

# Chapter 5 Creating a Comfortable Living Space

## Section 1 Realizing Affluent Residential Living

### 1 Securing Stability of Residential Living and Advancing its Betterment

The Basic Housing Policy (National Plan), which covers the period from FY2016 to FY2025 and was adopted by a Cabinet decision in March 2016, was devised in light of changes to the socioeconomic climate, namely the full-scale emergence of an aging society with falling birth-rates and declining population and families. The plan sets out eight targets and fundamental measures: From the perspective of inhabitants, (i) Anxiety-free housing situation for child-rearing households and member of young generation wishing to marry and have children, (ii) Housing that allows the elderly to live independently, and (iii) Ensure a steady supply of housing for individuals requiring special consideration from the perspective of housing stock, (iv) Structure a new housing circulation system exceeding the property ladder, (v) Upgrade to safe and higher-quality housing stock through rebuilding and renovation, (vi) Promote use or elimination of increasing vacant homes; and from the perspective of industry and community, (vii) Housing industry growth that contributes to a strong economy, and (viii) Maintain or improve the appealing aspects of residential area. Based on this plan, the MLIT is driving forward with efforts to provide residential living that meets the needs of each and every citizen, as well as measures toward the realization of safe, secure, high-quality living environments.

#### (1) Goals and Basic Policies

##### (i) Anxiety-free housing situation for child-rearing households and member of young generation wishing to marry and have children

To establish an environment in which child-rearing households and member of generation wishing to marry and have children can choose and be ensured of obtaining desired housing, we are executing support to enable them to live in a house meeting the required quality and area according to the income of household.

In addition, in order to establish an environment that enables people to want to have and raise children, leading to desired birthrate of 1.8, we are promoting measures to ensure families the ability to live with or near grandparents to enable childrearing with the help of grandparents.

##### (ii) Housing that allows the elderly to live independently

To improve and supply housing that elderly individuals can live in safety without anxiety, we are continuing work to promote barrier-free homes and heat shock measures (the effects of sudden increases in temperature on the human body), and promoting elderly housing with supportive services attached for elderly life support facilities.

We are also working to ensure housing in the area in which elderly residents wish to live and on environment where elderly individuals receive nursing, medical and life services. As part of this, approval requirements for lifelong leases have been relaxed by a revision to the Ministerial Ordinance for the further utilization of the lifelong lease system.

##### (iii) Ensuring a steady supply of housing for individuals requiring special consideration

We are striving to establish an environment in which individuals with difficulty in ensuring residence in the housing market independently can find housing and live without anxiety. Such individuals include low-income earners, elderly, handicapped, single-parent household, multiple birth households, public financial support recipient, foreigners, homeless, etc. (persons requiring special assistance in securing housing).

a. Creating a new housing safety net utilizing private rental housing and vacant houses

Under the new housing safety net system, which utilizes private rental housing and vacant houses, we provide support for the mitigation of tenant burdens and residential renovations while promoting the registration of rental housing which does not refuse individuals requiring special consideration in ensuring residence (safety net housing).

b. Supplying public rental housing

To adequately support the supply of public housing by local governments to low-income earners in serious need of housing, and to promote the supply of quality rental housing to households consisting of elderly people who need special consideration to stabilize their housing in each area, the MLIT set up the Regional Excellent Rental Housing Program as a scheme that complements public housing by subsidizing the expenses required to develop public rental housing and reduce rents.

Figure II-5-1-1 Purposes and Results of Public Rental Housing

	Purpose	Number of houses managed
Public Housing	Supplies quality rental housing to low-income earners who are in serious need of housing with low rent	About 2.16 million houses (FY2017)
Improved Housing	Supplies public rental housing to existing residents who are in serious need of housing with improved living environments in deteriorating residential areas	About 144,000 houses (FY2017)
UR Rental Housing	Supplies quality rental housing that is conveniently located for access to work, focusing on family-oriented rental housing not in ample supply from private business operators, in major urban areas, and also develops residential districts	About 720,000 houses (FY2018)
Agency Rental Housing	Supplies quality rental housing to meet the regional demand for rental housing	About 132,000 houses (FY2017)
Quality Regional Rental Housing	Provides subsidies to private land-owners to fund maintenance and other expenses and cover rent cuts to provide quality rental housing for households consisting of elderly people, child-raising families, etc.	<ul style="list-style-type: none"> <li>• About 81,000 designated quality rental houses (FY2017)</li> <li>• About 42,000 designated quality rental houses for elderly people (FY2017)</li> </ul>

