

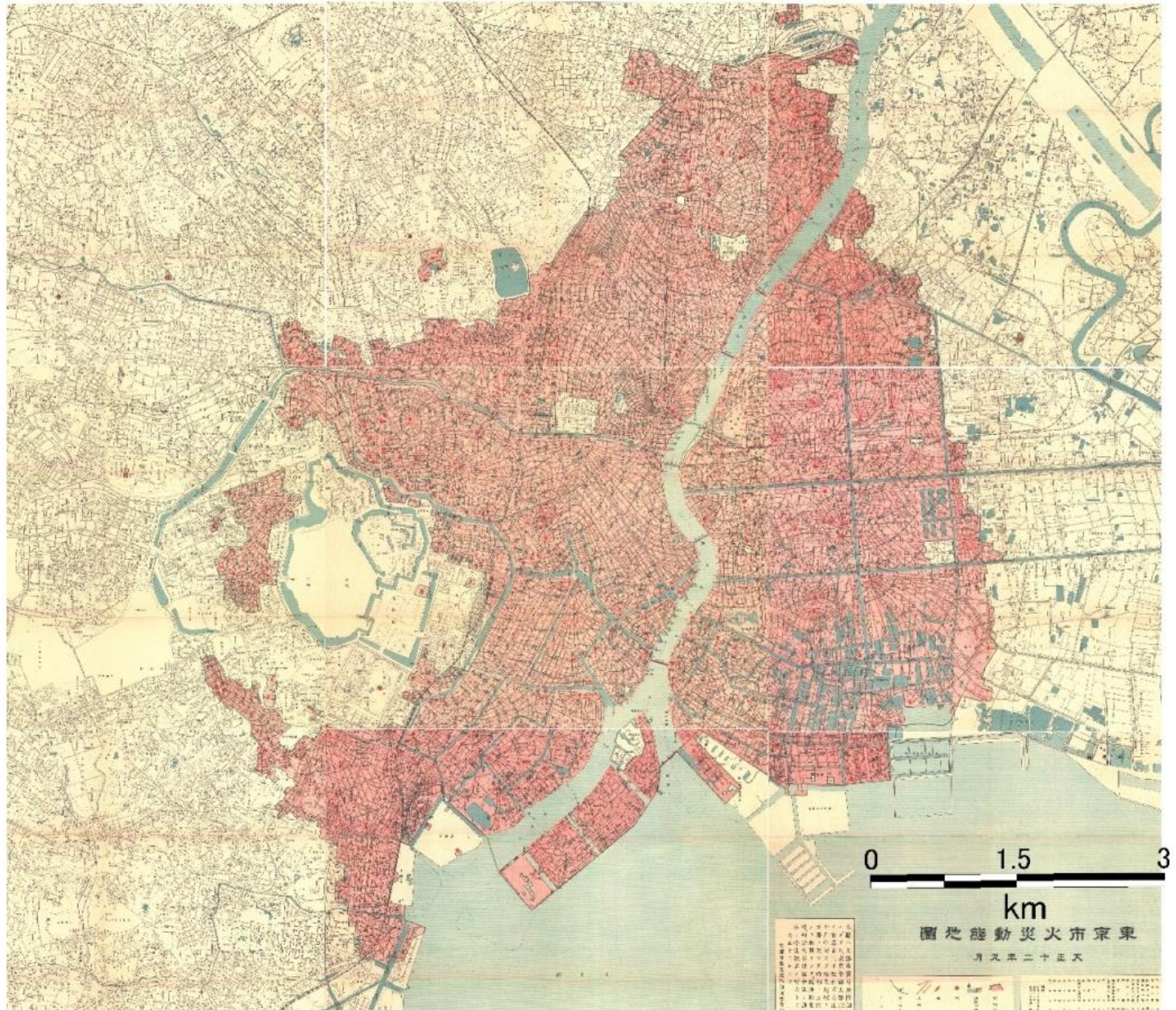
Urban planning for disaster resilient cities in case of Japan

