

Section 5 Urban Disaster Prevention

1 Basic Concepts of Disaster-Resistant Urban Development

The Tokyo Metropolitan Government has established the “Tokyo Metropolitan Regional Disaster Prevention Plan” based on the Basic Act on Disaster Control Measures which sets out the basic measures for urban disaster prevention, and the “Tokyo Metropolitan Earthquake Disaster Measure Project Plan” based on the Tokyo Ordinance against Earthquake Disaster which comprehensively compiles the measures related to earthquake disaster prevention. Among those plans, “Urban Development Plan for Disaster-Resistance” has been regarded as one of the specific promotion plans to prevent earthquake damages and limit the extent of damage.

In 1981, in reaction to the high-risk areas spreading to the uptown areas, the “Urban Disaster Prevention Facility Basic Plan” which was the predecessor of the “Promotion Plan for the Disaster-Resistant Urban Development” was formulated as a long-term basic plan for the disaster-resistant urban development for all Special-ward area.

The “Urban Disaster Prevention Facility Basic Plan” aimed at the creation of a disaster-resistant living space (the city where people don’t have to evacuate even at the disaster) from a viewpoint of “No fire occurrence and No fire spreading” and the development of disaster-resistant urban environment by constructing urban facilities. The old Plan was also intended, with a firebreak belt development at its core, for the promotion of disaster prevention of both tangible and intangible elements, such as the improvement of the living environment and the development of volunteer disaster prevention groups in disaster-resistant living spaces each of which was roughly the size of an elementary school district. As specific measures based on this Plan, the Tokyo Metropolitan Government promoted the disaster-resistant urban development through projects such as the disaster-resistant living space promotion project and the urban disaster prevention and fire-resistance promotion project.

In light of the lessons learned from the Great Hanshin-Awaji Earthquake on January 17, 1995, we re-examined the “Urban Disaster Prevention Facility Basic Plan”, and formulated the Basic Plan for the Disaster-Resistant Urban Development Promotion Plan in FY 1995 and the Development Plan for the same Plan in FY 1996, for the purpose of indicating a policy for the more effective and intensive disaster-resistant urban development promotion in order to protect the livelihood of the citizen of Tokyo against a massive urban fire and building collapse at the time of earthquake.

The Tokyo Ordinance against Earthquake Disaster was enacted in December 2000. Article 13 of the Ordinance requires the TMG to develop a plan for disaster-resistant urban development. The plan shall stipulate: (1) guidelines for the policy measures concerning the disaster-resistant urban development; (2) designation of development policies and development areas in accordance with the local characteristics; and (3) designation of the priority development areas, etc.

Since the formulation of the Disaster-Resistant Urban Development Promotion Plan in FY 1995, the plan has been revised three times (March 2004, January 2010, and March 2016) to improve the disaster preparedness of urban areas. After that, in order to protect the people of Tokyo and the functions of the capital city from a major earthquake that could occur at any time, the basic policy was revised in March 2020, and the development program was revised in March 2021, in order to develop effective measures based on the latest measurement surveys of the level of danger in the area and the results and challenges of the past efforts, and to ensure the disaster resistance of urban areas at an early stage.

(1) Community Earthquake Risk Assessment Study

The Community Earthquake Risk Assessment Study is based on the Article 12-1 of the Tokyo Metropolitan Ordinance for Earthquake Disaster Measures and the Article 5 of the Ordinance for Enforcement of the same Ordinance, and its purpose is to increase the awareness of the citizen of Tokyo against an earthquake disaster and to promote the elevation of the disaster prevention consciousness, as well as to be referred in time of the selection for the priority implementation areas of the Disaster

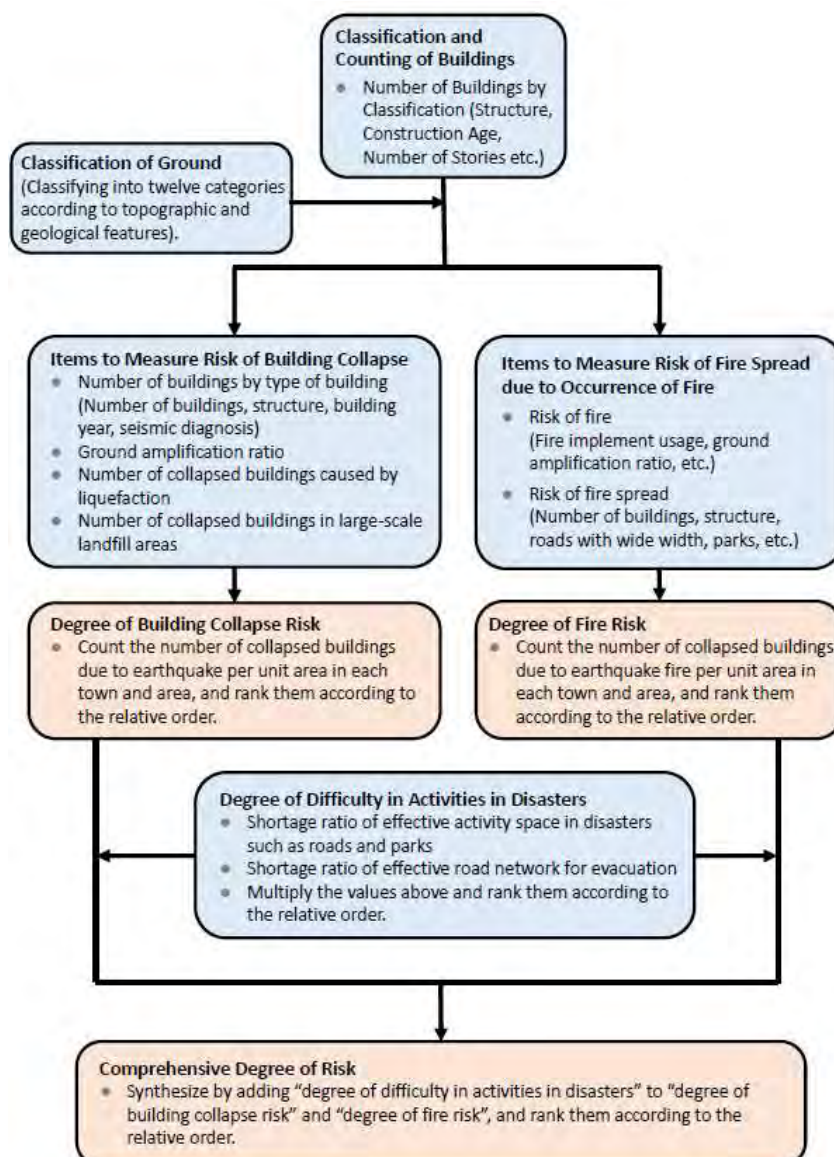
Prevention as an indicator of the Disaster-Resistant Urban Development. And scientifically measuring and studying the degree of risk in the area with respect to an earthquake in every five years, we publicize the results to the citizen of Tokyo under the Article 12-3 of the same Ordinance.

The research contents are, intended for the entire urban areas in Tokyo, to measure the degree of earthquake risk in each town and district from the aspects of ground, buildings, and fire occurrence and etc., and evaluate by comparing them with other areas to rank from one (low) to five (high) according to the degree of risk (the degree of vulnerability).

The first research result for the Special-ward area in 1975, the first for Tama region in 1980, the second for the Special-ward area in 1984, the second for Tama region in 1987, the third for the Special-ward area and Tama region at once (unified hereafter) in 1993, the fourth in 1998, the fifth in 2002, the sixth in 2008, the seventh in 2013, and the eighth in 2018 were publicized respectively.

In the eighth research, for 5,177 districts in towns, we measured the degree of risk from two aspects of building collapse and fire against earthquake in each district and relatively evaluated the risk of the degree in all districts by ranking from one to five. Also, we measured the degree of difficulty on activities based on the status of development on the road infrastructure as the index showing ease of activity in time of disasters and publicized the degree of building collapsing risk and fire risk, and the comprehensive degree of risk in consideration of the degree of difficulty on activities in time of disaster.

