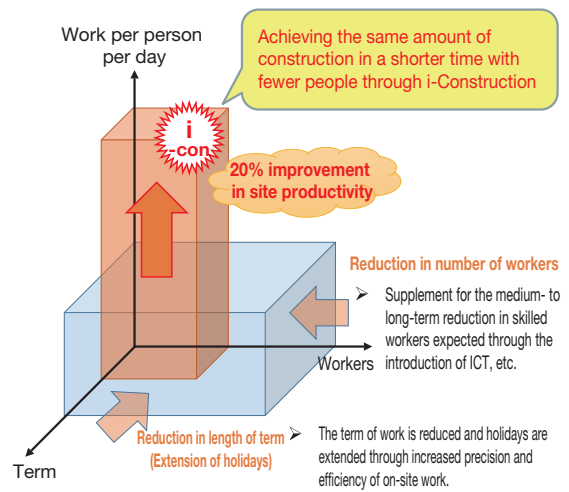
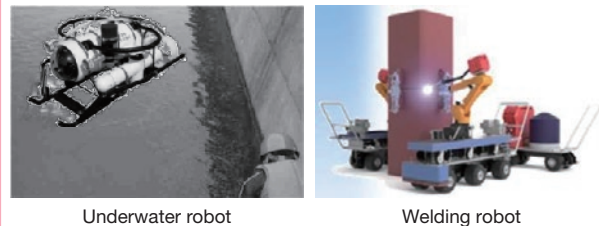


Figure 3-1-7 Underwater Robots and Welding Robots

Example of use of robots



Underwater robot

Welding robot

Source) MLIT

■ Supporting recurrent education

In order to increase productivity in the construction industry, it is necessary to increase the skill level of each worker directly involved with construction at construction sites and achieve a productivity revolution for small and medium-sized construction businesses.

Against this backdrop, the MLIT provides support to small and medium-sized construction businesses and local educational institutions, etc., conducting effective and continuous re-education and training (recurrent construction education) that is necessary to increase productivity (Figure 3-1-8).

Figure 3-1-8 Recurrent Construction Education



Source) MLIT

### ■ Increasing productivity at shipbuilding sites (deepening the i-Shipping maritime productivity revolution)

To increase competitiveness in the shipbuilding industry, it is important to secure and train a range of personnel, including women and the elderly, etc., and to do this, it is necessary to reform the work environment through increased site productivity, etc.

At present, the MLIT is promoting the i-Shipping maritime productivity revolution, which aims to increase productivity in the maritime industry and secure a 30%

share of new ships produced globally for the Japanese shipbuilding industry (by 2025). To this end, we are providing support for research and development, etc., conducted by private enterprise, etc., such as the automation of processing using 3D design data, the introduction of efficient automatic welders that use revolutionary technology such as AI, the introduction of assistance suits that reduce the workload on skilled workers and the creation of efficiency in shipbuilding through optimal management of parts and materials using IT, as initiatives related to increased productivity at shipbuilding sites (Figure 3-1-9).

Figure 3-1-9

Automatic Welders and Assistance Suits

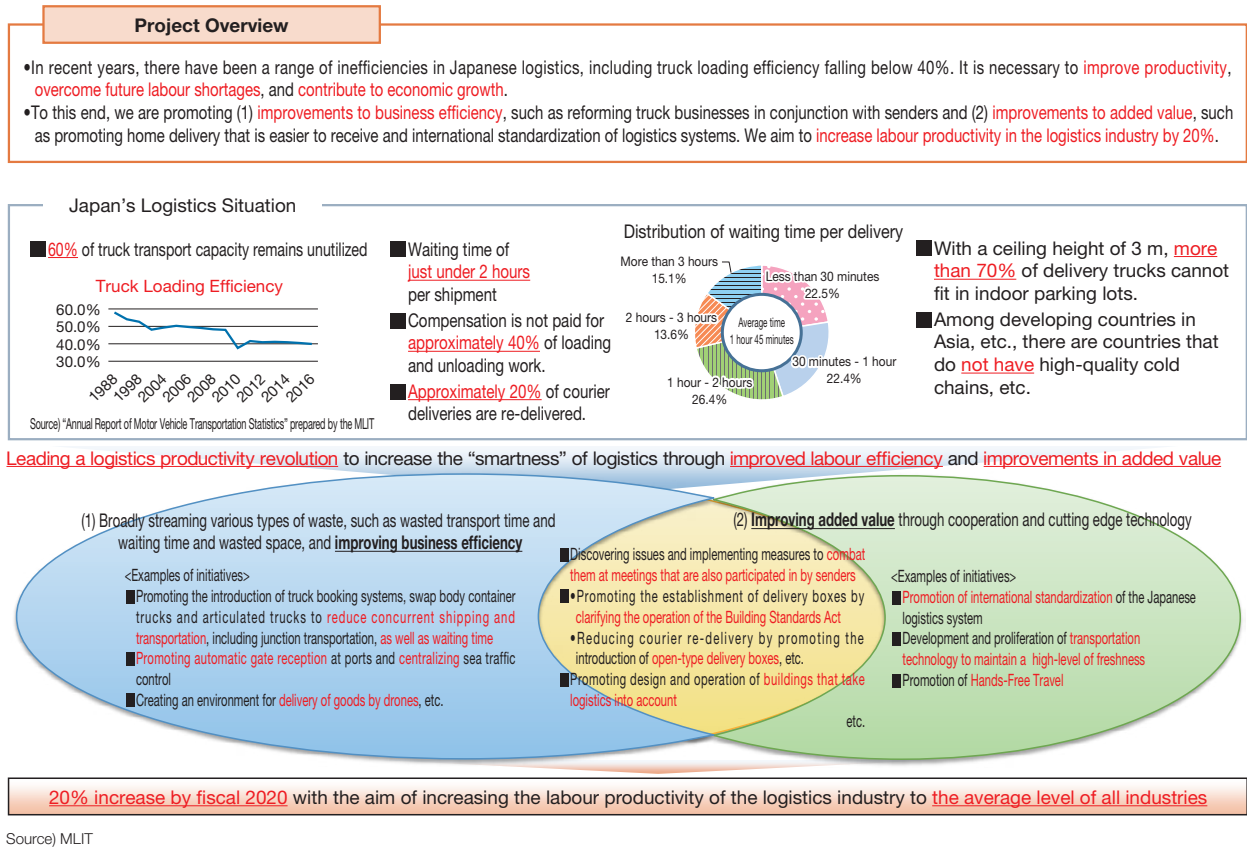


Source) MLIT

### ■ Initiatives for a revolution in logistics productivity and road logistics innovation

The MLIT is promoting a revolution in logistics productivity to significantly increase the “smartness” of logistics in order to increase productivity, overcome future labor shortages, and contribute to economic growth. We aim to increase labor productivity in the logistics industry by approximately 20% by 2020 by promoting improvements in work efficiency through the promotion of joint transportation, etc., using the framework of the revised Act on Advancement of Integration and Streamlining of Distribution Business, home delivery that is easier to receive, and increased added value such as promoting international standardization of logistics systems (Figure 3-1-10).

Figure 3-1-10 Logistics Productivity Revolution



In addition, we have established a major logistical road system, which conducts enhancement and priority assistance for the arterial road network in order to ensure stable delivery irrespective of whether or not there has been a disaster, and have actively developed initiatives to contribute to truck transport productivity, such as conserving labor through double-trailer trucks, enhancing logistics modal connection, and enhancing flexibility of heavy truck transport, as innovations in road-based logistics (Figure 3-1-11).

Figure 3-1-11 Road Logistics Innovation

**Initiative (1): Reduction in manpower through double-trailer trucks**



Examining relaxing the special vehicle permit standards from the current 21 meters to allow vehicles of up to 25 meters in length

Conducted in preparation for future automated convoys

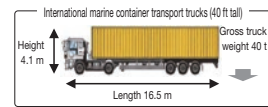
**Trial underway, focusing on the Shin-Tomei Expressway (4 companies are participating in the trial using 12 trucks) Full-scale introduction planned for FY2018**

Source) MLIT

**Initiative (2): Ensuring stable delivery irrespective of whether there has been a disaster**

In order to ensure stable delivery irrespective of whether or not there has been a disaster, the Minister of Land, Infrastructure, Transport and Tourism has designated the major road logistics network as **major logistical roads**, enhanced functionality, and conducted priority assistance.