Notes:1 The number of rental houses managed by the Urban Renaissance Agency includes designated quality rental houses for elderly people.  
 2 The number of agency rental housings does not include Designated Quality Rental Housing and Designated Quality Rental Housing for the Elderly.  
 3 The Designated Quality Rental Housing System and Designated Quality Rental Housing for the Elderly System were reorganized and the Quality Regional Rental Housing System was established in FY2007.  
 Source) MLIT

c. Using private rental housing

In order to facilitate the promotion of smooth move-ins to private rental housing by elderly people, disabled people, foreigners and families with small children, we are providing housing assistance such as information services and consultation services through residential support corporations based on the amended Act on Housing Safety Net, in addition to the 82 Residential Support Councils nationwide (in 47 prefectures and 23 municipalities) established as of the end of FY2018 that comprise local government, real estate related organizations and housing assistance organizations.

(iv) Structuring a new housing circulation system exceeding the property ladder

The revitalization of the existing housing circulation market is crucial toward effectively using housing stock, creating economic effects from market expansion, and realizing prosperous residential living through the streamlining of the process of moving in different life stages; thus, we are developing measures to improve the quality of existing housing, to form markets that properly appraise high-quality existing housing, and to develop environments in which people can confidently purchase and sell existing housing.

a. Improving the quality of existing housing

The MLIT pursues the dissemination of housing that is structured and equipped to meet or exceed certain levels of performance requirements, such as durability and ease of maintenance and management (“Long-life Quality Housing”) under the Act on the Promotion of Dissemination of Long-life Quality Housing. (Certified houses in FY2017: 106,611) In addition, in FY2016, we launched a system for certifying Long-Lasting Quality Housing regarding renovations and additions to existing housing. (Certified houses in FY2017: 296)

Furthermore, we provide support concerning aid and taxes for renovations that strive to extend the life, strengthen the earthquake resistance, or improve the energy efficient performance of existing housing.

#### b. Formation of markets that properly appraise high-quality existing housing

The general thinking in Japan is that housing has absolutely no market value 20 to 25 years after it is built; it is important to correct this convention and create an environment in which high-quality existing housing is properly appraised.

Toward that end, we are continuing to define and diffuse proper appraisal methods for real estate brokers and appraisers so that the performance and renovated condition of buildings is properly reflected in their appraisals.

In addition, in order to establish a market environment in which high-quality housing stock is appropriately assessed, we are providing support for integrated efforts to develop and diffuse systems for renovating, assessing, circulating and financing housing stock.

#### c. Developing environments in which people can confidently purchase and sell existing housing

A 10-year defect liability obligation has been mandated for the basic structural part of new housing in accordance with the Housing Quality Assurance Promotion Act. In addition, a housing performance marking program has been put into effect to objectively assess the basic performance characteristics of new and existing houses, such as earthquake-resistance, energy-saving measures, preventing measures against deterioration, etc.

Also, the Real Estate Brokerage Act (effective April 2018), revised in 2016, encourages the use by real estate brokers of building inspections carried out by experts to promote the development of a market environment in which consumers can trade existing houses with peace of mind.

We also began the use of the “Anshin-R-Jutaku” symbol from April 2018, which recognizes the use of the national trademarked logo in company advertising for existing homes that meet certain requirements such as earthquake-resistance, so that people can select existing homes that they would like to buy or live in.

#### (v) Upgrade to safe and higher-quality housing stock through rebuilding or renovation

Housing investment has major ramifications for the economy, and plays a substantial role as a key element of internal demand. We are driving forward with housing investment to improve housing quality by encouraging the improvement of earthquake resistance, insulation and other energy-efficient properties, and durability through such efforts as rebuilding housing that is not sufficiently earthquake resistant and otherwise updating old stock, and renovating housing to make it universally accessible.

In addition, a Housing Complex Regeneration Manual was developed in March 2018 to promote the regeneration of housing complexes by making use of multi-building condominiums site sales systems and redevelopment frameworks.

#### a. Preparing the market environment in which consumers can remodel their homes without worry

Consumers planning to remodel their homes are concerned about how much the remodeling will cost them and how to select the right contractors. Reassuring worried consumers is essential to expanding the home remodeling market.

