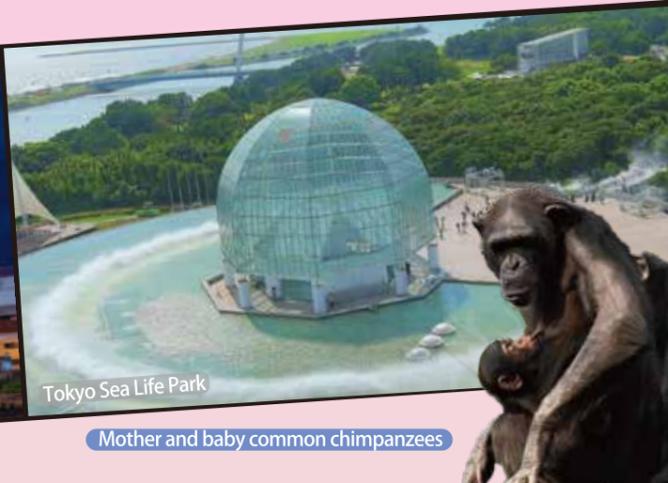


# Bureau of Construction Overview

## 2025



Azuma-bashi Bridge (with illumination)



Tokyo Sea Life Park  
Mother and baby common chimpanzees



Mother and baby Amur tigers



Tokyo Mizube Cruising Line - Water bus



Sashikiji-sawa No. 2 sediment retaining facilities



Mother and baby greater one-horned rhinoceroses



Umegata Tunnel

Mother and baby water buffaloes

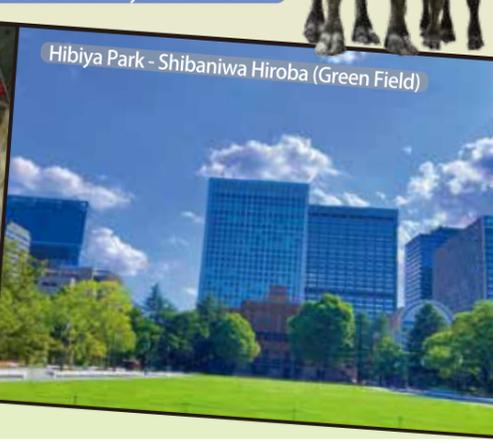


Tonogayato Gardens - Koyo-tei

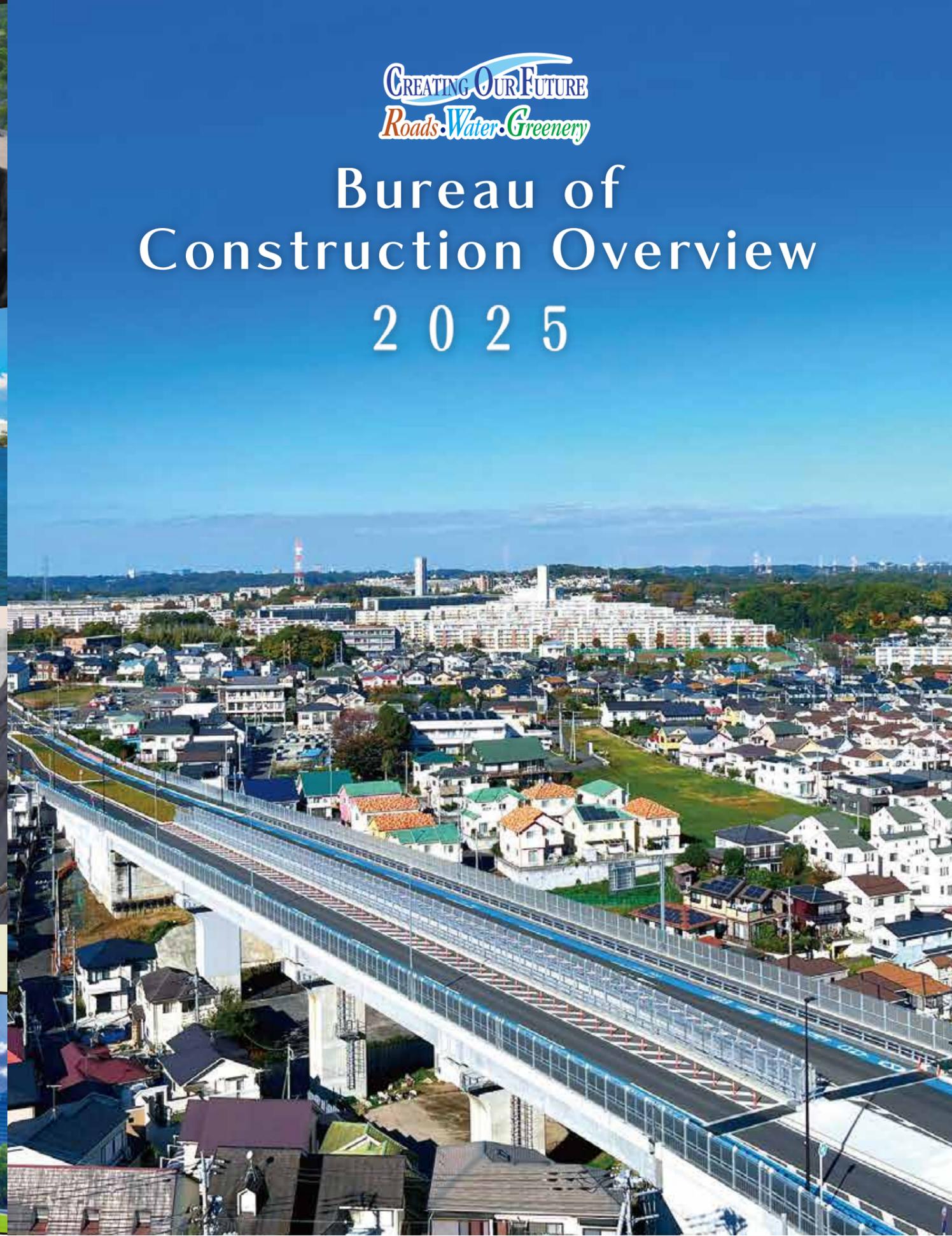
Giant pandas (Left: Lei Lei / Right: Xiao Xiao)



Ring Road No. 7 multi-basin underground regulating reservoir (Shakujii River section)



Hibiya Park - Shibaniwa Hiroba (Green Field)



Cover Photo : Machida Route No. 3-3-36, Aihara-Tsuruma Line (Asahi-machi)

## Tasks of the Tokyo Metropolitan Government Bureau of Construction

— Creating Our Future: Roads, Water, and Greenery —

Urban infrastructure such as roads, rivers, and parks play an absolutely essential role in supporting the urban activities of Japan’s capital—Tokyo. Through the development and management of roads, rivers, and parks, the Bureau of Construction is advancing initiatives on a daily basis, which include improving disaster resilience to protect against flooding due to more frequent and intense torrential rains, the imminent threat of a major earthquake directly striking the capital, and other natural disasters, facilitating the smooth movement of people and goods by alleviating chronic traffic congestion and other means, and creating a pleasant environment by developing waterfront areas and areas with greenery.

Specifically, in addition to accelerating the construction of river revetments and regulating reservoirs, the Bureau is also promoting the creation of a disaster-resistant city by advancing efforts such as the construction of designated roads for improvement to stop the spread of fire in districts with closely-set wooden houses, removal of utility poles along roads, and development of parks which serve as evacuation areas and hubs for rescue and relief activities when a disaster strikes.

The Bureau is advancing the development of the road network that supports Tokyo’s economic activities. This includes construction of the Three Ring Expressways, which will serve as lifelines when a disaster strikes, and arterial roads, which form the city’s backbone. The Bureau is also working to advance grade separation projects as measures to resolve traffic bottlenecks.

In addition, the Bureau operates facilities frequented by residents such as zoos and an aquarium, and is also working to create new appeal by achieving versatile use of infrastructural facilities, which are valuable assets of the residents, including establishing cafes in road spaces, along rivers, and in parks, using knowhow and power of the private sector.

At the same time, to ensure the effects of urban infrastructure or “stock effects” can be demonstrated over the long term, the Bureau is implementing preventative maintenance systems to extend the lifespan of facilities and reduce and normalize maintenance costs. Besides, it is going to advance and improve efficiencies of daily maintenance and disaster responses through utilization of digital technologies.

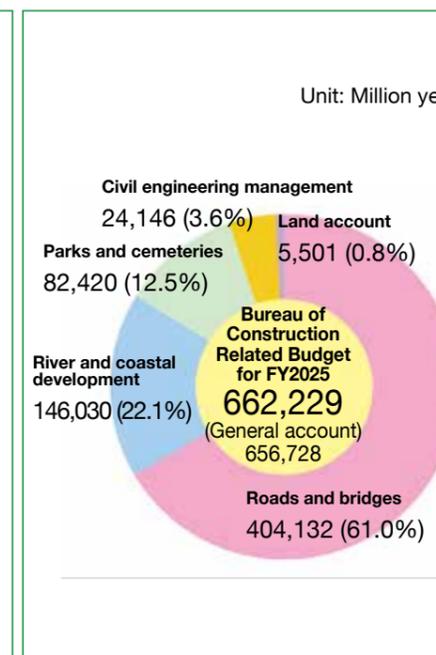
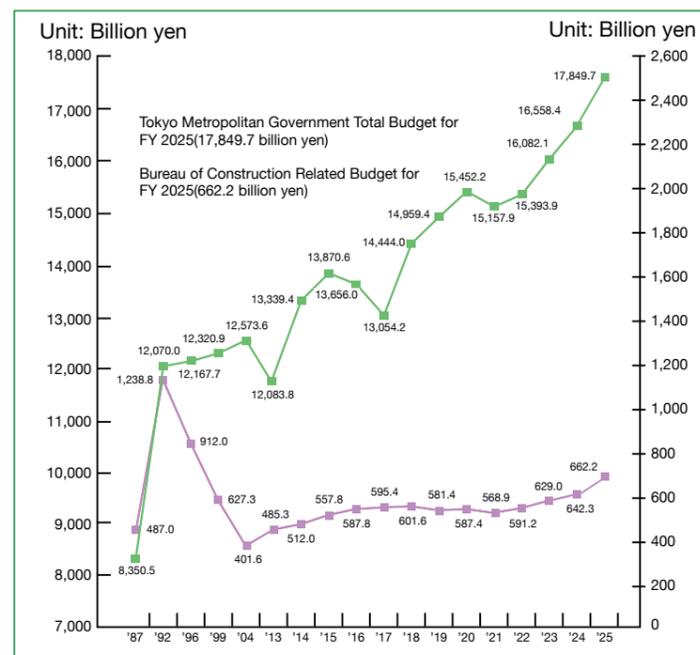
In implementing projects, the understanding and cooperation of residents and the private sector, as well as collaboration with the central government and municipalities, are essential. Along with working to provide relevant information and do associated tasks, the Bureau is working to facilitate positive effects of public policies to be promptly extended to residents through adopting new technologies and methods of construction, devising creative schemes at workplace, etc. In addition, the Bureau is not only improving productivity and promoting work style innovation through driving digital transformation in construction, but also actively working to make the entire construction industry more attractive. Additionally, with the goal of developing a carbon neutral society, the Bureau is going to promote its efforts toward Carbon Half, a plan to halve greenhouse gas emissions by 2030, and the HTT initiative to reduce (“H” as in Herasu in Japanese) power consumption, create (“T” as in Tsukuru) electricity, and store (“T” as in Tameru) electricity.

All members of the Bureau of Construction will make all-out efforts to promote projects promptly while flexibly responding to changes in society and needs of residents in Tokyo, so that the capital can be a sustainable city that balances maturity with ongoing growth .

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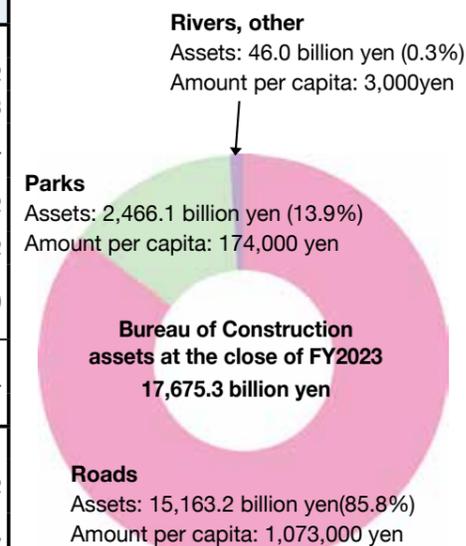
## Budget



## Balance Sheet

Balance Sheet  
(As of March 31, 2024)

Item	Amount (Million yen)	Item	Amount (Million yen)
<b>Assets</b>		<b>Liabilities</b>	
I Current assets	775	I Current liabilities	141,382
II Fixed assets	17,674,551	TMG bonds	139,238
		Allowance for bonuses	2,144
1. Administrative assets	2,654,358	II Fixed liabilities	2,495,132
2. Other assets	16,846	TMG bonds	2,475,592
3. Valuable items/materials/equipment	5,063	Allowance for retirement benefits	19,540
4. Infrastructure assets	14,285,865	<b>Total liabilities</b>	<b>2,636,514</b>
5. Software	461	<b>Net assets</b>	
6. Lease assets	0	Net assets	15,038,812
7. Construction in progress	708,080	(Changes in net assets this term)	91,427
8. Software under development	0	<b>Total net assets</b>	<b>15,038,812</b>
9. Investments and other assets	3,878		
<b>Total assets</b>	<b>17,675,326</b>	<b>Total liabilities and net assets</b>	<b>17,675,326</b>

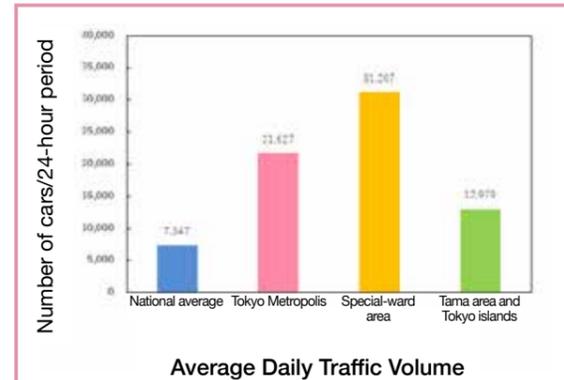


## Construction of Roads

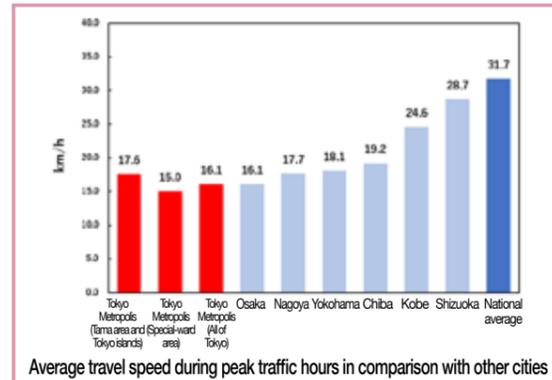
Roads play a vitally essential role as the most basic form of infrastructure supporting the lives of Tokyo residents. This role entails meeting the city's enormous transport demand, while also serving as routes for evacuation and the delivery of relief supplies when a disaster occurs, in addition to functioning as a space to contain lifelines such as electricity, gas, water, sewage lines, and telephone.

Road improvement is key to alleviating traffic congestion, raising international competitiveness, and realizing a city that is comfortable, highly convenient, and has a low environmental impact. Road improvement is also essential to transforming Tokyo into a highly disaster-resistant city. Roads safeguard the functions of the capital when a major earthquake strikes in areas that include transport of emergency supplies and relief, and rapid restoration and recovery activities. Roads also form firebreak belts, creating a city where fire does not spread. As such, the Bureau is advancing road improvements based on the policies outlined below.

- To ensure the smooth flow of traffic in the Greater Tokyo Area, the Bureau will develop the three ring expressways, which support the social and economic activities of all of Japan.
- To form the backbone of Tokyo's road network, the Bureau will focus on the development of ring roads and radial roads in the ward area, roads that run north-south in the Tama area, and roads that run east-west linking the ward area to the Tama area, and bridges.
- To protect the lifestyle and ensure the safety of Tokyo residents, the Bureau will enhance the living environment in urban areas, developing arterial roads which ensure the smooth flow of traffic locally. In other areas, including the mountains and islands of Tokyo, the Bureau will construct roads that enhance the livelihood of local residents and promote the development of industry.
- To facilitate the smooth flow of traffic on roads and raise the level of safety of both roads and railways, the Bureau will promote the construction of facilities related to intersections and road safety, as well as the conversion to grade-separated rail crossings.
- The Bureau will construct city-planned roads to enhance the level of disaster resistance in areas with close-set wooden houses (Development Districts), which are likely to suffer major damage in the event of an earthquake.