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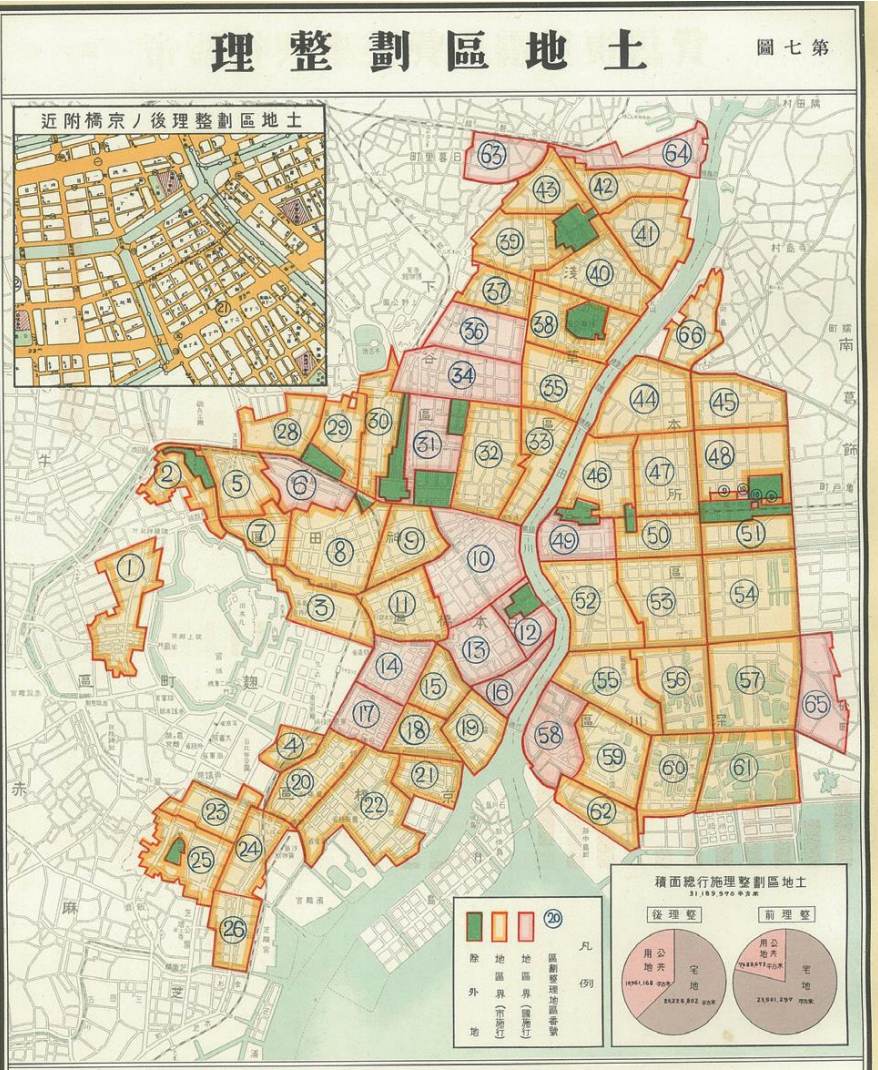
Urban planning & mega hazard

- <Great Earthquake in Tokyo= Great Kanto Earthquake 1923>
- Big fire, 100,000 people were dead mainly because of fire
- Quick response of government to make planning for reconstruction
- Implementation of innovative planning, land readjustment in huge built-up area
- Contribution for further development of Tokyo
- Hereafter, prevention of the spread of fire is the main target of disaster prevention planning

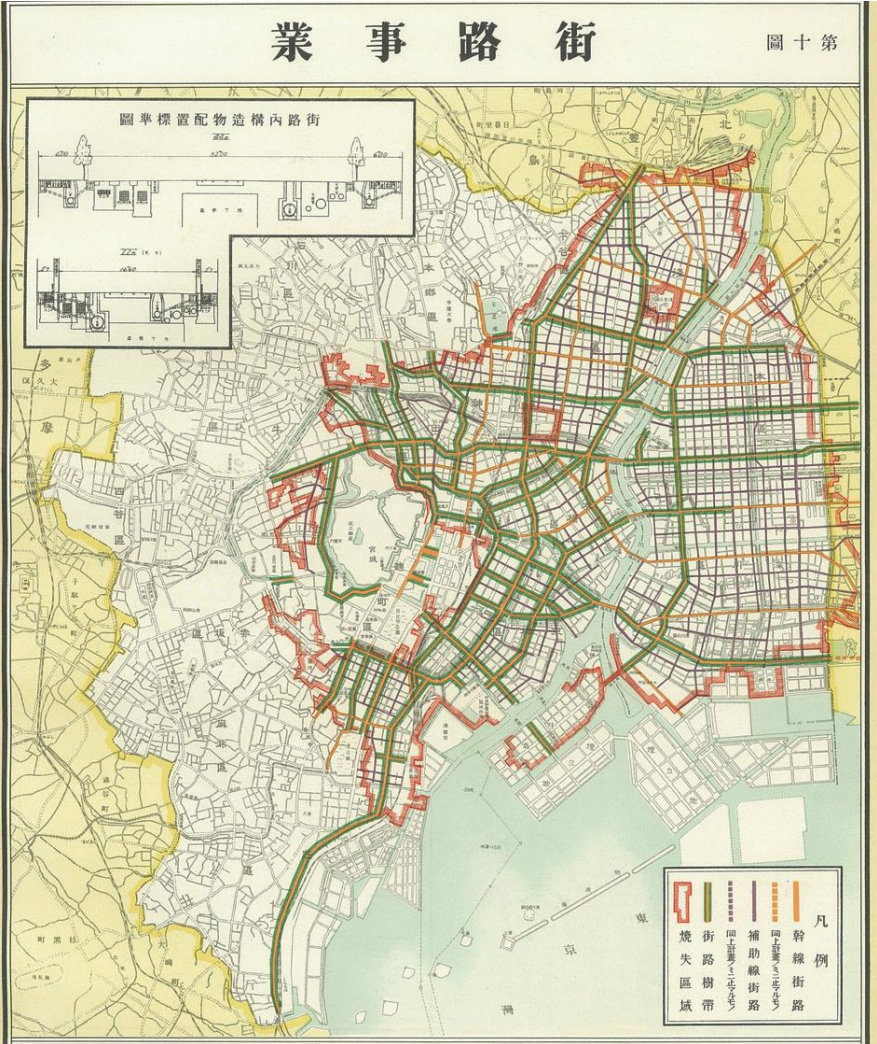
Damaged Area of Great Kanto Earthquake 1923