Efforts currently taken in this regard include the Check Quoted Remodeling Costs for Free service available from the Housing Telephone Consultation Desk at the Center for Housing Renovation and Dispute Settlement Support, in which consumers can receive consultation on specific quotations, and Free Expert Consultation Programs at local bar associations.

In addition, the MLIT is promoting initiatives so that consumers can remodel their homes without worry, such as the Remodeling Defect Liability Insurance Program, an insurance package that combines an inspection on remodeling works in progress with warranties against possible defects in the works or the large-scale repair work liability insurance program for large-scale apartment building repairs. Also, the Association of Housing Warranty Insurers website features a list of general contractors who fulfill the requirements that make their work eligible for the insurance; consumers can refer to this list when selecting general contractors.

Further, under the “Housing Renovation Business Organization Registration System,” we are working on building an environment in which there is a healthy development of the housing renovation business and consumers renovate their homes with confidence, by having housing renovation business operators that meet certain standards registered to ensure that the work of housing renovation businesses is properly managed and information can be provided to the consumers.

**(vi) Promote the use or elimination of increasing vacant homes**

The MLIT encourages municipal governments to develop the Vacant Housing Countermeasure Plan, depending on their local circumstances, based on the Vacant Houses Special Measures Act, which was fully enforced in May 2015 (848 municipalities have completed their plans (as of October 1, 2018)), which promotes the use and removal of vacant houses and buildings, and reinvigorates circulation of housing.

**(vii) Housing industry growth that contributes to a strong economy**

To contribute to the realization of a strong economy, we are encouraging the expansion of the housing industry by promoting the development of high-quality wooden housing and buildings, supporting the cultivation of skilled woodworkers and other people to build them, the development and diffusion of new technologies such as cross-laminated timber (CLT), and the creation and expansion of new business markets involving housing, such as the use of IoT.

**(viii) Maintain or improve the appealing aspects of residential areas**

In line with the features of the region, including nature, history, culture etc. aiming to create not only individual houses but also to enrich the living environment and the community and are striving to maintain and improve the appeal of residential areas by forming prosperous communities and improving the safety of residential areas by improving crowded urban areas and the like.

**(2) Comprehensive, Systematic Promotion of Measures****(i) Housing finance**

It is important that a variety of mortgages, which include short-term adjustable-rate or long-term fixed rate type, are stably available so that consumers can choose and obtain houses in the housing market.

The Japan Housing Finance Agency offers securitization support businesses to support the availability of long-term, relatively low fixed-rate mortgages from private financial institutions. Its operations include Flat 35 (Purchase Program), which consolidates housing loan receivables of private financial institutions, and Flat 35 (Guarantee Program), which supports private financial institutions themselves becoming originators<sup>Note</sup> to handle the securitization. For houses that are entitled to Flat 35, property inspections are carried out against a defined set of technical requirements, such as durability, to assure their quality. In addition, the framework of the securitization support service has been leveraged to launch Flat 35S, which reduces the interest rate of loans for the acquisition of houses that meet any one of the performance requirements: earthquake-resistance, energy-saving performance, barrier-free readiness, and durability/modifiability, for the first 5 years of repayment (for the first 10 years for long-life quality housing, etc.).

The Agency also provides direct financing services in those areas that are significant in policy but difficult to be conducted by private financial institutions, such as financing housing designed for disaster recovery or elderly rental housing with supportive services.

**(ii) Housing tax system**

In order to promote the circulation of existing housing and the invigoration of the market for renovated houses, the FY2019 tax reform extended preferential tax measures for the real estate acquisition tax for a further two years and streamlined requirements for energy-saving repairs to achieve a certain level of quality improvements when resale businesses acquire existing houses. In addition, as well as extending by four years preferential measures for transfer income in the case of old vacant homes being acquired by heirs and then removed or reformed to make them earthquake resistant prior to transfer, the preferential measures were also expanded to apply to cases of transfers after April 1, 2019, in which the decedent was in a nursing home immediately prior to the start of the inheritance, provided that certain requirements were met such as the decedent requiring certified care, etc.

**Note** A business enterprise that possesses assets to be liquidated. An originator raises funds by securitizing its assets, by transferring its credit, real estate properties, etc. to a special-purpose company.