- Strengthening road construction according to the size of trucks
- Ensuring immediate clearing and restoration of roads after disasters, etc.



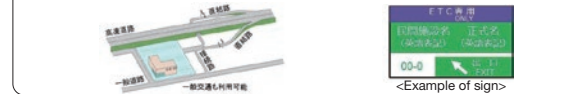
⇒Special vehicle permit is unnecessary (vehicle restriction ordinance)

**Established Important Distribution Roads System in March 2018 (Road Act amendment)**

**Initiative (3): Enhancing logistics modal connection**

Promoting enhancement of access to ports and airports, etc., and expressways, and direct connection between expressways and private facilities

Smart IC to directly connect private facilities (example)



**Announcement of direct connection IC on July 7, 2017**

**Initiative (4): Enhancing flexibility of heavy truck transport**

Enhancing a transport inspection system focusing on manual labour to create an automatic inspection system that uses electronic data related to geometric design and bridges, and that enables immediate inspection of special vehicle permits



Section 2 Initiatives Related to Leisure

As observed previously, making the most of time and securing time, etc., for leisure has become an issue in Japan. With this in mind, initiatives related to the utilization of leisure are required, such as the creation of opportunities to further enjoy increased tourism appeal, etc., and opportunities for re-education, etc., initiatives for the diversification and intensification of leisure activities, the creation of opportunities to create connections with other people through social involvement and leveraging this for social contribution activities.

1 Initiatives for the Diversification and Intensification of Leisure Activities

(Increasing the appeal of tourism)

■ Increased development and the appeal of tourism resources

There are diverse and valuable tourism resources in locations around Japan, and developing these resources and improving their appeal allows tourists to enjoy a more appealing trip and effects such as creating new demand are anticipated by attracting tourists to many different regions.

The Japan Tourism Agency supports development of regional specialty products, regional networking for tourism development through designated tourism resources such as breweries and related PR activities, etc. Furthermore, we are considering night-time usage of facilities such as museums, to effectively utilize tourism resources. These kinds of initiatives are not only expected to maximize the leisure experience of foreign tourists, but also Japanese domestic tourists (Figures 3-2-1 and 3-2-2).



Figure 3-2-1 Initiatives for Saijo Sakagura-dori (Higashi Hiroshima City, Hiroshima Prefecture)



Source) Japan Tourism Agency

Figure 3-2-2 Example of Utilization of the Nighttime Economy



Source) Japan Tourism Agency

■ Island Wind Vision

We are conducting various initiatives to attract people to offshore islands, such as providing hobby tourism depending on the local situation, offshore exchanges where children from elsewhere live on the islands, and satellite offices and

telework centers.

The MLIT promotes the Island Wind Vision, which is an initiative to distribute information on the appeal of offshore islands to cities, etc., (wind from the island) and create a non-resident population, etc., from cities, etc., (new wind to the island) through the creation of portal sites that comprehensively showcase the islands, and the transmission of information through media that reach young people and foreigners, etc. (social media, etc.) (Figure 3-2-3).

■ Promotion of infrastructure tourism

Infrastructure tourism is an initiative that uses infrastructure as regional assets and tourism resources to promote regional revitalization, and is expected to contribute to the promotion of understanding of infrastructure development, maintenance and management.

The MLIT creates plans for facility tours by regional development bureaus and conducts tie-ups with private sector travel agencies, as well as opening a tourism portal site that showcases tours and observations, etc., and distributes information as required (Figure 3-2-4).

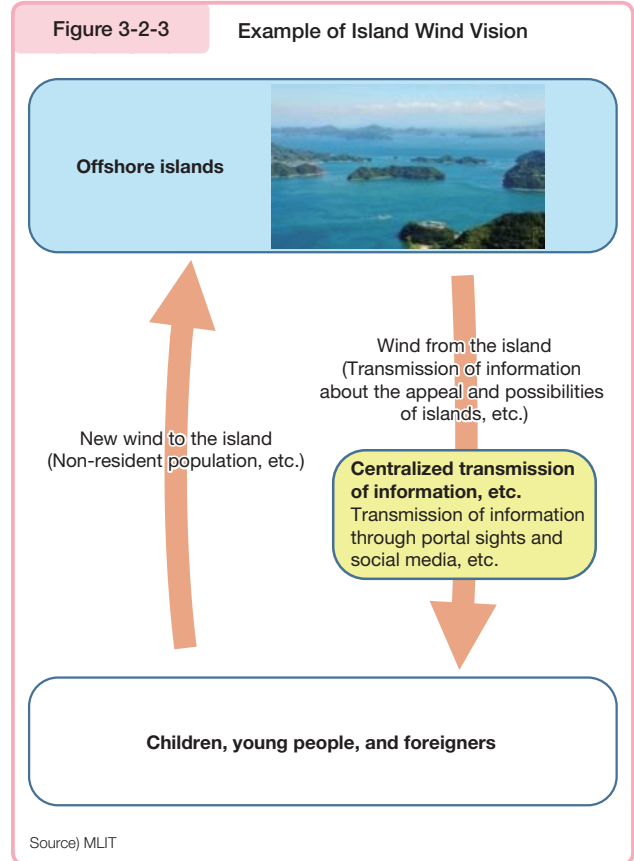
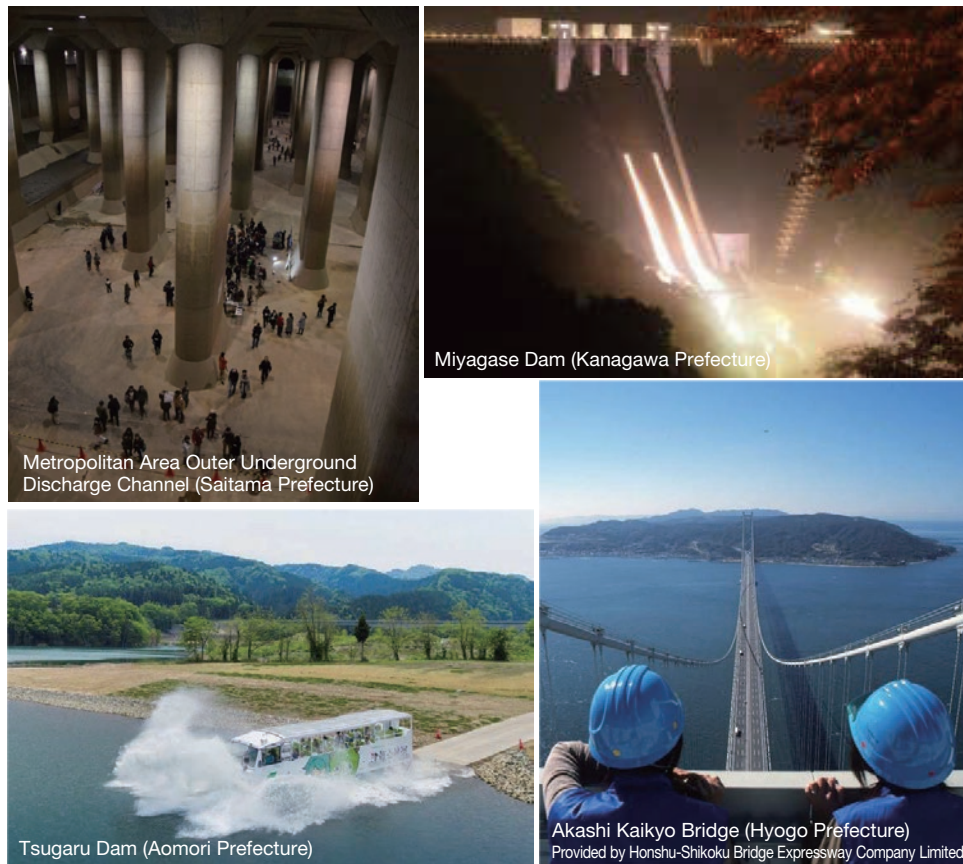


Figure 3-2-4 Example of Infrastructure Tourism



Source) MLIT

### ■ Support for the creation of tourism areas

It is necessary to promote visits and stays by tourists in collaboration with interested local parties in order to promote tourist travel to each region, including by foreign tourists visiting Japan.

