



# Mechanism of Area Development along railway in Japan

Atsushi FUKUDA

Board Member of ATRANS

Head of Dept. Transportation Eng. and Socio-tech.,  
Nihon University

Director of Transportation Research Center,  
Nihon University

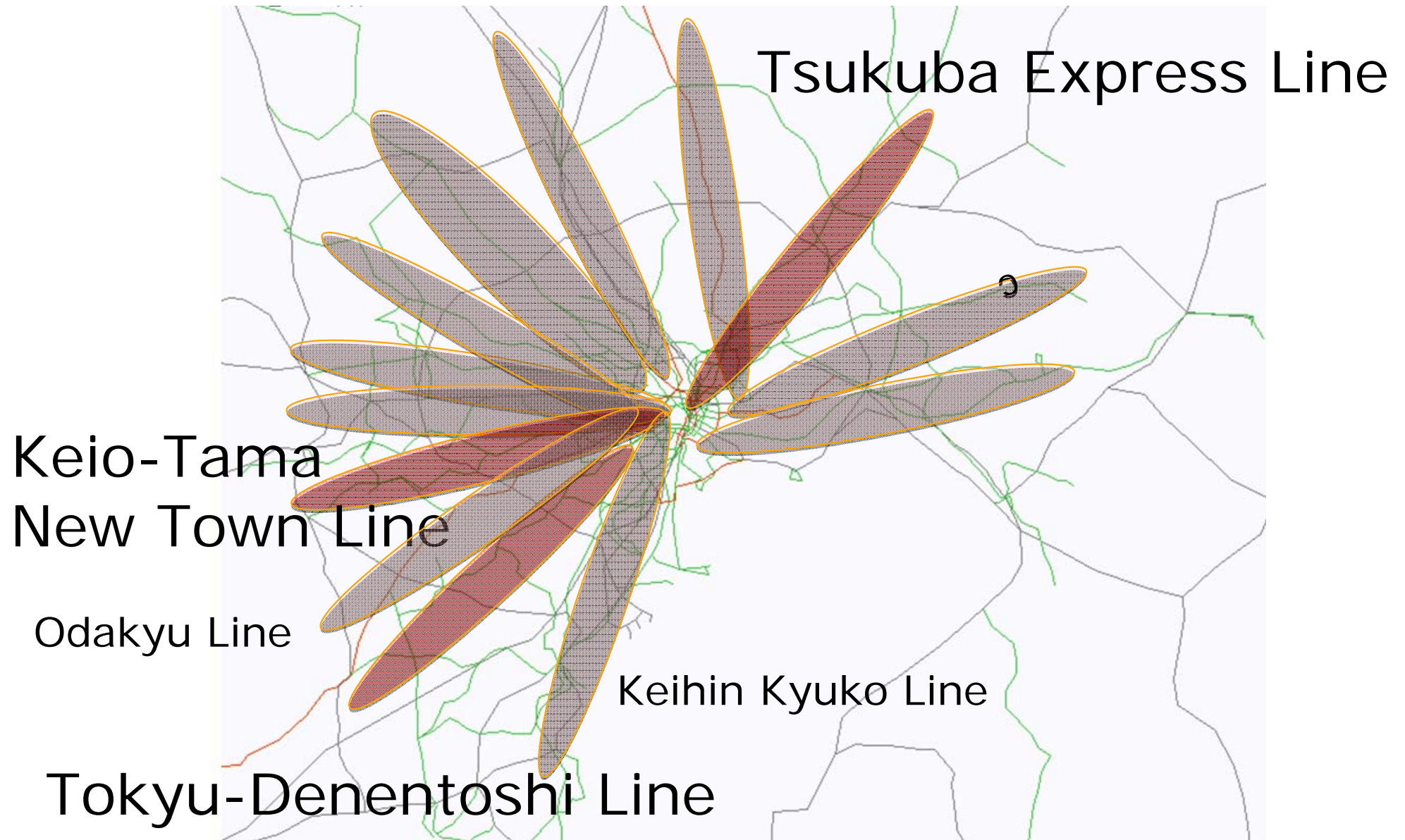
# Contents

---

1. Historical View of Area Development along Railway in Japan
2. Institutions for Development along Urban Railway in Japan
  1. Land Readjustment Project
  2. Urban Renewal Project
3. Area Development along Tsukuba Express