Land readjustment of damaged area



Project of planned street for reconstruction



Source: (東京市役所編纂,「帝都復興事業図表」,東京市,昭和5年3月)

Urban planning & mega hazard

- < Hanshin Great Earthquake 1995>
- 6,000 people were dead, mainly because of the collapse of houses and buildings
- New type of disaster problems: collapse of infrastructure, weakness & recovery of urban life system
- Difficulty of consensus making for reconstruction making (condominium)
- Importance of voluntary activity: NPO, NGO

Fall down of City Highway

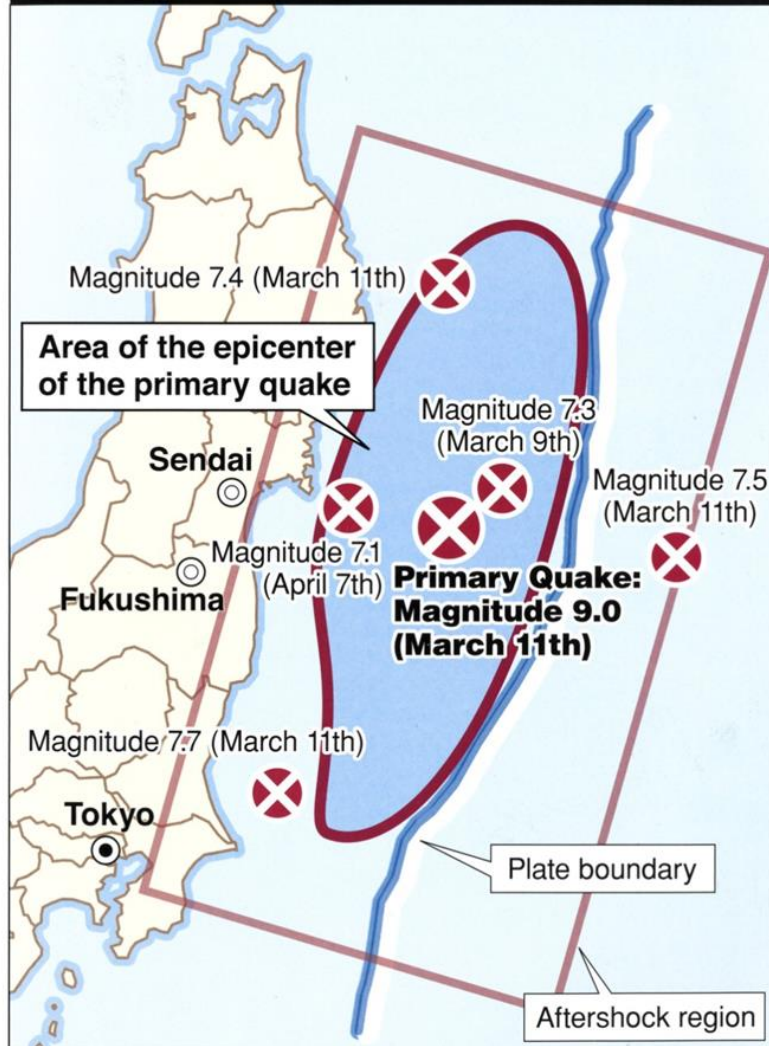


Source: Kobe Shimbun

Special character of East Japan Earthquake

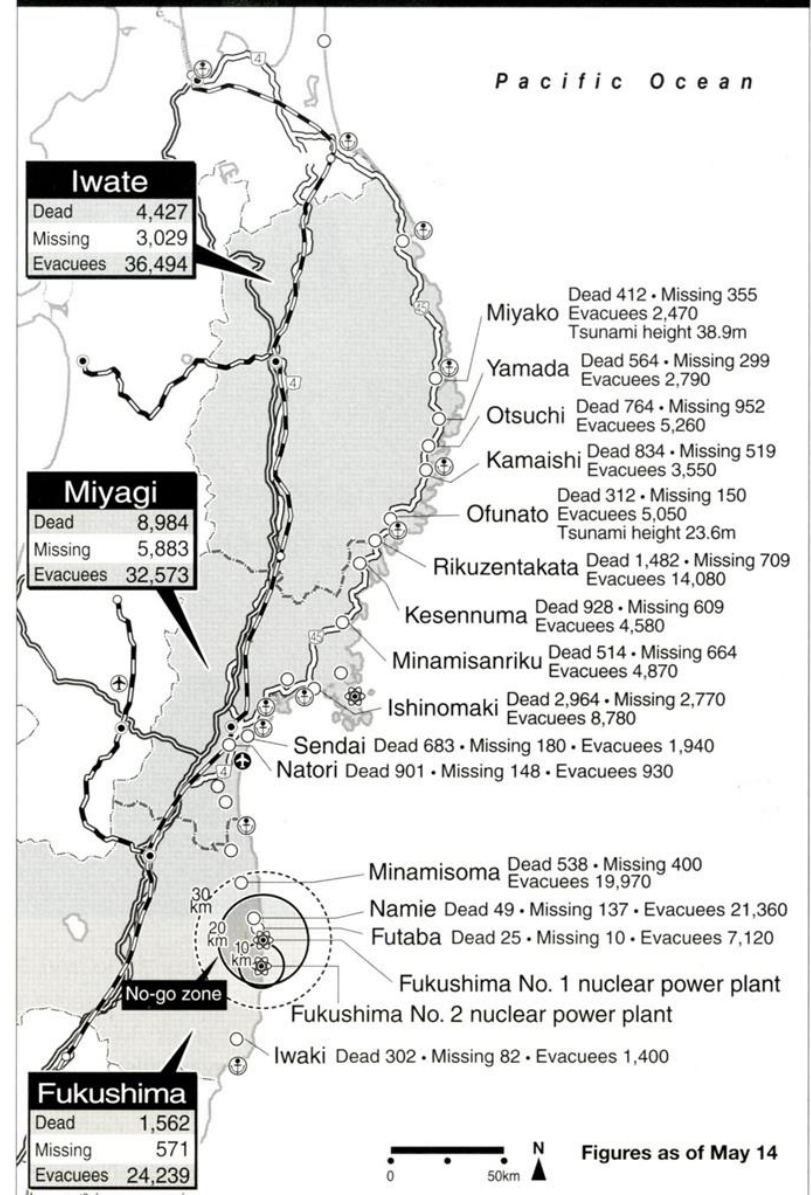
- Huge damaged area & multiple damage: 500km long damaged coast by Tsunami, 37 local municipalities, 9200 km² in Iwate, Miyagi & Fukushima were strongly damaged, damaged population: ca. 1.8 million people,
- Aspect of man-made disaster: Fukushima nuclear power plant
- Disaster in shrinking area

Great East Japan Earthquake: Primary Quake and Quakes Larger than Magnitude 7.0 occurring in March and April



Source: Kahoku Shinpo Publishing Co. 2011.06 "The Great East Japan Earthquake & Tsunami"

Main disaster zone



Source: The Japan Times Special Report, 2011.06 "3.11 A Chronicle of events following the Great East Japan Earthquake"