### (3) Housing Acquisition Measures based on the Increase in the Consumption Tax Rate

With the consumption tax increase scheduled for October 1, 2019, as measures to stabilize economic fluctuations and to level off fluctuations in demand, the mortgage tax credit deduction period will be extended from 10 to 13 years, and a new point system will be created for houses that meet certain performance standards. Together with already decided measures to expand housing benefits, every effort is being made to ensure that the economy is not adversely affected.

## 2 Supply and Utilization of Good Housing Land

### (1) Land Price Trends

The official land prices in Japan for 2019 (as of January 1, 2019) showed that the average prices of commercial land and those of all categories of land use increased for the fourth consecutive year, as residential land prices also increased for the second consecutive year. Looking at the trends in averages in the three major metropolitan areas, increases continued on average for all uses, residential and commercial land, with the increases coming at a greater rate. Looking at the average rate of change in regional areas, there were rises in the average for all uses and residential land for the first time in 27 years. Commercial land prices also rose for the second consecutive year, showing a greater rate of increase. The average of the four cities of Sapporo, Sendai, Hiroshima and Fukuoka in particular showed increases at greater rates than those in the three major metropolitan areas for both residential and commercial land.

### (2) Present Status and Problems in Housing Land Supply

We are steadily implementing housing land measures based on population and household trends. In particular, we are promoting the supply of residential land with good living environments by supporting the development of necessary public facilities in connection with residential land developments.

### (3) Using Fixed-term Land Leases

A fixed-term land lease in which the land lease ends for certain at the determined contract term and there is no renewal of the land lease — is an effective system for making residential acquisition at a low cost possible.

In order to spread this system smoothly, we are conducting the Fact-finding Investigations of the Use of Fixed-term Land Leases by Public Entities.

### (4) Revitalizing Aging New Towns

The large-scale urban housing areas (New Town) that were systematically developed mainly in the suburbs of the metropolitan areas during the economic boom period are facing issues of decline in community vitality resulting from the quickly aging population and the continued decrease in population. There is a growing need for renewing the dilapidated housing and communal facilities as well as improving the functions that support daily life, in order to renovate these new town areas into cities that are easy to live in for everyone.

Also, in order to promote initiatives by residents, business owners, landowners/leaseholders and others with the aim of maintaining and enhancing good regional environments and regional value to contribute to the revitalization of aging new towns, we establish liaison councils that comprise local governments, private business operators and others for the revitalization of housing developments, and provide information, hold discussions and make other efforts regarding methods of promotion and examples of initiatives.

## Section 2 Realizing Comfortable Living Environments

## 1 Developing City Parks and Creating a Good Urban Environment

City parks are key urban facilities that fulfill a wide variety of functions, from serving as recreation spaces for people and as hubs for regional tourism and activity to creating good urban environments and improving urban disaster preparedness. Thus, we are systematically establishing national parks throughout Japan, and using general subsidies for social infrastructure development to support local governments' efforts to establish city parks and the like.

In addition, in April 2016, Subcommittee for Urban Management for a New Era under the Panel on Infrastructure Development set out policies for improving stock effects, accelerating public-private collaboration, and creating more flexible usage of city parks and the like to realize the potential of city parks of the future.

As of the end of FY2017, city parks were maintained at 109,229 locations nationwide, covering approximately 126,332 ha, or about 10.5 m<sup>2</sup> per capita. In FY2018, 40.55 million people visited national parks, with 17 locations being developed and maintained.

Regarding green spaces, etc., in urban areas, the MLIT is providing comprehensive support in financial and technical aspects, pursuant to the initiatives based on the "Green Master Plan" formulated by municipalities to properly respond to global environmental issues, such as global warming and biodiversity preservation, and to aim at realizing green-rich city environments by preserving and creating good natural environments.

In addition, we are driving forward with efforts to realize city development in which cities coexist with greenery and agriculture, such as by surveying initiatives that contribute to the formation of good urban environments that are in harmony with green spaces and farmland and the exhibition of the multitude of functions of urban agriculture. In addition, along with holding events such as national "Protecting Greenery" gatherings and National City Greening Fairs to gain public awareness regarding greening, the MLIT is working on various measures such as awarding certificates of commendation for people promoting greening, as well as evaluating/certifying greening/green area conservation efforts by businesses.

To intensify efforts to form a green urban environment, open spaces such as parks, green spaces and farmland must exhibit a multitude of functions, and measures must be taken to tackle various challenges, such as the existence of areas with low parkland area per capita, the progression of the deterioration of park facilities, and the decrease of urban farmland that constitutes valuable green space in cities. In addition, the Basic Plan on Promotion of Urban Agriculture was adopted by a Cabinet decision in May 2016, and urban policy has changed to include urban farmland as a crucial part of cities, while indicating the direction of important measures.