The Japan Tourism Agency develops strategies in cooperation with various interested parties as a guide for the creation of tourism areas, and has established a Japanese DMO, which is a corporation that plays the role of a coordinator to implement these strategies. The DMO provides support, etc., for creating accommodation programs that leverage the appeal of local resources when tourism area plans are created, such as holding conventions and sales fairs, etc. (Figure 3-2-5).

Figure 3-2-5 Japanese DMO

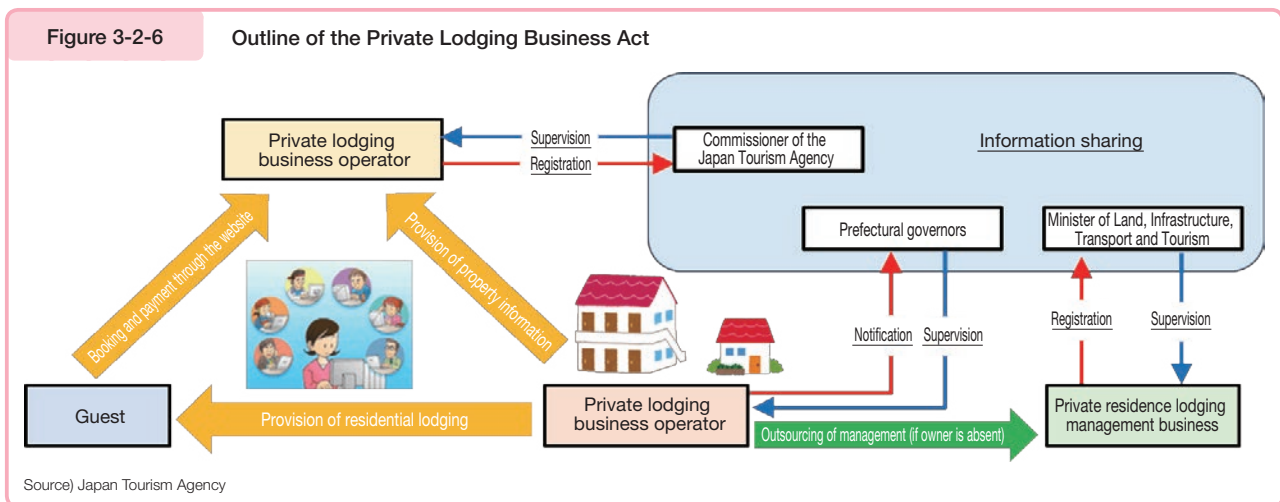


Source) Japan Tourism Agency

### ■ Spreading sound minpaku (Private Residence Accommodation) Services

For several years, so called minpaku services have rapidly spread in Japan. It is important to utilize minpaku services in order to cater to the diversification of accommodation demand from the rapidly increasing numbers of foreign tourists in Japan, as well as domestic tourists. Conversely, urgent attention must be paid to creating rules to ensure public health and prevent issues with local residents, etc., when utilizing said services.

With this in mind, the MLIT is working to spread sound minpaku services under the Private Lodging Business Act enacted in 2017 (Figure 3-2-6).



## 2 Initiatives Related to Utilization of Leisure

(Initiatives to create places that produce connections between people and leverage them in social contribution activities)

### ■ Promotion of area management

For many people, participation in social contribution activities creates a sense of worth, and is a joyful aspect of life. We must cater to these desires and utilize them for community development, etc. One of the initiatives that we hope will achieve this is “area management,” which actively seeks to conduct community development and regional management in a defined area, under the leadership of private citizens.

As initiatives to promote area management, the MLIT has amended the Act on Special Measures Concerning Urban Reconstruction and provides support for granting of official status, etc., to companies that bear the burden of community development by designating them as action groups. Sapporo Odori Machizukuri Co., Ltd., comprises six shopping districts and retail facilities, etc., in the Odori district of the city of Sapporo, and is the first urban revitalization promotion corporation. This company values connections, makes use of car-free malls, encourages open cafes, conducts civic events and beautification activities, etc., forms a network among organizers, and brings together many young participants to create a space of enjoyment with the concept of wanting people to utilize the city (Figure 3-2-7).

Figure 3-2-7 Area Management Initiatives by Sapporo Odori Machizukuri Co., Ltd.



Source) Sapporo Odori Machizukuri Co., Ltd.

### ■ Conservation of the river environment through volunteer activities

Social contributions involving coming into contact with the local natural environment and conducting regular maintenance activities may also provide a sense of worth and lead to a joyful lifestyle.

The MLIT has revised the River Act to promote these activities, and because of this, river administrators may designate private organizations such as NPOs that conduct activities related to active river maintenance and conservation of the river environment, etc., as being part of the River Cooperative Organization System, and provide assistance for river management projects. Ecology Research Club Hiroshima, which is a river cooperative organization, conducts activities such as participating in activities to beautify the Ota River, providing hands-on learning for children under the themes of “let’s study,” “let’s touch” and “let’s enjoy,” training instructors, and observing tidal flats at discharge channels (Figure 3-2-8). Initiatives such as these are expected to create a better river area and lead to social contribution activities by increasing communication between river administrators and river cooperative organizations, etc.

Figure 3-2-8 Group River Activities at the Ota River by Ecology Research Club Hiroshima

#### FY2014 Cooperative Group River Activities Report (Ota River) Designated Number 1 Ecology Research Club Hiroshima



[July 20]

● Participating in Clean Ota River



[September 28]

● Organized by Ota River Seseragijuku (Koikko Fureai Coastline)



[November 3]

● RAC instructor training



[October 3]

● Tidal flat observation at discharge channel

Source) MLIT

Section 3 Initiatives Related to Housing

As observed previously, there are many uncertainties and needs related to housing as Japan’s aging population and low birth rate continue and the population continues decline nationwide. Against this backdrop, initiatives to provide regional and residential comfort, such as sustainable regional development and creating an environment in which people can feel secure to continue to live, and initiatives, etc., to respond to the diversification of lifestyles, such as supporting lifestyles involving human movement, including relocation to regional areas, are required.

1 Initiatives for Regional and Residential Comfort

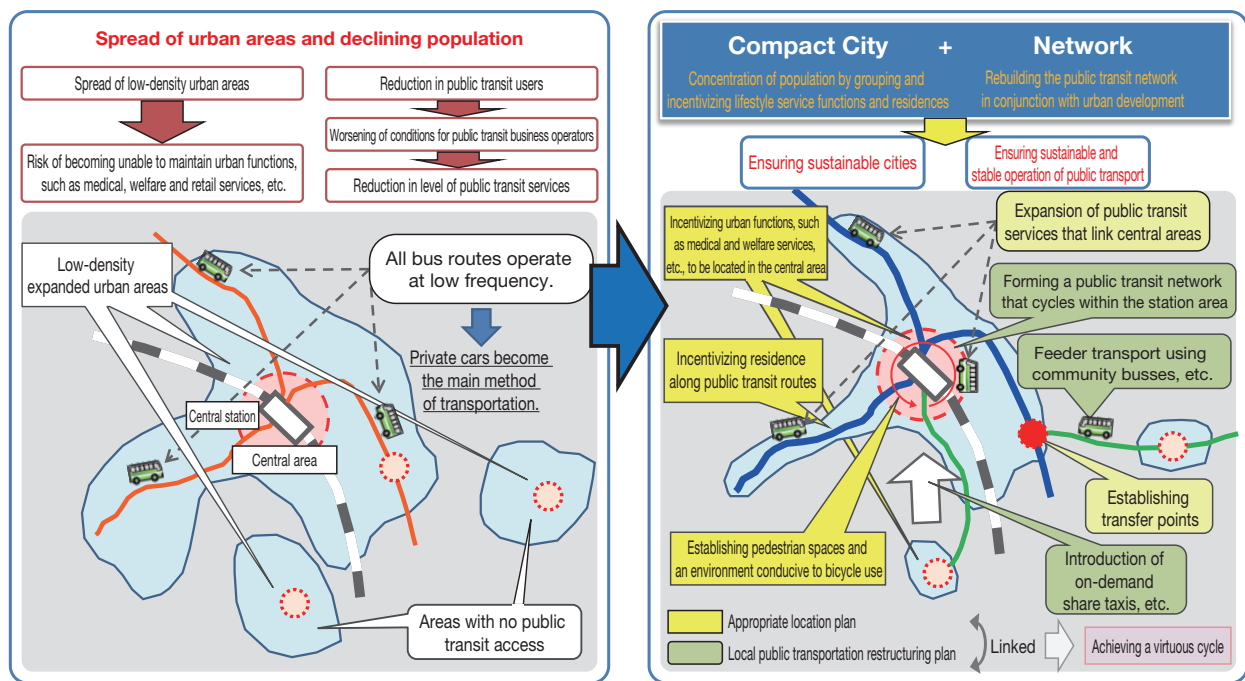
(Initiatives related to urban functionality, public transit, and community maintenance, etc.)