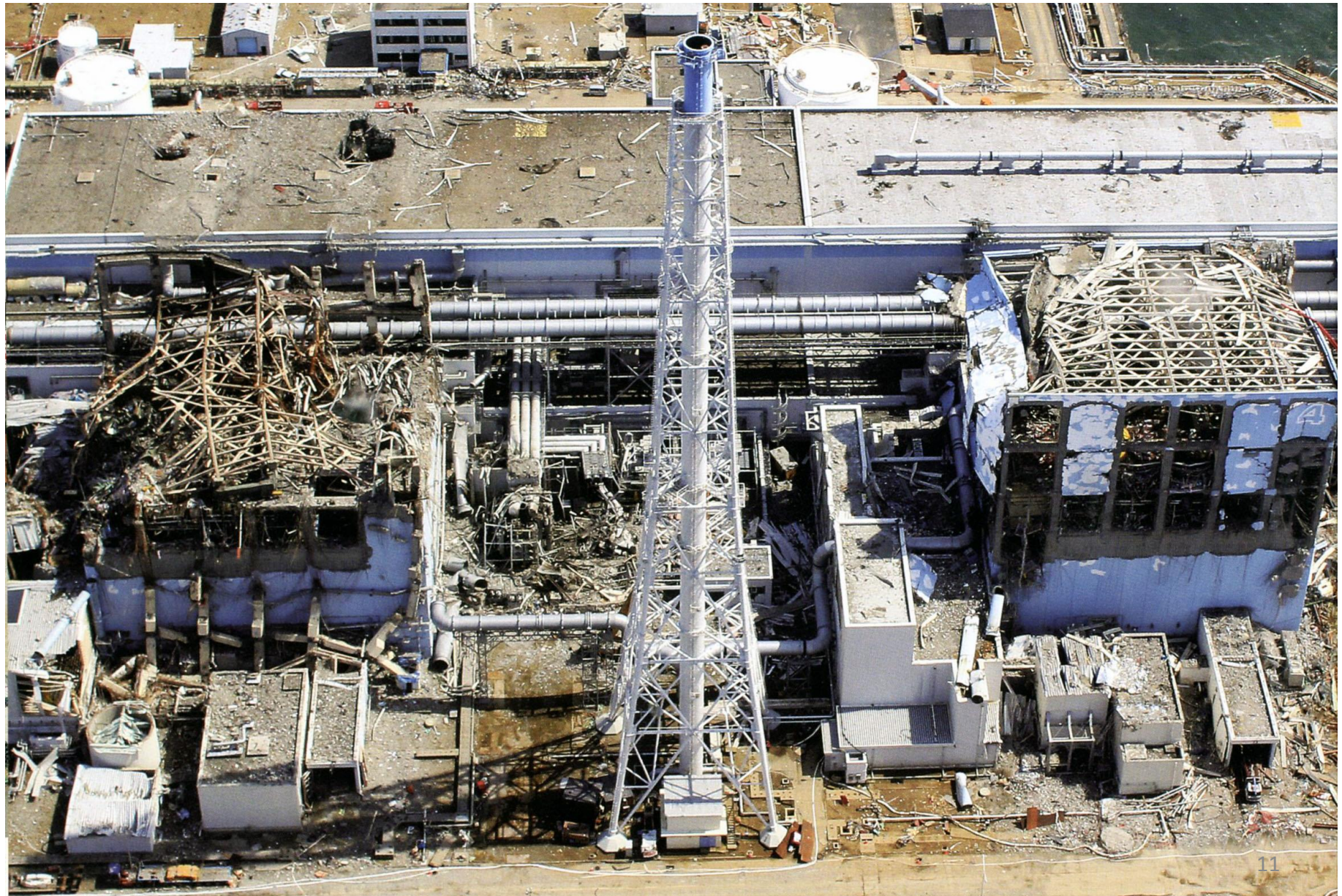
Minami Sanriku Town in Miyagi Pref. **Before**



Minami Sanriku Town in Miyagi Pref. **After**



In addition, Accident of Nuclear Power Plant



Tasks and hurdle for realization of reconstruction planning

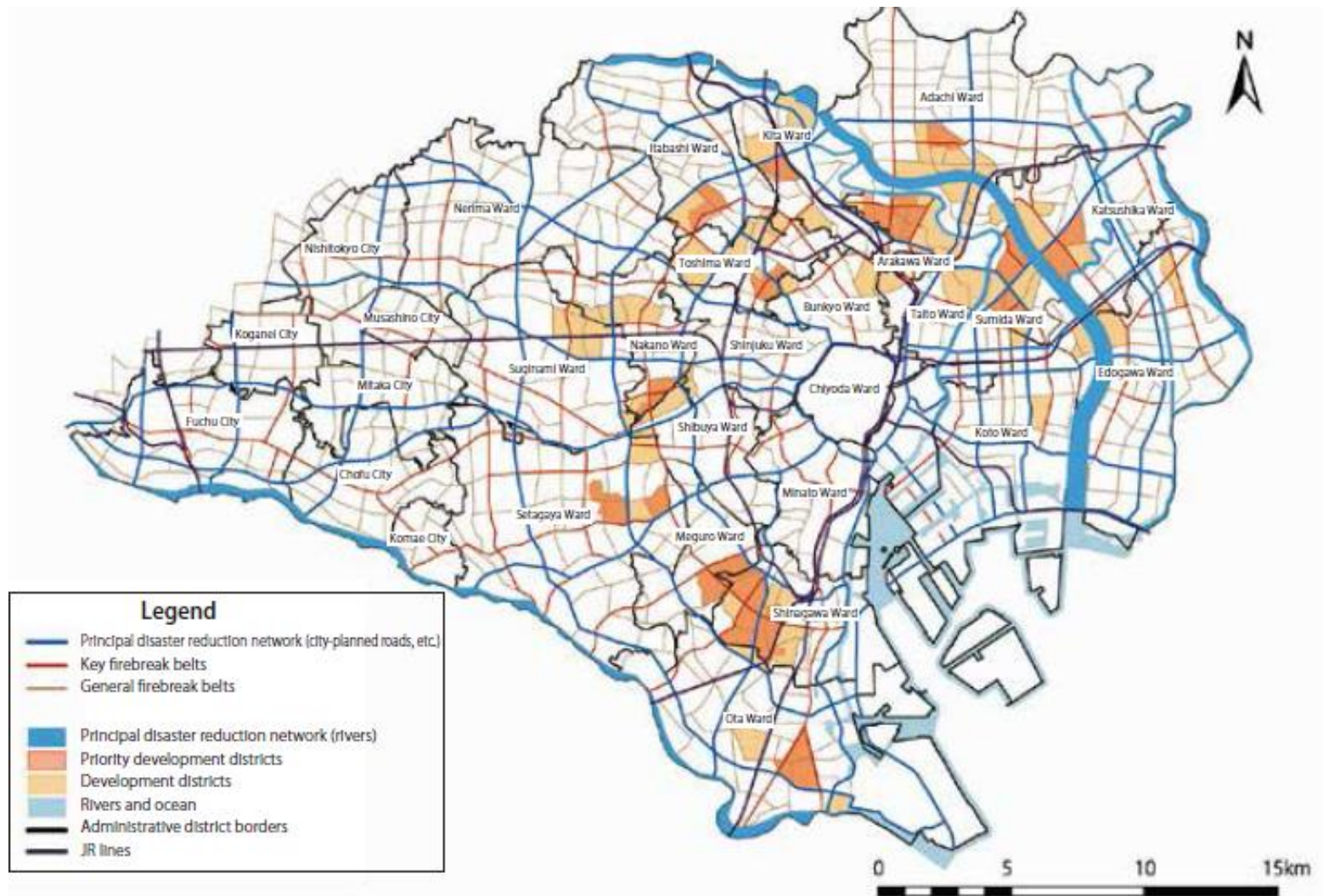
- Reality and realization process of seawall for Tsunami prevention
- Treatment for dangerous area in case of Tsunami: land use control for building prohibition
- Relation of fishery and marine products industry to sea side
- Delay of infrastructure restoration and reconstruction: ex. Railway, fish harbor, raising of ground sinkage
- Dependence danger for public subsidy