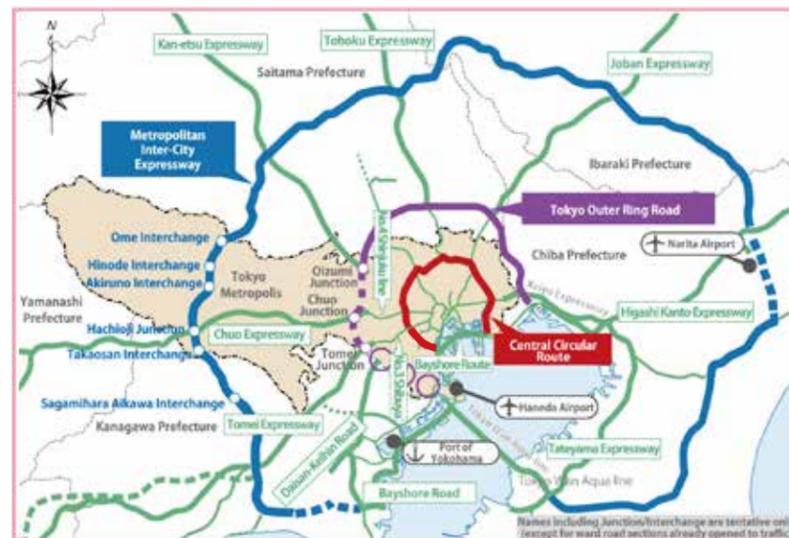
(FY2021 National Road and Traffic Report)



(FY2021 National Road and Traffic Report)

## Construction of the Three Ring Expressways

The Tokyo Metropolitan Expressway Central Circular Route, Tokyo Outer Ring Road (Gaikan), and Metropolitan Inter-City Expressway (Ken-o-do) are collectively known as the Three Ring Expressways of the National Capital Region. The roads not only contribute to the alleviation of traffic congestion, improvement of the environment, enhancement of international competitiveness, and the revitalization of communities, but will also allow Tokyo to continue to function as the capital in the event of a major disaster by facilitating smooth support and recovery operations, preventing transportation between eastern and western Japan from being disrupted. As such, early completion of these roads is imperative.



### ◆ Tokyo Metropolitan Expressway Central Circular Route

Of the Three Ring Expressways, the Tokyo Metropolitan Expressway Central Circular Route, with a total length of approximately 47km, runs closest to the center of Tokyo. The expressway fully opened to traffic in March 2015. Through the completion of the first of the Three Ring Expressways, the time required to travel between Shinjuku and Haneda Airport has been reduced by half, from about 40 minutes to about 19 minutes, improving on-time reliability, and demonstrating the impact of the project.

### ◆ Tokyo Outer Ring Road

#### (Kan-etsu Expressway-Tomei Expressway Section)

The Tokyo Outer Ring Road (Gaikan) is approximately 85km long and connects areas at an approximate 15km radius from the center of Tokyo. The Tokyo Outer Ring Road provides various advantageous effects on achievement of smooth traffic and logistics in the Tokyo metropolitan area, securement of evacuation and emergency routes at times of large-scale disasters including a near-field earthquake in the area, and others. The June 2018 opening of the Chiba section, a portion of which runs through Tokyo, has demonstrated effects such as redirecting traffic to the Tokyo Outer Ring Road.

For the 16km section that runs between the Kan-etsu Expressway and Tomei Expressway, a deep-bore tunnel structure has been adopted in order to minimize effects on the living and natural environment in the area along this section of roadway. The central government, East Nippon

Expressway Company, and Central Nippon Expressway Company have been moving forward with construction following initiation of the project in May 2009.

The TMG has been entrusted by the central government to acquire land for the Oizumi Junction and the Ome-kaido Interchange and is supporting the central government and developers in various other capacities to advance construction.

### ◆ Metropolitan Inter-City Expressway

The outermost of the Three Ring Expressways, the Metropolitan Inter-City Expressway (Ken-o-do) is approximately 300km long and runs at an approximate 40 to 60km radius from the center of Tokyo. The roadway connects core business cities and distribution hubs with the Port of Yokohama, Narita Airport, and other transportation centers, helping to form the regional road network, and plays an important role in the further development of the Tama area and the entire capital region.

With the opening of the section between Takaosan Interchange and Sagami-hara Aikawa Interchange in June 2014, the portion of the expressway that runs through Tokyo is fully open to traffic. Following the opening of the Ibaraki Prefecture portion in February 2017, six expressways from the Tomei Expressway to the Higashi Kanto Expressway are now linked by the Metropolitan Inter-City Expressway.

In addition to redirecting the flow of traffic away from the center of Tokyo to the Metropolitan Inter-City Expressway, with the opening of these new sections, a variety of effects are being exhibited, including an increase in the number of companies along the route.

### Tokyo Outer Ring Road (Gaikan) Between the Kan-etsu Expressway and Tomei Expressway



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

## Development of Metropolitan Expressways

The TMG is working on development of Shin-Kyobashi Connecting Road, in association with the project of moving the Nihonbashi section of the Metropolitan Expressway underground, which is implemented by the Metropolitan Expressway Company Limited.

### ◆ Project of Moving Nihonbashi Section Underground

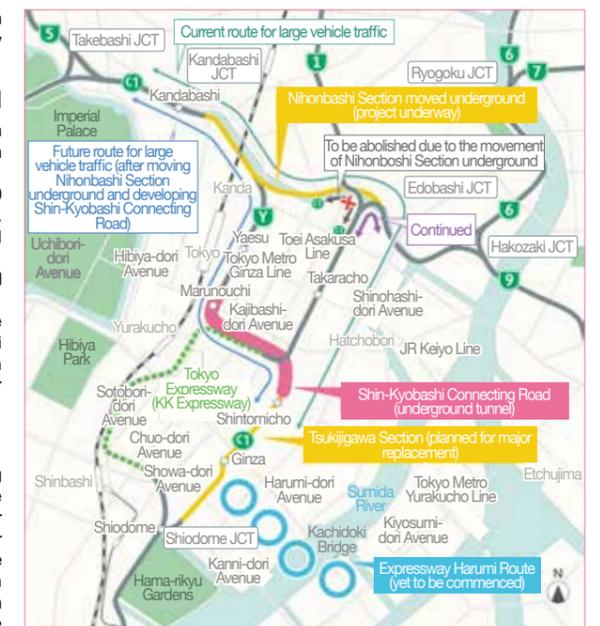
The Nihonbashi section of the Metropolitan Expressway is an approximately 1.8-km section extending from the Kandabashi junction to Edobashi junction in the Metropolitan Expressway Inner Circular Route.

The section is under severe conditions of use, more specifically, approximately 100,000 motor vehicles pass through every day, resulting in heavy damages in its structure. Therefore, repair and renovation of the structure is required to ensure safety of the road on a long-term basis.

Many redevelopment projects have been launched around the Nihonbashi River and they are treated as urban renaissance projects in a national strategic special zone. Metropolitan Expressway Company Limited has been working on maintenance of the expressway since FY2020, toward opening of an underground route at the Nihonbashi section in FY2035 and removal of the elevated bridge in FY2040, in association with urban development plans, while maintaining the function of transport of the Inner Circular Route.

### ◆ Expressway Route No. 1 (Shin-Kyobashi Connecting Road)

The Shin-Kyobashi Connecting Road is a road of approximately 1.1km connecting the Tsukijigawa Section of the Metropolitan Expressway Inner Circular Route and the Expressway Yaesu Route. The connecting route will be developed as a new inner circular road for securely maintaining the functions alternative to the Metropolitan Inner Circular Connecting Road at Edobashi junction, which currently serves as a route for large vehicle traffic and is planned to be abolished due to the movement of the Nihonbashi Section underground. The company runs the project started in FY2024 in cooperation with the TMG, with the efforts toward completing it in FY2035 together with opening of the underground route in the Nihonbashi Section.



Roads in the ward area

The ward area's major roadways form a road network of radial and ring roads. However, road sections requiring upgrades still remain, causing traffic congestion. The Bureau is therefore focusing on linking unfinished sections of ring roads and the arterial roads that connect the ward area to the Tama area. The main routes slated for improvements include Radial Route No. 7 (Mejiro-dori Avenue), Radial Route No. 35 and No. 36, Ring Road No. 2, Ring Road No. 3, Ring Road No. 5-1, and Ring Road No. 6 (Yamate-dori Avenue).

Radial Route No. 35 is a key arterial road that runs approximately 8.5km between Toyotamanaka in Nerima-ku and Shingashi in Itabashi-ku. A 570m section (Heiwadai Tunnel) in the route between Heiwadai 4-chome and Kitamachi 7-chome in Nerima-ku has temporarily opened in February 2024. It is expected that, as a result of the opening of the section, not only smooth traffic and improved disaster resilience will be achieved through grade separation at the crossing with Ring Road No. 8, but also safety will be improved due to, for example, reduction of traffic with vehicles entering to a community road.

Ring Road No. 2 is a key arterial road that runs approximately 14km between Ariake in Koto-ku and Kandasakuma-cho in Chiyoda-ku. The



Radial Route No. 35 (Heiwadai Tunnel)

1.4km section of main roadway between Tsukiji 5-chome in Chuo-ku and Shimbashi 4-chome in Minato-ku opened in December 2022, achieving full opening of Ring Road No. 2.

With the opening of Ring Road No. 2, the smooth flow of local traffic is facilitated and disaster preparedness is bolstered by providing an additional evacuation route. The road will also serve to strengthen the link between the waterfront area and central Tokyo and fulfill an important role as urban infrastructure that supports urban development in the waterfront area.

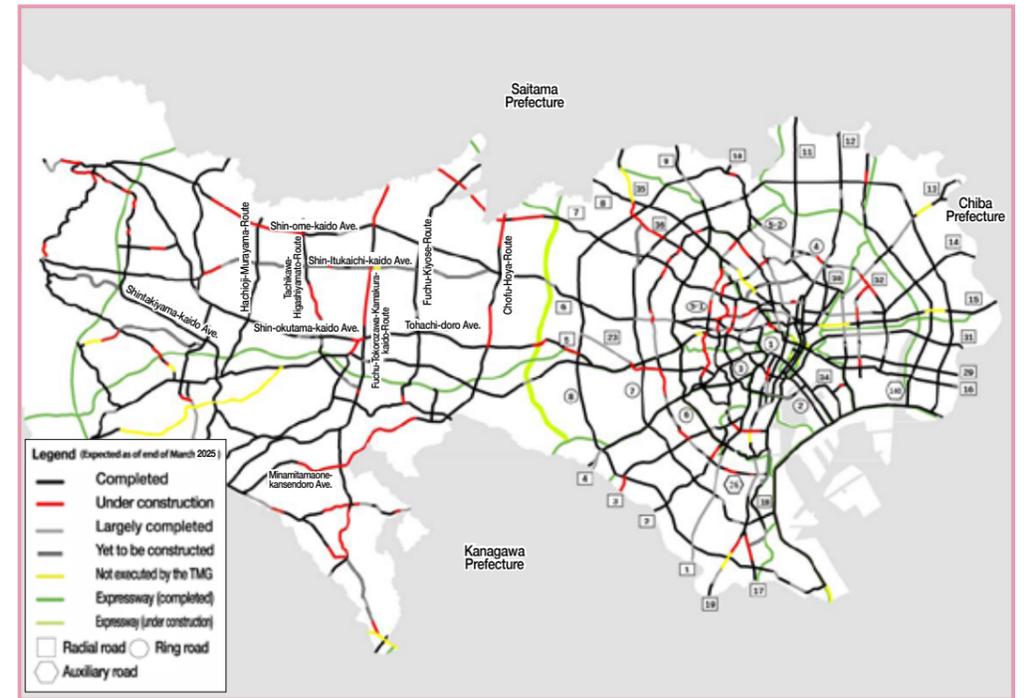
Ring Road No. 5-1 is a major arterial road with a length of approximately 14km, which runs between Hiroo 5-chome in Shibuya-ku and Takinogawa 2-chome in Kita-ku. Its approximately 0.8km section from Sendagaya 5-chome in Shibuya-ku to Naitomachi in Shinjuku-ku opened in December 2022.

The opening will enhance the road network connecting Shibuya and Shinjuku, the two subcenters of Tokyo metropolis. In addition, it is expected that ease of traffic congestion around Shinjuku station will improve the roadside environment.



Ring Road No. 2 (Tsukiji)

Road Network in the Tokyo Metropolitan Area

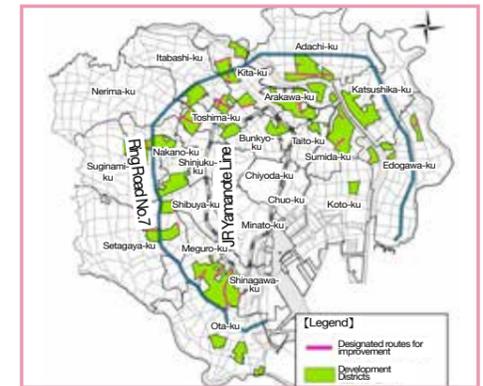


Districts with close-set wooden houses

Districts with close-set wooden houses face a number of issues related to disaster resistance due to their large number of aging wooden structures and narrow roads. It is also noted in the Tokyo Metropolitan Government (TMG) damage estimates for an earthquake that directly strikes the capital, released in FY2022 by the TMG Disaster Prevention Council, that these areas will suffer major damage, including large-scale fire set off by such an earthquake.

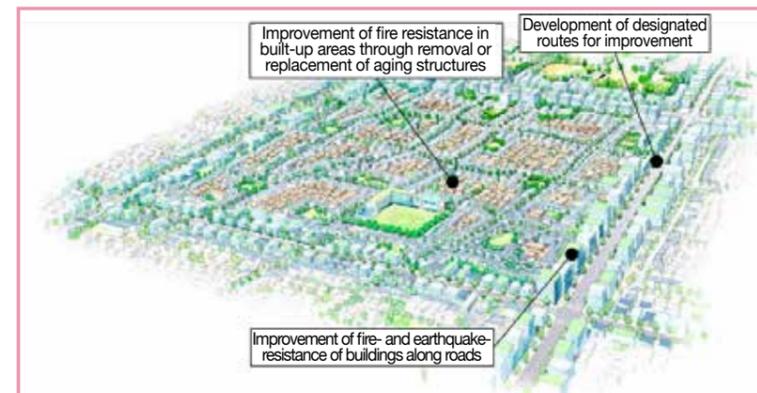
have difficulty in visiting the consultation desk, to provide support for rebuilding their lives. The Bureau is also providing assistance that considers the wishes of property rights holders, including offering low interest loans for relocation and assistance for placement in metropolitan housing and securing alternate land. The Bureau of Construction will continue to advance construction of the designated routes, which improve community disaster resistance.

The TMG has designated the areas with close-set wooden houses especially likely to sustain severe damage in the event of an earthquake as development districts. These cover an area totaling approximately 6,000ha. With the aim to turn these areas into communities that do not burn and where fire does not spread, in addition to promoting fire resistance in built-up areas, the TMG is also advancing the development of city planned roads (designated routes for improvement) constructed by the TMG (28 sections, approximately 25km in length) which will effectively enhance disaster resilience such as by preventing the spread of fire and serving as routes for facilitating evacuation, and passage of emergency vehicles relief operations. Among the 28 sections, Auxiliary Route No. 136 (Sekibara-Umeda section) and Auxiliary Route No. 26 (Mishuku section) opened in March 2021 and October 2022, respectively.



Districts with close-set wooden houses where particularly serious damage is expected in the event of an earthquake (Development Districts 6,000ha)

In developing designated routes for improvement, it is important to obtain the understanding and cooperation of residents and give due consideration to rebuilding the lives of property rights holders while advancing the project. To do so, the Bureau established consultation desks that utilize the private sector, provides information on sites for relocation, proposes plans for rebuilding, and offers consultation on taxes and other concerns of property rights holders, as well as works to offer extensive support by visiting homes of senior citizens, who



Auxiliary Route No. 26 "Mishuku"

Roads in the Tama area

In the Tama area, main arterial roads that run north-south and east-west are planned to be laid out in a grid-like fashion.

