

Preparations for urban disasters

The Basic Act on Disaster Management was promulgated in 1961, and based on this, the Tokyo Metropolitan Government prepared the Tokyo Metropolitan Government Local Disaster Management Plan in 1963. Within this plan, 42 sites in the ward area were designated as wide-area evacuation areas.

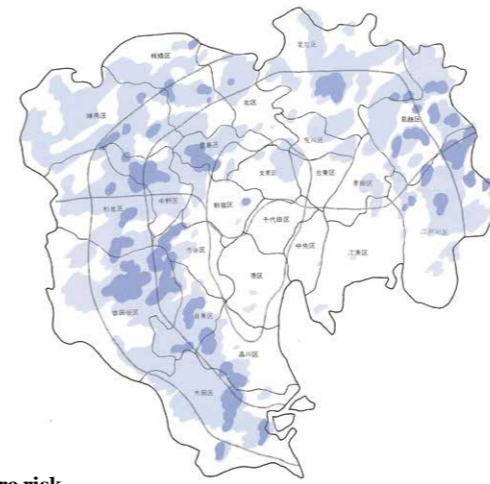
As the Basic Act on Disaster Management placed greater priority on emergency response and restoration after the occurrence of a disaster, rather than the preparation for a disaster, in order to supplement this, in 1971 the Tokyo Metropolitan Government promulgated and enacted the Tokyo Metropolitan Earthquake Disaster Preparedness Ordinance, which focused on the aspect of preparing for earthquake disasters.

In 1969, the Tokyo Metropolitan Government formulated the Basic Concepts for Koto Area Redevelopment, concentrating on the Koto delta area bordered by the Sumida River and Arakawa River. This expressed the government's policy to improve earthquake countermeasures and the living environment and to

strengthen the economic foundation by giving consideration to the local characteristics.

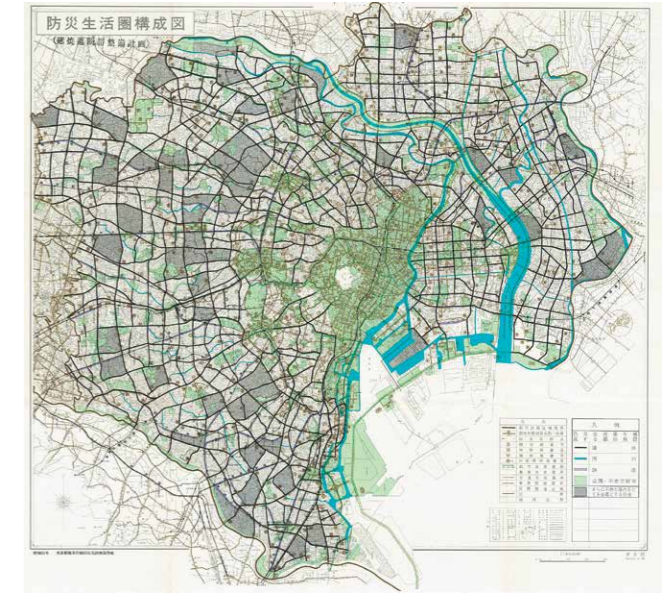
In 1975, the results of the Community Earthquake Risk Assessment Study conducted in the ward area were released, clarifying that the areas at high risk of disaster from the spread of fire were not just limited to the Koto district, but also included parts of the uptown areas. In order to enhance the safety of such areas against earthquake disasters, it was decided to build firebreak belts, which will serve as the key structure of a disaster resilient city.

Along with advancing the construction of arterial roads, parks, rivers, and other infrastructure to prevent the spread of fire, fire resilience along the roads is being promoted. In preparation for disasters, evacuation areas and evacuation routes were designated to secure evacuation safety, and along with advancing the improvement of bridges and other infrastructure, fire resilience and safety around evacuation areas and along evacuation routes were promoted.