■ Compact Plus Network

Going forward, if urban areas with low population density continue to expand, there is a risk that maintaining lifestyle service facilities such as medical and retail facilities and public transit will become more difficult, and make it difficult to conduct daily life by walking or public transport as the population continues to decline in Japan.

In response to this, the MLIT is promoting the Compact Plus Network. This initiative concentrates and guides urban functions such as medical and retail functions and residences, etc., to a central area, with the aim of creating more compact cities, and conducts restructuring of public transit networks in conjunction with community development. Through this, maintenance and improvement of lifestyle convenience, revitalization of the local economy, reductions in administrative costs, and reduced impact on the global environment, etc., are anticipated (Figure 3-3-1).

Figure 3-3-1 Compact Plus Network

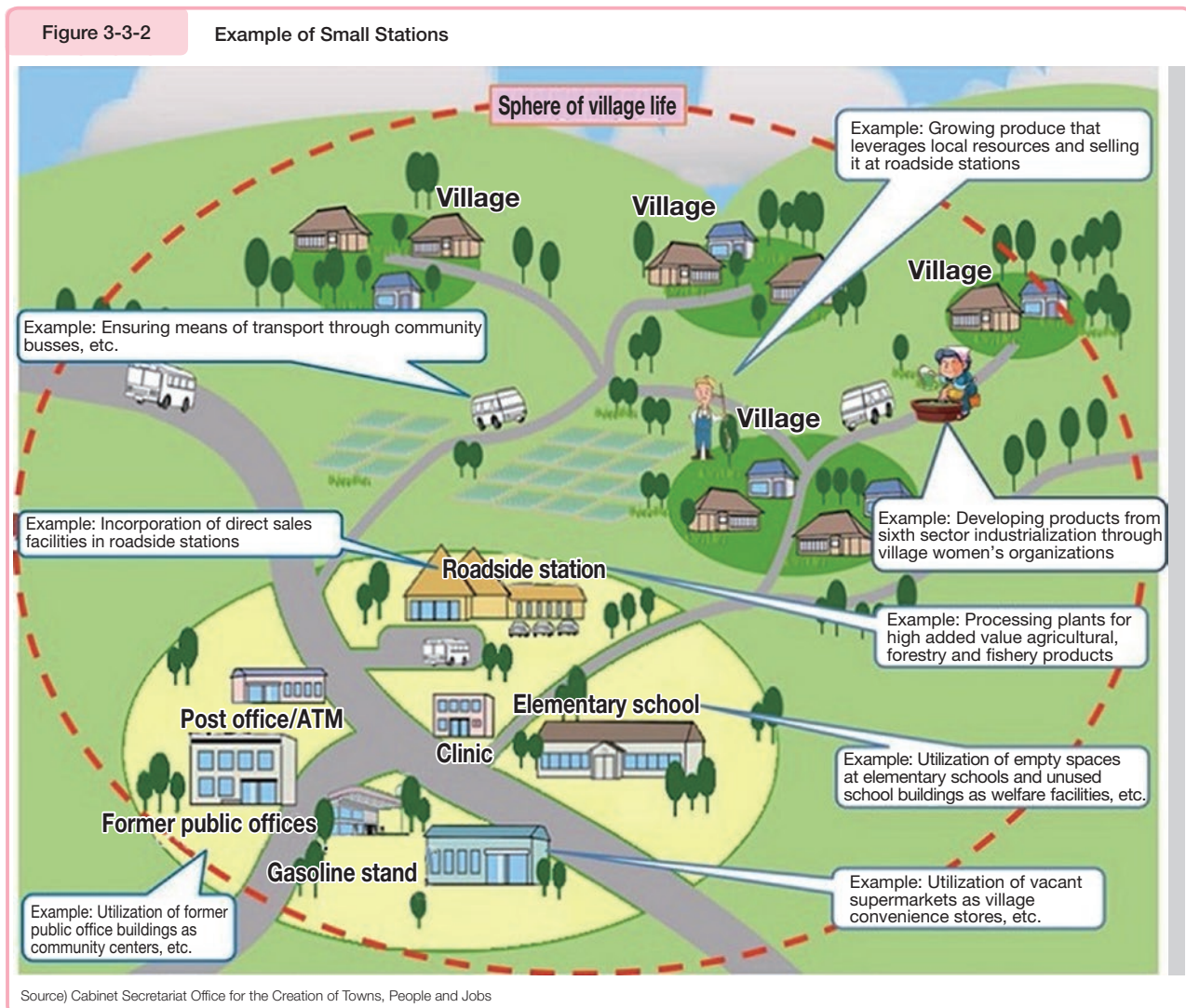


Source) MLIT

### ■ Small stations

In small villages in underpopulated areas with a declining and aging population, it is difficult to continue living due to the loss, etc., of services that are necessary for day-to-day life, such as stores and medical facilities. Going forward, there are concerns that trends such as this will further spread around Japan.

With this in mind, the MLIT is promoting the creation of “small stations.” This initiative aims to create new living areas and revitalize the areas around villages by concentrating services that are necessary for day-to-day life, such as stores, medical facilities and local activities within walking distance and linking that village with nearby villages by community busses, etc., in areas with groups of small villages such as elementary school districts (Figure 3-3-2).



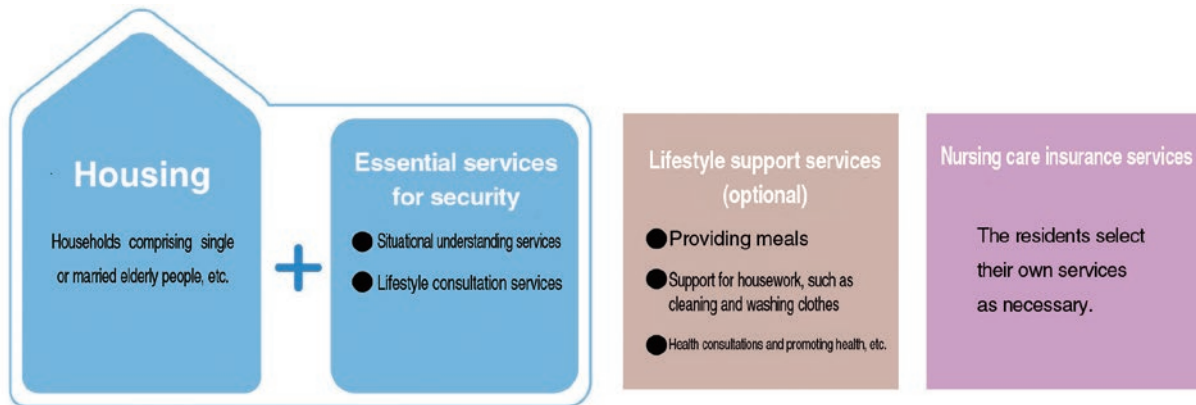
(Initiatives for housing in which the elderly, etc., feel confident conducting their daily lives)

### ■ Promotion of proliferation of serviced housing for the elderly

As the population ages rapidly, the number of households comprising only single elderly people or elderly couples is increasing, and providing services that support the elderly in their homes in conjunction with nursing and medical treatment is becoming more and more important.

In response to this, the MLIT, in conjunction with the Ministry of Health, Labour and Welfare, is providing financial support for serviced housing for the elderly, which incorporates barrier-free construction, etc., and services to assist the elderly, such as services to confirm safety, and we are promoting the proliferation of this type of housing (Figure 3-3-3).