Chart 3-43 Flow of the Eighth Community Earthquake Risk Assessment Study



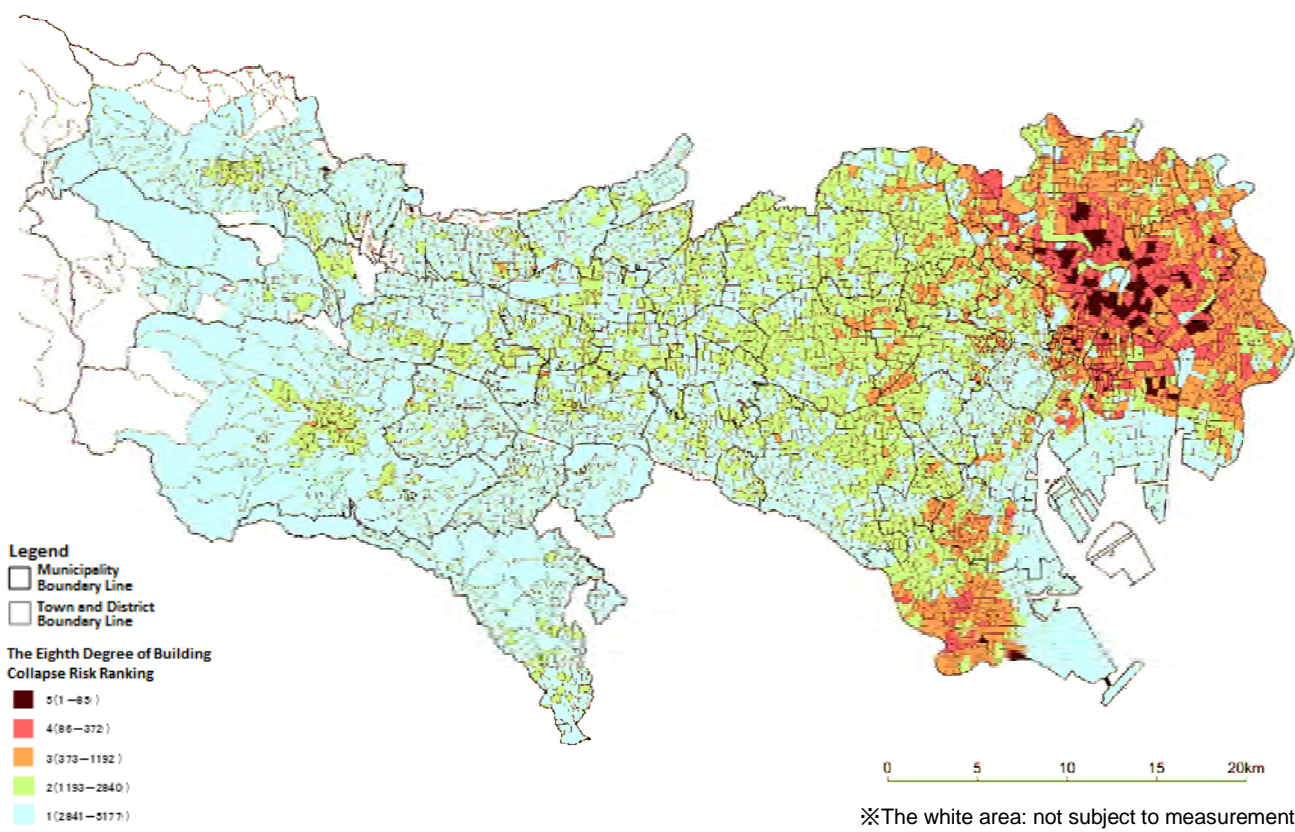


Chart of the Eighth Degree of Building Collapse Risk Ranking

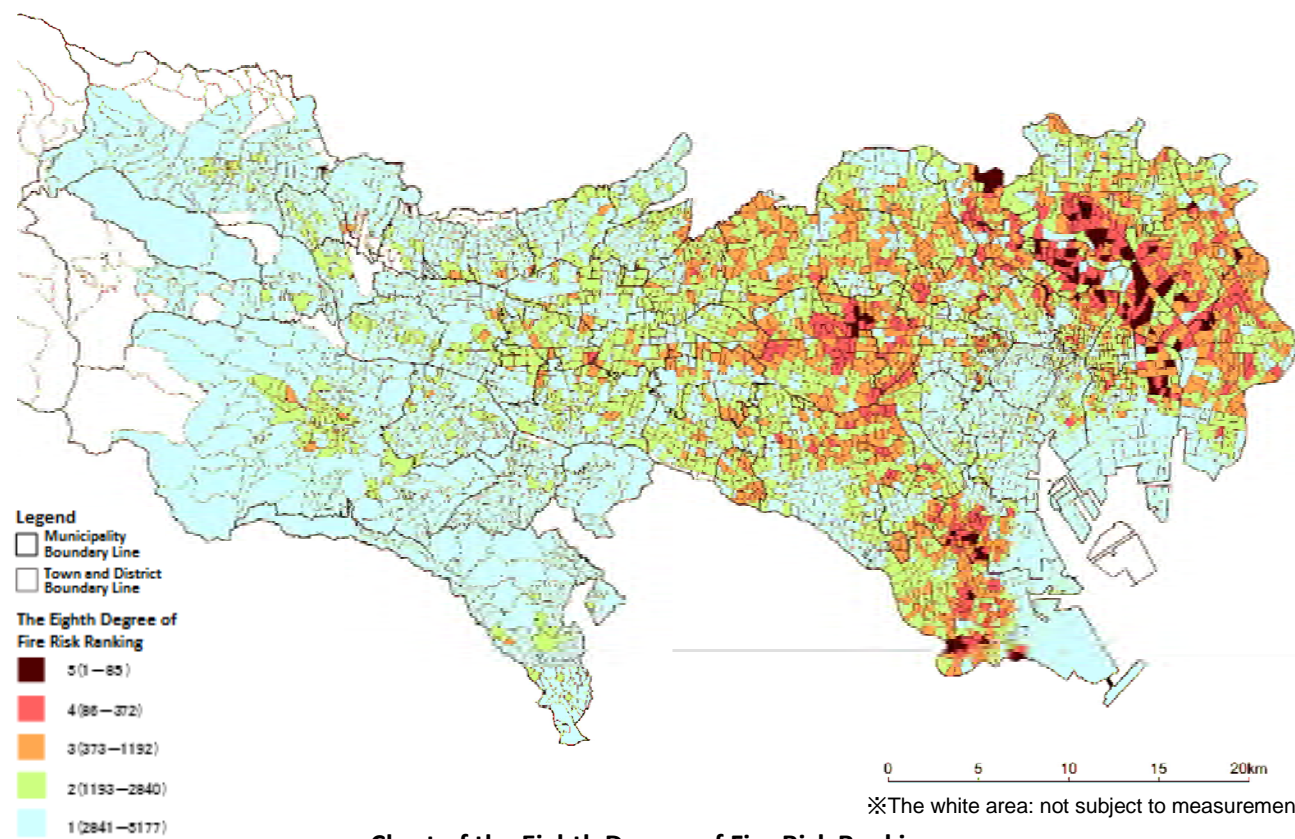
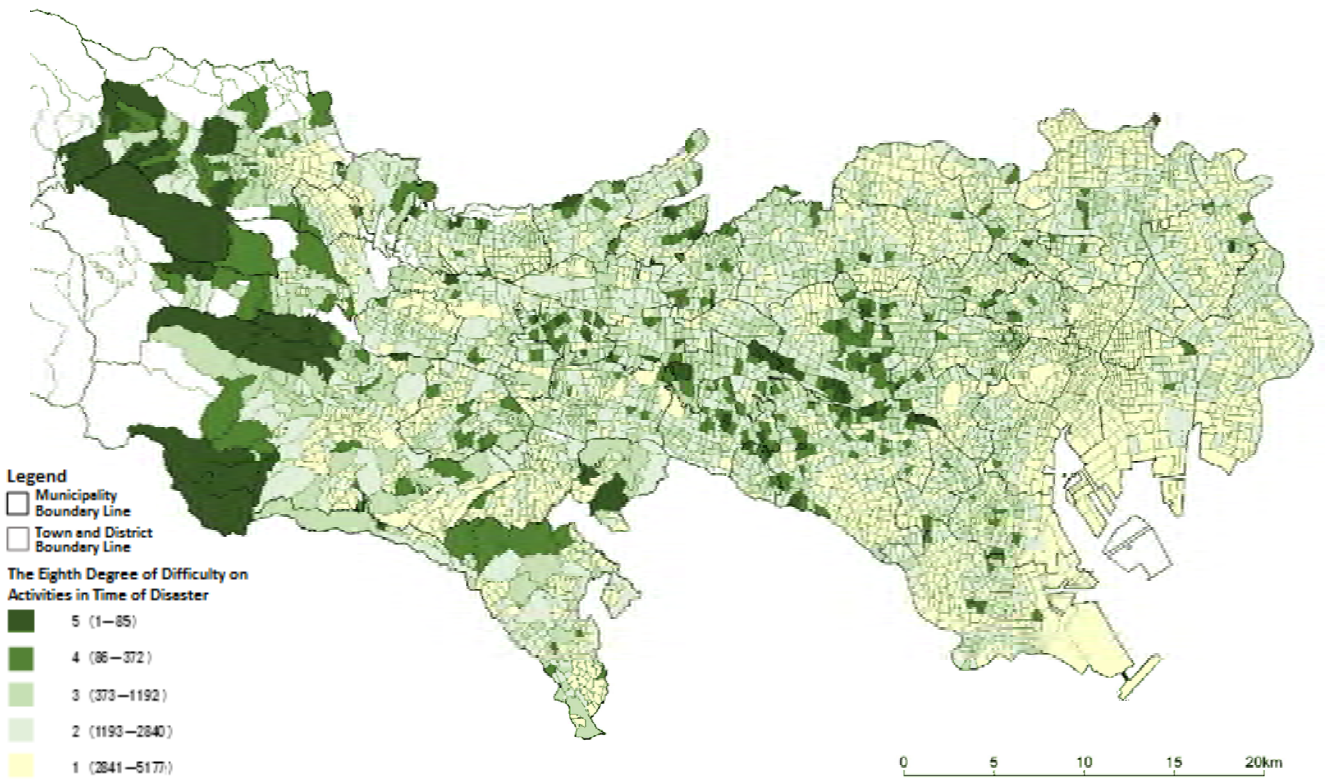
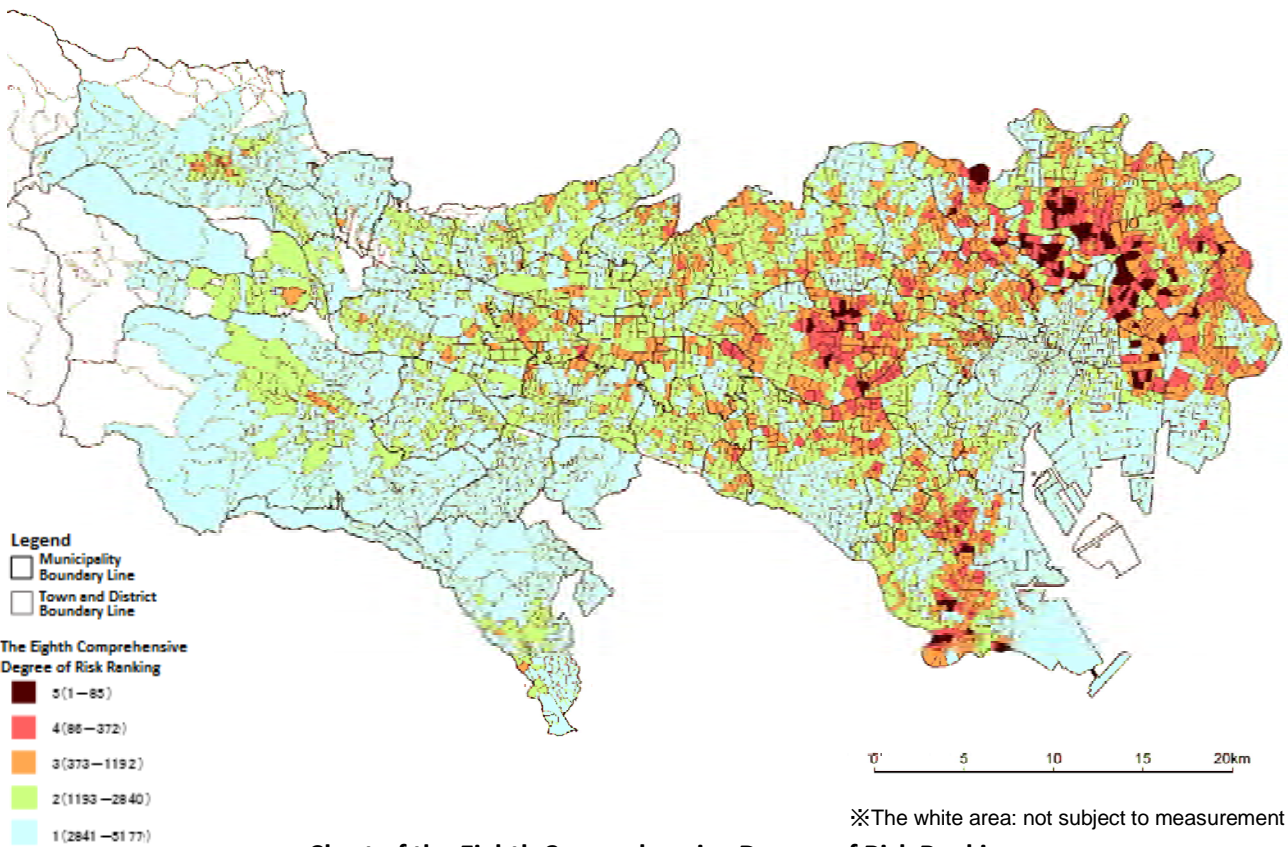


Chart of the Eighth Degree of Fire Risk Ranking



※The white area: not subject to measurement

Chart of the Eighth Degree of Difficulty on Activities in Time of Disaster



※The white area: not subject to measurement

Chart of the Eighth Comprehensive Degree of Risk Ranking

(2) Urban Development Plan for Disaster-Resistance (March 2016)

Based on the lessons learned from the Great Hanshin-Awaji Earthquake, TMG formulated the “Disaster-Resistant Urban Development Promotion Plan” in 1995 (March 2004, January 2010, and March 2016), and has been working to improve the disaster resistance of urban areas. Based on subsequent indications of the imminence of an earthquake directly hitting Tokyo and the latest results of regional risk assessment surveys, the basic policy was revised in March 2020 and the development program was revised in March 2021 with the aim of quickly realizing a disaster-resistant Tokyo.

(Objectives and Structure of the Plan)

This plan was formulated for the purpose of preventing damage expansion at the time of the earthquake and promoting various measures with respect to urban structure improvement, based on Article 13 of the Tokyo Metropolitan Ordinance for Earthquake Disaster Measures. It consists of the “Basic Policy” in which the basic directions and development areas of the measures were prescribed and the “Development Programs” in which the specific development plans were prescribed.

(Subject Areas and Planning Period)

In this plan, the special wards centered on the areas lined by densely-built wooden residential areas and seven cities in Tama area (Musashino City, Mitaka City, Fuchu City, Chofu City, Koganei City, Nishi-Tokyo City and Komae City) were designated as the subject area among the urbanization promotion areas in Tokyo (the special wards and 28 cities and towns). The term of the Basic Policy is for ten years from FY2021 to FY2030, and one of the Development Programs is for five years from FY2021 to FY2025.

(Basic Concept)

The basic concept of the Disaster-Resistant Urban Development is as follows.

- 1) Formation of firebreak belts and securing the functions of emergency transportation roads
- 2) Formation of safe and high-quality urban areas
- 3) Securing evacuation sites

The firebreak belts are non-combustible spaces consisting of urban facilities such as roads, rivers, railways and parks that play the role to prevent urban fires due to an earthquake from spreading and fire-resistant buildings adjacent to them, and 1,681km was designated in the entire subject areas.

Also, 28 areas (about 6,500 ha) where especially serious damages were expected at the time of earthquake such as that community earthquake risk was high and that aged wooden buildings were especially accumulated were designated as a development area. Among the development areas, 52 districts (about 3,350 ha) where the projects contributing especially to disaster-resistant urban development would be intensively implemented in a multi-layered way were designated as a priority development area (Fireproof Special Zones).

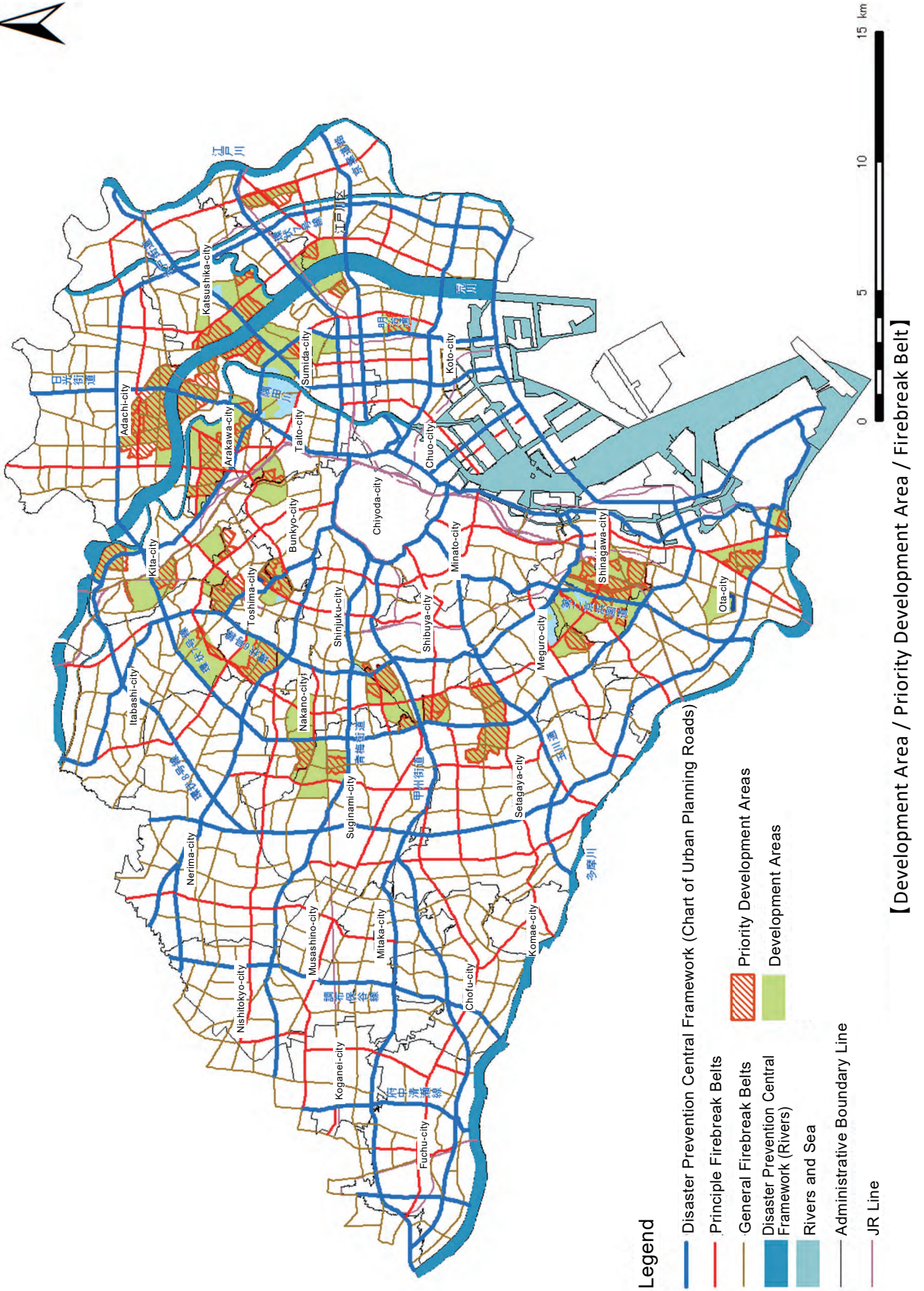
(Efforts in the Fireproof Special Zone System and Specified Implementation Lines)

In order to further accelerate the improvement of areas with densely-built wooden housing, the “Ten-Year Project to Advance Fire Resistance in Close-Set Wooden Housing Areas” was launched in 2011, and the fireproof special zones, which promote fireproofing with special support, and the development of specified implementation lines, which are major city planning roads that form firebreak belts, have been promoted in an integrated manner. According to the revision of the basic policy in March 2020, these efforts have been extended for five years, and we will continue to strongly promote the fireproofing of development areas.