While advancing the development of north-south roads, including the Chofu-Hoya Route and the Fuchu-Tokorozawa-Kamakura-kaido Route, development of roads that run east-west such as Tohachi-doro Avenue and Shin Ome-kaido Avenue is also underway.

As one of the north-south arterial roads in the Tama area, the Chofu-Hoya Route (14.2km), which runs from Yanokuchi in Inagi City to Kita-machi 3-chome in Nishitokyo City, is an important route that will contribute to facilitating smooth traffic flow, strengthening the autonomy of the area and cooperation between cities, as well as enhancing disaster resilience. The final section in Nishitokyo City opened to traffic in August 2015, completing the route.

In addition, on the Fuchu-Tokorozawa-Kamakura-kaido Route, some



Chofu-Hoya Route (near Tokyo Metropolitan Jindai Botanical Gardens)

construction projects including the one at the Kokubunji Route No. 3-2-8 (approximately 2.5km) are underway. The 1.1km section from Takikubo-dori Avenue to the Kokubunji Route No. 3-4-6 opened in March 2017. Along with improving north-south access, the road has had effects such as reducing traffic volume on Fuchu-kaido Avenue, which runs parallel to the road. At the rest of the Kokubunji section (1.4km), construction of a street and other facilities is currently in progress.

In the construction, 10m wide "buffer zones" have been created on both sides of the 16m wide roadway to preserve the living environment along the route, making the road's total width 36m.

Within the "buffer zones," in addition to planting lush belts of greenery, the Bureau is advancing the separation of bicycles and pedestrians, and elimination of utility poles to create safe and comfortable urban spaces, and to make this a road that complements the creation of an attractive landscape.



Kokubunji Route No. 3-2-8 (intersection with Seibu Kokubunji Line railroad)

### Roads in mountainous and Tokyo island areas

In the mountainous and Tokyo island areas, roads support the movement of people and goods and constitute an essential part of the infrastructure for daily-life and industrial activities as well as for economic advancement and tourism promotion.

Specifically, metropolitan roads must be improved as main roads that support daily lives of local residents and may serve as safe passages enabling emergency responses to natural disasters, etc.

To this end, the Bureau is advancing road construction projects to contribute to local development and disaster resilience, such as widening roads where large vehicles have difficulty passing each other, creating alternative routes or bypass roads, constructing safe sidewalks, straightening roads, and protecting slopes.

Projects being undertaken by the Bureau include the Tamagawa-nangan-doro Avenue and the Akigawa-nangan-doro Avenue in the mountains of the Tama area, and the Oshima-junkan-sen Route and Miyake-junkan-sen Route in the Tokyo islands.

The Umegata Tunnel, connecting Hinodemachi Ohguno in Nishitama-gun and Baigoh 1-chome in Ome-shi, opened in March 2024. As a result, the tunnel makes it possible to have an additional road running in parallel with the route in the road network, local disaster resilience is improved, and promotion of industry and tourism is expected.



Umegata Tunnel

### Bridges

Bridges are essential structures that link areas divided by rivers and rail lines.

However, it is also conceivable that once damaged by a natural disaster, a bridge could affect the road, river, or rail line over which it crosses, creating a secondary disaster. Therefore, bridges are important urban infrastructure facilities contributing to a smoother flow of traffic and improved disaster resilience.

Bridge improvement projects are designed to replace aging bridges with new ones, secure evacuation/transport routes at times of disasters, and enhance the road network at boundaries between Tokyo and other prefectures.

Major bridge projects currently underway include the Todoroki-ohashi Bridge (tentative name) (Setagayaku-Kawasaki City), the Sekido Bridge (Fuchu City-Tama City), and the Hino Bridge (Tachikawa City-Hino City), which cross the Tama River.



Sekido Bridge (under construction)

### Grade separation

#### Roads and railways

In Tokyo, there are approximately 1,040 rail crossings at present. Rail crossings impede the flow of traffic and are barriers to safely and efficiently conducting urban activities. The TMG is moving ahead with grade separation projects in order to eliminate traffic congestion at rail crossings and enhance urban functionality and convenience.

#### ◆ Projects to eliminate multiple crossings

As a part of road improvements, these projects elevate sections of railway or move them underground, eliminating a number of rail crossings all at once. Projects significantly contribute to alleviating traffic congestion at the rail crossings and to developing the surrounding area by reunifying communities divided by railway tracks and facilitating the use of the space below the elevated tracks. To date, implementation of 41 projects has eliminated 398 rail crossings in Tokyo.

As of March 31, 2025, the TMG is proceeding with projects at eight locations on six rail lines, including the Seibu Shinjuku Line and Keio Line.

The Bureau will continue to advance projects already underway in order to achieve grade separation, as well as work to launch new projects.

#### ◆ Projects to eliminate individual crossings

These projects involve elevating an individual road or relatively small sections of a railway to achieve grade separation.

In March 2017, the Kokubunji Overpass was completed where Kokubunji Route No. 3-2-8 (Fuchu Tokorozawa Route) and the JR Chuo Line intersect, facilitating the smoother flow of traffic. As of March 31, 2025, projects are underway at 10 locations, including on Ring Road No. 4 (Konan-Takanawa section) (intersecting with JR Yamanote Line, Shinkansen, and others).

#### Prior to elevation

The line of cars at the Ring Road No.4(Meiji-dori Avenue) crossing extended back 380m when traffic was at its worst.

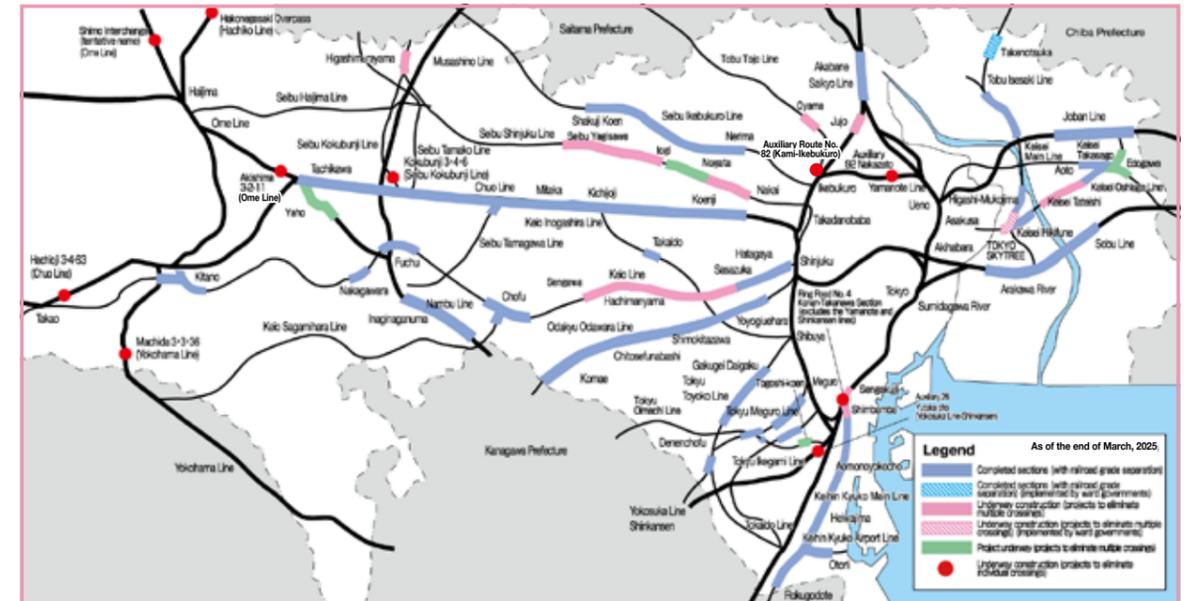


#### Following elevation



Keisei Oshiage Line (Oshiage-Yahiro Stations) continuous grade separation project

#### Road and Railway Grade Separation Projects



#### Grade separation of roads

At intersections with a high volume of traffic, traffic congestion and problems generated by congested traffic, including increased exhaust emissions, are occurring. As such, the Bureau is advancing with grade separation projects that elevate the roads or move one of the roads underground.

By elevating the high-traffic-volume Kuramaebashi-dori Avenue to create the Shinkoiwa Overpass, the Bureau aimed to alleviate traffic congestion and improve the environment along the road.



Shinkoiwa Overpass (Aerial view of the Tatsumibashi intersection)

## Road Management

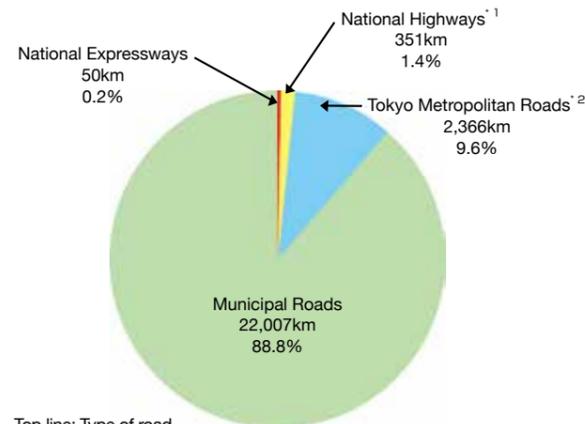
As of April 1, 2024, the total length of the road network in the Tokyo Metropolis was approximately 24,775km (of which approximately 2,366km is administered by the TMG). The network occupies an area measuring approximately 190.90km<sup>2</sup> (of which TMG-administered roads account for approximately 46.33km<sup>2</sup>).

The Bureau's duties with respect to road management include administrative procedures set forth by the Road Act (determination of road name and route, including the start and end points; determination of road jurisdiction, which specifically establishes the responsibility held by the administrator for road maintenance and management; changes to road jurisdiction), and permit issuance (special permits for vehicles that exceed set standards such as vehicle width or weight, road occupancy permits for installation of utility "lifeline" facilities, including electricity, gas, water, sewer, and telephone lines and their continued use of the road). In addition, tasks include coordinating with other agencies for guidance and enforcement with respect to improper road use, road surface maintenance and repair, development and maintenance of road facilities, creation of space for bicycles, and projects to improve the roadside environment. The Bureau continues to move forward with these tasks, while aiming to protect the living environment and harmony of communities.

Furthermore, the Bureau makes efforts to conduct maintenance and management of roads utilizing information and communications technology (ICT).

The 2011 Great East Japan Earthquake created a new awareness of the

### Breakdown of Road Jurisdiction in Tokyo (as of April 1, 2024)



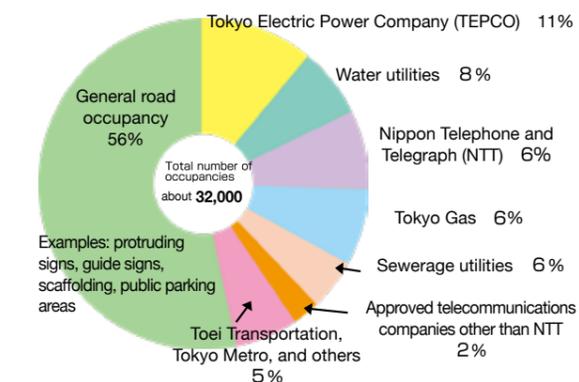
Top line: Type of road  
Middle line: Length of roads  
Bottom line: Percentage of total (%)

\* 1 The national highways total comprises 277km of designated road (includes 28km of automobile-only road) and 74km of non-designated road managed by the TMG.

\* 2 Tokyo Metropolitan Roads include 202km of the Tokyo Metropolitan Expressway.

Note: Approximately 2,238km of road (9.0%) is managed by the TMG.

### Number of Road Occupancy Permits Issued in FY2023 for Tokyo Metropolitan Roads



importance of the role that roads play in such areas as the transport of relief supplies and recovery operations following a disaster. In order to ensure that disaster response routes are functional when a major earthquake strikes, the Bureau is actively pursuing initiatives outlined in the Future Tokyo: Tokyo's Long-Term Strategy, including the elimination of utility poles by moving power lines underground.



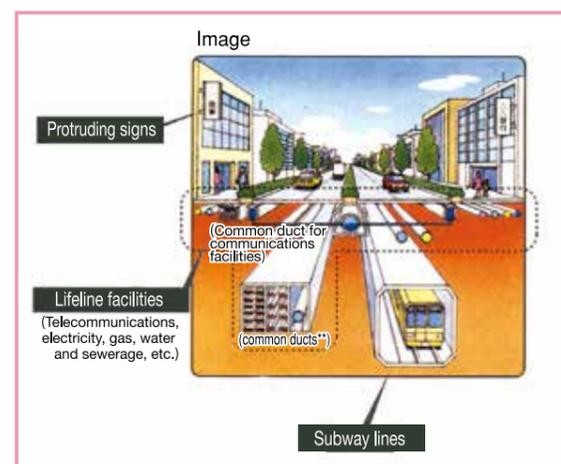
Uchibori-dori Avenue

### Status of roads in Tokyo (as of April 1, 2024)

Area	Land area (km <sup>2</sup> )	Length of roads (km)	Area occupied by roads (km <sup>2</sup> )	Road-to-land ratio (%)
Wards	627.51	12,024	104.720	16.7
Tama	1,159.81	11,270	78.940	6.8
Tokyo islands	412.61	1,481	7.238	1.8
Total	2,199.94	24,775	190.897	8.7

Note: Total figures for length of roads (km) and area occupied by roads (km<sup>2</sup>) may not equal the sum of components due to rounding.

### Main facilities occupying roads



Common duct\*\*

\*\* Common ducts are structures that effectively organize and consolidate underground utility lines, including electricity, gas, and water, ensuring these lines are securely protected. The creation of common ducts facilitates better control over the need to dig up of streets, and has a large beneficial effect on urban resilience.

## Maintenance and Repair of Roads and Bridges

Tokyo's roads support the lives of residents and will serve as lifelines for evacuation and relief operations in the event of a disaster. In addition, as a vital part of the nation's transport network, these roads are essential infrastructures that support social and economic development.

In order to ensure that these roads are kept in good condition and traffic can safely pass, the Bureau is constantly engaged in road maintenance and repair.

As part of maintenance and repair programs, a range of inspections are conducted on an ongoing basis, including daily patrol inspections, regular periodic inspections, and emergency inspections conducted in response to events such as heavy rain. By accurately grasping the condition of the roads, the Bureau is carrying out maintenance, scheduled repairs, and reinforcement work.

### Road and Bridge Maintenance Programs

In order to ensure the safety of road users, the Bureau uses patrol cars to conduct daily inspections, looking for issues such as damage or deterioration of roads and bridges, road obstructions or debris, and problems with road lighting, and takes the appropriate measures to respond.

Taking into account the characteristics of each route, inspections are generally scheduled for once every three days. The Bureau discovers over 40,000 cases a year of damage to roads and other abnormalities.

In addition, the Bureau also carries out maintenance including road surface and gutter cleaning, repainting of bridges, and resurfacing of bridge decks.



Road patrol car

Emergency work



Gutter dredging



Repair of bridge deck surface

### Road Repair Programs

#### Road Surface Repair

By conducting a pavement condition survey once every three years, the Bureau measures cracks, ruts (depressions), and pavement evenness on all roadways, except for those located on the Tokyo islands, and evaluates the data using the Maintenance Necessity Index (MNI).

Based on the results of the survey, locations in need of repair are selected and priority for repair is established. By systematically carrying out surface repairs, the Bureau provides drivers with a safe and pleasant ride. In addition, along with road repairs, improvements with respect to steps and gradients are being made to sidewalks.

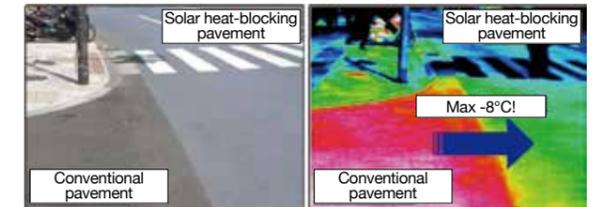


Vehicle with automatic survey of pavement conditions

Road surface repair

#### Making Road Surfaces Highly Functional

When repairing roads, the Bureau also upgrades road surfaces to take into consideration the environment of areas along the roads. Noise reducing pavement and two-layer noise reducing pavement are laid where measures to reduce noise are needed, and heat shield pavement and water-retentive pavement, which prevent road surface temperatures from rising, are installed where measures to mitigate the urban heat island effect are especially needed.