Tasks and hurdle for realization of reconstruction planning

- Long term continuation of temporally housing
- Housing reconstruction: location and housing type, possibility & problem of collective relocation, site problem: highland or on the present site, financial problem of self reconstruction, flexible treatment of public housing, treatment of personal financial problem (ex. double housing loan)
- Possibility of compact town under the condition of demographic change and shrinking of industry
- Possibility of human resource and power: formation of active citizens group, innovative idea and action of NPO, support of professional and expert

Action Plan for disaster prevention by Tokyo Metropolitan Government (TMG)

- Urban development plan for disaster-resistance (January 2010)
- Close-set wooden housing area as a target area for resilient improvement: 28 development district 7000ha, 11 priority development district 2400ha
- Ten-year project to advance fire resistance in close-set wooden housing areas
 - a. Acceleration of the establishment of fireproof zones in cooperation with the wards
 - b. Construction of major city-planned roads to form firebreak belts
 - c. Creating an atmosphere conducive to building disaster-resistant communities



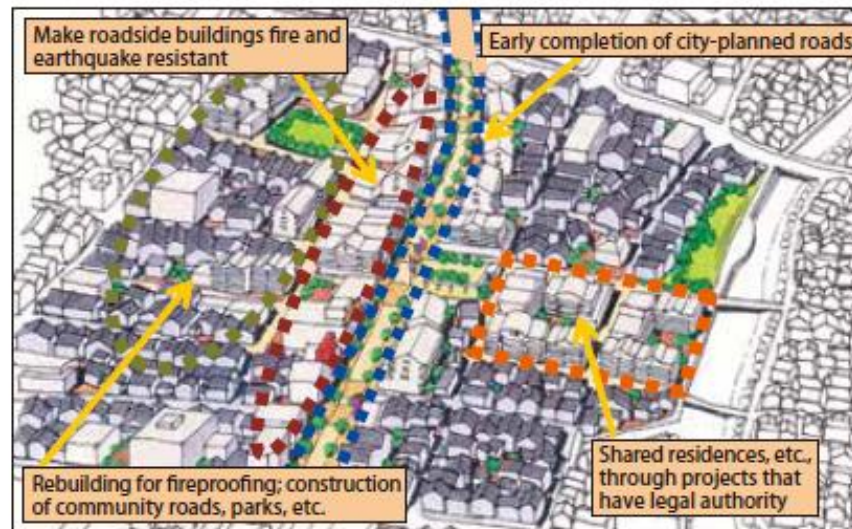
Areas Designated for Establishment of Firebreak Belts and as Development /Priority Development Districts

source: TMG-creation of a highly disaster resilient city



Example of a project to replace old wooden houses with shared residential buildings in close-set wooden housing districts