Figure 3-3-3 Serviced Housing for the Elderly



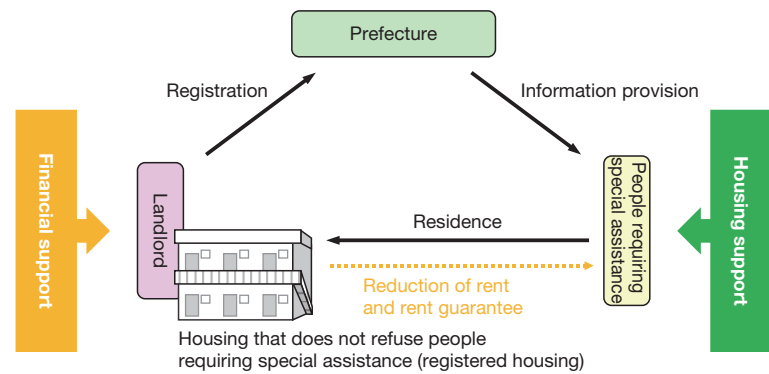
Source) MLIT and MHLW Guide to Serviced Housing for the Elderly

### ■ Housing Safety Net Scheme

It is important to ensure housing in which people requiring special assistance<sup>Note 22</sup>, including the elderly, etc., can feel secure.

In order to achieve this, the MLIT has established the Housing Safety Net Scheme. This scheme comprises (1) registration of landlords with local governments, (2) financial support for landlords to renovate registered premises and (3) financial support for residences for people requiring special assistance in securing housing, with regard to rental housing that does not refuse people requiring special assistance (Figure 3-3-4).

Figure 3-3-4 General Depiction of the Housing Safety Net Scheme



Source) MLIT

(Initiatives to support work-life balance for the child-rearing generation, etc.)

### ■ Promotion of three-generation neighborhoods to support child-rearing and nursing care

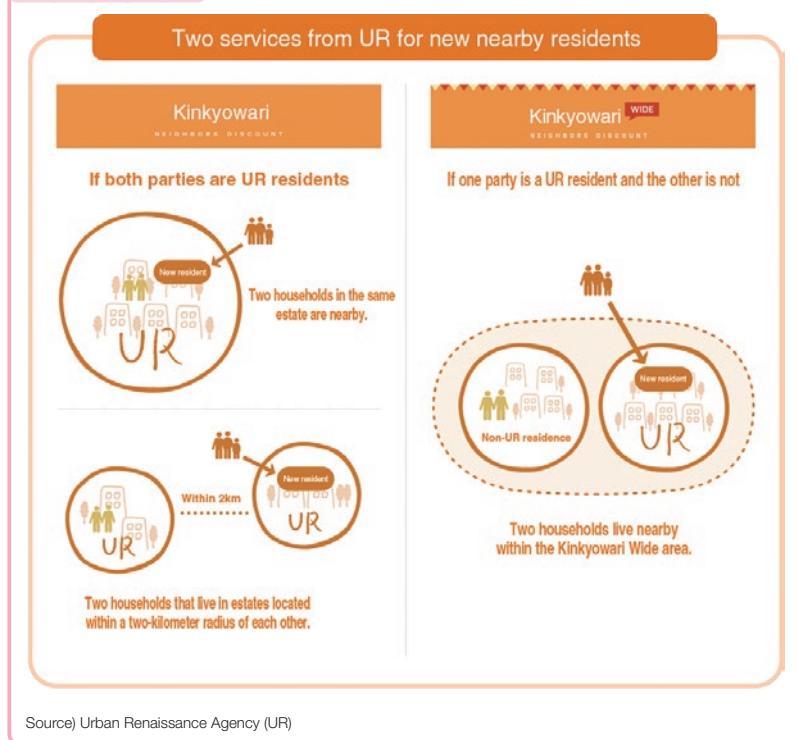
As the declining birthrate and aging population progress rapidly and the population becomes concentrated in urban centers, issues have arisen, such as childcare waiting lists in urban areas and insufficient nursing care staff in suburban areas. Against this backdrop, “neighborhoods” within one hour by car or train for the parents’ and children’s generations are thought to loosely connect nuclear families and lead to the alleviation of issues facing the child-rearing and elderly households.

In response to this, the Urban Renaissance Agency (UR) has established a rent discount scheme to promote “neighborhoods.” Specifically, the scheme conducts rent discounts for households for which it is necessary to provide support, such as child-rearing and elderly households and the households that support them, namely (1) the “Kinkyowari” rent discount for new resident households if households begin living in the same neighborhood and both live in UR rental residences, and (2) the “Kinkyowari Wide” rent discount for new resident households in UR rental residences if households begin living in the same neighborhood, but one household lives in a residence other than a UR rental residence (Figure 3-3-5).

**Note 22** Low income earners, the elderly, people with disabilities child-rearing households with single parent or multiple children, etc., recipients of public financial support, foreigners, homeless people, etc.



Figure 3-3-5 Example of Kinkyowari and Kinkyowari Wide

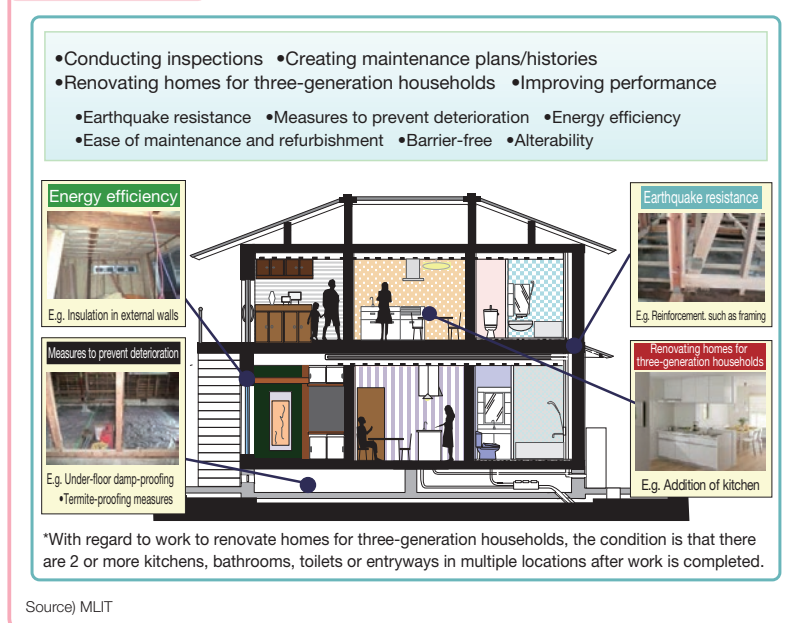


### ■ Project to promote renovation to improve housing to the level of Long-life Quality Housing

Renovations that contribute to the achievement of long-life housing and co-habitation of multiple households, such as three-generation households, are necessary to create high-quality existing residences and an environment that is conducive to child-rearing.

In response to this, the MLIT is promoting renovation to the level of Long-life Quality Housing by supporting renovation projects that contribute to improved earthquake resistance, etc., and businesses that conduct renovation projects for three-generation households (Figure 3-3-6).

Figure 3-3-6 Project to Promote Renovation to Improve Housing to the Level of Long-life Quality Housing



## 2 Initiatives to Respond to Diversification of Lifestyles

(Initiatives to support living with more human interaction)

### ■ Promotion of residence in two regions

It is necessary to secure personnel who will shoulder the burden of regional development in order to shape sustainable regions with diverse appeal. In order to do this, it is necessary for residents of cities to not only move to regions such as rural villages, but also to promote diverse lifestyles such as living in two regions, whereby a household will simultaneously maintain life bases in a city and a regional area (Figure 3-3-7).

The MLIT is conducting investigations related to pioneering initiatives through public-private cooperation to work toward the promotion of living in two regions. These investigations provide support for initiatives selected by the committee comprising intellectuals, such as advice from intellectuals and assistance for costs to conduct initiatives. Furthermore, we examine the results of initiatives, etc., and consider issues, etc., that must be dealt with to promote living in two regions going forward.

### ■ Promoting circulation and utilization of vacant homes and vacant land nationwide

The Vacant Homes/Vacant Land Bank is an initiative that posts information about properties such as vacant homes on the websites of local public institutions, etc. It is gradually being implemented as a measure to deal with vacant homes, which will lead to regional revitalization through support for relocation or living in two regions, with approximately 40% of local governments having already set one up and another 20% either preparing to set one up or with plans to set one up in the future (Figure 3-3-8). However, an issue that has been pointed out is that the matters that are disclosed by each local government differ and searching and comparing can be difficult for users.