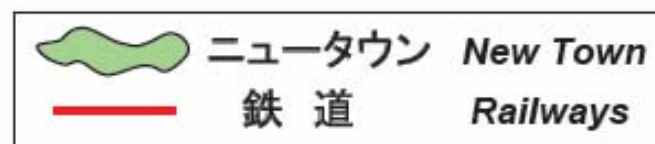
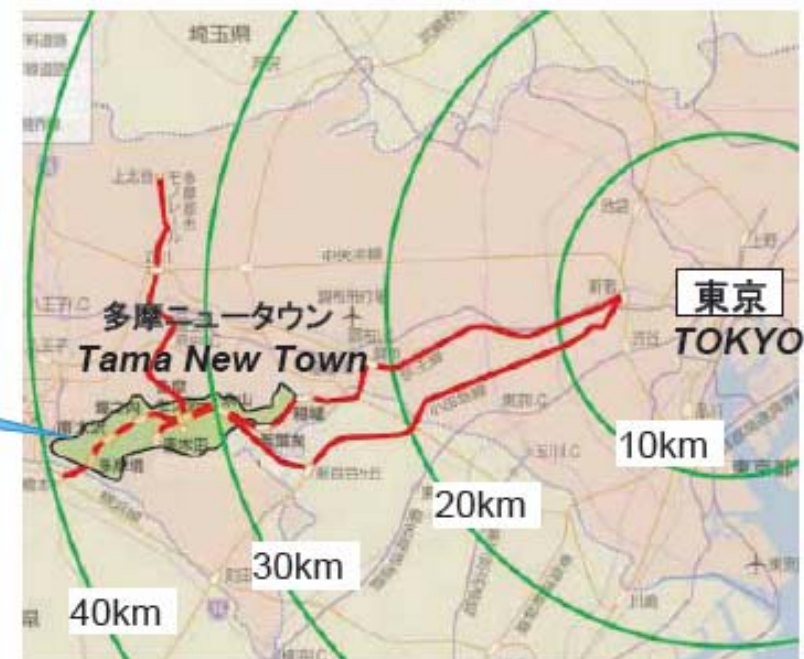
# Urban Growth and Railway Network at Mega City in Japan

---





# Area development at New Town in Tokyo



An aerial photograph of a densely populated Japanese city, likely a suburb of a major metropolitan area. The image shows a mix of residential buildings, including many multi-story apartment complexes, and commercial structures. A prominent feature is a railway line that runs diagonally across the lower-left portion of the frame. The city is surrounded by greenery and hills in the distance. The sky is bright blue with scattered white clouds. The entire image is framed within a white oval shape.

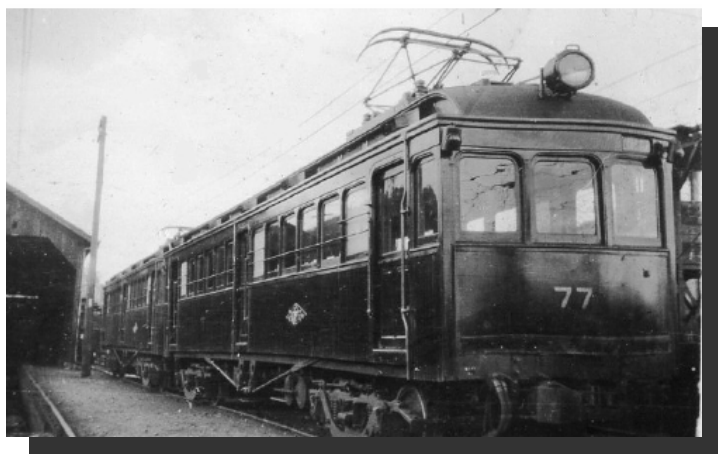
# **1. Historical View of Area Development along Railway in Japan**





# Area development before 1960

Area development carried out by 14 private  
During from 1910 to 1960, 309 residential areas  
were developed in Tokyo, Nagoya and Oosaka.