Effect of solar heat-blocking pavement in curbing the rise in road surface temperature

#### Maintenance of Road Facilities

Safety for road users is ensured through scheduled inspections conducted out once every five years on all road facilities (tunnels, underground walkways, retaining walls, common ducts, etc.), which enable the Bureau to find abnormalities or damage to road facilities early and take necessary measures, as well as systematically implement repairs and reinforcement work.

#### Preventive Maintenance of Tunnels

In order to ensure the safety of aging tunnels, the Bureau is advancing preventative maintenance measures, in which proper measures are taken before damage and deterioration progress. In March 2021, the Bureau formulated the Second Tunnel Preventative Maintenance Plan based on the latest inspection results. Based on this plan, the tunnels will be inspected and repaired with the goal of having all tunnels in sound condition during their in-service periods to hand over good infrastructure to the next generation. When inspecting tunnels periodically, a new technology of precisely measuring an inner section of a tunnel using a mobile image measurement vehicle equipped with 3D laser measurement equipment and a digital camera is introduced.



Wall surface image measurement using mobile image measurement vehicle

Enhancement of inner surface with reinforcing members

#### Improving Automated Guideway Transit Systems and Urban Monorail Facilities

As an important means of urban transport in local communities, new transportation systems and urban monorails support the everyday lives of the people and also play a major role in generating prosperity and vitality in communities.

The infrastructure, including support columns, track girders, and concourses, is managed by the road administrator as a part of its road facilities. By systematically maintaining and repairing these facilities based on inspection results, the Bureau is ensuring smoother transit and safety for users.



New Transit Yurikamome

Tama Monorail

● Conversion to LED Street Lighting

LED lamps consume less electricity than other types of energy efficient lighting (ceramic metal halide lamps and high-pressure sodium lamps). They are expected to contribute to reduction of environmental impacts, and have a longer life. As such, the Bureau is working to sequentially change street lights to LED lighting.



● Road Management Using Information and Communication Technology (ICT)

In order to improve disaster response capabilities and achieve efficient maintenance and management of road facilities, the Bureau is working to employ the use of Information and Communication Technology (ICT).

In terms of daily road maintenance and management, the Bureau is utilizing a road condition reporting system (MCR: My City Report) based on a smartphone application to work on the road management in cooperation with residents.

When a natural disaster (earthquake, flood, or snow-related) occurs, information reporting and sharing functions of the road condition reporting system are utilized to have employees promptly gather information on roads and to facilitate efficient information sharing between Bureau headquarters and offices. Additionally, on some roads in mountainous areas, the Bureau has set up equipment such as cameras and rain gauges, which allow Bureau headquarters and offices to check local conditions, in order to enhance disaster response capabilities.



Smartphone application for the road condition reporting system



Screen for viewing messages posted by users

Bridge Maintenance

● Promotion of Preventive Maintenance of Bridges

In order to ensure the safety of aging bridges, the Bureau of Construction has been working on transformation of its management system into management based on preventive maintenance, in which repair and reinforcement of bridges are carried out in a systematic manner to harmonize the timing of repair/renewal and level the construction cost as well as to reduce the total project cost. Taking the progress that has been made and latest inspection results into consideration, the Bureau developed Preventive Maintenance Plan for Bridges in March 2021 for the purpose of proceeding with the management based on preventive maintenance.

For implementation of the preventive maintenance, the Bureau is implementing two projects: Life Extension of Bridges and Repair Project based on Periodic Inspections for Bridges according to the Preventive Maintenance Plan for Bridges.



Bridge inspection



Repairs to concrete

◆ Life Extension of Bridges

This program works to extend the life of prominent bridges highly valued as cultural assets, including the Kiyosu, Eitai, and Kachidoki bridges which span the Sumida River, long span bridges for which the cost to rebuild and impact on the surrounding area would be great, bridges that cross over railways and roads, as well as bridges of main arterial roads. The bridge life extension program ensures safety and peace of mind by upgrading bridges to make them even more durable through repairs and reinforcement measures that utilize the latest technologies and materials. The Bureau aims to extend the lifespan of bridges to 100 years beyond completion of reinforcement measures while continuing proper maintenance and management.



Reinforcement of bridge bearings



Replacement of bridge deck

Prevention of Road Disasters

Roads in the mountainous regions and islands of Tokyo are essential parts of the infrastructure. It can also be said that these roads are the lifelines that support the livelihood of residents and economic activities in the area. The implementation of safety measures on hillsides and slopes is extremely important in preventing disasters on these roads. On mountain roads, the condition of hillsides and slopes is fully assessed, for example, using three-dimensional point cloud data in regular periodic inspections carried out once every five years. Based on the assessed condition, safety measures are systematically implemented to locations in order from the one in most urgent need.



Microtopographic representation using three-dimensional point cloud data



Slope stabilization grid

Disaster response

Earthquakes

After the Great Hanshin-Awaji Earthquake, the Bureau concluded agreements with construction industry associations and others to establish a framework in which around 500 cooperating local companies undertake the prompt removal of debris on metropolitan roads following a major earthquake. The agreement establishes specifics related to the provision of equipment, materials, and labor.

In addition, by simulating debris removal operations with cooperating companies at comprehensive joint disaster management drills held with the Tokyo Metropolitan Police Department, Tokyo Fire Department, and other relevant organizations, the Bureau is working to enhance such skills and raise disaster response capability.



Disaster drill (Debris removal)

Snowfall

In order to ensure the safety of roads following snowfall, along with designating the areas local contractors are to engage in snow removal ahead of time, the Bureau organizes equipment and manpower, plans for division of workload, personnel needed from each Bureau of Construction office, and a plan for communications, securing a framework for implementation of response.

Two high performance snowplow vehicles owned by the TMG are deployed to the Okutama area with the aim to provide more efficient snow removal.



Local business removing snow



Snowplow owned by the TMG

Road Restoration Program

This program restores road facilities that have sustained damage due to disasters associated with irregular natural phenomena such as torrential rain, earthquakes, and volcanic eruptions, in accordance with the National Government Deftment Act for Reconstruction of Disaster-stricken Public Facilities.

In October 2019, Typhoon No. 19 (Typhoon Hagibis) caused Metropolitan Road No. 184 in the Oguno district of Hinode-machi to collapse, along with other damage. After immediately making the required emergency repairs, the project was approved to be subsidized under the defrayment act, and permanent repairs to restore the road were made.

In addition, with respect to disaster recovery within its municipalities, the TMG acts as the point of contact for the central government, accepting and processing requests, and providing necessary guidance and support.



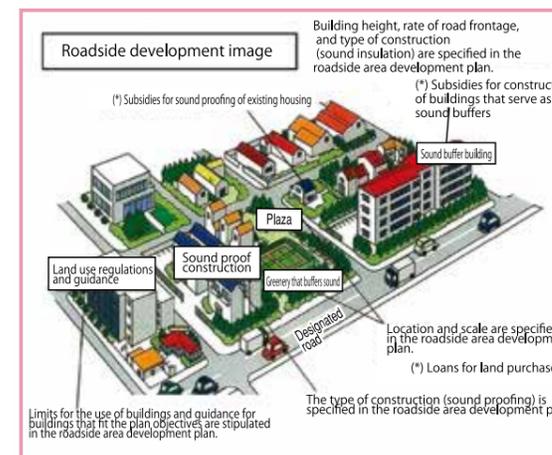
Left: Damage caused by the disaster



Right: Restored road

Development of the Roadside Environment

As measures to promote the development of the roadside environment along major arterial roads where traffic noise is considerable, the TMG is implementing programs such as subsidies for residential sound proofing and bearing a portion of construction costs for buildings that serve as sound buffers (buildings that prevent traffic noise from passing behind the structure).



Road beautification activities

Special Provisions on Road Occupation

Permission to occupy a road can only be issued when unavoidable circumstances, such as a lack of space alongside the road, exist. However, through special provisions set forth by the Special Measures Concerning Urban Reconstruction and the National Strategic Special Zones Act, and the Improving Pedestrian Convenience Road System (HOKOMICHI), the TMG can now permit the establishment of facilities that contribute to creating vitality within the community and increasing convenience for pedestrians.

By making use of the Act on Special Measures concerning Urban Reconstruction, an area management group made up of members of the local community has established outdoor cafés and held events since 2014 along Ring Road No. 2 ((Between Shimbashi and Toranomon). In FY2022, a road in the area was designated as the Improving Pedestrian Convenience Road for the first time in Tokyo, with the purpose of creating further vibrancy in the community.

Area management groups are advancing their activities together with local facilities on the roads such as Gyoko-dori Avenue in the area of Tokyo Station's Marunouchi Entrance and the Shinjuku Fukutoshin Route No. 4.



An outdoor café alongside Ring Road No. 2 (Between Shimbashi and Toranomon)

Tokyo Fureai Road Program

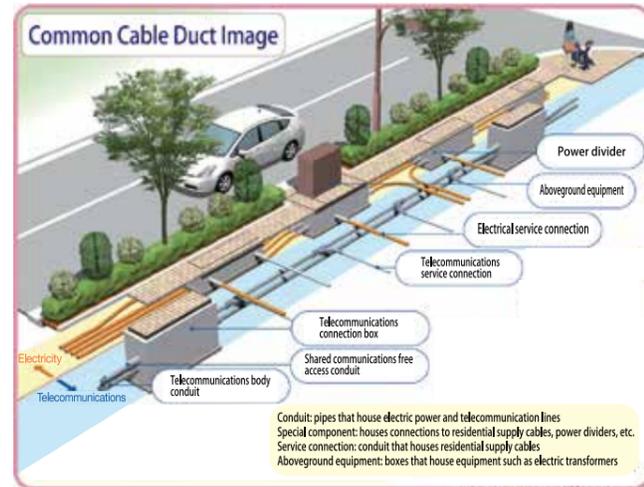
The TMG works with local organizations, companies, and other groups to promote street beautification activities, including street cleaning and caring for trees and plants, with the aim of creating spaces with rich greenery and raising the morals of road users.

Groups eligible to participate include neighborhood associations, shop associations, schools, and companies. Program activities are carried out on the sidewalk portion of metropolitan roads.

Registration for the program is carried out at all Bureau of Construction offices (management section) and at island branch offices (civil engineering section) that hold jurisdiction over the metropolitan road where the group wishes to be active. Following registration and confirmation of the location and nature of activities, the TMG will form an agreement with the group, and activities may begin. A system to support a portion of the cost of equipment needed for beautification activities is also in place.

## Removal of Utility Poles

In order to strengthen urban disaster functions, ensure safe and pleasant spaces for pedestrians, and create an attractive landscape, the Bureau is advancing the removal of utility poles by moving power and communication lines that run above roads underground through the creation of common ducts and other facilities. The TMG enforced the Tokyo Metropolitan Ordinance on Promotion of the Removal of Utility Poles, the first such ordinance by a prefectural government, in September 2017. Based on the ordinance, the TMG formulated the Tokyo Metropolitan Government Plan on the Removal of Utility Poles, which sets forth policies and goals for the next 10 years, in March 2018. In February 2021, the Strategy for the Acceleration of the Removal of Utility Poles was formulated with the aim of further ramping up the pace of the removal to fully enhance preparedness against earthquakes and typhoons. The strategy consists of seven components including speeding up the removal on metropolitan roads by doubling the annual scope of upgrade projects and enhancing support for roads managed by municipalities. In June 2021, the Plan on the Removal of Utility Poles based on metropolitan ordinances was revised according to the strategy. In the plan, the TMG sets the basic policies and targets for the removal of utility poles toward 2040s and presents improvement plans for the next five years to accelerate the progress of the removal. Furthermore, in January 2022, the Plan on the Development for the Removal of Utility Poles in the Tokyo Islands was formulated to show specific areas in metropolitan roads, ports, and airports from which utility poles shall be removed by 2030s, for further removal of the poles. Moreover, in September 2022, to become an Island with no Utility Poles, the Plan on the Development for Removal of Utility Poles in Toshima and Mikurajima Islands – Work toward Islands with no Utility Poles was formulated. The removal in the islands will also be promoted in the future, in collaboration with local governments, business operators in charge of managing power cables, and other relevant parties. In addition, the TMG will provide municipalities with financial and technical supports to promote the removal projects on a broader area basis in association with roads managed by municipalities, and further speed up efforts to remove utility poles in the rest of Tokyo.



## Creation of safe and pleasant road spaces

### Creation of Space for Bicycles

Bicycles are important means of transport we are familiar with and are used in various scenes of lives (e.g., commuting to work, school, and shopping) of Tokyo residents. Therefore, creating the environment in which anyone can use a bicycle safely and pleasantly in Tokyo is becoming increasingly important. The Bureau is creating spaces for bicycles based on the Tokyo Metropolitan Plan for Promoting Creating of Spaces for Bicycles. Each space for bicycle is created, in principle, in the form of a bicycle lane on a roadway to allow the space in a limited width of the road, with other options in the form of creating, depending on local road conditions.



### Development of Road Landscapes

In order to create pleasant road environment and make roads visually attractive and lush with greenery, developing road and sidewalk landscapes is important. The Bureau is working on some initiatives including the Tokyo Street Human 1st Program, having a basic philosophy of Creating a Pleasant and Attractive Road Space Suitable for the Capital Tokyo where Diverse People Get Together.



## Traffic Safety Measures and Easing Congestion

### Development of Traffic Safety Facilities

To ensure the safety of pedestrians and secure a space that facilitates smooth movement, measures are being taken to improve traffic safety facilities, including creating and improving sidewalks, making roads barrier-free, and installing road signage.

#### Upgrades to Sidewalks

Sidewalks are extremely important facilities that perform a range of functions including ensuring pedestrian safety, creating attractive cityscapes through the planting of roadside trees and other measures, and securing space to contain lifelines. Therefore, the Bureau is working to construct sidewalks at least 2 meters wide, ample width for two wheelchairs to pass each other, where there are no sidewalks or only very narrow ones exist to secure safe and pleasant spaces for pedestrians.



#### Making Roads Barrier-free

To secure space for pedestrians that will enable everyone, including senior citizens and people with impairments, to pass safely and comfortably, the Bureau is working to make roads barrier-free in accordance with the Tokyo Metropolitan Government Plan to Promote Barrier-free Improvements along Metropolitan Roads, implementing upgrades such as eliminating uneven surfaces and steps on sidewalks, improving slopes, and installing tactile paving to guide the vision impaired.



The Bureau will work, in collaboration with municipalities and others, on measures to make roads barrier-free, such as installing an elevator, for "bridges that should be preferentially addressed in terms of making them barrier-free" that have been selected in accordance with the Policy for Making Existing Road Bridges on Roads Managed by the TMG Barrier-free.

The Bureau is also working on improvement of pedestrian bridges that are deemed necessary to be made barrier-free by installing an elevator.

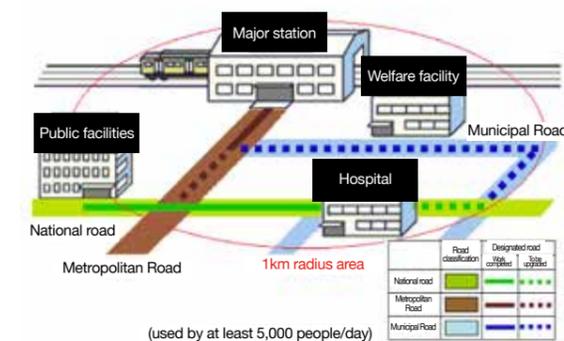
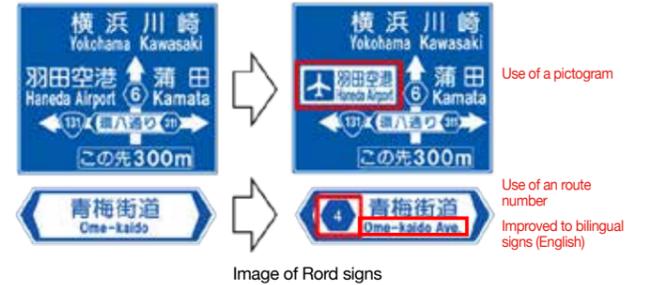


Image of Wide-Area Barrier-Free Upgrades Along Roads

#### Road Signs

Road signs are indispensable road facilities for ensuring the safe and smooth movement of road users. The TMG is working to create easy-to-understand road signs so that everyone can move around the city safely and easily, including adding pictograms and route numbers to signs, conducting a review of signs, and enhancing legibility.