In response to this, the MLIT has standardized and collected the information on vacant homes, etc., provided by each local government, and commenced trial operation of the National Vacant Homes/Vacant Land Bank in October 2017 to enable users to easily access and search for information from anywhere in the country. In April 2018, we commenced full operation with further increased functionality, such as displaying hazard information focusing on properties such as vacant homes, as well as lifestyle support information, etc., on maps, in addition to introducing the appeal of the region (Figure 3-3-9).

Figure 3-3-7 Example of Living in Two Regions

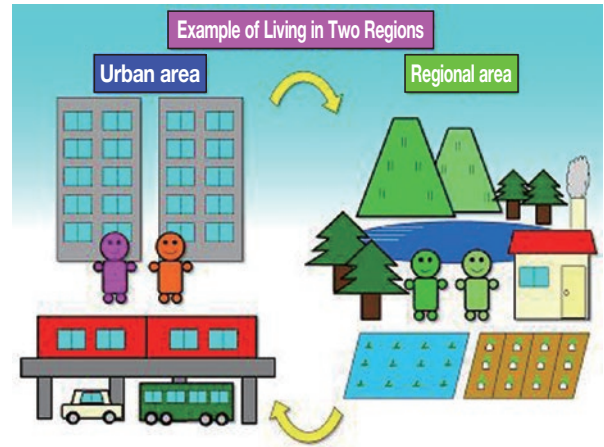


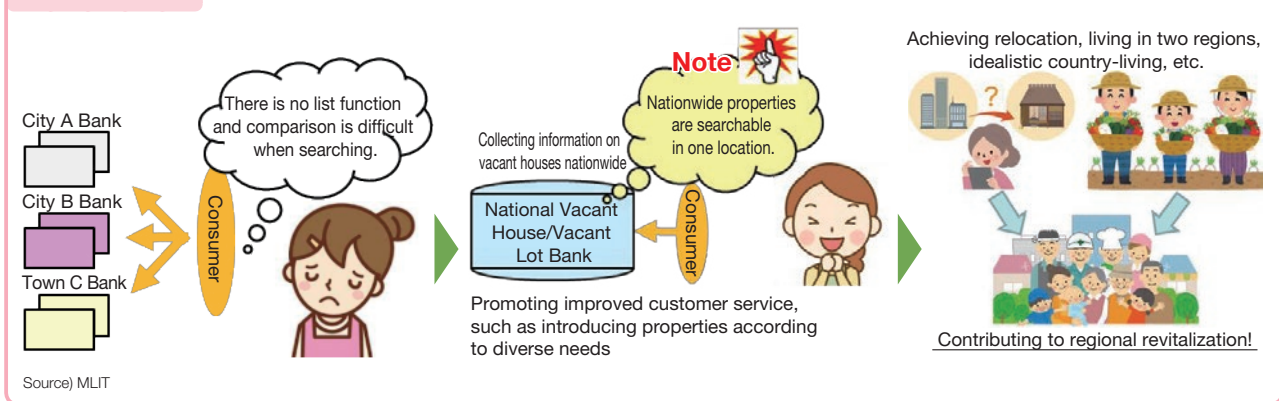
Figure 3-3-8 Example of Relocation Using a Vacant House Bank (Shiso City, Hyogo Prefecture)



(Source) MLIT



Figure 3-3-9 Example of the National Vacant House/Vacant Lot Bank



## Section 4 Initiatives Related to Mobility

As observed previously, with regard to mobility, in cities, and in the Tokyo area in particular, crowding of public transport and traffic congestion have become issues, as have reliance on cars and securing means of transport as aging of the population progresses in regional areas. Against this backdrop, initiatives to make movement more pleasant, such as easing of crowding on public transport and easing of traffic congestion, are required in cities, and initiatives to make movement possible, such as maintaining public transport systems and developing autonomous driving technology are required in regional areas. Furthermore, the elderly and child-rearing generations need stations and sidewalks to become more barrier-free, irrespective of their place of residence, and it is necessary to secure ease of mobility for the elderly, etc.

### 1 Initiatives for comfortable mobility in the city

(Initiatives to ease crowding of public transport and traffic congestion)

#### ■ Improvement of transport services using ICT

In the Tokyo area's rail system, there have been chronic short delays due to crowding, etc., and longer delays due to abnormal weather events, which means that it has become important to expand the information provided to passengers.

Against this backdrop, Tokyu Corporation and others have developed an application to display information on the train's position in real time and transmit crowding information for each car through the recent progress made in the field of ICT (Figure 3-4-1), and aims to improve transportation services by providing detailed information to each passenger.

Figure 3-4-1 Example of Tokyu Line App



Displays level of crowding for each car on the Den-en-toshi Line

Train location

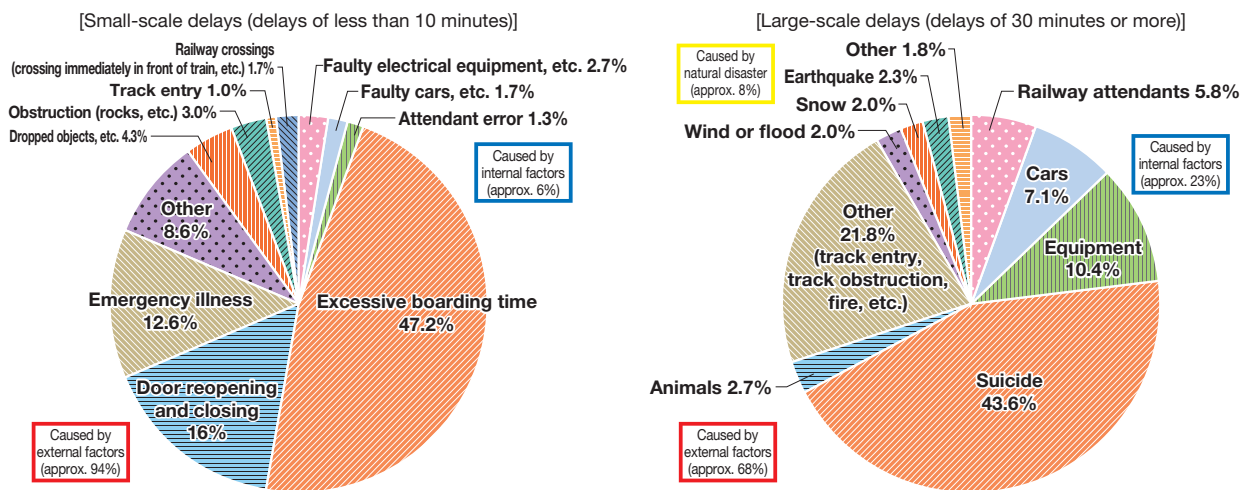
Source) Tokyu Corporation

■ Indication of delays

The Tokyo area’s rail network has become far more extensive than it was, with approximately 1,000 km more rails in 2015 than in 1956, for example, but easing of crowding, etc., remains an issue to be addressed.

In order to do so, the MLIT is conducting initiatives to indicate delays on 45 lines in the Tokyo area. These initiatives gather information on delays on each line and put that information on a map, classify the delays as large or small, and analyze the cause of the delays (Figure 3-4-2), as well as investigate strategies to combat delays by each operator, and publish them. Through these initiatives, it has become clear that the main causes of delays vary according to the size of the delays and other factors.

Figure 3-4-2 Causes of Delays in the Tokyo Area



\*Answers indicating that the delay was caused by a delay on another line were proportionally allocated to factors other than the factor in question.