Refer to <Topic> 10-Year Project to Advance Fire-Resistance in Areas with Densely-Built Wooden Houses (pages 123)



Figure 3-44 Chart of Zoning in the Urban Areas



(3) Approach of Pre-disaster Planning for Post-disaster Urban Reconstruction

As pre-disaster planning for an earthquake that directly hits Tokyo area, as well as the “Disaster-Resistant Urban Development”, Tokyo Metropolitan Government is examining the concept, procedures and operating system of urban reconstruction in advance and promoting the efforts for the “Pre-disaster Planning for Post-disaster Urban Reconstruction” to share information with citizen of Tokyo, toward swift and systematic urban reconstruction after the disaster.

a. Idea, Goals and Basic Policy of Urban Reconstruction (Concept of Urban Reconstruction)

Toward swift and systematic urban reconstruction at the time of disaster such as an earthquake that directly hits Tokyo area, in order to share the concept of urban development at the time of earthquake reconstruction between citizens of Tokyo and the administration in advance, Tokyo Metropolitan Government formulated the “Earthquake Reconstruction Grand Design” in 2001, and therein indicated the “Idea, Goals and Basic Policy at Time of Reconstruction.”

After that, while considering the lessons from major disasters occurred across Japan, in light of the opinions of the citizen of Tokyo and academic experts, Tokyo Metropolitan Government formulated again the “Idea, Goals and Basic Policy of Urban Reconstruction (hereinafter referred to as “this Basic Policy, etc.)” in June 2019.

In case Tokyo suffers damage due to natural disasters such as earthquake, heavy rainfall, stormy wind, volcanic eruption, etc., this Basic Policy, etc. shall be used as guidelines when formulating policies and plans and implementing projects for urban reconstruction.

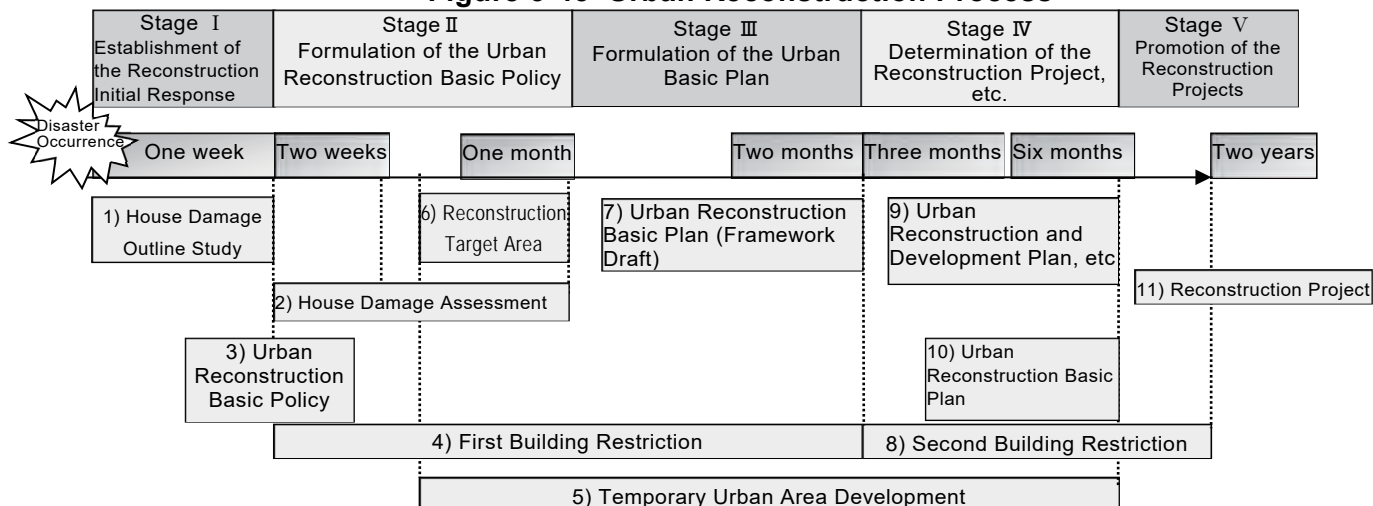
b. Tokyo Metropolitan Government Earthquake Disaster Reconstruction Manual (Reconstruction Process and Executive Structure)

In light of the lessons learned from the Hanshin-Awaji Earthquake in January 1995, in order to prepare in advance for the earthquake, the Tokyo Metropolitan Government and the municipal governments prepare the Earthquake Disaster Reconstruction measures. We instituted the “Urban Reconstruction Manual” in May 1997 and the “Livelihood Reconstruction Manual” in January 1998. Subsequently, in March 2003, we integrated these two manuals and instituted the “Tokyo Metropolitan Government Earthquake Disaster Reconstruction Manual,” which comprises two parts of the “Reconstruction Measures” for the administrative officers and the “Reconstruction Processes” for the citizen of Tokyo. Then, they were revised in consideration of the legislation for the Great East Japan Earthquake and the experiences of various disaster responses in March 2016. In addition, in March 2021, we reviewed and made necessary revisions, referring to the lessons learned and new findings from our response to the series of natural disasters after the Kumamoto Earthquake in April 2016.

In the Reconstruction Process, at the post-disaster restoration, considering it important that the three functions, which are “Self-help” in which disaster victims themselves rise, “Mutual assistance” in which local residents support each other (= Community Power) and “Public Assistance” to support these activities, collaborate and cooperate with each other, we indicate that we will promote the “Community Cooperative Reconstruction” by utilizing community power which became a driving force for the reconstruction at the Great Hanshin-Awaji Earthquake.

The Reconstruction Measures explain the action guidelines implemented by the administration and specifically describing the administrative actions by category such as Chapter 1: The Establishment of the Reconstruction Systems, Chapter 2: The Urban Reconstruction, Chapter 3: The Housing Reconstruction, Chapter 4: The Livelihood Reconstruction, Chapter 5: The Industrial Reconstruction, especially, Chapter 2 explains from the Occurrence of the disaster to the Reconstruction project by dividing into five stages and according to the schedule further divided the Reconstruction procedures into 11 items. (Figure 3-45)

Figure 3-45 Urban Reconstruction Process



(Reference) Building Restriction

(Procedures 4) First Building Restriction

At the time of reconstruction, the Building Restriction areas are designated in case it is necessary for the Land Readjustment Project under the City Planning or the Land Readjustment Act.

Based on Article 84 of the Building Standards Act, we may restrict or prohibit to construct the buildings within the area only within one month after the disaster occurrence. Furthermore, the period can be extended within a range of not exceeding one month (two months from the disaster occurrence).

(Procedures 8) Second Building Restriction

In the areas where the Urban Reconstruction Plan was not approved within the First Building Restriction period and further studies were necessary, the restriction of the buildings is enforced. Based on Article 5 of the Act on Special Measures Concerning Disaster-Stricken Urban District, the Urban Disaster Reconstruction Promotion Areas and the building restriction period are designated in the City Planning. (The building restriction period is for maximum two years from the disaster occurrence.)

c. Public Awareness among Citizens of Tokyo

With respect to the “Idea, Goals and Basic Policy of Urban Reconstruction” and the “Tokyo Metropolitan Government Earthquake Disaster Reconstruction Manual,” it is essential, not only to formulate them but also for citizens of Tokyo to understand and share them.

To think with citizens of Tokyo regarding a concept of Community-based Development for Reconstruction after an earthquake disaster, Tokyo Metropolitan Government has held the “Earthquake Reconstruction Symposium” in which citizens of Tokyo participate every year since 2000. Tokyo Metropolitan Government has provided an opportunity to think about pre-disaster planning for urban reconstruction by keynote speeches of academic experts and people who have experienced earthquake disasters, reports from Tokyo Metropolitan Government (explanation of manuals, etc.) and panel discussion.

Also, on the occasions of comprehensive disaster prevention drill, disaster prevention exhibition and earthquake-resistant campaign which are held every year, Tokyo Metropolitan Government raises public awareness among citizens of Tokyo through displaying panels and showing films on advance reconstruction.

Furthermore, Tokyo Metropolitan Government established a subsidy system (for public awareness on collaborative community reconstruction) in April 2019 to support private groups and municipalities in holding seminars and workshops where citizens of Tokyo can learn the urban reconstruction process.

d. Training relating to Urban Reconstruction (Improvement of Practical Skills of Administrative Staff)

The staff of Tokyo Metropolitan Government and municipalities also acquaint themselves with the reconstruction procedures shown in the “Idea, Goals and Basic Policy of Urban Reconstruction” and the “Tokyo Metropolitan Government Earthquake Disaster Reconstruction Manual” and undergo five kinds of training every year for the improvement of awareness on urban reconstruction.

1) House Damage Survey Training (from 1998)

In the “Tokyo Metropolitan Government Earthquake Disaster Reconstruction Manual,” the staff of municipalities shall survey the situations of house damage which becomes the basic data to formulate the policy relating to urban reconstruction from immediately after earthquake disaster and send them to Tokyo Metropolitan Government. Then Tokyo Metropolitan Government shall graphically illustrate and summarizes them.

Therefore, in order that staff of Tokyo Metropolitan Government and municipalities can act swiftly from immediately after the earthquake disaster, house damage survey training has been carried out targeting staff of Tokyo Metropolitan Government and municipalities.

2) Urban Reconstruction Training

(a) Wide-Area Urban Reconstruction Training (from 2017)

Targeting staff of Tokyo Metropolitan Government, a tabletop exercise that performs up to preparing the “Tokyo Metropolitan Government Urban Reconstruction Basic Plan” for wide-area infrastructure in the Ward areas or in the Tama area has been carried out.

(b) Urban Reconstruction Training 【Project Planning】 (from 2016)

Targeting staff of Tokyo Metropolitan Government, a tabletop exercise to formulate project plans for the urban reconstruction project has been carried out.

(c) Urban Reconstruction Training (from 1998)

Targeting municipality staff, a tabletop exercise to formulate the Reconstruction Town Development Plan (draft) has been carried out, by assuming damage situations in a different target area every year. From 2016, staff of Tokyo Metropolitan Government have also participated in this tabletop exercise relating to the plan (draft) formulated by municipality staff as the staff who coordinate over wide areas.

3) Reconstruction Town Development Practitioner Training (from 2016)

From the lessons of major disasters in recent years, in order to realize a swift and systematic urban reconstruction, it is important to promote the efforts of local-level advance reconstruction. By sharing information with its residents and resolving issues on the local-level Reconstruction Town Development Plan in advance, a swift reconstruction can be promoted when affected by a disaster.

Seminars and training to train municipality staff who can formulate a reconstruction plan and plan and execute the Reconstruction Town Development like the above on a local level have been carried out.

e. Promotion of Efforts for Pre-disaster Planning for Urban Reconstruction in Municipalities

For reconstruction, each municipality needs to prepare its own earthquake disaster reconstruction manual in light of the characteristics of the region, and the Tokyo Metropolitan Government prepared the “Standard Manual on Municipal Earthquake Disaster Reconstruction” in March 2009 (revised in March 2017).

Then, the Tokyo Metropolitan Government prepared a “Guidebook on Advance Reconstruction in Urban Areas” in March 2015 to support municipalities in the considerations for enhancing advance reconstruction efforts and to promote efforts to raise awareness of advance reconstruction while enhancing the visibility for municipal representatives and local residents. While the “Tokyo Earthquake Disaster Reconstruction Manual” determines the reconstruction procedures, division of roles, etc., this guidebook summarizes the preparation that makes use of the manual.

As the status of activities in each municipality up until now differs, we will work on it by taking into account respective actual status and setting the following targets as a guide to promoting the measures.

Level 1 ⇒ Work on the consideration for preparing each municipality’s own earthquake disaster reconstruction manual.

Level 2 ⇒ After completing the above preparation, work on the consideration for conducting the regionally-owned reconstruction town development training.

Level 3 ⇒ While expanding the reconstruction town development training, work on the consideration of the manner of utilization, such as the positioning of the result of considerations as district planning, etc.

Furthermore, in order to promote collaboration with community residents in times of peace, Tokyo Metropolitan Government will continue training for municipality staff as mentioned above and a subsidy system to support workshops by municipalities where community residents can learn the urban reconstruction process.

2 Measures for Building Disaster-Resistant Cities

(1) Policy for Disaster Prevention Block Improvement

The Policy for Disaster Prevention Block Improvement is the master plan to promote securing the disaster prevention functions, and rational and sound use of the land in the Densely-Built Wooden Residential Area where the risk is considered very high from the viewpoint of the disaster prevention, by utilizing various projects and the City Planning, under the law concerning the promotion of the Disaster Prevention Block Improvement in the Densely-Built Urban Areas (Low No. 49,1997. Hereinafter referred to as “Densely-Built Law”) and the regulations of the City Planning Act.

This policy shows the outlines of the development plan, by designating notable scale of areas where the integral and comprehensive urban area redevelopment is required as the “Disaster Prevention Redevelopment Promotion Area,” and roads and parks etc. to be developed to secure the functions of the Fire Spread Prevention and Evacuation as the “Disaster Prevention Public Facility.”