In addition, jointly with the Bureau of Industrial and Labor Affairs, the Bureau is advancing the creation of signs (maps, etc.) for pedestrians that display sightseeing and barrier-free information.



## Traffic congestion countermeasures

### The Suisui Intersection Plan

The TMG is advancing the Suisui Intersection plan, to implement steps to ease traffic congestion generated by cars waiting to turn right through projects such as acquiring land near intersections along narrow two-lane roads to create right hand turn lanes. This plan is being advanced mainly in the Tama area with the aim to achieve results such as a reduction in the time needed to pass through the intersection at locations where the plan has been implemented. By simultaneously making improvements to sidewalks in the vicinity of the intersection, safety for pedestrians is also ensured.



## Operation of Parking Facilities

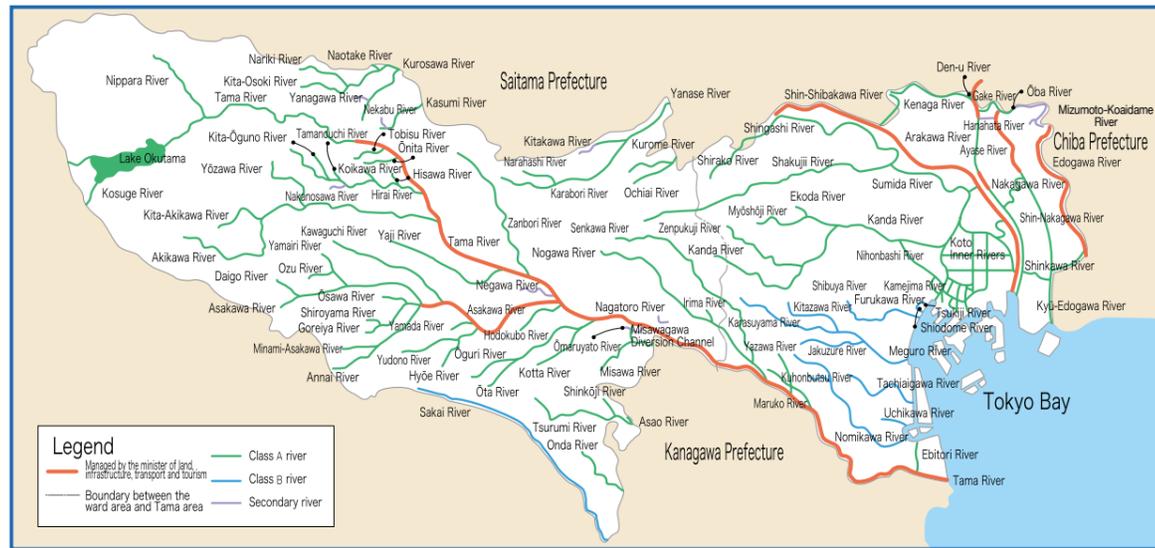
In order to maintain the functionality of roads and ensure the smooth flow of traffic, the TMG operates metropolitan parking facilities at six locations (capable of accommodating 1,245 vehicles), including the Yaesu and Showa-dori underground parking facilities, contributing to the prevention of on-street parking. Furthermore, the TMG is working on means to enhance services at all six locations, including the introduction of the designated administrator system which enables operations to be entrusted to approved private sector companies and the installation of vehicle charging equipment.

## River Projects

The purpose of river projects is to protect the lives and livelihoods of Tokyo residents from disasters such as floods, storm surges, and landslides and to create attractive river environments and urban environments by implementing such measures as producing a relaxing and pleasant atmosphere in waterfront areas and promoting the use of rivers. In addition to proceeding with projects in the three principal areas: flood control measures for small and mid-sized rivers; measures against storm surge and earthquake for rivers in lowland areas; and landslide control measures for the Tama area and the islands, the Bureau is taking initiatives aimed at creating greenery and vibrancy along waterfront areas and turning rivers into appealing spaces that give comfort to people.

## River Management and Utilization

Tokyo's landforms make its rivers generally flow from west to east, from their headwaters in the western part to Tokyo Bay. There are 92 Class A rivers in Tokyo, which are in the Tama, Arakawa, Tone, and Tsurumi river systems. Besides the Class A rivers, which are designated by the minister of land, infrastructure, transport and tourism, there are 15 Class B rivers designated by the governor of Tokyo. In total, there are 107 rivers in Tokyo, amounting to 857km. Of the length, the Tokyo Metropolitan Government manages the 710km of 105 rivers, while the Ministry of Land, Infrastructure, Transport and Tourism is in charge of the remaining segments, including those of the Arakawa and Edogawa rivers. Of the TMG-administered rivers, 46 in the ward area are managed by the wards, in accordance with the Tokyo metropolitan ordinance on exceptional handling of the TMG administrative affairs in the special-ward area. In addition, streams called secondary rivers, which are designated and administered by the wards, cities, towns and villages, in Tokyo number 20 and are 33km long in total.



Rivers in Tokyo

## Constructing Mooring Facilities

The Bureau is dealing with illegally moored boats based on the Tokyo metropolitan ordinance for proper mooring and storage of watercraft and has constructed mooring facilities that can accommodate such boats. With these efforts, watercrafts moored without compliance with rules have been reduced.



Temporary mooring facility (Ebitori River in Ota-ku)

## Construction and Utilization of Disaster Management Piers

The Bureau maintains disaster management piers so that the rivers can be used as an emergency transport route when a major disaster occurs. In ordinary times, some of those piers are used for the Tokyo Metropolitan Park Association's Tokyo Mizube Line water bus service. The seven disaster management piers on the Sumida River are also open to private boats, including "yakatabune" pleasure boats, and are serving as hubs for tour boat operators.



Tokyo Mizube Line water bus and Ryogoku disaster management pier (Sumida River in Yokoami, Sumida-ku)

## Projects on Small and Medium-Sized Rivers

To protect the lives and livelihoods of Tokyo residents from floods due to typhoons or torrential rains, the Bureau has been carrying out improvements on small and medium-sized rivers with the aim of withstanding rainfall up to 50mm per hour, in areas including urban areas, where people and assets are concentrated. In recent years, however, heavy rains and downpours exceeding that amount are increasing, causing flood damage. In response to this, the Bureau is currently stepping up its flood control measures to be prepared for rainfalls in the level with an annual exceedance probability of 5 percent, according to the priority of each of its projects. The Bureau is going to promote initiatives to respond to the rainfalls in the level with the annual exceedance probability of 5 percent (CC 1/20) in consideration of the climate change, based on the "Tokyo river facilities for Climate Change" (December 2023). To deal with rainfall up to 50mm per hour, the Bureau basically seeks to improve revetments. It also takes other approaches, such as constructing regulating reservoirs and diversion channels, to implement effective measures depending on the situation of each area. \* The rainfalls in the level with an annual exceedance probability of 5 percent is indicated as "rainfalls in the level of CC 1/20" in short form (CC: Climate Change).

## River Channel Improvement

River channel improvements, such as channel widening and deepening, are being implemented on the length of 324km of 46 rivers in Tokyo, including the Kanda, Zenpukuji and Shakuji rivers flowing through the ward area, as well as the Karabori, Tsurumi and Nogawa rivers in the Tama area. In addition to flood control purposes, the river channel improvements are also designed to make rivers more accessible to people and more favorable to plants and animals. For example, some trails for maintenance are intended to also accommodate recreationists and allow them to enjoy lush greenery, and, for rivers with sufficient space, revetments are constructed to slope gently.

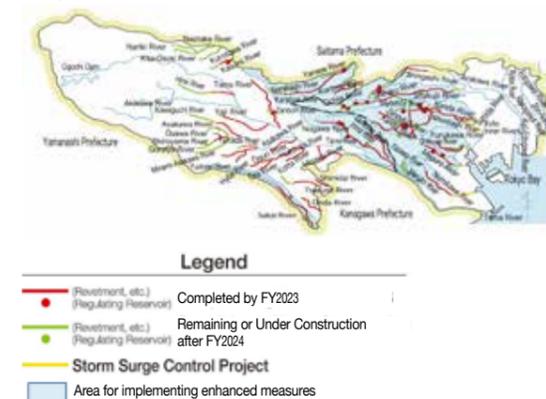


Improved river channel (Shakuji River, Nerima-ku)

River improvement to make the area more accessible and enjoyable (Yaji River in Hachioji City)



## Projects on Small and Medium-sized Rivers



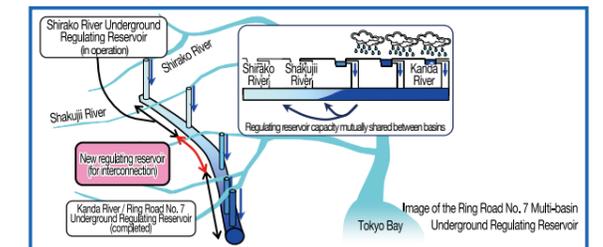
## Constructing Regulating Reservoirs and Diversion Channels

In areas where river improvements to widen the river would require an extensive period of time due to the many buildings and houses along the river, the Bureau has been working to quickly enhance the areas' safety against flood damage by constructing regulating reservoirs to hold excess flood waters and diversion channels to divert a portion of the flood waters. The Bureau is proceeding with the construction of regulating reservoirs and other measures, starting with the ten high priority areas such as those along the Kanda and Sakai rivers. By the end of FY2023, together with the constructions already completed, 27 regulating reservoirs with total capacity of approximately 2.64 million cubic meters are in use for 12 rivers, and 8 diversion channels with a total length of approximately 12km were built for 5 rivers.



Kanda River / Ring Road No. 7 Underground Regulating Reservoir (Suginami-ku)

In FY2024, the Bureau is constructing ten regulating reservoirs, including the Johoku Chuo Park Regulating Reservoir on the Shakuji River, the Sakai River Kanamori Regulating Reservoir, and the Yazawa River Diversion Channel, among other facilities. Work is also progressing on the Ring Road No. 7 Multi-basin Underground Regulating Reservoir for the basins of the Kanda, Shakuji, and Shirako rivers, which will interconnect the Kanda River / Ring Road No. 7 Underground Regulating Reservoir and the Shirako River Underground Regulating Reservoir and enable both reservoirs to mutually handle overflow from those rivers.



## Flood Control Measures in Consideration of Climate Change

With the growing risk of wind and flood damages expected in the future, including higher rainfalls and more powerful typhoons due to the effect of climate change, it is also essential to ensure safety and security for the future. To this end, the TMG compiled the "Tokyo river facilities for Climate Change" to promote efficient and effective flood control measures through, for example, effective utilization of existing stocks. Thus, the government is shifting its initiatives from existing ones based on the rainfalls in the level with the annual exceedance probability of 5 percent to those based on the "rainfalls in the level of CC 1/20" obtained by multiplying the rainfalls currently used by 1.1, which is the rate of increase in rainfalls in the case of expected average temperature rise of 2 degrees Celsius.

More specifically, in addition to the projects to improve revetments and others, the government will work to progress a project on underground rivers to interconnect the Ring Road No. 7 Multi-basin Underground Regulating Reservoir and others toward Tokyo Bay.

Furthermore, a project of operationalizing new regulating reservoirs, etc. with a total area of approximately 2.5 million m<sup>2</sup> between FY2020 and FY2035 is underway.

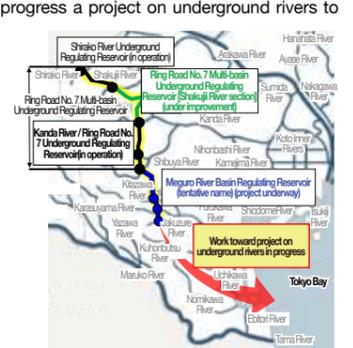


Image of underground rivers under examination

## River Improvement in Lowland Areas

Some areas of eastern Tokyo are below sea level, and have repeatedly suffered damage caused by storm surges and flooding. The Bureau is therefore advancing river improvement efforts, such as installing revetments to protect against storm surges and other hazards and making river control structures more resilient against earthquakes and water intrusion. The Bureau also works to develop waterfront areas that attract people creating a bustling atmosphere, by such means as installing lighting equipment and linking multiple esplanades to each other. Further measures based on the "Tokyo river facilities for Climate Change" (compiled in December 2023) will be examined.

### Protecting River Control Facilities with Earthquake- and Water-proof Structures

With the lessons learned from the Great East Japan Earthquake, the Tokyo Metropolitan Government compiled in December 2012 the Plan for Improving River Control Facilities in Lowland Areas of Eastern Tokyo (for FY2012 to FY2021) to work on measures to protect them against maximum-scale earthquakes. In December 2021, the Plan for Improving River Control Facilities in Lowland Areas of Eastern Tokyo (Second Term) (for FY2022 to FY2031) was compiled by the TMG, and it is working on improving revetments with a total length of approximately 57km and 9 facilities including floodgates.



Seismic retrofitting of revetments (Sumida River)



Seismic retrofitting of floodgates (Kamejimagawa Floodgate)

### Improvement of Storm Surge Control Structures

With the aim of protecting eastern Tokyo's lowland areas from storm surges as big as those generated by the 1959 Ise-wan Typhoon, the TMG is installing revetments and other structures in those areas, most of which are located east of the Sumida River. Work has almost been completed on the Sumida and other major rivers.

### Projects on the Koto Inner Rivers

In the Koto delta, an area situated between the Arakawa and Sumida rivers, where ground subsidence has been particularly serious, the Bureau carries out projects on the Koto delta rivers to protect the area from flooding caused by an earthquake. For rivers in the western part of the area, earthquake-proof revetments are being built. And, by lowering the water level of rivers on the east side, river channel improvements are being implemented with attention paid to the river environment.



Earthquake-proof revetments (Oyokogawa River)



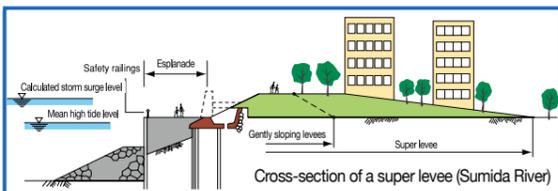
Improvement made with attention also paid to the river environment (Kyū-Nakagawa River)

### Improvement of Super Levees and Gently Sloping Levees

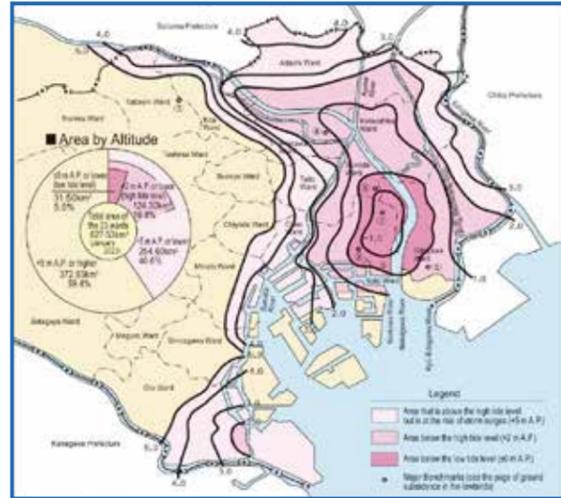
On the Sumida and other major rivers, super levees and gently sloping levees are being constructed to make the areas better protected against a potential strong earthquake and to improve the riverside environment. Construction is carried out in an integrated manner with community development projects in areas along the rivers. Also, esplanades are built before the completion of levees to provide a public space for getting closer to and enjoying the area along the water.



Super levee (Sumida River in the Okawabata district)



Cross-section of a super levee (Sumida River)



Altitudes of Lowland Areas

### Creating Vibrancy in Waterfront Areas

To create waterfront areas that attract people and provide a bustling atmosphere, the Bureau is working to enrich the corridor of water that links the city center and the Tokyo Bay coastal area, centering on the Sumida River, through such measures as making it easier to go close to the river from bridges, building continuous esplanades, and installing nighttime lighting equipment. The intensive efforts are also being carried out in some areas along the Sumida River.



TOKYO mizumachi and the Kitajukken River Terrace (Kitajukken River, Mukojima, Sumida-ku, Azuma-bashi Bridge)



Linking of multiple esplanades (Sumida River, Eitai, Koto-ku)

### Storm Surge Disaster Prevention in Consideration of Climate Change

With increasing storm surge caused by the rise in sea level and more powerful typhoons associated with climate change, it is expected that heights of existing levees may not be sufficient in the future. To deal with this issue, the TMG has compiled the "Tokyo river facilities for Climate Change" to be prepared for disasters from the sea-level rise and the storm surges as great as those at the Ise Bay Typhoon which are expected to be greater due to climate change (with temperature rise of 2°C). In line with this policy, the Bureau developed the "Policy for Maintenance of Storm Surge Disaster Countermeasures for Rivers" in FY2024, specifying ways of maintenance, etc. suitable for rivers, and some measures including raising the height of river levees are in progress.