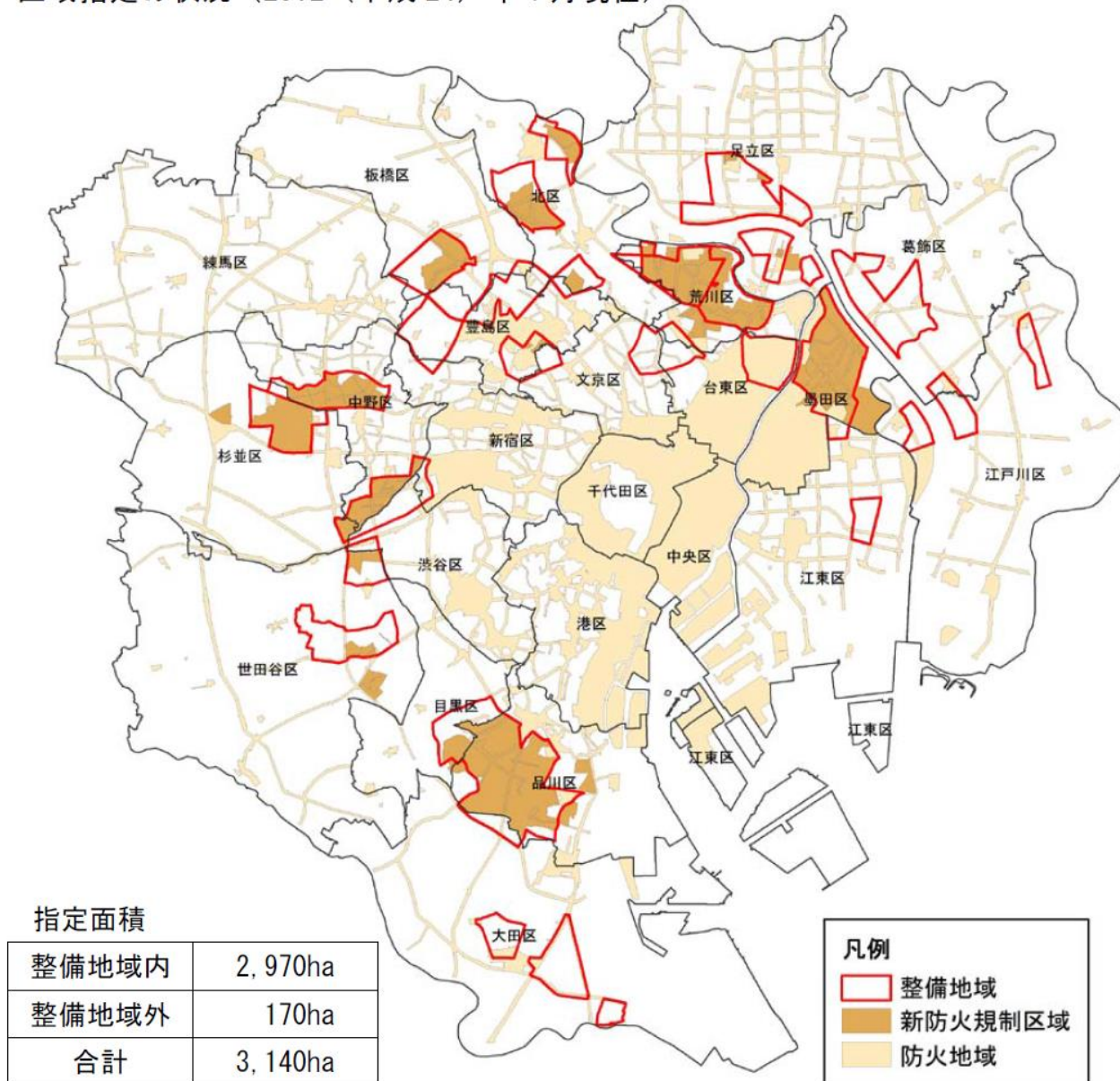
Example of a widened community road



Source: ibid

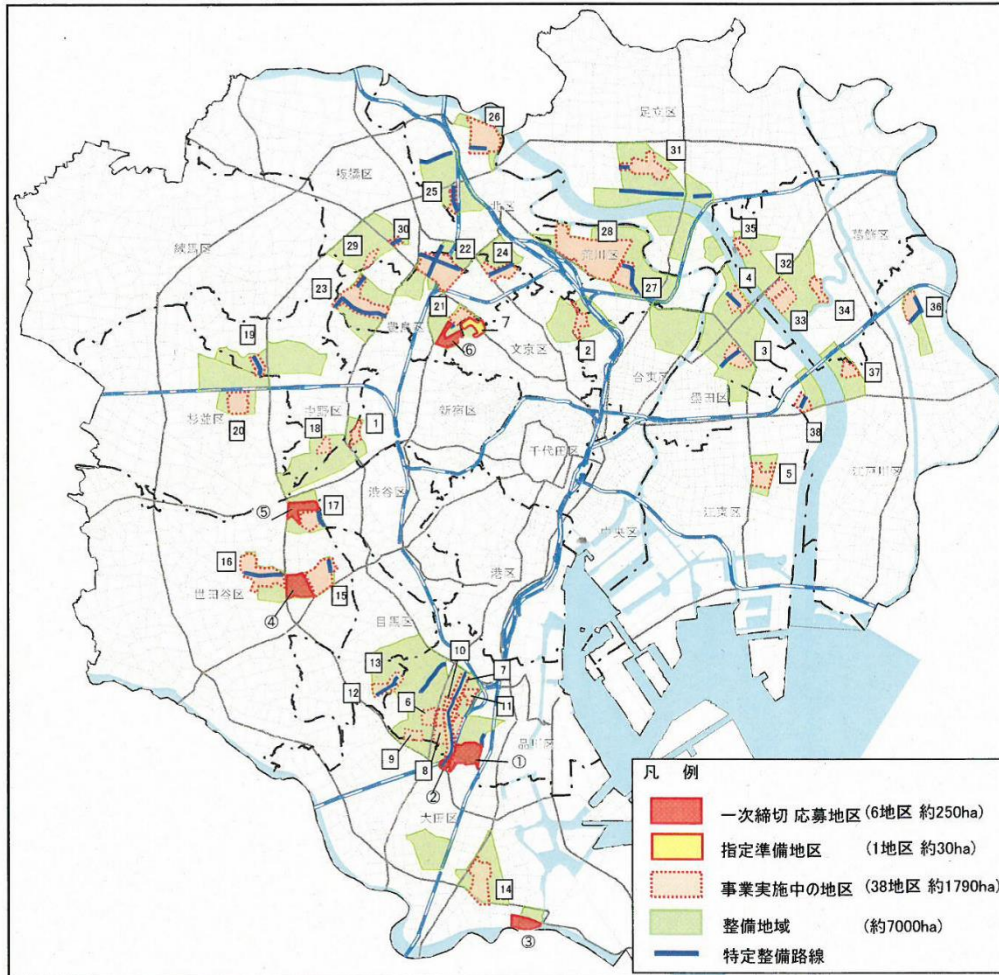
Special zoning for fire protection

区域指定の状況（2012（平成 24）年 1 月現在）



Location of Ten-year project to advance fire resistance in close-set wooden housing areas

木密地域不燃化10年プロジェクト 不燃化特区 地区位置図



別紙

一次締切 応募地区

番号	区	地区
①	品川区	大井五・七丁目、西大井二・三・四丁目地区
②	大田区	補助29号沿道地区(大田区)
③		羽田二・三・六丁目地区
④	世田谷区	太子堂・若林地区
⑤		北沢五丁目・大原一丁目地区
⑥	豊島区	雄司が谷・南池袋地区

指定準備地区

7	文京区	大塚五・六丁目地区
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事業実施中の地区

1	新宿区	西新宿五丁目地区
2	台東区	谷中二・三・五丁目地区
3	墨田区	京島周辺地区
4		鐘ヶ淵周辺東地区
5	江東区	北砂三・四・五丁目地区
6		東中延一・二丁目、中延二・三丁目地区
7		補助29号線沿道地区(品川区)
8	品川区	豊町四・五・六丁目、二葉三・四丁目及び西大井六丁目地区
9		旗の台四丁目・中延五丁目地区
10		戸越二・四・五・六丁目地区
11		西品川二・三丁目地区
12	目黒区	原町一丁目、洗足一丁目地区
13		目黒本町五丁目地区
14	大田区	大森中(西荻谷・東蒲田・大森中)地区
15		太子堂・三宿地区
16	世田谷区	区役所周辺地区
17		北沢三・四丁目地区
18	中野区	弥生町三丁目周辺地区
19		大和町中央通り(補助第227号線)沿道地区
20	杉並区	杉並第六小学校周辺地区
21		東池袋四・五丁目地区
22	豊島区	池袋本町・上池袋地区
23		補助26・172号線沿道地区
24		補助81号線沿道地区
25	北区	十条駅西地区
26		志茂地区
27	荒川区	荒川二・四・七丁目地区
28		町屋・尾久地区
29	板橋区	大谷口一丁目周辺地区
30		大山駅周辺西地区
31	足立区	西新井駅西口周辺地区
32		四つ木一・二丁目地区
33	葛飾区	東四つ木地区
34		東立石四丁目地区
35		堀切二丁目周辺及び四丁目地区
36		南小岩七・八丁目周辺地区
37	江戸川区	松島三丁目地区
38		平井二丁目付近地区

Critical points for ten-year project

- Necessary to understand of formation process of close-set wooden housing areas
- How to maintain the function of affordable housing area for low income group and elderly group
- How to develop a sustainable community with attractiveness of mixed use

Perspective for reconstruction, revitalization and sustainable development

- New planning paradigm under changing socio-economic and environmental conditions: not only for reconstruction for damaged area, but also for resilient national land to reduce the damage of disaster
- Rethinking of national planning and regional planning: from monopolistic centralization to multiple decentralized national land , balanced and resilient society
- Support for innovative project and experimental project : smart city project, new agricultural experimental project, renewable energy, tourism in connection with reconstruction process
- Utilization of local knowledge and human resource of community