In the Disaster Prevention Redevelopment Promotion Area, the subsidized projects such as the joint reconstruction subsidy by the approval of the reconstruction plan are expanded, as well as the recommendation for the elimination of the fire spread hazardous buildings and the utilization of Urban Renaissance Agency become available.

Also, swift development becomes possible by designating the scheduled project executors and the scheduled date of the business commencement in the City Planning in regard to the disaster prevention public facilities to be developed as the urban facility.

Eighty-two areas, 5,135 ha of the Disaster Prevention Redevelopment Promotion Area and 233 Disaster Prevention Public Facilities, were designated as of April 1, 2021.

(2) Projects in Densely-Built Wooden Residential Area

In order to improve the disaster prevention of the urban city and to protect the lives and property of the citizen of Tokyo, it is important to improve the Densely-Built Wooden Residential Area that has disaster risks and the problems on the living environment.

Therefore, the Tokyo Metropolitan Government, in cooperation with the municipalities, is conducting the Densely-Built Wooden Residential Area Development Project in the development areas designated in the Promotion Plan for the Disaster-Resistant City.

This project is to promote comprehensively the development of public facilities such as the community roads and the disaster prevention parks, and the improvement of the disaster prevention and the living environment, as well as to promote the elimination and rebuilding of the aging buildings.

18 wards, 51 areas of approximately 2,606 ha are being conducted as of April 2021,

***Refer to Table 3-46 “the List of Project Implementation Area for the Densely-Built Wooden Residential Area Development Project” (page 158)**

(3) Urban Disaster Prevention and Fireproofing Promotion Project

It is important to protect the lives and properties of residents from fire due to a great earthquake. To do so, we need to work on the prevention of the urban fire and securing the safety of the evacuation in times of disasters by making cities fireproof. Therefore, the Tokyo Metropolitan Government and the Special Wards have been implementing the Urban Disaster Prevention and Fireproofing Promotion Project since 1980.

This project is to protect the evacuees from the radiant heat of fire, as well as to designate the firebreak belts and the evacuation sites which are the Disaster Prevention Central Framework necessary for the disaster prevention, and the evacuation roads as the “Fireproofing Promotion Areas,” and to promote fireproofing by partially subsidizing the construction cost to the persons who construct fire-resistant buildings in the areas, and to prevent the urban fire spread. We work on this project aiming at approx. 70% of fireproofing building ratio in the Fireproof Promotion Areas in approx. 10 years.

Please note that the project completed areas are 78 areas, 1,375.7 ha in the project areas of 120 areas, 1,670.8 ha as a project result as of April 2021.

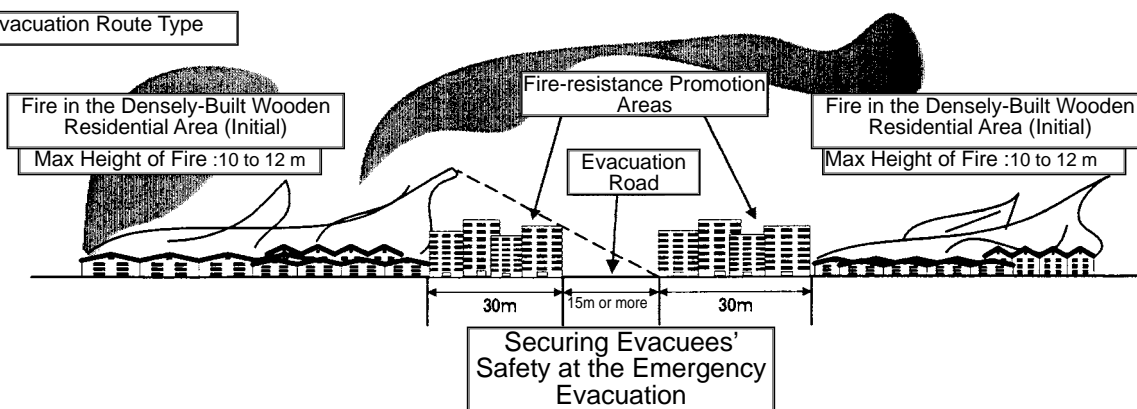
*** Refer to Table 3-47 The List of Project Implementation Area for the Urban Disaster Prevention and Fireproofing Promotion Project (page 159)**

- Eligible person for Subsidy: Persons who construct a fire-resistant or semi fire-resistant building with two floors or more and 7 m or more height in the Fireproofing Promotion Area.
- The amount of subsidy: the Special Ward subsidizes a part of the construction cost in proportion as the total floor area of up to the third floor of the building. In addition, the Special Ward subsidizes the demolition cost to demolish an existing building, the temporary residence cost associated with moving, the moving cost for movable properties and moving miscellaneous cost.

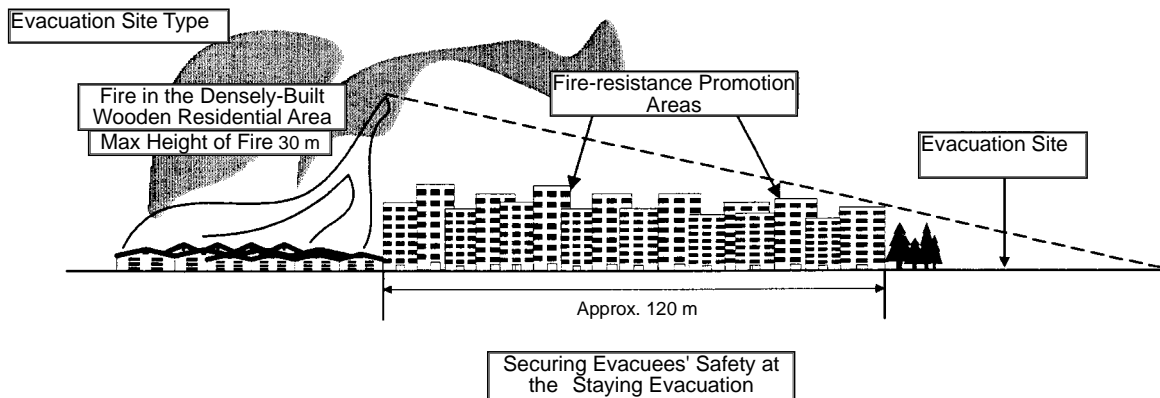
Subsidy Items	Central Government	Tokyo Metropolitan Government	Ward
Fireproof Promoting Survey	1 / 3	1 / 3	1 / 3
Housing Subsidy	1 / 2	1 / 4	1 / 4
Subsidy for Building Demolition	1 / 2	1 / 4	1 / 4
Subsidy for Temporary Residence	1 / 2	1 / 4	1 / 4
Subsidy for Moving Cost for Movable Properties	1 / 2	1 / 4	1 / 4
Subsidy for Moving Miscellaneous Cost	1 / 2	1 / 4	1 / 4
Subsidy for Fireproof Building for Residence	1 / 2	1 / 4	1 / 4

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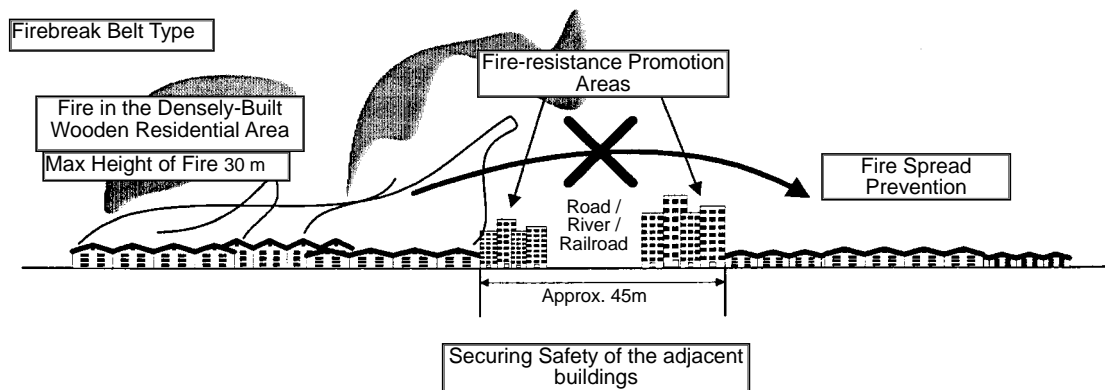
Evacuation Route Type



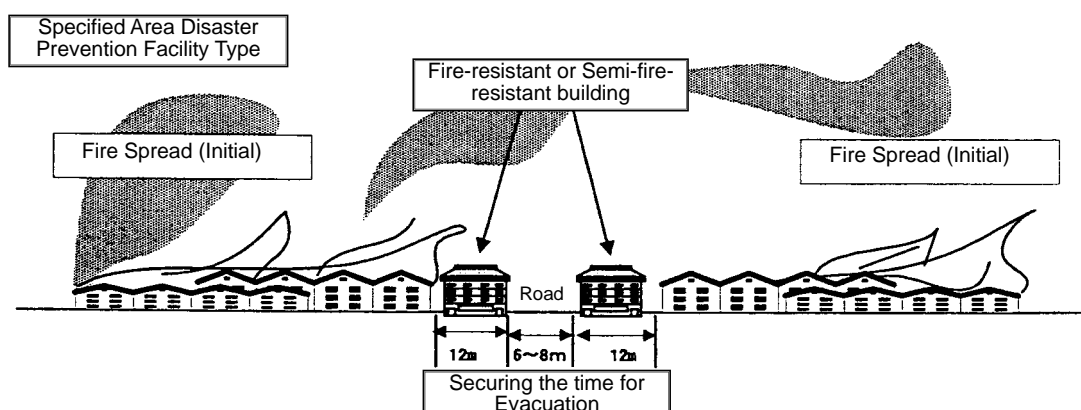
- To protect the evacuees from the radiant heat of urban area fire by making the area fireproof within approx. 30 m from the evacuation roads designated in the Community Disaster Prevention Plan.



○ To protect the evacuees staying in the Refuge Site from the radiant heat of neighboring massive fire by making the area fire-resistant within approx. 120 m from the Refuge Sites designated in the Community Disaster Prevention Plan.



○ To prevent the fire spread to the adjacent blocks and secure the safety against urban area massive fire by making the area fire-resistant within approx. 45 m combined with the width of the principle roads which are the framework of the Firebreak Belts designated in the Regional Disaster Prevention Plan.



○ To prevent fire spread in a few hours against initial fire and secure the evacuation time, by making the area fire-resistant within approx. 12 m (a space of one unit) surrounding the Specified Area Disaster Prevention Facility under the Act on Promotion of Improvement of Disaster Control Districts in Populated Urban Districts.

(4) Designation of Evacuation Sites, Areas Designated to Remain within the District and Evacuation Roads

It is important to do our best for the prevention of fire outbreak and the initial firefighting activities. But it is also necessary to evacuate in case there is a risk of lives due to the earthquake fire spread.

The Tokyo Metropolitan Government has designated the Evacuation Sites and Roads in the ward area in advance under Article 47-1 and Article 48 of the Ordinance on the Earthquake Disaster Countermeasures. **(Refer to Figure 3-48 Evacuation Sites, Areas Designated to Remain within the District, and Evacuation Roads (amended in the fiscal 2018), and Table 3-49 List of Evacuation Sites and Areas Designated to Remain within the District)**

Also, as for the Tama region, each municipality has designated them in light of each local situation.

(Evacuation Sites)

To designate the sites, the following are the main requirements.

- Having a certain area large enough against radiant heat (hereinafter referred to as “Evacuation Effective Area”) in time of the major earthquake
- The lands are mainly used as parks, green spaces, housing complexes, schools, transportation facilities, supply processing facilities, temples or cemeteries, amusement parks, sports facilities, etc.

For the capacity of the evacuation site, we secure 1 m² per person against the effective evacuation area in principle and allocate it to each area. The allocation to each area is conducted with consideration of each urban area, the neighborhood association and the residents' association.

The Ordinance was amended in June 2018, and 213 sites were designated as the Evacuation Sites.

(Designated Remaining Area within the District)

Incombustibility of the district is progressing, and even if a fire breaks out, there is no threat of a large fire spreading within the district, and districts that do not require extensive evacuation are designated as the Designated Remaining Area within the District.

The ordinance was amended in June 2018, and 37 areas were designated as the Designated Remaining Areas within the District.

(Evacuation Roads)

In principle, you can choose the way to evacuate to the Evacuation Site. However, we designate the Evacuation Roads for the areas where the distance to the Evacuation Site is approx. 3 km or more, or there is a significant risk of fire spread. This is to guide the safe and smooth evacuation by clarifying the principle Evacuation Roads in advance.

With the amendment to the Ordinance in June 2018, 14 systems, 58 roads, total length approx. 54 km were designated for 12 Evacuation Sites.