In light of the above, the Bill to Partially Amend the Urban Green Space Conservation Act was promulgated in May 2017, and portions of it were enacted in June of that year with the goals of further promoting the conservation of green spaces in cities, the greening of cities and the appropriate management of urban parks, and contributing to the formation of quality urban environments through efforts to systematically conserve farmland within cities. The bill contains provisions to, among other things, relax area requirements in productive green zones and to establish several systems, including a system to certify plans to establish and manage green spaces opened to citizens through the establishment of green spaces on the same level as parks by NPOs and other private entities using open land and the like, a system to determine through public invitation who can establish and manage park facilities, and a rural residential area system for preserving good living environments in harmony with agriculture. With its enforcement in April 1, 2018, meetings have been held by officials of the certification system for citizen green space management plans, and efforts have been made to ensure that local governments are thoroughly informed about conservation measures of urban farmland under each system.

Figure II-5-2-1

Miharashi Hills of Hitachi Seaside Park, a Reviving Tourism Base (Hitachinaka City, Ibaraki Pref.)



Source) MLIT

## 2 Advancing Roads that Prioritize Pedestrians and Bicycle Riders

### (i) Creating people-oriented, safe, and secure walking spaces

To achieve social safety and security, it is important to make people-oriented walking spaces that assure pedestrian safety. In particular, based on the results of an emergency joint inspection that was carried out in FY2012, we are advancing efforts to improve school routes used by children who walk to school. Schools, the Board of Education, road administrators, police, and other related organizations have worked together to implement traffic safety measures such as maintaining sidewalks, painting colors on curbs, and installing guardrails, as well as implementing joint periodic inspections based on the “School Route Traffic Safety Program” to ensure the safety and security of children through these enhanced measures.

In addition, we prohibit the exclusive use of roads with a significantly heavy traffic or with extremely narrow widths if utility poles are deemed to obstruct the efficient operation of vehicles and the safe and smooth flow of pedestrians.

### (ii) Creating a safe and comfortable cycling environment

Over the past 10 years, while the total number of bicycle-related accidents has almost halved, the number of accidents involving bicycles colliding with pedestrians has decreased by just 10%, which indicates a need for a safer, more comfortable cycling environment. Therefore, the MLIT is working together with the National Police Agency to spread the word about Guidelines for Creating a Safe and Comfortable Cycling Environment. In addition, under the Bicycle Use Promotion Plan determined by a Cabinet decision in June 2018, efforts are continually being made to promote the use of bicycles, such as the increased promotion of the creation of bicycle network plans and bicycle lanes, mainly in roadways, effective public awareness campaigns on compliance with the traffic rules, and the dissemination of information that contributes to the promotion of tourism in regions where bicycles are used.

### (iii) Developing quality walking spaces

The MLIT supports the development of pedestrian roads and rest facilities that create high quality pedestrian environments and that also tie together rich scenery and abundant nature with historical sites, in order to develop regions that are attractive and that promote health through walking.

### (iv) Developing road signs that are easy to understand

The MLIT is working on the installation of road signs that are easy to understand to help guide pedestrians who are in an unfamiliar place to their destinations.

### (v) Building a flexible system of road administration

To implement a flexible system of road administration that provides a diversity of road functions tailored to the needs of the local residents, including safe walking spaces and places of regional buoyancy and human exchange, and making motor-vehicle traffic smoother and safer, the MLIT is implementing: (a) preferential measures, such as the construction of new sidewalks on national or prefectural highways by municipalities other than the designated cities; (b) a system for suggesting that municipalities refurbish pedestrian safety facilities; (c) preferential measures for road occupancy, such as boulevard trees planted by NPOs or others, street lamps, etc.; (d) preferential measures for the administration of offstreet convenience facilities to keep roads and roadside facilities under integrated management; (e) preferential measures for road occupancy regarding facilities installed by road cooperation groups, etc.; and (f) flexible management of permits for road occupation for regional activities involving the use of roads.