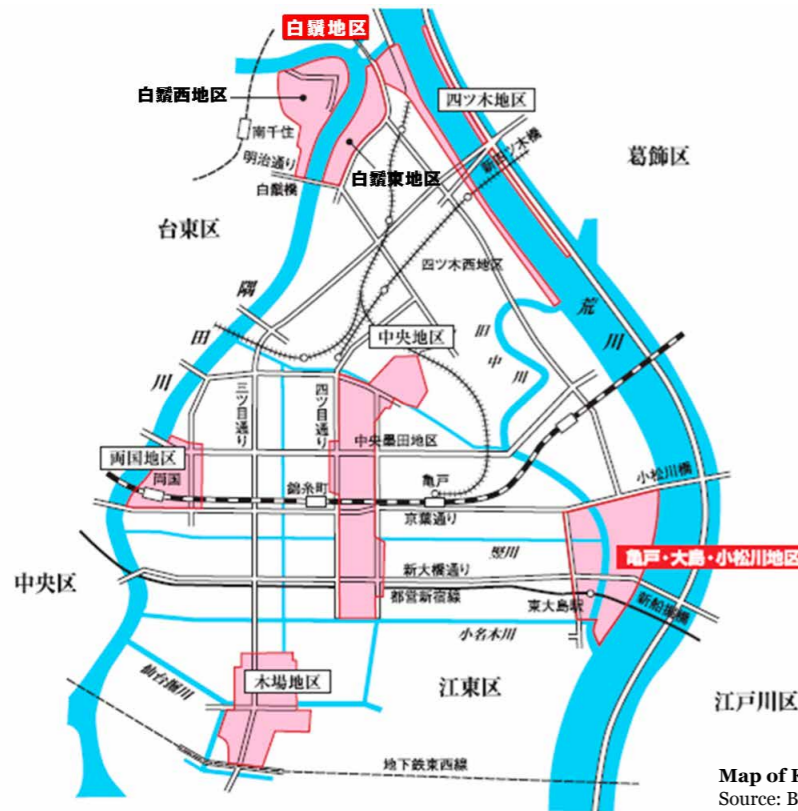
Fire risk

The above map shows the degree of fire risk at the time of the second survey, which was released in 1984. How easily fire could break out from an earthquake and how much the fire could spread among the buildings are calculated to evaluate the degree of fire risk. It can be seen that the "wooden-apartment belt zone" outside the circular Yamanote Line was at a high degree of risk. Sources: Bureau of City Planning, Tokyo Metropolitan Government, and Nikkei Architecture, August 24, 1987 issue.



Designated firebreak belts

Source: *Toshi bosai shisetsu kihon keikaku* (Basic Plan for Urban Disaster Prevention Facilities) 1981. Bureau of City Planning, Tokyo Metropolitan Government.



Map of Koto district disaster management bases (March 1981)
Source: Bureau of Urban Development, Tokyo Metropolitan Government.



Shirahige-higashi district (1990)
Source: Bureau of Urban Development, Tokyo Metropolitan Government.



Before construction



After construction

Firebreak belts are the key structure of an urban resilient city

Source: "Urban Development Plan for Disaster-Resistance (revised edition)." 2016. Bureau of Urban Development, Tokyo Metropolitan Government.

Creation of the Koto district disaster management bases taking the opportunity of urban redevelopment

The Koto district, surrounded by the Arakawa River and Sumida River, had a large zero-meter zone due to land subsidence brought about by the pumping of huge amounts of ground water during the period of high economic growth; a mixture of close-set wooden houses and factories; and an increasing distribution of chemicals and other dangerous substances. These and other such conditions put this area at an extremely high risk of disaster, one that was very high even within Tokyo, and at the same time, its living environment and economic foundation had also deteriorated extensively. The creation of the Koto district disaster management bases was a plan to develop 50- to 100-hectare bases in six districts in the Koto delta area (Shirahige, Ojima and Komatsugawa, Kiba, Chuo, Ryogoku, and Yotsugi), establish city parks that could serve as evacuation areas during a disaster, and build fire-resistant building and evacuation routes in the surrounding area.

Construction of gently sloping levees and super levees

● In 1974, it was proposed that upgrades be made to the five key rivers (Sumida River, Nakagawa River, Kyu-Edogawa River, Shin-Nakagawa River, and Ayase River) by building gently sloping levees. As these levees were backed by a certain amount of banking, it was anticipated that there would be little major reduction of function from earthquakes, emergency restoration would be easy, and it would help make the river more easily accessible to the public. In fiscal 1980, a gently sloping levee development project was launched in the Shirahige district of Sumida River.

● Following this, in fiscal 1985, in order to further heighten safety, the super levee development project that created banks integrated with the inland side of the levee was planned, and launched on a section of the Sumida River. Construction of super levees is still steadily underway along with developments of the riverside as an integral part of urban development.



Gently sloping levees (above) and super levees (below)

Source: Bureau of Construction, Tokyo Metropolitan Government.