Company Name	Development Area
Kinki Nippon Railway	13ha
Keihan Electric Railway	11ha
Nankai Electric Railway	14ha
Hankyu Corporation	105ha
Hanshin Electric Railway	5 ha
Total	148ha

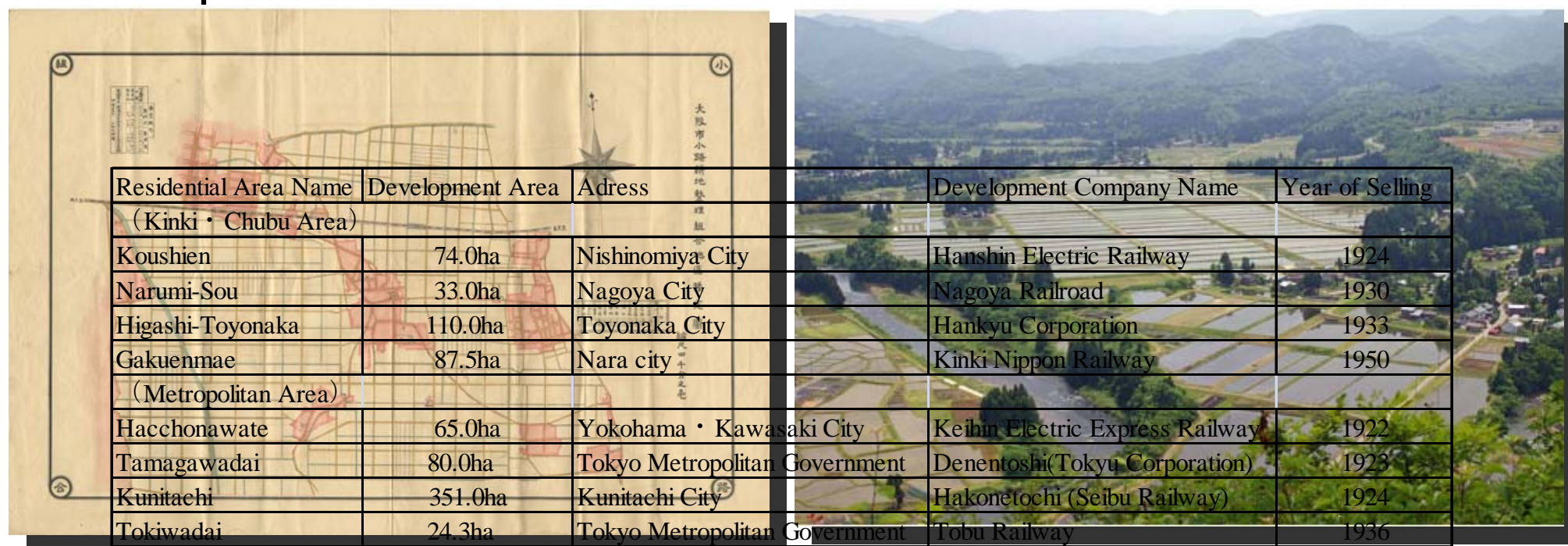
Company Name	Development Area
Odakyu Electric Railway	20ha
Keio Corporation	6 ha
Keisei Electric Railway	9 ha
Keihin Electric Express Railway	12ha
Sagami Railway	9 ha
Seibu Railway	32ha
Tokyu Corporation	45ha
Tobu Railway	19ha
Total	152ha



# Area development before 1960

In this period, an area was developed by applying Land Readjustment Project by Full Acquisition System based on Land Consolidation Law.