Also, we are designating the Evacuation Roads with a width of 15 m or more in principle. (Provided, however, that if there is no such road, the width shall be 7.5m or more)

Figure 3-48

Evacuation Sites, Areas Designated to Remain within the District, and Evacuation Roads (Revised Fiscal 2018)

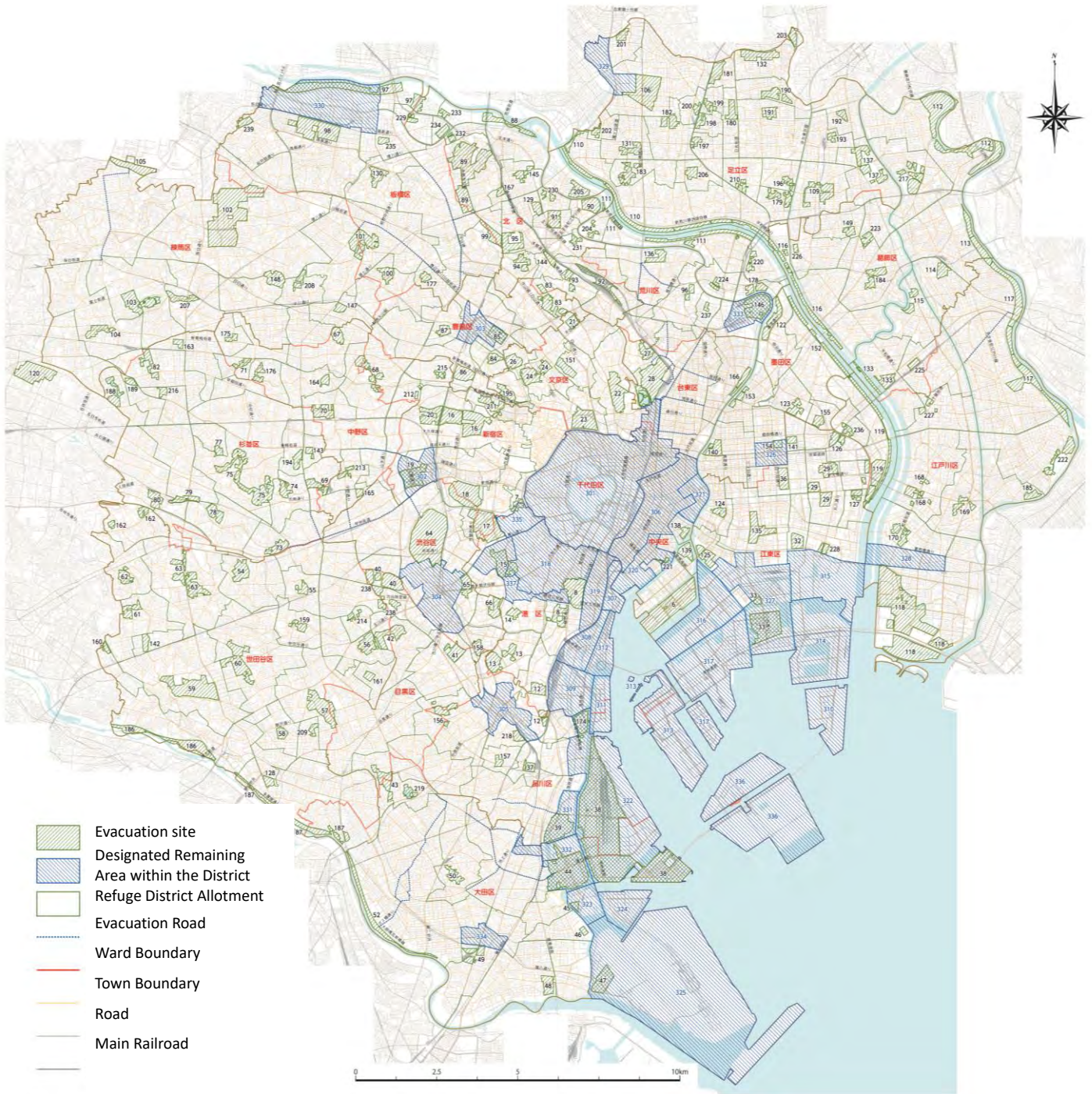


Table 3-49 List of Evacuation Sites and Aras Designated to remain within the District

(Revised in 2018)

No.	Evacuation Site	No.	Evacuation Site	No.	Evacuation Site
6	Harumi Area	90	Toshima 5-chome Danchi (Housing Complex)	166	Sumida Park
7	State Guest House	91	Ohji 6-chome/Asuka High School/Sundaigakuen	167	Shimizuzaka Park
8	Shiba Park/Keio University	92	JR Tabata/Oku Soshajou (Railroad Yard)	168	Funabori 1-chome Jutaku (Housing Complex)
12	Takanawa 3,4-chome/Gotenyama	93	Kita Ward Disaster Prevention Center	169	Tokyo Metropolitan Kasai Technical High School /Nishimizue Jutaku (Housing Complex)
13	Institute of Nature Study/Seishin Joshi Gakuin	94	Toei Takinogawa 3-chime Danchi (Housing Complex)	170	Gyosen Park/Ukita Jutaku (Housing Complex)
14	Arisugawanomiya Memorial Park	95	Jujodai/Kita Ward Central Park	174	Tennoz Isle
15	Aoyama Cemetery	96	Arakawa Natural Park	175	Tokyo Metropolitan Musashigaoka Senior High School
16	Toyama Park	97	Ukima Park/Ara River Kasenshiki (River Bed) Green Area	176	Shirasagi 1-chome
17	Meijijingu Gaen	98	Takashimadaira 2,3-chome	177	Toei Sawaicho Apartment
18	Shinjuku Gyoen (Shinjuku Gyoen National Garden)	99	Tokyo Kasetsu University/Kaga Junior High School	178	Senju Daihachi Elementary School
19	Shinjuku Central Park/High-Rise Buildings	100	Kosha Mukaihara Jutaku (Housing Complex)	179	Tokyo Metropolitan Kohoku High School
20	Hyakunin-cho 3,4-chome	101	Johoku Central Park	180	Takenozuka Daichi Danchi (Housing Complex)
21	Rikugi-en (Rikugien Garden)	102	Hikarigaoka Danchi (Housing Complex)/Hikarigaoka Park	181	Toei Nishihokima 4-chome Apartment
22	The University of Tokyo	103	Shakujii Park	182	Fure-ru Nishi Arai Central Park
23	Korakuen	104	Kamishakujii Apartment	183	Kohoku Heisei Park
24	Ochanomizu University Educational forest park	105	Oizumi Central Park	184	Ward Office/Aoto Danchi (Housing Complex)
26	Gokoku-ji	106	Toneri Park	185	Edogawa Incineration Plant
27	Yanaka Cemetery	109	Higashiyase Danchi (Housing Complex)	186	Tama River Kasenshiki (River Bed)/Futakobashi
28	Ueno Park	109	Arakawa River North Bank/Kasenshiki (River Bed) Green Area	187	Tama River Kasenshiki (River Bed)/Denenchofu
29	Oshima, Kitasuna Danchi (Housing Complex)	110	Arakawa River South Bank/Kasenshiki (River Bed) Green Area	188	Zenpuku-ji Park/ Tokyo Woman's Christian University
30	Shinsuna 3-chome	111	Mizumoto Park/Edo River Green Area	189	Igusa Hachimangu
32	Kosha Minamisuna 2-chome Danchi (Housing Complex)	112	Shibamata Baseball Stadium/Edo River Green Area	190	Toei Hokima Daigo Apartment
33	Tatsumi Danchi (Housing Complex)/Shiomi Sports Park	113	Toei Sunagawa Danchi (Housing Complex)	191	Comprehensive Sports Center
36	Sarue Onshi Park	115	Okudo Undojous (Sports Facility)	192	Adachi Municipal Nakagawakita Elementary School/Toei Mutsugi-cho Apartment
37	JR Apartment/Shinagawa Ward Office	116	Shin-Yotsugibashi East Bank	193	Adachi Municipal Tatsunuma Elementary School/Tatsunuma-cho Apartment
38	Ohj Wharf	117	Shinozaki Park/Edo River Green Area	194	Seshion Suginami/Myoho-ji
39	Ohj Race Course/Shinagawa Kumin Park	118	Edogawa River South Area	195	Meijirodai Sports Park
40	University of Tokyo, Komaba Campus/ Komabano Park	119	Kameido/Oshima/Komatsugawa	196	Adachi Municipal Elementary and Junior High School/Toei Aoi 3-chome Apartment
41	Naka-Meguro Park	120	Green Park	197	Kurihara Danchi (Housing Complex)
42	Setagaya Park	122	Shirahige East	198	Takenotsuka Elementary School
43	Tokyo Institute of Technology	123	Toei Bunka 1-chome Jutaku (Housing Complex)	199	Takenotsuka Sta. East Entrance/Takenotsuka Center
44	Heiwajima	124	Kiyosumi Garden	200	Adachi Municipal Daijyun Elementary School
45	Showajima Baseball Stadium	125	Tokyo University of Marine Science and Technology	201	Adachi Municipal Daijyun Elementary School/Toritu Toneri-machi Apartment
46	Morigasaki Park	126	Kameido Central Park	202	Adachi Municipal Kitashikahama Elementary School
47	Tokyo International Airport	127	Toei Higashisuna 2-chome Jutaku (Housing Complex)	203	Toei Hanahata Daiyon Apartment
48	Haginaka Park	128	Tamagawa-Nogemachi Park	204	Miyagi Family Park/Konan Junior High School
49	Kamata Train Depo	129	Ohji 5-chome Danchi (Housing Complex)	205	Heart Island Shinden
50	Ikegami Honmon-ji	130	Nakadai 3-chome	206	Nishiarae Sta. West Entrance
52	Tama River Kasenshiki (River Bed)/Gasubashi	131	Kohoku 6-chome Danchi (Housing Complex)	207	Toei Minamitanaka Apartment
54	College of Humanities and Sciences, Nihon University	132	Hanahata Danchi (Housing Complex)	208	Nerima General Sports Ground
55	Hanegi Park	133	Shinkoiwa Park/Hirai Ohashi	209	Setagaya Elementary School, Junior High School, Attached to Tokyo Gakugei Univ.
56	Showa Women's University	135	Kiba Park	210	Tokyo Metropolitan Adachi High School
57	Komazawa Olympic Park	136	Toritu Ogunohara Park	211	Waseda University, Waseda Campus
58	Tokyo Metropolitan Engei High School	137	Nakagawar Park/Oyata Danchi (Housing Complex)	212	Ochiai-Centrala Park
59	Kinuta Park/Okura Sports Park	138	Shinkawa Twin Building *	213	Honcho 5-chome Park
60	Bajikouen/Tokyo University of Agriculture	139	Tsukuda River City	214	Taishido Enzengaoka Park/Mishukunomori Green Area
61	Soshigaya Park/Tokyo Metropolitan Sougou Kouka High School	140	Ryogoku	215	Otomeyama Park
62	Dai-ichi Mutual Life Insurance Ground	141	Kameido 2-chome Danchi (Housing Complex)	216	Momoi Harappa Park
63	Roka Park/Meiji University Hachimanyama Ground	142	Seijougakuen	217	Tokyo University of Science
64	Meijijingu/Yoyogi Park	143	Sanshinomori Park	218	Osaki Sta. West Entrance
65	Aoyama Gakuin University/Jissen Joshi Gakuen	144	Asukayama Park	219	Senzokuike Park
66	University of the Sacred Heart, Tokyo	145	Kita Sports Park	220	Tokyo Denki University
67	Ekodanomori Park	146	Toritsu Shioiri Park	221	Akatsuki Park
68	Tetsugakudo Park	147	Musashi University	222	Edogawa Sportsland
69	Kosha Heim Nakano Yayoi-cho (Housing Complex)	148	Toshimaen	223	Kameari 1-chome
70	Rissho Kosei Kai-the Great Sacred Hall	149	Kamichibasunahara Park	224	Senjuhashi Sta.
71	Nakano Ward Office	151	Koishikawa Botanical Gardens	225	Shigakujigyoudan Sogo Ground
73	Kosha Saginomiyama-Nishi Jutaku (Housing Complex)	152	Arakawa/Yotsugi Green Area	226	Kosugehigashi Sports Park
74	Wadabori Park (East Area)	153	Sumida Ward Office/Sumida Park Jiyu Hiroba	227	Tokyo Metropolitan Edogawa High School
75	Zenpukujigawa Park *Please refer URL below	154	Kinshi Park	228	Minamisuna 3-chome Park
76	Wadabori Park (West Area)	155	Tachibana 1-choume Danchi (Housing Complex)	229	Shingashi-higashi Park
77	Share-ru Ogikubo	156	Rinshinomori Park	230	Tokyo Seitoku Gakuen/Kamiyabori Park
78	Kashiwanomiya Park	157	Togoshi Park	231	Horifune
79	Takaado Sta.	158	Yebisu Garden Place	232	Akabanekita
80	Kugayama 2-chome Area Ground	159	Kokushikan University	233	Ukima 1-chome
82	Kamiyuga Sports Center	160	Kitami Fureai Play Lot	234	Ukima Elementary School/Ukima 3-chome Danchi
83	Somei Cemetery/Komagome Junior High School	161	Tokyo Gakugei University Senior High School	235	Shirokita Park
84	Zoshigaya Cemetery	162	Karasuyama Kita Jutaku (Housing Complex)/Japan Women's College of Physical Education	236	Toei Hirai Apartment
85	Toshima Ward Taiikujou (General Sports Facility)	163	Igusamori Park	237	Tokyo Metropolitan Arakawa Technical High School
86	Gakushuin University	164	Heiwanomori Park	238	Komaba
87	Rikkyo University	165	The University of Tokyo Secondary School attached to the Faculty of Education	239	Toei Narimasu 5-chome No.2 Apartment
88	Arakawa River Kasenshiki (River Bed)				
89	Kirigaoka/Akabanedai/Nishigaoka				

Name of Designated Remaining Area within the District

No.	Name of Designated Remaining Area within the District	No.	Name of Designated Remaining Area within the District
301	Chiyoda Ward, Akihabara, Ueno	320	Shintomi-cho, Tsukiji
302	Nishi-Shinjuku	321	Nihonbashihama-cho, Hakozaki
303	Ikebukuro	322	Yashio, Tokai, Jonanjima
304	Shibuya	323	Showajima
305	Gotanda	324	Keihinjima
306	Ginza, Nihonbashi	325	Tokyo International Airport (Haneda Airport)
307	Higashi-Shinbashi, Kaigan	326	Kinshi-cho
308	Shibaura	327	Tatsumi, Shiomi, Edagawa
309	Konan	328	Nishi-Kasai
310	Wakasu	329	Iriya
311	Konan, Higashi-Shinagawa	330	Takashimadaira
312	Kaigan	331	Katsushima
313	Aomi, Higashi-Yashio, Daiba	332	Heiwajima
314	Shinkiba, Yumenoshima	333	Minami-Senju
315	Shinsuna	334	Kamata
316	Toyosu	335	Moto-Akasaka
317	Ariake, Shinonome	336	Chuo-Bohatei Umetate (Central Breakwater Landfill)
318	Akasaka, Roppongi	337	Aoyama, Azabu
319	Shinbashi, Shiba		

(5) Tokyo Metropolitan Ordinance on Safety Construction (New Fire Prevention Regulation)

Because wooden buildings with fire protection structure can be built with the condition of total area 500 m² or less under the current Fire Prevention Regulation in the Quasi-Fire Prevention Areas, we cannot prevent the rebuilding of wooden buildings in the Densely-Built Wooden Residential Area.