\*Proportion of causal factors for 396 cases of small-scale delays that occurred on 45 lines in the 20 business days of November 2016

\*Proportion of causal factors for 477 cases of large-scale delays that occurred on 45 lines in fiscal 2015 (26 cases per 20 business days)

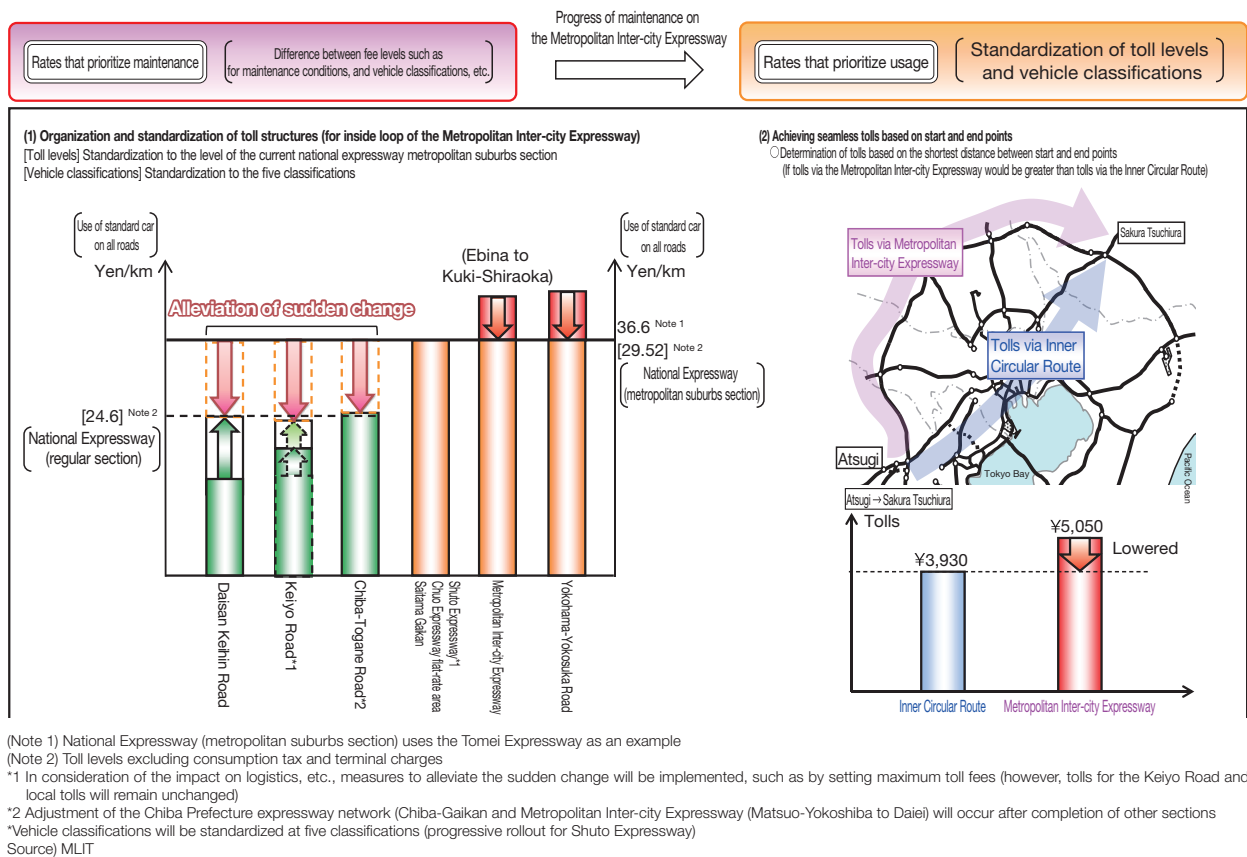
Source) MLIT

### Intelligent road use initiatives

Roads are a basic form of infrastructure that supports Japan's economy and the lifestyles of citizens, so it is extremely important to ease or eliminate congestion.

In order to achieve this, the MLIT is revising the toll structure in the Tokyo and Osaka areas, in order to optimize travel on existing networks, designating areas of congestion through big data related to traffic congestion through the use of ICT, and easing or eliminating road congestion through effective pinpoint measures to combat congestion, etc., as intelligent road use initiatives.

Figure 3-4-3 Toll Structure for Intelligent Use of Expressways in the Tokyo and Kinki Regions

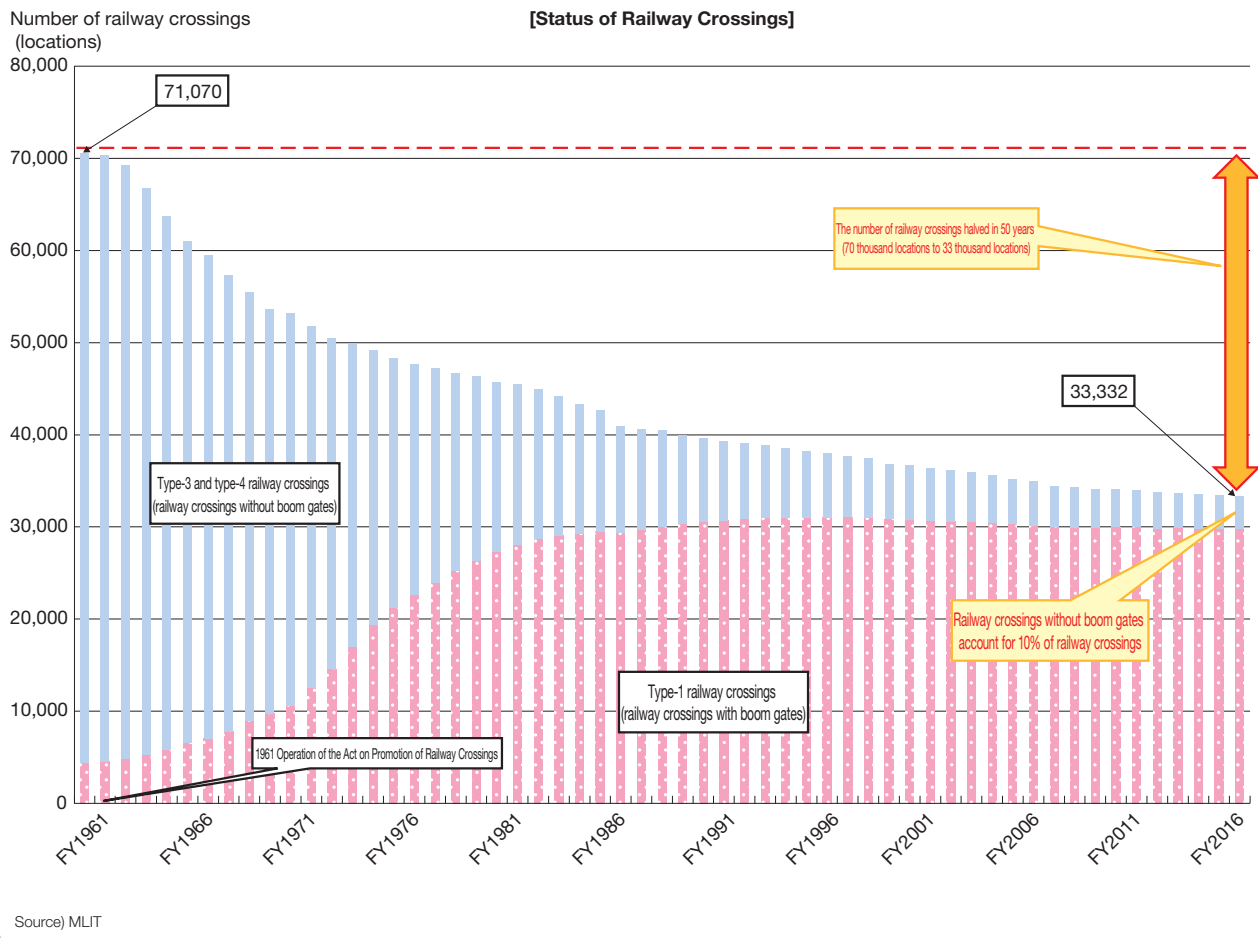


### Railway crossing measures

Railway crossings are locations in which roads intersect with train tracks. They are locations in which traffic accidents are likely to occur, and failure of crossings to open may cause traffic congestion.

The MLIT is promoting both soft and hard measures around railway crossings in all possible ways, based on the Act on the Promotion of Railway Crossings, such as by creating multi-level railway crossings and widening railway crossings, etc., as well as using colored pavement and implementing measures in the vicinity of railway crossings and stations. It is believed that initiatives such as these have led to more efficient transport, such as the prevention of accidents and alleviation of congestion, by halving the number of railway crossings and reducing the number of railway crossings without crossing gates to approximately 10% in the 50 years since the Improving the Railway Crossings Act came into force.

Figure 3-4-4 Number of Railway Crossings



## 2 Initiatives to Secure Mobility in Rural Areas

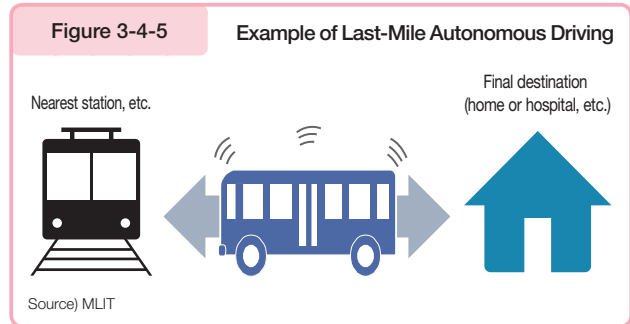
(Initiatives to ensure movement mechanisms through autonomous driving technology, etc.)