⇒ No necessary to suppose the increase of land price

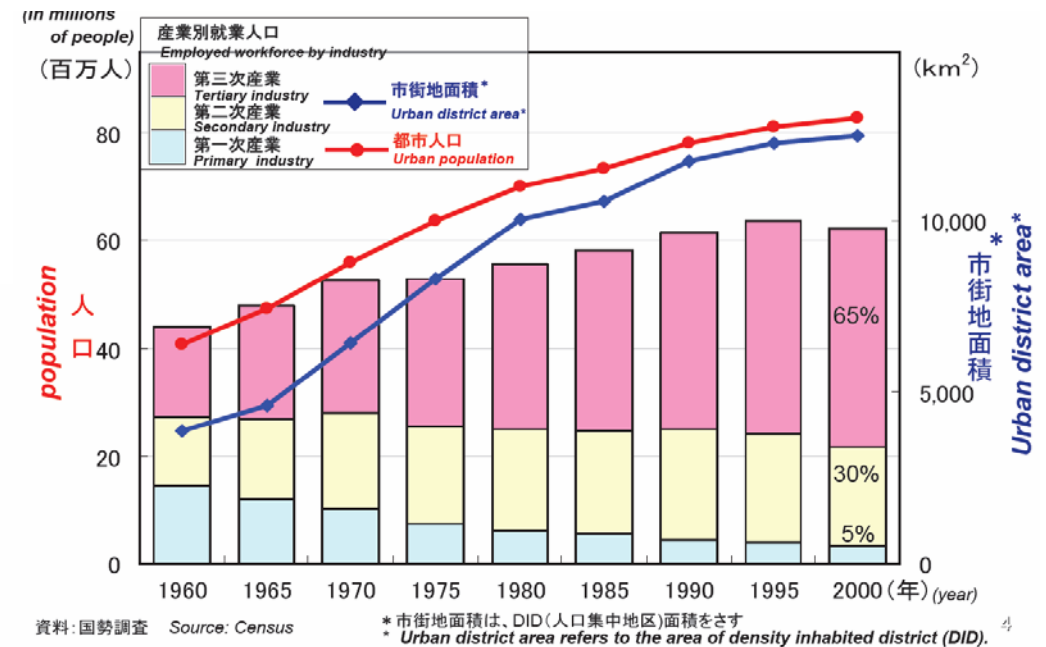
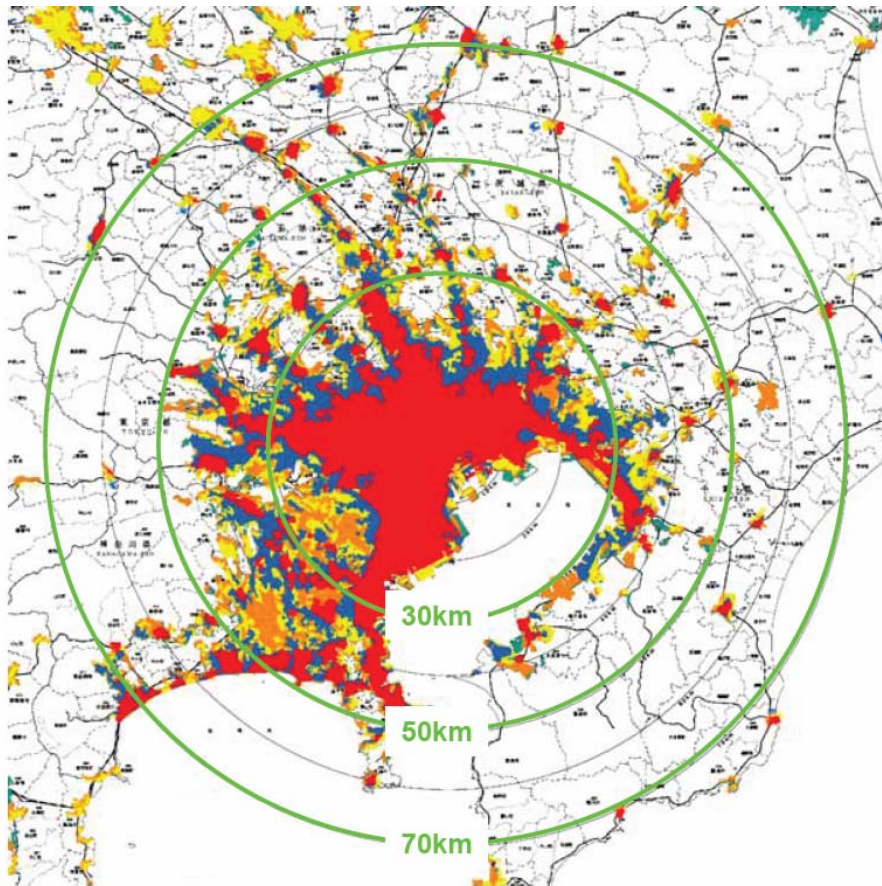