Therefore, in order to improve safety in the urban area in time of the disaster, we enacted the new fire prevention regulation in the Tokyo Metropolitan Ordinance on Safety Construction in March 2003 to guide to the quasi-fireproof buildings which have the high fire-resistant capability. (Article 7-3)

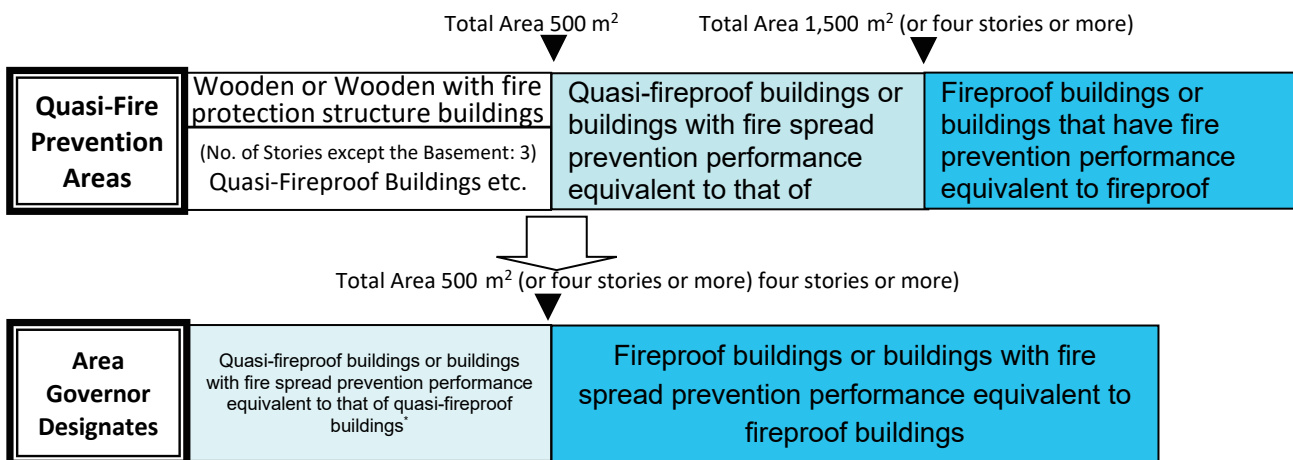
a. Regulated Areas

They are the areas that the Tokyo Metropolitan Ordinance on the Earthquake Disaster Prevention designates as the Development Areas and where the risk is high in a time of other disasters, and the governor designates them.

A part of each area, approx. 6,700 ha, of Shinjuku city, Bunkyo city, Taito city, Sumida city, Koto city, Shinagawa city, Meguro city, Ota city, Setagaya city, Shibuya city, Nakano city, Suginam city, Toshima city, Kita city, Arakawa city, Itabash city, Adachi city, Edogawa city and Mitaka City (18 wards and one city) are designated as the Regulated Areas as of April 1, 2019.

b. Contents of the Regulation

- (a) All buildings generally must be quasi-fireproof buildings or buildings with fire spread prevention performance equivalent to quasi-fireproof buildings or higher (excluding buildings that meet certain technical standards).
- (b) Buildings with a total area of more than 500 m² must be fireproof buildings or buildings with fire spread prevention performance equivalent to fireproof buildings.



※There are exemption provisions for the small –size annex buildings

c. Expansion of Regulated Areas

In the Disaster-Resistant Urban Development Promotion Plan <Basic Policy> revised in March 2020, it is stated that “areas with agricultural land that should be maintained and improved in terms of disaster prevention” will be identified and fire prevention regulations will be promoted, and we will continue to listen to the opinions of local municipalities and expand regulated areas. In addition, in order to promote reconstruction, the BCR of buildings may be relaxed based on the conditions of the area.

(6) Seismic Retrofitting of Buildings and Disaster Prevention Volunteers

a. Tokyo Metropolitan Seismic Retrofitting Promotion Plan

In case the earthquake directly hits the Tokyo metropolitan area occurs, the immense damages due to the collapse of buildings are anticipated. Therefore, the Tokyo Metropolitan Government instituted the “Tokyo Metropolitan Seismic Retrofitting Promotion Plan” in March 2007 (Final

amendment: in March 2016). In the plan, we focus on implementing the following measures as well as setting up the target ratio of the seismic retrofitting.

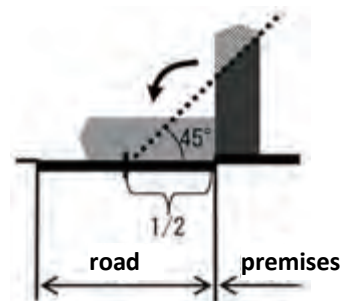
(a) Seismic Retrofitting of Buildings alongside Emergency Transport Roads

As a road to prevent blocking in time of the earthquake occurrence, TMG designated the whole length of the Emergency Transport Roads specified in the Tokyo Metropolitan Regional Disaster Prevention Plan and has been conducting the projects toward the seismic retrofitting of buildings alongside those roads since the fiscal year 2008.

Among them, with respect to the Emergency Transport Roads, which will become the main artery for evacuation, emergency and lifesaving activities, and emergency supplies transport, it is important to prevent road blocking due to the collapse of buildings. Hence, in April 2011, we enforced the “Ordinance on Promotion for Seismic Retrofitting of Buildings alongside Emergency Transport Roads in Tokyo.” And we designated the roads especially needed to promote the seismic retrofitting of the roadside buildings out of the Emergency Transport Roads as the Specific Emergency Transport Roads and obliged the roadside building owners to receive a seismic diagnosis service. We are also improving the support programs, including the subsidy programs and adviser system on seismic retrofitting.

(1) Outline of Ordinance

- Designation of Specific Emergency Transport Roads (on June 28, 2011)
 - To designate the roads especially needed to promote the seismic retrofitting of the roadside buildings out of the Emergency Transport Roads as the Specific Emergency Transport Roads
- Duty to Report of Seismic Retrofitting Status (on October 1, 2011)
 - To impose a duty to report the implementation status for the seismic diagnosis and the seismic retrofitting on the owners of the buildings that satisfies all of the followings (Specific Roadside Buildings)
 - The building of which the premises about the Specific Emergency Transport Roads
 - The building newly built before May 1981 (Old Quake-Resistance Standards)
 - The building which has approx. one-half height of the width of the road (Chart on the right)
- Duty to receive the seismic diagnosis service (since April 1, 2012)
 - To impose the duty to receive the seismic diagnosis service on the owners of the roadside buildings
 - To secure the performance of obligations by the administrative guidance or the order for implementation
 - Possible publication of the buildings for which the seismic diagnosis has not been conducted (publication, since February 2015).
- Duty to make efforts to implement the seismic retrofitting (since April 1, 2012)
 - To impose the duty to make an effort to implement the seismic retrofitting on the owners of the roadside buildings which don't have enough seismic performance
 - To promote the implementation of the seismic retrofitting by the administrative guidance or the recommendation for implementation
- Occupant's Duty to make efforts (since July 1, 2019)
 - To establish an environment that makes it easier for the owners of roadside buildings to obtain cooperation, including imposing an obligation to cooperate with the owners of roadside buildings towards the realization of earthquake resistance.



(2) Publication of the State of Seismic Retrofitting of Buildings Alongside Specific Emergency Transport Roads

In order to provide information to the citizens of Tokyo on the progress of the seismic retrofitting of buildings alongside specific emergency transport roads, the seismic retrofitting rate for each major intersection is published in accordance with the ordinance. Since FY 2020, we have been

publishing the section achievement rate and the overall arrival rate, which are indicators that can accurately express traffic function.

- (3) Subsidy Program for Seismic Retrofitting of Buildings alongside Emergency Transport Roads
Subsidies to the municipal governments who plan to implement the subsidized projects on the expenses for the seismic diagnosis and the seismic retrofitting.

(b) Seismic Retrofitting of Wooden House

In the Densely-Built Wooden Residential Area, in case of houses collapse due to the occurrence of an earthquake, there is a risk that block roads interfere with evacuation and emergency/ firefighting activities and cause major damages. Therefore, we have been intensively supporting houses' seismic retrofitting by providing subsidies since 2006.

Since FY 2021, the system of subsidies for earthquake-resistant construction of detached houses has been expanded by merging the subsidies for detached houses and the subsidies for houses within development areas, providing support to municipalities on the condition that they actively encourage owners, and adding subsidies for the removal of houses outside development areas.

Furthermore, we are improving the environment where the owners of the buildings can take the initiative in the seismic retrofitting such as the introduction of the seismic retrofit scheme and devices, and publication of the reliable seismic diagnosis offices.

(c) Seismic Retrofitting of Buildings Exceeding Certain Size Which Many People Use and Important Public Buildings from the Viewpoint of Disaster Prevention

Regarding large-scale department stores, hotels, and theaters, etc., aiming at the realization of a 95% seismic retrofitting rate by FY2025, we will encourage the owners of the buildings. Also, important public buildings from the viewpoint of disaster prevention are planned to achieve 100% seismic retrofitting rate as early as possible.

b. Training of Disaster Prevention Volunteers

In case the major earthquake occurs, to prevent the secondary disaster, it is required to study the situation of damages swiftly, to assess the degree of risk on the damaged buildings against an aftershock (Post-Earthquake Quick Inspection of Damaged Buildings). The cooperation of the private architectural engineers, as well as the public institutes and the concerned bodies, is indispensable to conduct the post-earthquake quick inspection on the huge quantities of damaged buildings. Therefore, the Tokyo Metropolitan Government instituted the outline with respect to the Tokyo Metropolitan Disaster Prevention Volunteers, positions the assessor of the Post-Earthquake Quick Inspection of Damaged Buildings as the disaster prevention volunteers, and secures approx. 13,150 of the disaster prevention volunteers as of the end of March 2021.

In addition, the results of the emergency safety checks of damaged buildings in recent years are as shown in Table 3-50.

Table 3-50 Result of the Damaged Building Quick Inspection

Name of Earthquake	Date of Occurrence	Number of dispatched judges	Number of judged buildings
Niigata Prefecture Chuetsu Earthquake	October 23, 2004	65 persons	1,069 buildings
Niigata Prefecture Chuetsu-oki Earthquake	July 16, 2007	62 persons	1,320 buildings
Great East Japan Earthquake	March 11, 2011	13 persons	193 buildings
Kumamoto Earthquake	Foreshock: April 14, 2016 Main shock: April 16, 2016	100 persons	2,621 buildings

(As of April 1, 2021)

<Topic>

To Prepare for Building Damages due to Liquefaction

At the Great East Japan Earthquake occurred on March 11th, 2011, the liquefaction damages occurred over a wide range centered on the Pacific coast from Tohoku region to Kanto region. Even in the Tokyo metropolitan area far from the seismic center, the liquefaction was occurred not only in a waterfront area, but also in inland areas, and the damages such as slant of wooden houses occurred in five wards located in the eastern part of the Special-ward area.

Therefore, we set up the “Tokyo Metropolitan Building Liquefaction Countermeasure Examination Committee” (hereinafter referred to as “Examination Committee”) which is comprised of the specialists of the geotechnology in July 2011, and have been studying the administrative efforts intended for the buildings such as wooden houses through the implementation of the ground survey intended for the areas where the liquefaction damages occurred.

The Examination Committee proposed (1) Preparation of the guidance to prepare for the building damages due to the liquefaction by the citizen of Tokyo, (2) Provision of the information on the ground data, (3) Improvement of the system for providing consultation to the citizen of Tokyo, as the items the Tokyo Metropolitan Government should pursue.

Based on the above, we are working on the improvement for the environment where the builders and the owners of the buildings can investigate the possibility of the liquefaction in their premises, and study how to prepare for the ground liquefaction in consultation with the specialists such as architects.