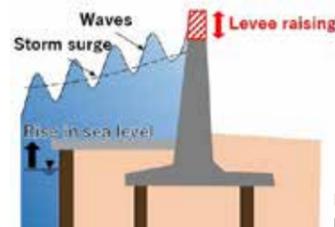


Image of enhanced measures

## Environmental Work on Rivers

### Improving Environmental Conditions in Waterfront Areas

To produce a relaxing and pleasant atmosphere in waterfront areas, efforts are underway to make rivers more accessible and enjoyable with close attention paid to the characteristics of each place. Those efforts include restoring environments along rivers through the use of former riverbanks and other available areas, building up greenery on riverbanks and embankments, and utilizing maintenance trails and esplanades to develop facilities that allow people to get close to rivers.



Greenery creation on riverbanks (Nakagawa River in Edogawa-ku)

### Promotion of Non-Structural Measures

#### Providing Information Concerning Flood Risk

To protect the lives and livelihoods of Tokyo residents from damage caused by heavy rains, flooding, and storm surges, non-structural measures are also being taken, including a flood information service.

#### Providing Information via the Internet

Information regarding flood risk (e.g., rainfall amount, river water levels, water storage rates of regulating reservoirs, flood risk alerts, and image data from river surveillance cameras) is provided, on a real-time basis, on the Tokyo Metropolitan - Flood Control Integrated Information System, Tokyo Suibou Channel (YouTube), and X (former Twitter).



TMG Integrated Flood Prevention Information System



Tokyo Suibou Channel (Youtube)

Tokyo Flood Control Integrated Information System



(smartphone (Japanese))

Tokyo Suibou Channel



(2D barcode)

Tokyo Bousai X (former Twitter)



(2D barcode)

### Improving Water Volume and Quality

For rivers where water quality or a lowered water level is a concern, dredging and other work is conducted to improve the water quality, and groundwater leaking in subways and other structures are released to raise the river level.



Children playing in a river (Nogawa River in Mitaka City)

#### Publication of Flood Risk Maps and other materials

The Bureau publicizes maps showing areas at risk of flooding due to storm surge or heavy rainfall that far exceed expected levels. These will help municipalities prepare hazard maps, which are important for preparations such as evacuation.



Flood Risk Map (for areas along Kanda River)

#### Flood Disaster Mitigation Council for TMG-Administered Rivers

In cooperation with municipalities and other relevant organizations, the Tokyo Metropolitan Government convenes a council to prepare for floods by promoting efforts for smooth and prompt evacuation and appropriate flood control measures.

### Broadening the Public Interest in and Knowledge of Rivers

The Bureau implements various measures to increase residents' interest in rivers and make them more aware of the dangers of floods, sediment disasters, and water accidents.

A wide range of events are held mainly in July, which is designated as River Month, including symposiums, photo contests, trash pickup events, study tours to river control facilities, and riverside walking tours.

Further, the Bureau provides new programs including study tours based on infrastructure tourism in cooperation with travel service agencies and virtual tours using VR technologies.



Infrastructure Tour (Concert at Ring Road No. 7 Underground Regulating Reservoir)

## Countermeasures for Sediment Disasters

### Comprehensive Countermeasures for Sediment Disasters

To improve and expand disaster response capabilities with protection of human life as the first priority, the Bureau is promoting comprehensive countermeasures for sediment disasters, utilizing both structural and non-structural approaches.

### Improvement of Sediment Disaster Control Facilities

In areas at risk of sediment disaster, including those in the Tama area and Tokyo islands, the Bureau is constructing sabo (erosion and sediment control) dams, sediment traps, channel works, grating crib works and other infrastructure to prevent disasters occurring from debris flows due to heavy rain, volcanic mudflows, landslides and other natural disasters.



Sabo dam to protect houses from debris flows (Kitafukurozawa, Ogasawaramura)



Grating crib work to protect houses from landslides (Kabemachi 1-chome, Ome City)

### Measures Implemented Following a Sediment Disaster (Okanasawa on Oshima Island)

In 2013, Typhoon No. 26 (Typhoon Wipha) devastated Oshima Island, and a record rainfall caused widespread slope failure. The storm caused many deaths and left severe damage to private residences, especially in the lower reaches of the Okanasawa, where massive debris flows occurred.

Following the disaster, the Tokyo Metropolitan Government placed emergency control measures including work to raise the height of sediment retaining facilities and construction of temporary training dikes. As short-term measures, works on the mountainside in the area of the left tributary of the Okanasawa and training dike construction were completed.

As mid-to-long term measures, the construction of sabo dams is currently in progress and channel work at the No. 2 dam and in the lower part of the river has been completed.



Okanasawa River channel works



Okanasawa sabo dam No. 2

### Development of Shoreline Preservation Structures

Of the total 760km of shoreline along Tokyo Bay and the Tokyo islands, the Bureau has designated about 46km along 26 coasts, including areas at high risk of damage from waves and those that have been severely eroded, as shoreline preservation areas, developed a basic plan for shoreline preservation, and is constructing shoreline preservation structures such as revetments and artificial reefs there. These measures aim to protect the land from waves generated by typhoons and seasonal winds to both ensure the safety of homes, public facilities, and others, and preserve the shoreline environment.

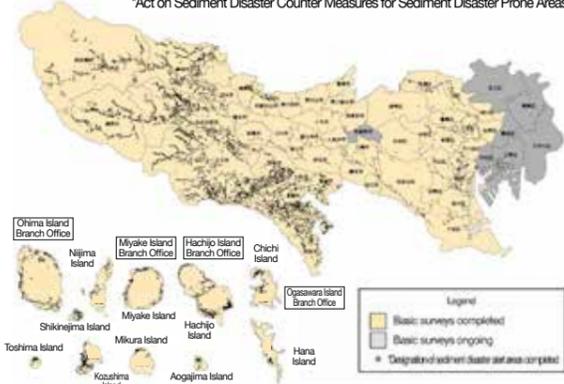
The Bureau has reviewed the basic plan for shoreline preservation in consideration of future impact of climate change. Based on the plan, it will examine measures against storm surges and waves associated with the expected sea-level rise and more powerful typhoons, taking local situations into consideration.

### Designation of Sediment Disaster Warning Areas

The TMG is designating areas as sediment disaster warning areas in accordance with the Sediment Disasters Prevention Act\* for such purposes as raising public awareness of locations at risk, facilitating preparation for speedy evacuation, and restricting land development. In September 2019, designation throughout Tokyo was completed. The TMG has so far designated approximately 16,000 locations and will continue to review the designated areas on a constant basis.

In addition, along with notifying the municipalities of the places designated as sediment disaster warning areas, the Bureau also announces this information on the TMG's website and other media to raise awareness of areas at risk and prepare hazard maps. In this way, the Bureau is working for early establishment of an alert and evacuation system.

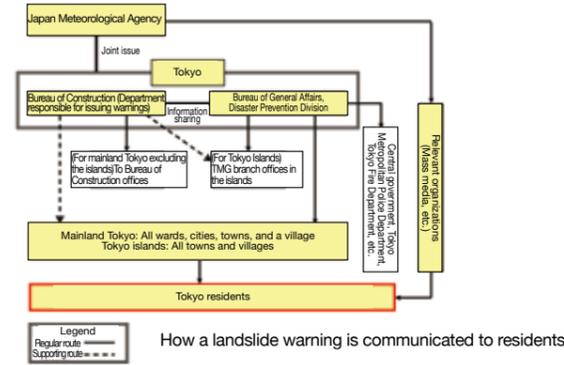
\*Act on Sediment Disaster Counter Measures for Sediment Disaster Prone Areas



Progress in the Designation of Sediment Disaster Warning Areas, etc. (as of October 2024)

### Issuing Sediment Disaster Warnings

The TMG and the Japan Meteorological Agency jointly issue sediment disaster warnings, which are conveyed to the public by the municipalities and media, when a heavy rain warning (sediment disaster) has been issued and there is also a high risk of sediment disasters that would require evacuation. The information is verified with additional data on rainfall conditions and incidents of sediment disaster gathered since the launch of the system and, as needed, criteria for issuing sediment disaster warnings are reviewed to optimize them. Further, the government started operation of the "Tokyo Risk of Landslides" webpage in May 2024, with the aim of being helpful for Tokyo residents in voluntary evacuation and relevant actions. The webpage provides information supplementing the warnings, including risk of landslides due to heavy rainfall by district.



Construction of an artificial reef (Nagahama beach on Kozushima Island)

## Parks in Tokyo

### Parks in Tokyo

The rich greenery, wide-open spaces, and open skies provided by parks make them invaluable places for recreation and add beauty to the landscape.

In addition, the greenery of parks plays a role in cleaning the air, and the open spaces created serve as evacuation sites in times of disaster. Parks also help to ensure that outstanding natural scenery is preserved.

Parks are classified into three groups: "urban parks," which are specified by the Urban Park Act; "parks other than urban parks," which are deemed equivalent to urban parks; and "natural parks," which are specified by the Natural Parks Act.

### Data on Parks

As of April 1, 2024, the total area of urban parks and parks other than urban parks in Tokyo is 8,152 hectares, or 5.77 square meters per capita.

Of those parks, 84 are urban parks managed by the Bureau (metropolitan parks), totaling 2,066 hectares. They include Ueno Park, Inokashira Park, gardens designated as cultural properties, zoos, and botanical gardens.

- Urban parks 8,880 locations, 6,090 hectares
  - National government parks (2 locations, 176 hectares)
  - Metropolitan parks (84 locations, 2,066 hectares)
  - Municipal parks (8,714 locations, 3,848 hectares)

(Data as of April 1, 2024)
- Parks other than urban parks 3,372 locations, 2,062 hectares
  - Children's parks, etc. established by municipalities
  - National gardens, etc. established by the national government
  - Seaside parks established by the TMG Bureau of Port and Harbor
  - Parks established on residential sites by public housing corporations, etc.
  - Nature recreation parks established by the TMG Bureau of Environment

(Data as of April 1, 2024)
- Natural Parks
  - National Parks (3 locations, 69,432 hectares)
  - Quasi-national parks (1 location, 777 hectares)
  - Metropolitan natural parks (6 locations, 9,686 hectares)

(Data as of March 31, 2024)



Ueno Park



Inokashira Park



Takaido Park

### Development of Metropolitan Parks

Tokyo's parkland falls short of that of cities overseas. In order to systematically and efficiently increase park area, the Bureau is working to expand metropolitan parks that will serve as bases of greenery in the formation of a network of water and greenery. To that end, areas where development of park greenspace determined through urban planning will be given priority have been decided.

The Bureau is also strengthening the functions of metropolitan parks key to disaster plans, and recreating and restoring gardens designated as cultural properties to pass down historical and cultural heritages to future generations.

#### ◆ Project Status

In FY2023, development of parkland was carried out at locations such as Takaido Park, Rokusen Park, and Takiyama Park. As of April 1, 2024, Tokyo's park acreage open to the public stood at about 2,066 hectares, an increase of approximately 9.0 hectares over the previous fiscal year. In FY2024, the Bureau steadily advanced the development of Rokusen Park, Jindai Botanical Gardens, Akatsuka Park, and other parks, working for further expansion of parkland.

Furthermore, Metropolitan parks have an important role in earthquake preparedness. In the TMG's disaster management plan, some parks are designated as evacuation areas and/or bases for search and rescue operations. While newly developing Metropolitan parks, the Bureau is also advancing development work to make existing parks better prepared for a disaster, such as improvements in emergency power generation equipment and lights, and other development work including repair of aging facilities.

In addition, the Bureau is working on creating and improving playgrounds in Metropolitan parks, where children can play safely regardless of whether they have disabilities or not. Such parks include Minna-no-Hiroba Open Space and Mori Park Rainbow Open Space opened in Kinuta Park and Fuchu-no-Mori Park, respectively. Taking proper opportunities to develop a new park and repair playgrounds with equipment for children, the Bureau will provide parks with universally designed playground equipment and facilitate implementation of more measures to make Metropolitan parks barrier-free.

### Use of the Designated Administrator System

At metropolitan parks, cemeteries and other facilities managed by the Bureau, in order to meet the diverse needs of users, provide high-quality services, and ensure that administration and management is carried out effectively and efficiently, the Bureau uses the designated administrator system which enables operations to be entrusted to approved private sector companies. The administration and management by the designated administrators are evaluated by a team including outside experts, and the results are released.

## Zoos and Aquarium

The metropolitan zoos and aquarium have played a leading role for zoos and aquariums in Japan through their collaborative efforts for wildlife conservation, studies and research, as well as education. Ueno Zoological Gardens opened in 1882 as Japan's first zoo; Tama Zoological Park leverages its hilly natural environment to set up open animal enclosures with few cages and fences; Inokashira Park Zoo allows visitors to closely observe familiar animals including those native to Japan; and Tokyo Sea Life Park (Kasai Rinkai Suizokuen) is designed to serve as a place for interaction between the sea and people, providing opportunities to learn about marine nature and obtain scientific knowledge on aquatic life. These four facilities collaborate with each other and have been working to offer even more attractive displays and enhanced services.

In September 2011, the TMG released the "Master Plan for Metropolitan Zoos", which sets the vision for the metropolitan zoos and aquarium, and outlines measures to achieve it, to make various efforts. Based on the results from the previous plan, the TMG has properly identified changes in diverse situations around metropolitan zoos, enhanced four functions (recreation, environmental learning, preservation of species, and researches/studies) of zoos and aquariums, and formulated the "Second Master Plan for Metropolitan Zoos" in November 2020.

In October 2018, the second "zoo stock plan" was formulated to contribute to the breeding of rare species and the conservation of wildlife, and to expand the roles of the zoos and aquarium in providing environmental education and raising awareness on conservation efforts. Based on these plans, by leveraging the unique nature of each facility, the Bureau will continue working to make the zoos and aquarium even more attractive to visitors and to have the facilities convey the importance of humans and animals living together.

To inform as many people as possible about the efforts of the zoos and aquarium, and deepen their understanding regarding wildlife conservation and the environment, the Bureau is also working to distribute information through the use of different information provision tools such as the official Tokyo Zoo Net website, X (former Twitter), YouTube, Instagram, and other means.

## Ueno Zoological Gardens

Ueno Zoological Gardens, the first zoological gardens in Japan, opened in 1882 as one of affiliated facilities of a museum under the supervision of the Ministry of Agriculture and Commerce. The supervisory authority was then transferred to the Imperial Household Agency in 1886, and the gardens were granted to then Tokyo City in 1924, in honor of marriage of the crown prince (the latter-day Emperor Showa). Currently having a site area of approximately 14ha, the zoo presents the importance of wildlife conservation to people in Japan and abroad, through attractive exhibits of animals including giant pandas, western lowland gorillas, and aye-ayes. Ueno zoo have not only been one of metropolitan zoos, but also played a role as the most renowned zoo in Japan.

The giant pandas Ri Ri and Shin Shin that had arrived at the zoo in 2011 were sent back to China in September 2024, following consultations with the China Wildlife Conservation Association. Their twins Xiao Xiao and Lei Lei born in June 2021 are growing healthily.



Giant panda



Western lowland gorilla

## Tama Zoological Park

Tama Zoological Park opened in 1958 as a branch of Ueno Zoological Gardens, following the idea of second major zoo next to the Ueno zoo launched after the war. Tama zoo, started with a site area of approximately 28ha, currently has an expanded area of approximately 60ha. Aiming to be a zoo having dynamic exhibits leveraging its hilly natural environment and actively supporting reproduction of wild animals, it sets up open animal enclosures with as few cages and fences as possible and expands its roles in providing environmental education in the site with rich nature. Further, the zoological park has served as a base for reproduction of large wild animals and worked on applying biotechnology to preservation of the species, making it a central hub for wildlife conservation in the metropolitan zoos.

Tama zoo park has participated in the Save the Tasmanian Devil Program, an initiative of the Australian and Tasmanian governments, since June 2016 to become the only zoo in Japan to maintain a tasmanian devil exhibit. In September 2024, a baby greater one-horned rhinoceros was born for the first time in fifty years in the facility.