Residential Area Name	Development Area	Adress	Development Company Name	Year of Selling
(Kinki • Chubu Area)				
Koushien	74.0ha	Nishinomiya City	Hanshin Electric Railway	1924
Narumi-Sou	33.0ha	Nagoya City	Nagoya Railroad	1930
Higashi-Toyonaka	110.0ha	Toyonaka City	Hankyu Corporation	1933
Gakuenmae	87.5ha	Nara city	Kinki Nippon Railway	1950
(Metropolitan Area)				
Hacchonawate	65.0ha	Yokohama • Kawasaki City	Keihin Electric Express Railway	1922
Tamagawadai	80.0ha	Tokyo Metropolitan Government	Denentoshi(Tokyu Corporation)	1923
Kunitachi	351.0ha	Kunitachi City	Hakonetochi (Seibu Railway)	1924
Tokiwadai	24.3ha	Tokyo Metropolitan Government	Tobu Railway	1936



# Area development from 1960 to 1990

## Expansion of Urban District in the Metropolitan Areas



\* 市街地はDID(人口集中地区)をさす。  
\* Urban district refers to the density inhabited district (DID).

# Area development from 1960 to 1990

---

According to rapid population growth and urbanization, huge demand for residential development was arisen in the Metropolitan Areas. Housing Land Development Law was enacted in 1964.

Rise of land price by area development created revenue for a railway operator through a real estate company which used to be one of group companies of the railway operator.

Applying land readjustment project to provide good quality of infrastructure such as road, park, other open space, etc. are essential.

# Area development after 1990

Facing aged society, population in Japan already started to decrease. Ridership also dropped. Railway operators have to find other sources to get revenue.

## Business at a railway station

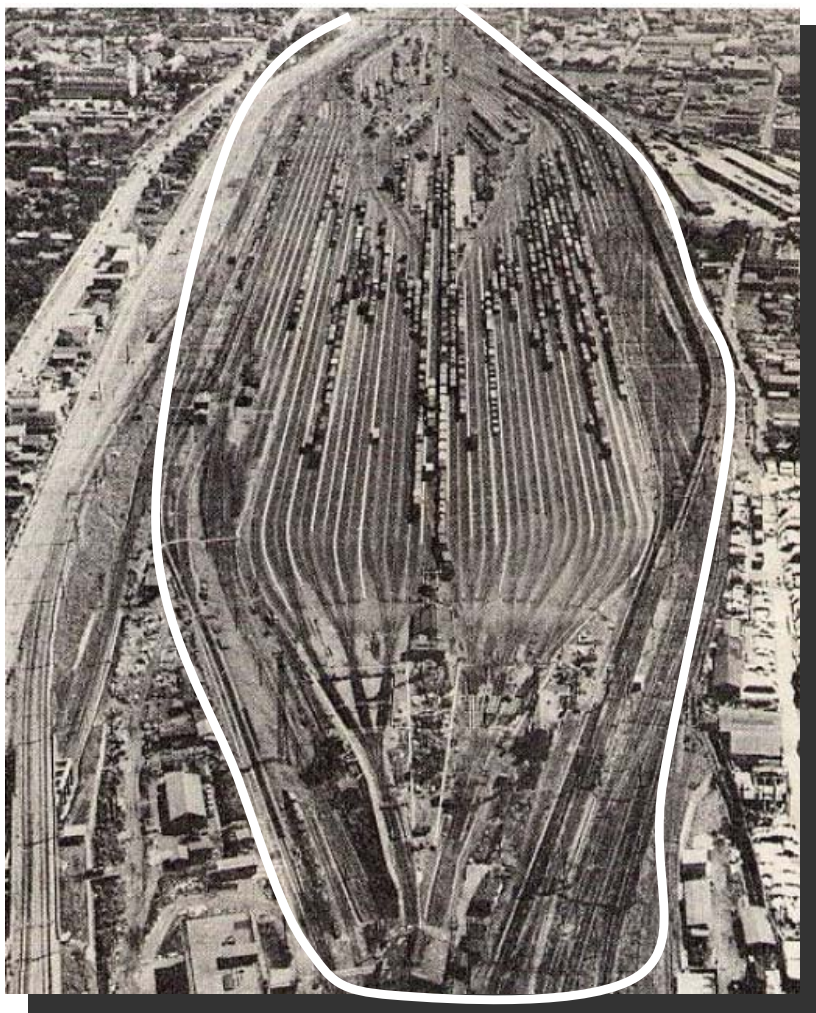




# Area development after 1990

---

Urban renewal project at own land such as train depot.