Item	Contents	
1.Preparation and Publication of Guidance to prepare for Building Damages due to the Liquefaction	The purpose is to deepen knowledge of the liquefaction and to clearly explain the mechanism of the liquefaction occurrence, the method of the ground survey and the countermeasure technical method, intended for the buildings such as wooden houses.	<ul style="list-style-type: none"> • March 2013 Publication in the website • April 2013 To become accessible at each administrative agency
2.Provision of information on the ground data	<p>The hazard map of liquefaction, the past topographic map, the ground data etc. are useful reference. Therefore, we have improved the system where you can access the materials, as well as explaining the outlines of the materials.</p> <p>Also, in order to provide the information in closer contact with local communities, we have started collecting the ground data of private buildings, and examining toward their publication.</p>	<ul style="list-style-type: none"> • May 2013 To sequentially become accessible at each administrative agency and the municipal governments • May 2014 Implemented a portal website to start providing information regarding liquefaction on building
3.Improvement of the System for Providing Consultation to Citizen of Tokyo	We provide necessary information and advice for the builders and the owners of the buildings to study in preparing for the building damages due to the liquefaction, such as understanding of the possibility of the liquefaction and the ground conditions of the premises, and the selection of the countermeasure technical method according to the characteristics of the ground.	<ul style="list-style-type: none"> • April 2013 To sequentially start consultation at each administrative agency Introduction of the specialists accordingly
	<p>To establish “Tokyo Metropolitan Advisory System for Liquefaction Countermeasures”.</p> <p>To provide necessary information and advices at the initial stage to study the liquefaction countermeasures.</p> <p>To encourage owners of buildings in communities where liquefaction is possible to implement necessary measures in cooperation with municipal governments.</p>	<ul style="list-style-type: none"> • June 2013 To start consultation • March 2017 Held a study session on liquefaction countermeasures at Edogawa-ku • March 2019 Held the same session at Katsushika-ku • October 2019 Held the same session at Arakawa-ku

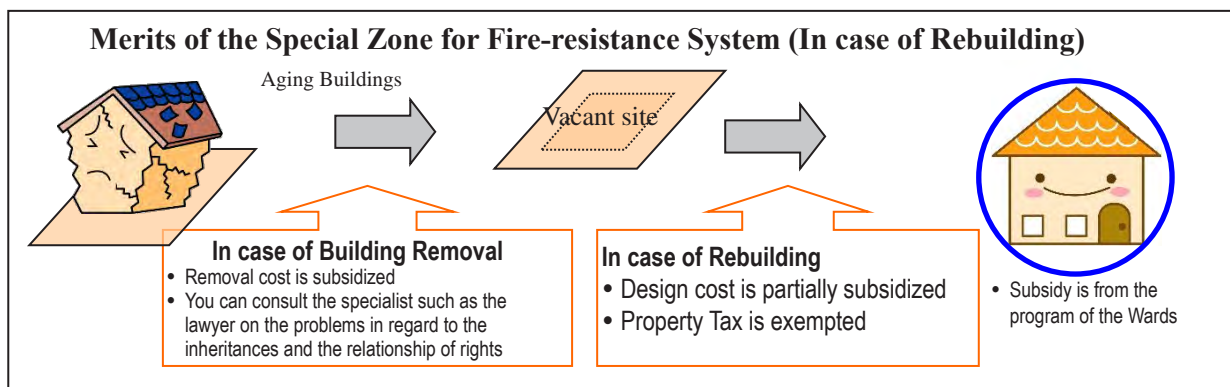
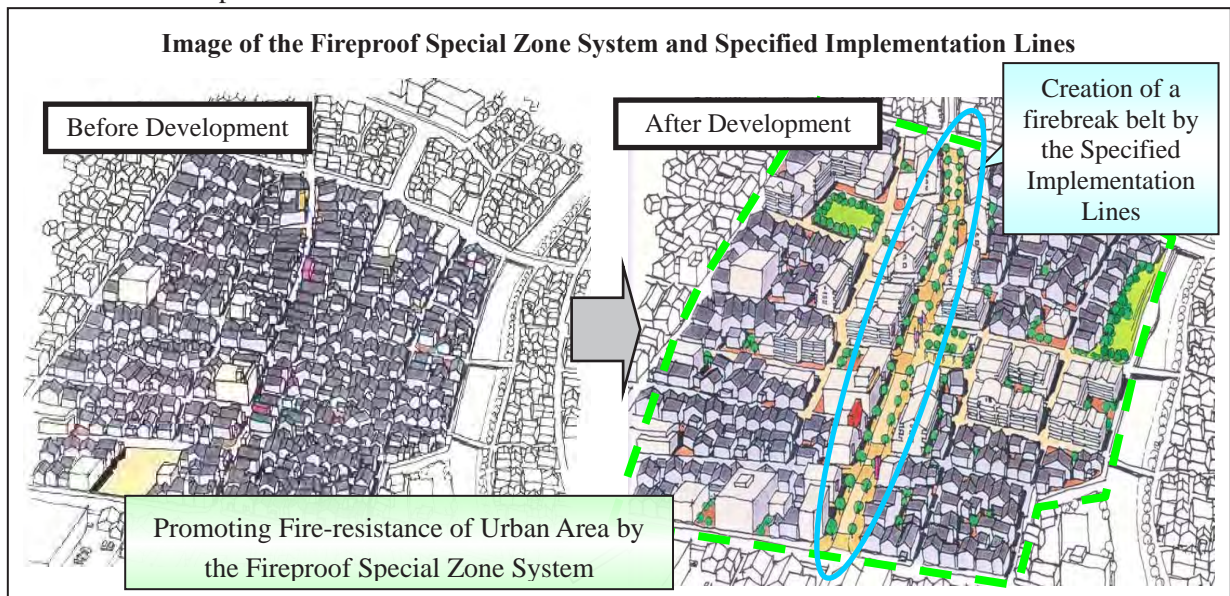
Efforts in the Fireproof Special Zone System and Specified Implementation Lines

The Densely-Built Wooden Residential Areas (hereinafter referred to as “Densely-Built Area”) are distributed widely in Tokyo. Therefore, the Tokyo Metropolitan Government has been promoting the development of the roads to be the firebreak belts, and the fire-resistant and quake-resistant buildings, by instituting “the Urban Development Plan for Disaster-Resistance” in 1995, and designating its development districts. However, the ratio of the fire-resistant area in the development districts is 56% (as of the fiscal year 2006) and the development ratio of the Urban Planning Road was remaining approx. 50% (in the fiscal year 2010). In addition, the improvement of the Densely-Built Wooden Residential Area is in a difficult situation due to aging residents and the complicated relationship of rights. Under these circumstances, with the imminence of an earthquake directly hitting Tokyo and the occurrence of the Great East Japan Earthquake, it is necessary to further accelerate the improvement of densely-built areas. That is why TMG launched a 10-year project in 2011 to make those areas fireproof, with the goal of turning development areas into places where fires do not spread and that are fireproof by implementing focused and intensive efforts over 10 years.

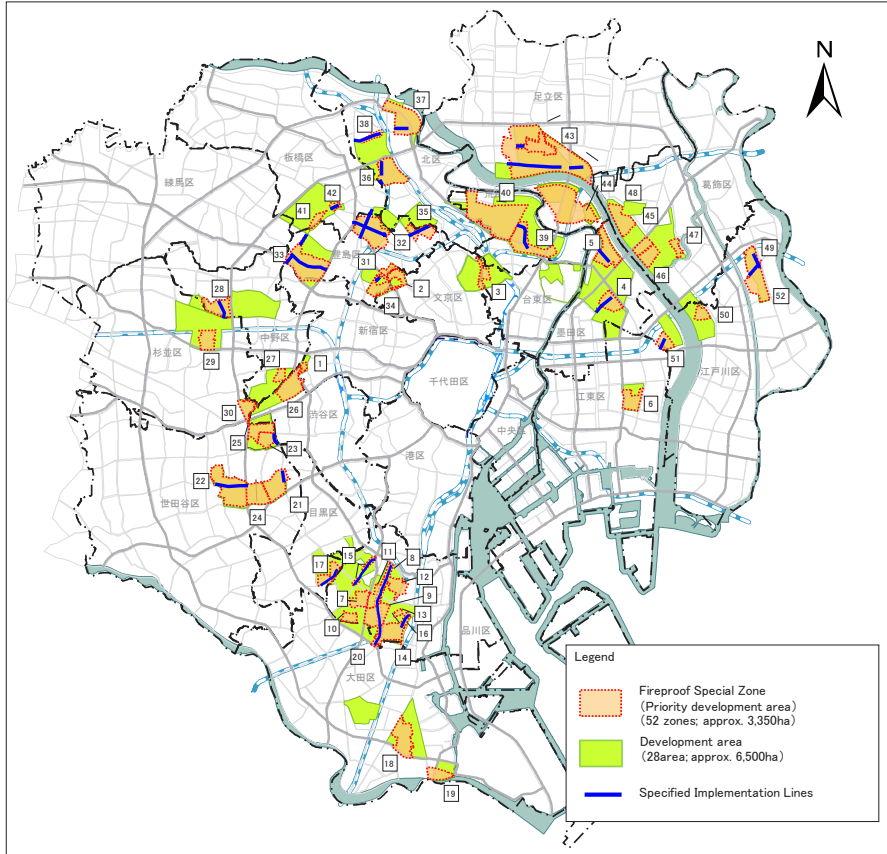
To achieve this goal, we have been promoting the fireproofing of urban areas in cooperation with the wards by greatly expanding new fire prevention regulations based on the Tokyo Metropolitan Building Safety Ordinance, and by establishing and promoting a fireproof special zone system that provides special support to wards that undergo more in-depth measures than before, including increased subsidies for reconstruction and removal costs, dispatching experts, and reducing or exempting metropolitan taxes.

In addition, we have designated urban planning roads within the development areas as specified implementation lines, and has accelerated their development and promoted the formation of firebreak belts by providing special support for the resettlement of related right holders.

All of these efforts will continue for another five years, and we will strongly promote disaster prevention improvements in development areas.



Location of Fireproof Special Zone



Project underway in the following areas: As of April 2021

1	Shinjuku City	Nishishinjuku 5-chome area
2	Bunkyo City	Otsuka 5/6-chome area
3	Taito City	Yanaka 2/3/5-chome area
4	Sumida City	Kyojima surroundings Kanegafuchi surroundings
5	Koto City	Kitasuna 3/4/5-chome area
6		Higashinakanobu 1/2-chome, Nakanobu 2/3 chome area
7		Auxiliary 29 roadside district (Shinagawa City)
8		Yutakacho 4/5/6-chome, Futaba 3/4-chome and Nishioi 6-chome area
9		Hatanodai4-chome/Nakanobu 5-chome area
10	Shinagawa City	Togoshi2/4/5/6-chome area
11		Nishishinagawa 2/3-chome area
12		Oi 5/7-chome, Nishioi 2/3/4-chome area
13		Radial 2 roadside district
14		Auxiliary 28 roadside district
15	Meguro City	Haramachi 1-chome, Senzoku 1-chome area
16		Megurohoncho 5-chome area
17		Omorinaka (Nishiojiya,Higashikamata,Omorinaka)area
18	Ota City	Haneda 2/3/6-chome area
19		Auxiliary 29 roadside district (Ota City)
20		Taishido/Mishuku area
21		City Office surroundings
22	Setagaya City	Kitazawa 3/4-chome area
23		Taishido/Wakabayashi area
24		Kitazawa 5-chome/Ohara1-chome area
25		Honmachi 2 to 6-chome area
26	Shibuya City	Honmachi 2 to 6-chome area
27		Yavoicho 3-chome surroundings
28	Nakano City	Yamato-cho area
29	Suginami City	Suginami-dairoku Elementary School surroundings
30		Honan1-chome area
31		Higashikebukuro 4/5-chome area
32	Toshima City	Ikebukurohoncho/Kamiikebukuro area
33		Auxiliary 26/172 roadside district
34		Zoshigaya/Minamiikebukuro area
35	Toshima/Kita Cities	Auxiliary 81 roadside district
36		Jujo Station surroundings
37	Kita City	Shimo area
38		Akabanenishi Auxiliary 86 roadside district
39	Arakawa City	Arakawa 2/4/7-chome area
40		Machiya/Ogu area
41		Oyaguchi 1-chome surroundings
42	Itabashi City	Western part of Oyama Station surroundings
43	Adachi City	Area surrounding Nishiara Station west entrance
44		South-central Adachi City
45		Yotsugi 1/2-chome area
46	Katsushika City	Higashiyotsugi area
47		Higashitateishi 4-chome area
48		Horikiri 2-chome surroundings and 4-chome area
49		Minamikoiva 7/8-chome surroundings
50	Edogawa City	Matsushima 3-chome area
51		Hirai2-chome adjacent area
52		Southern Minamikoiva/Higashimatsumoto adjacent area

Specified Implementation Lines

Road Name	Location	Length(m)	city	Road Name	Location	Length(m)	city
Rinshinomori/Ebara				Nishigahara/Sugamo			
1	Radial 2	Nishigotanda 7-chome to Ebara 2-chome	1,255 Shinagawa city	16	Auxiliary 81	Toshima) Sugamo 4-chome to Kita) Nishigahara 3-chome	930 Toshima city Kita city
2	Auxiliary 28	Oi 3-chome to Oi 5-chome	520 Shinagawa city	Jujo/Akabane			
3	Auxiliary 29	Shinagawa) Osaki 3-chome to Ota) Higashimagome 2-chome (Project of the Bureau of Urban Development partially included, partially under implementation)	3,445 Shinagawa city Ota city	17	Auxiliary 73	Jujodai 2-chome to Jujonakahara 2-chome	895 Kita city
4	Auxiliary 46	Around Megurohoncho 5-chome	510 Meguro city	18	Auxiliary 86	Akabanenishi 5-chome to 1-chome	1,150 Kita city
		Megurohoncho 5-chome to Senzoku 1-chome	550 Meguro city	Shimo			
Setagaya city Office/Mishuku/Taishido				19	Auxiliary 86	Around Shimo 1-chome	620 Kita city
5	Auxiliary 26	Mishuku 2-chome to Ikejiri 4-chome	440 Setagaya city	Arakawa			
6	Auxiliary 52	Wakabayashi 5-chome to Gotokuji 1-chome	1,310 Setagaya city	20	Auxiliary 90	Machiya 1-chome to Arakawa 1-chome	1,230 Arakawa city
Kitazawa				Nishiara Sta. West Entrance			
7	Auxiliary 26	Meguro) Komaba 4-chome to Shibuya) Oyama-cho	550 Shibuya city Setagaya city Meguro city	21	Auxiliary 136	Ogi 1-chome to Umeda 3-chome	1,910 Adachi city
Yamato-cho/Nogata				22	Auxiliary 138	Nishiara honcho 4-chome to Motoki 2-chome	350 Adachi city
8	Auxiliary 227	Yamato-cho 3-chome to 4-chome	710 Nakano city	Adachi			
				23	Auxiliary 136	Addachi 1-chome to 3-chome	630 Adachi city
9	Auxiliary 26	Minaminagasaki 6-chome to Nagasaki 5-chome	320 Toshima city	Sumida city North Area/Kameido			
10	Auxiliary 26	Chihaya 4-chome to Kaname-cho 3-chome	460 Toshima city	24	Radial 32	Oshiage 3-chome to Kyojima 3-chome	860 Sumida city
11	Auxiliary 172	Nagasaki 1-chome to Nagasaki 5-chome	1,620 Toshima city	25	Auxiliary 120	Sumida 2-chome to 3-chome	530 Sumida city
Higashikebukuro/Otsuka				Hirai			
12	Auxiliary 81	Ninamiikebukuro 2-chome to 4-chome	260 Toshima city	26	Auxiliary 144	Hirai 2-chome	490 Edogawa city
Ikebukuronishi/Ikeburorokite/Takinogawa				Minamikoiva/higashimatsumoto			
13	Auxiliary 73	Toshima) Ikebukuro 4-chome to Itabashi) Itabashi 1-chome	1,070 Toshima city Itabashi city	27	Auxiliary 142	Minamikoiva 3-chome to 8-chome	560 Edogawa city
14	Auxiliary 82	Toshima) Kamiikebukuro 3-chome to Itabashi) Oyamakanal-cho	1,130 Toshima city Itabashi city	28	Auxiliary 143	Minamikoiva 8-chome	620 Edogawa city
Oyaguchi				(Red text indicates the Bureau of Urban Development to be the project owner)			
15	Auxiliary 26	Around Oyama-cho	375 Itabashi city				

3 Comprehensive Flood Control Measures

(1) Tokyo Metropolitan Torrential Rain Measures Basic Policy

Recently, local torrential rains occur frequently in part of the Tokyo metropolitan area. The extensive flood damage of approx. 6,000 houses occurred due to the torrential rain exceeding 100 mm per hour centered on Suginami-ku and Nakano-ku on September 4th, 2005.