Lion bus



Greater one-horned rhinoceros

## Tokyo Sea Life Park (Kasai Rinkai Suizokuen)

In 1989, an aquarium located in Ueno Zoological Gardens was relocated and expanded to become Tokyo Sea Life Park, with a view to serving as a place for interaction between the sea and people, where opportunities to learn about marine nature were provided while having fun and scientific knowledge on aquatic life could be obtained. Its exhibits include not only bluefin tunas swimming in a huge tank which is the world's first exhibit presenting pelagic fish swimming in groups, but also over 100 penguins, a wide variety of living creatures gathered from all over the world, and different kinds of fish living in "Sea of Tokyo".

In fiscal 2015, the Park introduced a mobile aquarium program which uses a van and a dedicated flatbed truck outfitted with an aquarium. The mobile aquarium mainly visits hospitals and welfare facilities to convey the attractions of marine ecosystems and aquatic life to those unable to easily come to Tokyo Sea Life Park.

With about three decades having passed since its opening, however, the aquarium now faces issues such as aging facilities and the need to make barrier-free improvements. In response to the issues, the Bureau decided to build a new aquarium in an area adjacent the existing one and move its functions to the new one. In December 2022, the Bureau concluded an agreement with a private business operator capable of designing, developing, and maintaining the new facilities, and working on development of the new aquarium toward its opening in FY2027.



Bluefin tuna



Mobile aquarium

## Inokashira Park Zoo

Inokashira Park Zoo opened in 1942 as a combination of a small animal zoo located in Nakanoshima of Inokashira Pond and a natural ecology garden in the Gotenyama district, for contributing to improvement in disseminating knowledges in natural science while enjoying a pleasure trip. The zoo, having a site area of approximately 12ha, maintains exhibits of animals as well as library and sculpture garden, serving as a place for a wide variety of learning. With a view to being a zoo that provides fulfilling experiences of contact with animals that can be casually enjoyed, and to foster a mind to protect wildlife, the zoo keeps mainly animals native to Japan to provide visitors with opportunities to observe familiar animals and enjoy experiences with them

The "Ikimono Hiroba (Creature Field)", which opened in 2011, offers an environment conducive to observation through the creation of habitat for familiar living things, including preparations such as planting trees attractive to butterflies.

Inokashira Park Zoo is actively engaged in the conservation of animals native to Japan. It has successfully bred, so far, many native species including Japanese serow, Japanese squirrel, Amami spiny rat, Japanese night heron, and *Mandarin mandarina* (snail).



Japanese squirrel



Tsushima leopard cat

## Botanical Gardens

At each botanical garden, efforts are being made to allow visitors to learn about plants and the relationship between plants and human life and culture while having fun.

### Jindai Botanical Gardens

Jindai Botanical Gardens is home to about 100,000 trees and plants belonging to 4,800 species. It has such attractions as a plum blossom garden, a cherry blossom garden, an azaleas garden, and a rose garden which received the Award of Garden Excellence from the World Federation of Rose Societies. It also holds seasonal exhibitions, including those of chrysanthemums, violets, Japan's traditional garden plants, and bonsai.

In the large greenhouse which reopened following renovations in 2016, collections of tropical and semitropical plants, orchids, begonias, cacti, succulent plants, carnivorous plants, and tropical water lilies as well as rare plants in Japan and overseas, such as those in Ogasawara Islands and Chilli, are exhibited throughout the year.

In addition, the Gardens delivers an on-line video content called Virtual 360, which enables a viewer to enjoy VR images, as a function capable of experiencing the charms of the garden while staying at home.

In 2012, Jindai Botanical Gardens opened the Plant Diversity Center, which preserves and propagates Tokyo's endangered botanical species, collects and disseminates information, and promotes the importance of botanical diversity.



Rose garden at Jindai Botanical Gardens



Okutama area of the plant diversity learning zone at Jindai Botanical Gardens' Plant Diversity Center



"Glass dome" exterior of Yumenoshima Tropical Greenhouse Dome

### Yumenoshima Tropical Greenhouse Dome

Yumenoshima Tropical Greenhouse Dome exhibits recreating scenery such as tropical wetlands and villages and vegetation in Tokyo's subtropical Ogasawara Islands mostly in the glass dome heated with surplus heat from an incineration plant.

The garden contains around 1,000 varieties of tropical and subtropical plants. Visitors can enjoy the distinctive scenery, including flowers in a range of colors and fruit, all year round.

## Gardens

Metropolitan parks include nine gardens, which are valuable assets of historical and cultural significance dating from the Edo period. They are all cultural properties designated by the national government or TMG, and among the most distinguished gardens in Japan.

The management and maintenance of the gardens is carried out in a way to ensure that gardening skills are passed down to younger generations. In addition, each garden uses SNSs to distribute information so that an even greater number of people can learn about the attractions of the gardens.

With the aim of recreating the feel of a daimyo garden and allowing visitors to experience the culture of the Edo period, a restoration project is underway at Hama-rikyu Gardens to repair revetments as well as to restore structures, including teahouses destroyed during World War II. The restoration of the Matsuno-Ochaya, Tsubame-no-Ochaya, and Taka-no-Ochaya teahouses has been completed so far.

At the Koishikawa Korakuen Gardens, a restoration project on the entire park, the first of its kind since restoration carried out following World War II, has

begun. Restoration has been completed on the Daisensui garden pond, modeled on Lake Biwa, and the Shiraito-no-taki waterfall, which both play a prime role in shaping the landscape of the gardens. Constructions for restoration of some structures including Engetsukyo Bridge and Tokujindo structure have been conducted. In addition, restoration of the Karamon gate, which was lost to fire during the war, was completed in FY2020.

Another project at the Kyu-Iwasaki-tei Gardens to restore a lawn garden in front of the Western Residence started in FY2020 on the basis of an old surveyed map in 1917, and was completed in FY2023.

In addition, in order for sufficient preservation, recreation, and restoration of metropolitan gardens, the Bureau is developing some plans including a plan for preserving and utilizing gardens designated as cultural properties in Tokyo. It will continue working on improving (including repair and restoration) and utilizing the gardens in a planned manner.



Restored lawn garden in front of Western Residence, Kyu-Iwasaki-tei Gardens



Restored Taka-no-Ochaya teahouse at Hama-rikyu Gardens



Excavation of the site of the Karamon Gate at Koishikawa Korakuen Gardens

## Cemeteries

There are eight metropolitan cemeteries. The number of users is approximately 304,000, with about 1.44 million people entombed as of April 2024.

Demand is high for interment spaces at metropolitan cemeteries, with applications far exceeding availability on a constant basis. To meet the demand, efforts are being made to provide more lots and niches, including accelerating the removal of neglected or abandoned graves, providing smaller lots, and building shared graves. Also, metropolitan cemeteries provide new types of interment spaces so as to meet the increasingly diverse needs of Tokyo residents.

Four of the metropolitan cemeteries, Aoyama, Yanaka, Zoshigaya and Somei, are located in the ward area. They are all time-honored facilities opened in 1874. The TMG plans to turn these facilities into places that will serve as both a cemetery and a park so that a wider range of people can benefit from them. Revitalization projects are ongoing at some of the cemeteries, where public mausoleums and open areas have been built in spaces created through the relocation of graves.

The other four cemeteries, Tama, Kodaira, Hachioji and Yahashira, are park cemeteries situated in suburban areas. While working to make efficient use of space, these cemeteries are providing interment sites, including new types of interment spaces, and maintaining the scenic nature of park cemeteries.



Aoyama Cemetery, small lot cemetery



Somei Cemetery, multistoried cemetery



Tama Cemetery, forest cemetery

## New Types of Interment Spaces

In February 2008, the Tokyo Metropolitan Parks Council compiled a report on the future provision and maintenance of interment spaces in metropolitan cemeteries, in which it proposed that the facilities provide new types of spaces such as a "forest cemetery" and "tree cemetery" to satisfy the wish to peacefully return to nature after death. Based on these proposals, the Bureau conducted lending of a "forest cemetery" from FY2012 to FY2020, and a "tree cemetery" during the years from FY2014 to FY2022 at Kodaira Cemetery. In FY2021, lending of a "forest cemetery" also started at Tama Cemetery.

The TMG will continue working to meet the demand by residents for interment spaces, and to create attractive green spaces and landscapes and protecting the environment in urban areas, while responding to changes in consciousness of residents and in social situation.

## Roadside Greenery

Roadside greenery enriches the surroundings and has a calming effect on people. It also has various other roles, such as enhancing the urban environment, creating attractive urban landscapes, helping traffic to move safely and smoothly, and protecting residents from fires in times of disaster.

Some 1,371km of roads administered by the TMG is furnished with roadside trees, while greenery on median strips and traffic islands total an area of about 230 hectares (as of April 1, 2024).



Zelkova (Omotesando)



Tulip trees (In front of the Geihinkan state guest house)

## Making Roadside Trees More Resilient to Disaster

On routes particularly important from the perspective of disaster preparedness, the Bureau implemented a plan from fiscal 2012 to fiscal 2020 to assess roadside trees 90cm or more in circumference and rehabilitate and replace weakened trees, so that they will not block emergency vehicles and the passage of evacuees. From fiscal 2021, the Bureau will start systematically assessing roadside trees in areas prone to damage from typhoons to ensure that the trees are better able to withstand such disasters.



A roadside tree toppled by strong typhoon winds blocks a roadway.



Beautiful roadside trees that are resilient to disaster

## Roadside Tree Enhancement (Raising Quality)

The Project to Enhance Roadside Trees started in FY2008 successfully reached its objective at the end of FY2015.

The Bureau will now implement a detailed maintenance program for the roadside trees that have been planted, and devote further efforts to high quality maintenance and management in order to create a lush roadside environment befitting a mature city. In response to the need for measures to protect spectators and competitors from the summer heat at the Olympic and Paralympic Games Tokyo 2020, the Bureau took measures such as systematic pruning to ensure that ample shade is created by trees along metropolitan roads, mainly along roads connecting competition venues to their nearest stations. In FY2022, it also started to implement the program in some routes other than those involved in the Olympic and Paralympic Games, considering the program as a legacy of the games.

### Trees planted under the roadside tree enhancement project



Ordinary Metropolitan Road 132

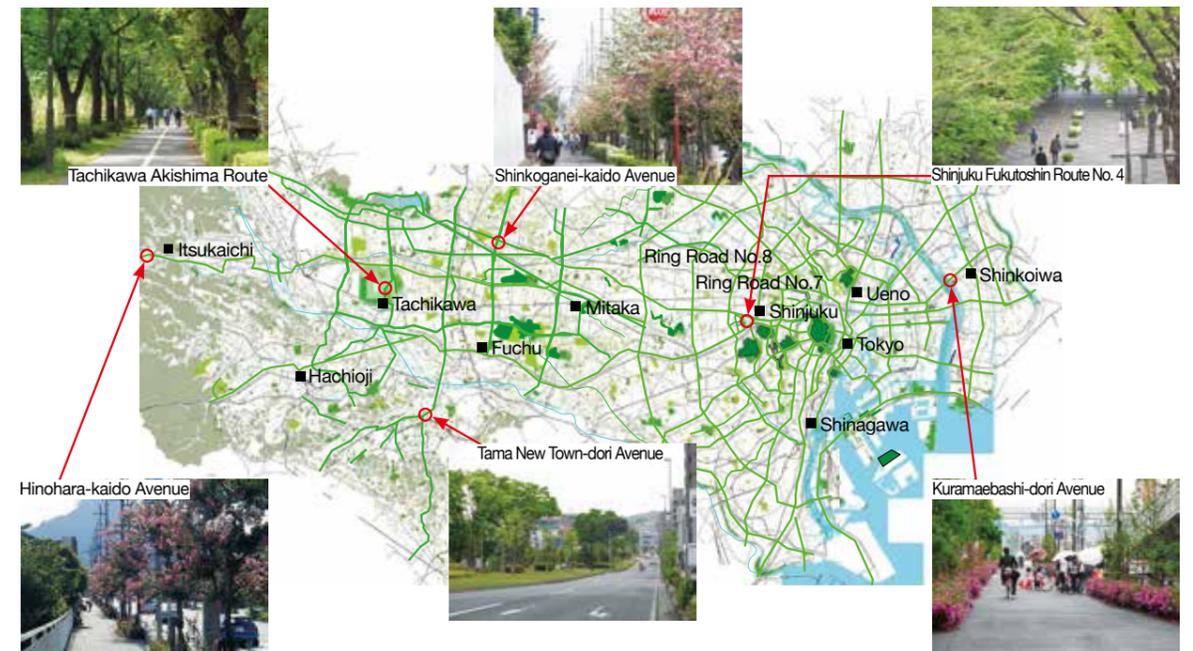


Sotobori-dori Avenue

## Promotion of Roadside Tree Inspections

Tree health inspections are being carried out to find trees in a weakened state at risk of falling or branches breaking while still in the early stages, and take the proper steps, with the aim to ensure healthy tree growth and prevent accidents caused by trees.

In implementing this program, the Bureau has compiled a Manual for Roadside Tree Inspection, etc. to follow. The Bureau has also distributed this manual to all national road offices and municipalities in Tokyo to implement the program in cooperation with them.



Project to Enhance Roadside Trees in Tokyo

## Technical Support

The Bureau of Construction has been utilizing the technologies and knowledge it has accumulated to provide on-site technical support to address issues and problems that develop at various stages from the time of policy formulation to maintenance and management.

### On-site Technical Support

In response to technical inquiries from in-house engineers, the Center provides valuable on-site support by researching information such as various technical standards and surveying and taking measurements at sites as needed.

#### ◆ Technical Support for Roads

##### ● Protecting Environment along Road

The Center surveys current conditions of, analyzes, and assesses vibrations and noises caused by road traffic, and also proposes measures against related issues.

It also provides guidance about how to survey and assess the vibrations and noises.



Road skid resistance test

##### ● Protecting Spaces for Pedestrians

The Center surveys current conditions of, analyzes, and assesses slipperiness of pavement surfaces that is concerned with safe road passage of pedestrians on sidewalks, and also proposes measures against related issues.

The results are helpful in sound maintenance and management of the site.



Road vibration test

#### ◆ Technical Support for Rivers and Parks

The Center provides and analyzes data such as the water level of small and medium-sized rivers in Tokyo and rainfall amounts.

It also continuously measures an outflow quantity to the Kanda river as well as measures groundwater levels around Inokashira pond, so as to contribute to management of the amount and quality of water in the pond.



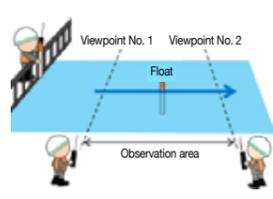
Survey of outflow quantity from Inokashira pond

## Research and Development

To resolve various challenges to implementing measures, the Center is systematically and continuously working on research and development. The expertise and experience gained is being used to provide technical support on the ground.

#### ◆ Observation of Flow Rate on Small and Medium-sized Rivers in Tokyo

In order to promote flood control measures and the creation of a favorable river environment along small and medium-sized rivers in Tokyo, the Center observes the flow of rivers at fixed times, as well as at times of heavy rain. The Center also studies river flow and runoff characteristics using flow rate, water level, rainfall amount, and other data obtained through observation.



Observing river flow rate when a flood is occurring

#### ◆ Running Wheel Fatigue Test for Bridge Deck Slabs

The Tokyo Metropolitan Government manages approximately 1,200 bridges. 40 percent of these bridges have been in use for 50 years or more. Since fatigue damage to reinforced concrete bridge deck slabs, which are used on about 80 percent of the bridges Tokyo manages, can quickly progress due to drainage issues and rainwater, it is necessary to take appropriate prevention measures. Therefore, the Center is conducting fatigue testing using running wheel fatigue testers to evaluate and test for fatigue damage to reinforced concrete deck slabs produced in accordance with conventional design standards, as well as repair and reinforcement of deck slabs constructed by a thin-layer thickening method, which also provides waterproof property. To test the soundness of actual bridge deck slabs, the TMG also carries out its own weight-drop tests.



Fatigue testing (Running wheel fatigue tester)



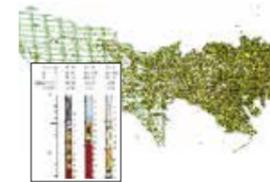
Taking measurements on an actual bridge (Weight-drop test)

## Accumulating and Providing Technical Information

Based on ground information and other data collected, the Center makes information such as liquefaction risk maps, ground boring results, geodetic survey markers and benchmark maps available on its website. The information is used for purposes such as public and private sector construction projects and raising awareness regarding disaster preparedness among Tokyo residents.