## Section 3 Realizing Traffic with Enhanced Convenience

### (1) Advancing Implementation of Integrated Urban/Regional Traffic Strategies

Intensive city planning that ensures safe, smooth traffic requires a cross-sectional approach to the available transportation modes - such as cycling, railway, and bus - from the users' standpoint, rather than reviewing the transportation modes or their operators individually. To this end, each local government should inaugurate a council composed of public transportation operators and other stakeholders and allow the council to define a future vision of its cities and regions, and the types of transportation services to be made available, so that it can formulate "Integrated Urban/Regional Transportation Strategies" that cover relevant traffic measures and working programs, with the stakeholders taking their respective shares of responsibility for implementing measures or projects. (As of March 2019, Integrated Urban/Regional Transport Strategies had been formulated or were being formulated in 107 cities.) The national government is expected to support the implementation of integrated and strategic packages of traffic projects, such as the development of LRT<sup>Note</sup> pursued according to the Strategies, as well as city planning programs.

### (2) Approaches to Improve Public Transportation Usage Environment

For local public transportation, the MLIT supports the deployment of LRT, BRT, IC cards and other less constrained systems through the implementation of local public transportation assurance, maintenance and improvement projects, etc., to accelerate the improvement of local public transportation usage environment as part of its barrier-free community planning effort. In FY2018, efforts were made such as the introduction of an IC card system on the Aichi Loop Railway.

### (3) Upgrading Urban Railway Networks

Traffic congestion in the major metropolitan areas during commuting to and from work and school by train is improving substantially as a result of efforts such as establishing new lines, quadruple tracking and adding cars onto trains. However, the rate of congestion on some routes exceeds 180%, and requires continued efforts to mitigate congestion. In March 2018, under the Designated Urban Railway Development Reserve Program, the quadruple tracking of the Odakyu Electric Railway Odawara Line was completed, with peak hour congestion rates on this route decreasing from 192% to 151% (FY2018 survey). For the 31 major routes in the Tokyo Metropolitan area, from 2018 the congestion rates one hour each side of peak hours (peak side) have been newly announced.

In addition, we are driving forward with efforts to improve user convenience by, among other things, continuing to develop the Kanagawa Eastern lines (Sotetsu - JR/Tokyu Through Line) by leveraging the Act on Enhancement of Convenience of Urban Railways, etc., a piece of legislation aimed at upgrading the speediness of existing urban railway networks, to further enhance the urban railway networks.

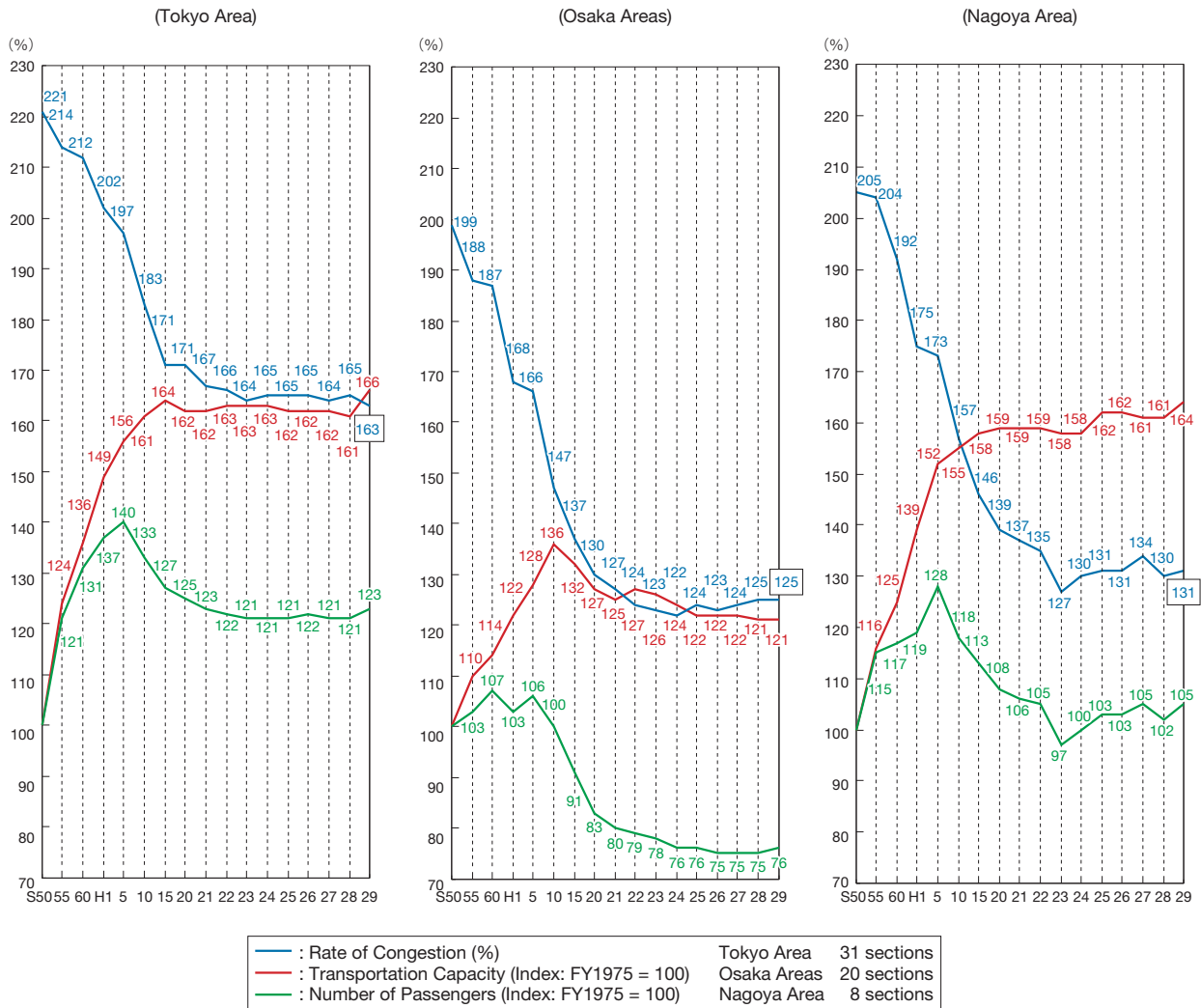
In April 2016, the Council of Transport Policy issued a report regarding the future of urban railways in the Tokyo Metropolitan Area, which sets out ways for urban railways and the like to contribute to the strengthening of competitiveness on the world stage and other ways for the urban railways of the Tokyo Metropolitan Area to reach their potential, and we are engaged in efforts to realize that potential.