Under these circumstances, we established the Tokyo Metropolitan Torrential Rain Measures Examination Committee comprised of the academic experts in May 2006, and formulated the “Tokyo Metropolitan Torrential Rain Measures Basic Policy” in August 2007. In this policy, designating the areas where torrential rains and flood damages frequently occur as the countermeasure promotion areas and promoting the improvement of rivers, sewerage, and river basin measures, we have attained certain progress in mitigating flood damages.

However, even after formulating the basic policy, due to torrential rains exceeding design rainfalls (50 mm per hour), the flood damages are continuously occurring.

Therefore, in consideration of the characteristics of rainfalls and the situations of flood damage occurs in recent years, we called the Tokyo Metropolitan Torrential Rain Measures Examination Committee and started reviewing the basic policy in October 2013. And the basic policy was amended in June 2014.

Specifically, in the “River Basins under Intensified Measures” and the “Areas under Intensified Measures” (please refer to **Figure 3-51 River Basins and Areas under Intensified Measures on page127**) where torrential rains and following flood damages occur frequently, we decided to raise the improvement level formulated in the past and further enhance the torrential rain measures.

【Details of Amendment】

- To set the target rainfall in consideration of the characteristics of rainfalls
(Annual Exceedance Probability 1/20: 75 mm per hour in the Special-ward area, 65 mm per hour in Tama region)
- To set the “River Basins under Intensified Measures” and the “Areas under Intensified Measures” in the improvement of rivers and sewerage
- To enhance the disaster mitigation measures such as the enhancement of the flood measures plan in large-scale underground malls
- To set the efforts toward the opening of the Tokyo 2020 Games and up to 2024.

【Directions of Specific Efforts】

- Improvement of Rivers
 - To prevent overflow from rivers against rainfall 75 mm per hour in the Special-ward area and 65 mm per hour in Tama region including the river basin measures, by improving discharge facilities (river channels, etc.) and retention facilities in the River Basins under Intensified Measures aiming at around 30 years later
 - To respond against rainfall exceeding 50 mm per hour combined with river channels by developing regulating reservoirs according to the characteristics of its basin or area
- Improvement of Sewerage
 - To prevent flood damages against rainfall maximum 75 mm per hour by raising the improvement level for sewerage facilities and improving discharge facilities (sewer pipes) and retention facilities (stormwater regulating reservoirs) in the Areas under Intensified Measures aiming at around 30 years later
 - To promote improving retention facilities and enhancing sewer pipes in order to respond against rainfall 75 mm per hour at underground malls where the impact of flood damages is significant

- River Basin Measures
 - To promote the dissemination measures for public stormwater inlets and fund the installation of infiltration inlets to private residences
 - To subsidize the installation cost of temporary storage facilities that municipalities carry out in the River Basins under Intensified Measures
- Housing and Urban Development Measures
 - To promote further enhancing the flood measures for underground spaces such as strengthening cooperation between the administrators of underground malls, subways and adjacent buildings by the cooperation between the related administrators in a private sector and the administrative bodies with respect to large-scale underground malls and subways
- Implementation Method for Evacuation
 - To provide prediction information on river water level and highly accurate concentrated local torrential rain occurrence information
 - To improve rainfall observation accuracy and deliver detailed rainfall information by newly introducing the latest radar, in accordance with the reconstruction of “Tokyo Amesh”
 - To disseminate and enlighten regarding the risk of flood damage and routine preparations by the Tokyo Council for Comprehensive Flood Control Measures composed of TMG and municipalities

In April 2021, based on the Tokyo Metropolitan Torrential Rain Measures Action Plan formulated by TMG in January 2020 (**see (3) Future Torrential Rain Measures Based on Recent Typhoon Damage (page 127)**), the Yanase River basin was added to the areas where measures will be intensified, bringing the total number of basins under intensified measures from nine to ten.

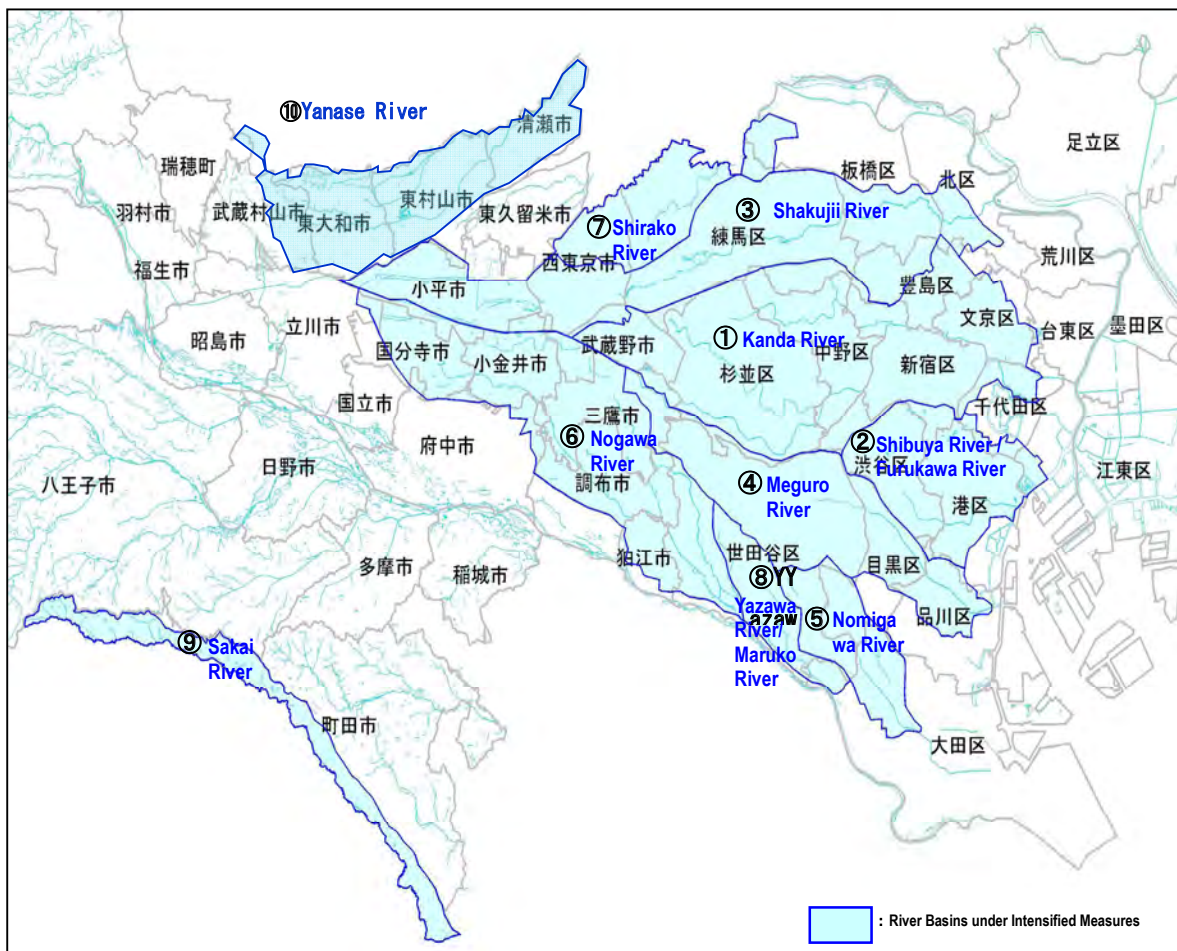
[Main Initiatives until 2024]

- (1) Enhancement of Large-Scale Underground Mall Measures
 - To add the efforts to strengthen the cooperation between the administrators of subways and adjacent buildings to the flood measures plan formulated in the past
- (2) Enhancement of Information Provision
 - To introduce the latest radar in order to improve the accuracy of Tokyo Amesh
- (3) Promotion of River Basin Measures
 - To control stormwater runoff against rainfall equivalent to 6 mm per hour in the River Basins under Intensified Measures (ten river basins) by 2024
- (4) Improvement of Rivers
 - To promote the measures by beginning to develop new regulating reservoirs in five river basins among the River Basins under Intensified Measures (ten river basins) such as the Loop 7 Underground Wide Area Regulating Reservoir and examining the development for other five river basins
 - The countermeasures against 50 mm rainfall have been almost completed in three river basins such as the Shibuya River / Furukawa River basin among the River Basins under Intensified Measures, and are continuously being promoted in other seven river basins.
- (5) Improvement of Sewerage
 - To promote the development of 75 mm countermeasure areas, 50 mm expanded countermeasure areas, and small-scale emergency countermeasure areas so that they can be effective.
 - To promote the development of main facilities such as main lines and pump stations in the areas under the countermeasures in the past and the river basins where main lines were shallowly

installed under the ground

Figure 3-51 River Basins and Areas under Intensified Measures

Name	Selection Criteria	Target River Basins
River Basins under Intensified Measures	<ul style="list-style-type: none"> ➤ Flood Damages in the Past (Number of flooded houses, Amount of Damages) ➤ Rainfalls (Occurrence Frequency of Torrential Rains) ➤ River Basin Characteristics (Population, Damage Potential such as Total Assets) ➤ Countermeasures (Countermeasures such as Improvement of Rivers / Sewerage) 	<ol style="list-style-type: none"> ① Kanda River Basin ② Shibuya River / Furukawa River Basin ③ Shakuji River Basin ④ Meguro River Basin ⑤ Nomigawa River Basin ⑥ Nogawa River Basin ⑦ Shirako River Basin ⑧ Yazawa River / Maruko River Basin ⑨ Sakai River Basin ⑩ Yanase River basin <p>We will sequentially examine the river basins to be added in consideration of the progress of improvement of rivers and the occurrence of flood damages in the future.</p>



Name	Selection Criteria	Target Areas
Areas under Intensified Measures	<ul style="list-style-type: none"> ▶ Flood Damage Occurrence (Number of flooded houses) ▶ Importance of Facilities and Vulnerability against Flood(Large-scale underground facilities, etc.) ▶ Ability Evaluation for Sewerage Facilities(Discharge capacity of main line sewerage) ▶ Countermeasure (Countermeasures on improvement of sewerage and rivers, etc.) 	<p>Areas under the countermeasures against 75 mm rainfall</p> <ul style="list-style-type: none"> 1 Kamimeguro Meguro-ku, Tsurumaki Setagaya-ku 2 Yakumo Meguro-ku, Fukazawa Setagaya-ku 3 Kamiikedai Ota-ku 4 Sengoku Bunkyo-ku, Minamiotsuka Toshima-ku <p>Areas under the enhanced countermeasures against 50 mm rainfall</p> <ul style="list-style-type: none"> 5 Shirogane Minato-ku, Kamiosaki Shinagawa-ku 6 Togoshi and Nishishinagawa Shinagawa-ku 7 Higashinakano Nakano-ku, Asagaya Suginami-ku 8 Ogikubo Suginami-ku 9 Otsuka Bunkyo-ku 10 Sendagi Bunkyo-ku <p>Areas under the underground mall countermeasures</p> <ul style="list-style-type: none"> 11 Shinjuku Station 12 Shibuya Station West Exit 13 Shibuya Station East Exit 14 Ikebukuro Station 15 Tokyo Station Yaesu Exit 16 Tokyo Station Marunouchi Exit 17 Shimbashi / Shiodome Station 18 Ginza Station 19 Ueno / Asakusa Station <p>We will examine the areas to be added in consideration of the characteristics of the areas according to the situations of flood damage occurrence in the future.</p>



(2) Torrential Rain Measures Plan by River Basin

In consideration of the amendment of the Torrential Rain Measures Basic Policy, we will amend/formulate the Torrential Rain Measures Plan by River Basin. In the amendment / formulation, as well as establishing the following targets, we strongly encourage to install storage and infiltration facilities such as stormwater inlets and storage tanks to all the public facilities and the development satisfying a certain condition in cooperation with municipalities.

- To clarify the target quantities in the river basin measures for each municipality
- To set the unit quantity to implement for each public facility, large-scale private facility, and small-scale private facility

(3) Future Torrential Rain Measures Based on Recent Typhoon Damage

Although the Tokyo metropolitan area saw record rainfall during Typhoon Hagibis (2019 East Japan Typhoon), which hit in October 2019, the facilities that had been constructed to date were effective in reducing flood damage.

However, in light of recent torrential rain disasters that have occurred in various parts of the country, it is considered urgent to further accelerate and intensify measures against torrential rains, as well as to steadily promote the development of facilities.

In January 2020, TMG formulated the “Tokyo Metropolitan Torrential Rain Measures Action Plan” as an action plan for approximately five years. For the initiatives from 2020 based on the Tokyo Metropolitan Torrential Rain Measures Basic Policy, in addition to accelerating existing measures, TMG has decided to implement new measures, such as expanding areas for intensified measures, and measures based on this typhoon, such as improving sluice gates and other facilities.

In order to promote such measures, we will strengthen cooperation within the government office and with related municipalities, etc., and promote long-term efforts in an integrated manner toward the 2030s.