Autonomous driving technology is expected to have a major impact on the issues of reducing traffic accidents and ensuring movement mechanisms, etc., for the elderly, etc., and it is a goal for the government as a whole to achieve autonomous driving on highways and driverless transport services in limited areas by 2020. In order to achieve this goal, the MLIT established the MLIT Autonomous Driving Strategy Headquarters in December 2016, and promoted initiatives from the three perspectives of creating an environment for autonomous driving, promoting development and proliferation of autonomous driving technology, and demonstrations and social implementation of measures to achieve autonomous driving.

### ■ Last-mile autonomous driving

With regard to last-mile autonomous driving, which serves as a link between the closest station and the final destination, demonstrations began in Wajima City, Ishikawa Prefecture, in December 2017 and in Chatan Town, Okinawa Prefecture, in February 2018, in collaboration with the Ministry of Economy, Trade and Industry.

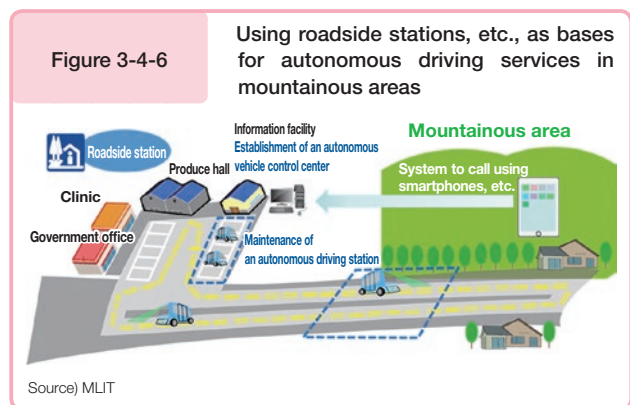
In FY2018, Eiheiji Town, Fukui Prefecture, and Hitachi City, Ibaraki Prefecture, were added, meaning demonstrations are now being conducted in four locations around Japan. It is planned to hold trials and evaluate the social acceptance, etc., of autonomous driving technology that allows a single remote observer/controller to be responsible for multiple trains.



### ■ Using roadside stations, etc., as bases for autonomous driving services in mountainous areas

In mountainous areas, including underpopulated areas, ensuring the movement of people and the distribution of goods in daily life has become a pressing issue as the aging of society has progressed. Conversely, of the 1,134 roadside stations nationwide, most are in mountainous regions, and these roadside stations are gradually integrating services that are necessary for daily life, such as shopping, medical examinations, and government administrative services.

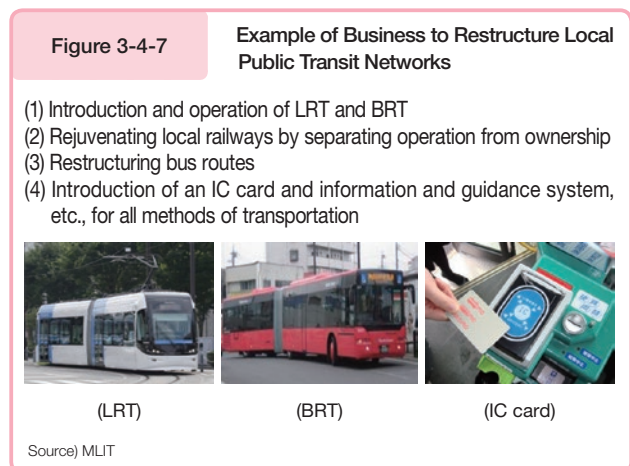
Using regional bases such as these roadside stations, etc., as focal points, we conducted demonstrations of autonomous vehicle services in 13 locations around Japan in fiscal 2017 with the aim of maintaining regional lifestyles and building a transportation system that links roads and vehicles in order to achieve regional revitalization through the use of autonomous vehicles, for which technology is progressing. In these demonstrations, trials were conducted, such as delivering produce and processed goods, etc., by mixed freight and delivering produce collected by autonomous vehicles to the city in collaboration with highway busses using roadside stations, etc., as bases, in order to consider business models that are suited to the characteristics of the region. In FY2018, we plan to focus on long-term trials in order to create business models based on the results of these demonstrations.



### (Initiatives to maintain and revitalize public transit)

As the population declines and the declining birthrate and aging population progress, it is extremely important to maintain and revitalize public transit in regional areas, and in order to do this, we must build efficient and sustainable regional public transit networks.

With this in mind, the MLIT is promoting assistance for the restructuring of regional public transit networks, based on the Act on Revitalization and Rehabilitation of Local Public Transportation Systems. Specific initiatives include restructuring bus routes for driving efficiency, etc., introducing diverse services, such as on-demand taxis, providing LRT<sup>Note 23</sup>/BRT<sup>Note 24</sup>, and maintaining the operation of regional rails with operation separated from ownership (separation of operation and infrastructure).



**Note 23** Abbreviation of Light Rail Transit (a next-generation streetcar system). One of the features of the cars is being easy to get on and off due to having low floors, etc.

**Note 24** Abbreviation of Bus Rapid Transit (bus rapid transit system). This system makes it possible to ensure speed and punctuality and increase transport capacity through busses running on dedicated bus roads, etc.

### 3 Ensuring Transport that Is Friendly to the Elderly, etc.

(Promoting barrier-free public spaces)

It is necessary to create an environment in which all people, including the elderly, people with disabilities, and the child-rearing generation, can live and move with confidence. In order to achieve this, it is essential to make public spaces barrier-free.

With this in mind, the MLIT has put in place standards for ensuring that public transit facilities and buildings are barrier-free, and is encouraging compliance with these standards (Figures 3-4-8). We are also supporting initiatives aimed at priority development districts designated by municipalities, such as open spaces in front of stations (Figure 3-4-9).

Furthermore, in February 2018, the Act to Partially Revise the Act on Promotion of Smooth Transportation, etc. of Elderly Persons, Disabled Persons, etc. was submitted to the Diet. The main content of this act is to (1) promote initiatives that integrate hard and soft approaches through public transport operators and (2) enhance regional initiatives, etc., to create barrier-free towns and cities, in order to realize the dynamic engagement of all cities and use the 2020 Olympic and Paralympic Games as an opportunity to create a tolerant pluralistic society.

Figure 3-4-8

Public Transit Facilities and Buildings that Must Comply with Barrier-free Standards

**1. Promotion of barrier-free public transit facilities and buildings, etc.**

Compliance with the Accessibility Standards for Public Transportation is mandatory for new facilities and best efforts are mandatory for existing facilities. Irrespective of whether facilities are new or existing, the Basic Policy sets development targets for each type of facility, and promotes development in accordance with them.

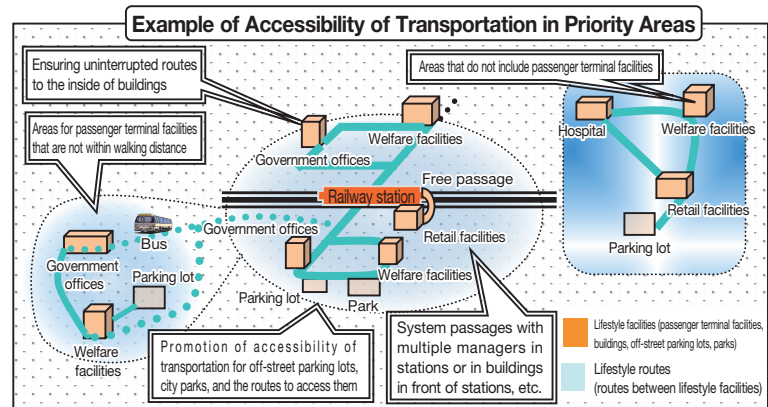
Mandatory best efforts for public transit business operators with regard to provision of information and education and training of staff

Passenger terminal facilities and vehicles, etc.	Roads and off-street parking lots	City parks	Buildings
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(Source) MLIT

Figure 3-4-9

Example of Accessibility of Transportation in Local Regions, etc., Focusing on Stations



(Source) MLIT