**Note** Short for Light Rail Transit. A next-generation rail transit system that offers excellent characteristics derived from the use of light rail vehicles (LRV), improvements to rails or stops - such as ease of getting on and out - punctuality, speediness and passenger comfort.



Figure II-5-3-1

Changes in the Average Rate of Congestion, Transportation Capacity and Passenger Capacity in the Three Major Metropolitan Areas (Index: FY1975 = 100)

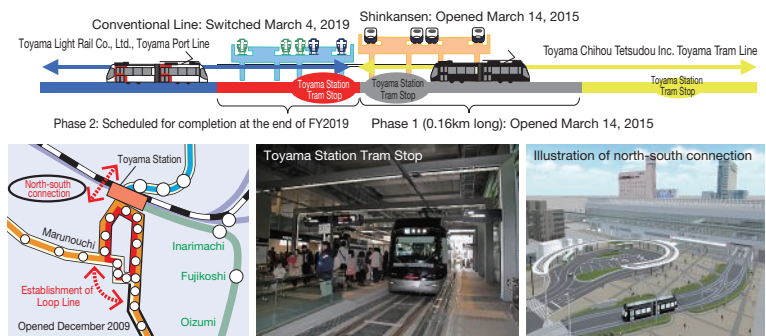


Source) Prepared by the MLIT from "Urban Transport Annual Report" compiled by the Institution for Transport Policy Studies and other relevant literature

(4) Development of Urban Monorails, New Transport Systems, and LRTs

The MLIT promotes the development of LRTs to encourage users' migration to public transportation facilities in order to streamline urban traffic flow, lighten environmental loads, and revitalize central urban areas, while keeping vulnerable road users assured of mobility in this era of aging population and falling birthrates. In FY2018, in addition to development in Toyama City to connect the north-south tram lines with east-west conventional lines due to their elevation, reconstruction is under way for public transport networks in various cities to ensure barrier-free tram stop access.

Figure II-5-3-2 Tram Line North-South Connection Project (Toyama City)



Source) Toyama City

### (5) Augmenting the Convenience of Bus Usage

The convenience of bus usage has been augmented by improving the punctuality and speediness features of bus services by using a Public Transportation Priority System (PTPS) and bus lanes, introducing bus location systems that provide information about the location of buses in service, and IC card systems that facilitate smooth boarding and disembarking.