#### ◆ Development and Use of the Ground Information System

The Ground Information System is a database of the results of ground surveys conducted by TMG bureaus and others, and is widely used in areas such as construction, disaster preparedness, and environmental administration. Tokyo Liquefaction Risk Map was also updated and released, based on the latest ground information and is used for raising awareness about prevention and mitigation of damages that may be caused by liquefaction.



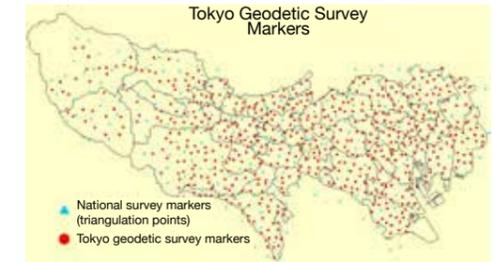
Tokyo Ground Information (GIS version) website



Tokyo Liquefaction Risk Map website

#### ◆ Maintenance of Geodetic Survey Markers and Benchmarks and Provision of Data

The Center establishes and manages geodetic survey markers (class 1) and benchmarks (class 1) throughout Tokyo. In addition, the information gathered is provided as basic public survey data.



## Library of Civil Engineering Technical Information

The Center compiles a database of various types of technical materials, including guidelines and procedures, and archive materials to be used in the execution of projects. Occasions such as the Bridges and Engineering in Tokyo Exhibition are utilized to make archive materials available to Tokyo residents and others.

#### ◆ Organization and Display of Archive Materials

Archive materials, including construction records, photographs, blueprints/plans, and films of roads, rivers, parks, and other facilities from the Meiji, Taisho, and Showa eras, not only serve as a record of urban transformation of Tokyo, but also as valuable materials for the advancement of civil engineering.



Kachidoki Bridge (Photo taken in 1950)



Bridges and Engineering in Tokyo Exhibition

## Human Resource Training

The Center is making efforts to provide human resource training, through technical training and by facilitating the transfer of skills to succeeding generations, for in-house engineers to maintain and improve their technical skills.

### Technical Training

The Center conducts systemized technical training, enabling in-house engineers to acquire the skills they need in line with their abilities, employment grade, and job responsibilities.

#### ◆ Training Programs

With the aim to develop abilities tailored to the Bureau of Construction's engineering work and enhance practical skills, the Center is conducting a variety of technical training programs. It is systematically promoting human resource development, including work to ensure that employees can acquire the skills they need from a selection of realistic training courses directly linked to their profession.

In addition to the training programs requiring trainees to physically get together, online programs are effectively used so that employees can take the training regardless of location.



Course that allows trainees to directly examine materials (Model of concrete retaining wall with construction defects)



Training program using VR technologies (VR bridge superstructure model)

### Transfer of Technical Skills

The Center is advancing initiatives to pass down the knowledge and technical know-how accumulated by veteran staff to the next generation.

#### ◆ Meister System

Employees with superb technical skills are certified as "Engineering Instructors" through the Construction Technology Meister System. By teaching at technical training courses, giving lectures, and handling technical consultations from in-house engineers, the system aims to pass down skills.

#### ◆ Traveling Exhibits

By holding traveling exhibits displaying models of structures at locations such as construction offices, the Center is working to raise technical skills at project sites.



Lecture by a Construction Technology Meister



On-demand exhibition of structure models

## Land acquisition for projects

In order to effectively advance the development of roads, rivers and parks, it is necessary to focus on securing land for projects. To do so, the Tokyo Metropolitan Government is working to obtain the understanding and cooperation of related property rights holders using a compensation system based on fair and just standards to acquire land for roads essential to the road network (i.e., ring roads in the ward area, roads running north to south in Tama district, and roads in the east-west direction connecting the ward area and Tama district) and for the development of rivers and parks that are a priority from the perspective of disaster resistance or improving the living environment.

## Land acquisition process

### ◆ 1 Informational meeting and land survey

An overview of the project is presented, including schedules for the work to be carried out, land survey, and land acquisition. At a later date, property lines are confirmed, and the land to be acquired is surveyed to determine the boundaries and surface area.



### ◆ 2 Informational session for property rights holders

Information on the method of acquiring land, compensation package, and the system to assist displaced residents in rebuilding their lives is presented to those who own land, buildings, or lease property (hereinafter referred to as rights holders) in the project area.



### ◆ 3 Land appraisal and calculation of compensation for each piece of property

The land to be acquired is appraised. Buildings and structures are also surveyed to determine the type of construction, number of structures, and relevant rights holders. The amount of compensation for expenses, including the cost of relocation, is then calculated in accordance with compensation standards set for the implementation of TMG projects.



### ◆ 4 Contract discussions

The total amount of compensation is presented to each rights holder individually following an explanation of details such as the land acquisition price and compensation for the property.



### ◆ 5 Finalization of contracts and payment

Upon completion of discussions, contracts are entered into with each individual rights holder. Payment of the land purchase price and compensation is then made according to the contract. In cases where there are multiple rights holders, as a rule, contracts are entered into at the same time.



### ◆ 6 Transfer of land

The TMG then registers the re-division and change in ownership of the land acquired. Residents or occupants of buildings are asked to relocate. The transfer of land is made once the TMG confirms that all rights holders have relocated.



Hachioji-Arkiruno Line (Shintakiyama-kaido Road)

## Compensation overview

### Land purchase price

Land prices are determined taking account of, for example, appraisals by real estate appraisers and the published market value based on the Public Notice of Land Prices Act. The land price is reviewed each year.

In the event that there is a leasehold on the land to be purchased, an agreement must be reached between the owner and lessee as to how compensation will be allocated between the two parties prior to making a contract with the Tokyo Metropolitan Government.

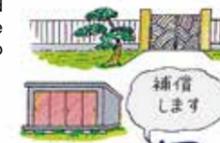
### Compensation for Relocation and Other Expenses

In the acquisition of land, when there are buildings, structures or other personal property on the land, they must be removed. Relocation costs and other expenses will be compensated as "naturally occurring losses."

The types of compensation are briefly outlined below.

#### ◆ 1 Building relocation

When there are buildings on the land to be purchased, the TMG will pay the expense to move the building or to relocate.



#### ◆ 2 Structure relocation

When there are gates, walls, decorative garden stones or sculptures on the property, the TMG will pay the costs to relocate them.



#### ◆ 3 Trees

When trees eligible for relocation are growing on the land to be acquired, the costs associated with relocation will be compensated by the TMG.

#### ◆ 4 Personal property

The TMG will provide compensation for relocation expenses associated with furniture and household goods, store merchandise, office supplies, and other items.

#### ◆ 5 Temporary housing

If it is determined that building occupants require temporary housing while the building is being relocated, the cost of renting will be compensated.

#### ◆ 6 Compensation for renters

When it is determined that a rental contract between the landlord and a lessee cannot continue due to relocation of the building, the TMG will cover expenses that arise from renting in a comparable building.



#### ◆ 7 Businesses

If it is determined that a store, factory or other business must temporarily close in order to relocate, the TMG will pay compensation equivalent to the loss of earnings, fixed expenses, and payments to employees to cover interrupted wages for the period the business is closed.

Additionally, once the business has reopened, if it is determined that there will be a temporary decline in clients, the TMG will cover the losses incurred.

#### ◆ 8 Loss of rental income

When a building subject to relocation is being rented out and rent money cannot be collected during the period of relocation, the TMG will pay an amount equivalent to rental income, excluding building management costs.

#### ◆ 9 Miscellaneous relocation expenses

When a building is relocated or tenants must be vacated, costs involved in selecting a new location for the building or residence for displaced tenants, as well as costs incurred for related legal procedures, will be compensated.



## Assistance with rebuilding lives

The TMG extends individually tailored measures to support rights holders in rebuilding their lives, including arrangements for a replacement piece of land, relocation loans, and arrangements for public housing, and engages in detailed discussions with those affected.

## When land cannot be acquired through negotiations

As a general rule, land is acquired by the TMG through discussion, with rights holders turning over the land voluntarily. When negotiations cannot be completed due to disputes over the land or buildings, or when an understanding cannot be reached with respect to compensation or other matters, the TMG may acquire the land by following the procedures stipulated by the Land Acquisition Act. This is done in the interest of fairness to those who have already cooperated, as well as with the status of the project in mind.

# Land Acquisition for Projects

## Main Locations of Projects for Which Land Acquisition Is Planned

### Road Projects

Area of land scheduled for acquisition in fiscal 2025 : Approximately 132,000 m<sup>2</sup>

Roads are important urban infrastructure that forms the backbone for the city and supports the daily lives of Tokyo residents and urban activity. In the process of land acquisition, full consideration is given to the urgency, importance, and benefits of each project.

#### Special-ward area

Road	Length	Location	Road	Length	Location
Radial Route No.7	2,000 m	Nerima-ku	Ring Road No.1	580 m	Chiyoda-ku
Radial Route No.25	1,690 m	Shinjuku-ku	Ring Road No.3	1,345 m	Shinjuku-ku
Radial Route No.32	1,575 m	Sumida-ku	Ring Road No.4	5,080 m	Minato-ku,Toshima-ku,Shinjuku-ku,Bunkyo-ku,Sumida-ku,Arakawa-ku
Radial Routes No. 35 and No. 36	1,970 m	Itabashi-ku,Nerima-ku	Ring Road No.5-1	5,075 m	Shibuya-ku,Shinjuku-ku,Toshima-ku

#### Tama area

Road	Length	Location
Chofu-Hoya Route	5,100 m	Mitaka City, Musashino City, Nishitokyo City
Fuchu-Tokorozawa-Kamakura-Kaido Avenue	8,360 m	Machida City,Kokubunji City,Fuchu City,Kodaira City,Higashimurayama City
Shin-Ome-Kaido Avenue	7,375 m	Ome City,Higashiyamato City,Musashimurayama City,Mizuho Town
Tokyo-Hachioji Route	1,330 m	Fuchu City, Kunitachi City



Fuchu-Tokorozawa-Kamakura-kaido Avenue (Honmachida, Machida City)



Ring Road No. 3 (Yakuoji)

In addition to the above projects, the Bureau is proceeding with land acquisition as a part of, for example, the Third Suisui Intersection Plan\* to ease traffic congestion caused by vehicles waiting to turn right.

\* See page 13 for more information about the Suisui Intersection Plan.

### River Projects

Area of land scheduled for acquisition in fiscal 2025 : Approximately 38,000 m<sup>2</sup>

The Bureau acquires land for river projects that are necessary for protecting the lives and properties of Tokyo residents from flood damages and improving the living environment.

River	Length	Location	River	Length	Location
Shakujii River	1,400 m	Ogi Bridge-Honryuji Bridge(Nerima-ku)	Tsurumi River	870 m	Upstream of Zushi-chashi Bridge - Upstream of Hikage Bridge (Machida City)
Shirako River	900 m	Misono Bridge-Isshin Bridge (Nerima-ku)	Yaji River	630 m	Upstream of Tsurumae Bridge-Upstream of Ochiai Bridge (Hachioji City)

### Park Projects

Area of land scheduled for acquisition in fiscal 2025 : Approximately 91,000 m<sup>2</sup>

The Bureau acquires land for projects to create parks and green spaces, with the purpose not only of preserving natural environments, but also of providing recreation areas for Tokyo residents and building a disaster-resilient city.

Ward area	Johoku Chuo Park (Itabashi-ku and Nerima-ku), Shinozaki Park (Edogawa-ku), and Wadabori Park (Suginami-ku)
Tama area	Higashifushimi Park (Nishitokyo City), Rokusen Park (Higashikurume City), Jindai Botanical Gardens (Chofu City)

## Departments of the Bureau of Construction

Division Name	Scope of Work	Address	Phone Number
General Affairs Division	Planning and coordination of bureau matters, PR, Assembly, budget, personnel, contracts, property management, border verification, technical management	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5212 (General Affairs Section)
Land Purchase Division	Planning, coordination, guidance, etc. for land acquisition	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5252 (Management Section)
Road and Street Administration Division	Maintenance of roads and bridges, preparation of facilities for traffic safety, approval of road routes, inspection of roads, etc.	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5273 (Management Section)
Road and Street Construction Division	Improvement of roads, city streets, and bridges, planning and coordination for grade-separation of rail crossings	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5313 (Management Section)
Three Ring Expressways Construction Promotion Division	Planning, coordination related to improvement of the 3 ring expressways of the Tokyo Metropolitan Area	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No.2)	03-5320-5176 (Management Section)
Park Division	Planning and coordination for city parks, cemeteries, zoos, gardens, greenery and preservation of nature, etc.	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5363 (Management Section)
River Division	River maintenance and improvement, storm surge measures, sabo, landslide and slope failure prevention, shoreline preservation, planning and coordination for flood defense	2-8-1 Nishi-Shinjuku, Shinjuku-ku (Main Building No. 2)	03-5320-5402 (Management Section)

## Office Addresses and List of Contacts

Offices Names	Scope of Work	Jurisdictional District	Address	Phone Number
1st Construction Office	Development, maintenance, and management of roads and streets, bridges, and rivers	Chiyoda, Chuo, Minato	2-4 Akashi-cho, Chuo-ku	03-3542-0682 (General Affairs Section)
2nd Construction Office		Shinagawa, Meguro, Ota, Setagaya, Shibuya	c/o Shinagawa Sogo Chosha, 2-1-36 Hiromachi, Shinagawa-ku	03-3774-0313 (General Affairs Section)
3rd Construction Office		Shinjuku, Nakano, Suginami	c/o Nakano Sogo Chosha 4-11-19 Nakano, Nakano-ku	03-3387-5132 (General Affairs Section)
4th Construction Office		Toshima, Itabashi, Nerima	2-36-2 Minami-Otsuka, Toshima-ku	03-5978-1703 (General Affairs Section)
5th Construction Office		Sumida, Koto, Katsushika, Edogawa	1-14-11 Higashi Shin-koiwa, Katsushika-ku	03-3692-4574 (General Affairs Section)
6th Construction Office		Bunkyo, Taito, Kita, Arakawa, Adachi	2-10-10 Senjuazuma, Adachi-ku	03-3882-1152 (General Affairs Section)
Nishitama Construction Office		Ome, Fussa, Hamura, Akiruno City, Mizuho, Hinode, Okutama Town, Hinohara	3-20-1 Higashi-ome, Ome-shi	0428-22-7210 (General Affairs Section)
Minamitama Tobu Construction Office		Machida, Tama, Inagi	1-31-12 Nakamachi, Machida-shi	042-720-8622 (General Affairs Section)
Minamitama Seibu Construction Office		Hachioji, Hino	c/o Hachioji Godo Chosha, 3-19-2 Myojin-cho, Hachioji-shi	042-643-2604 (General Affairs Section)
Kitatama Nanbu Construction Office		Musashino, Mitaka, Fuchu, Chofu, Koganei, Komae, Nishi-Tokyo	1-27-1 Midori-cho, Fuchu-shi	042-330-1802 (General Affairs Section)
Kitatama Hokubu Construction Office	Tachikawa, Akishima, Kodaira, Higashi-Murayama, Kokubunji, Kunitachi, Higashi-Yamato, Kiyose, Higashi-Kurume, Musashi-Murayama	2-15-19 Shibasaki-cho, Tachikawa-shi	042-540-9501 (General Affairs Section)	
Civil Engineering Support Center	Civil engineering support and consultation * Operation to be transferred to Tokyo Metropolitan Public Corporation for Road Improvement and Management on April 1, 2025		1-9-15 Shinsuna, Koto-ku	03-5683-1512 Civil Engineering Section (Administration)
Tobu District Park Office	Development, maintenance, and management of parkland and memorial parks, preservation of historical sites and scenic spots, greenery conservation, zoos	Special ward area (Tama area is also included for zoos)	7-47 Ueno-Koen, Taito-ku	03-3821-6141 (General Affairs Section)
Seibu District Park Office		All of the Tama area	1-17-59 Gotenyama, Musashino-shi	0422-47-0218 (General Affairs Section)
Koto River Improvement Office	Storm surge measures, Koto delta rivers improvement, improvement and maintenance of water gates and drainage pump stations		1-14-11 Higashi Shin-koiwa, Katsushika-ku	03-3692-4832 (General Affairs Section)