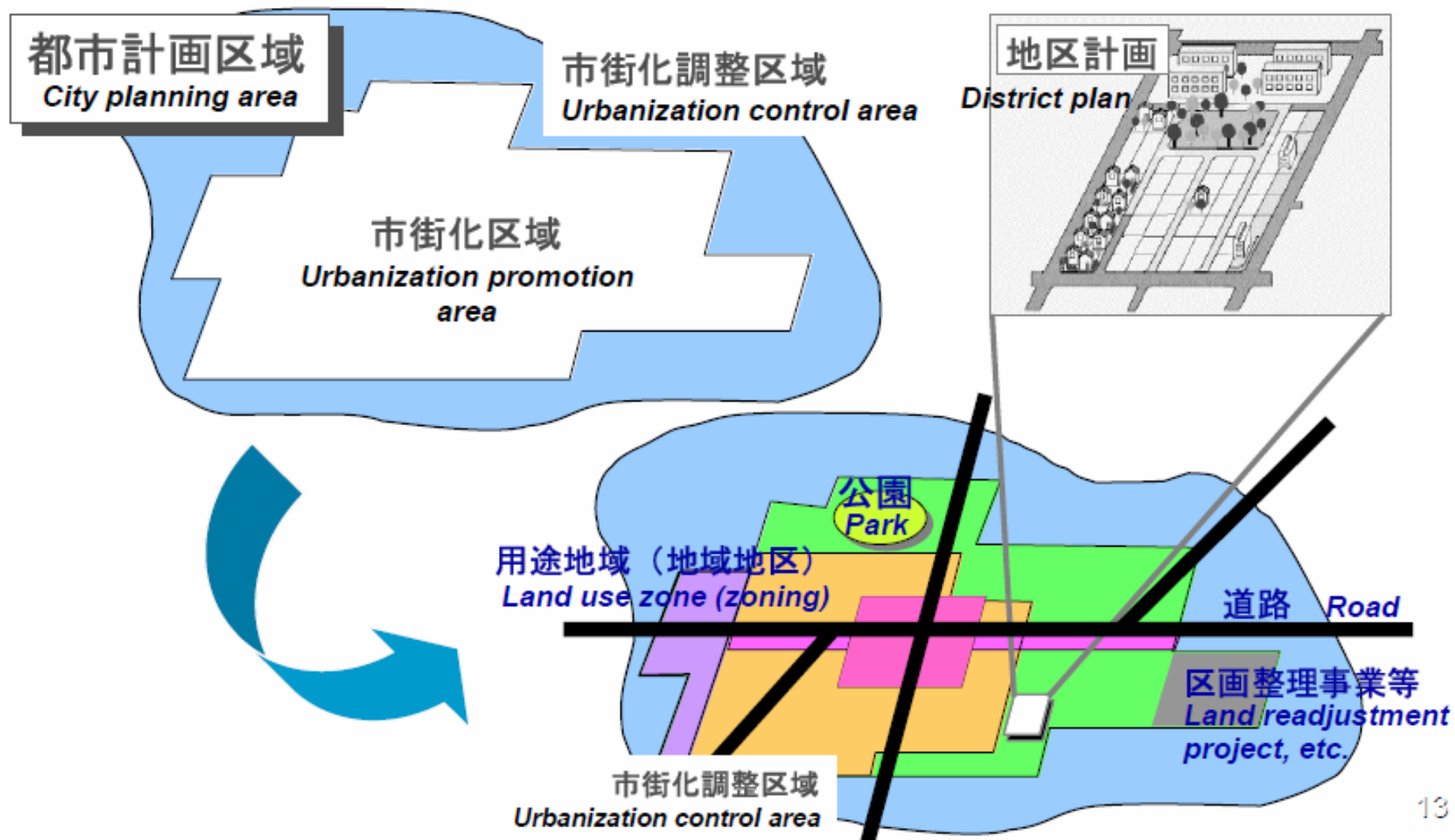


## 2. Institutions for Development along Urban Railway in Japan





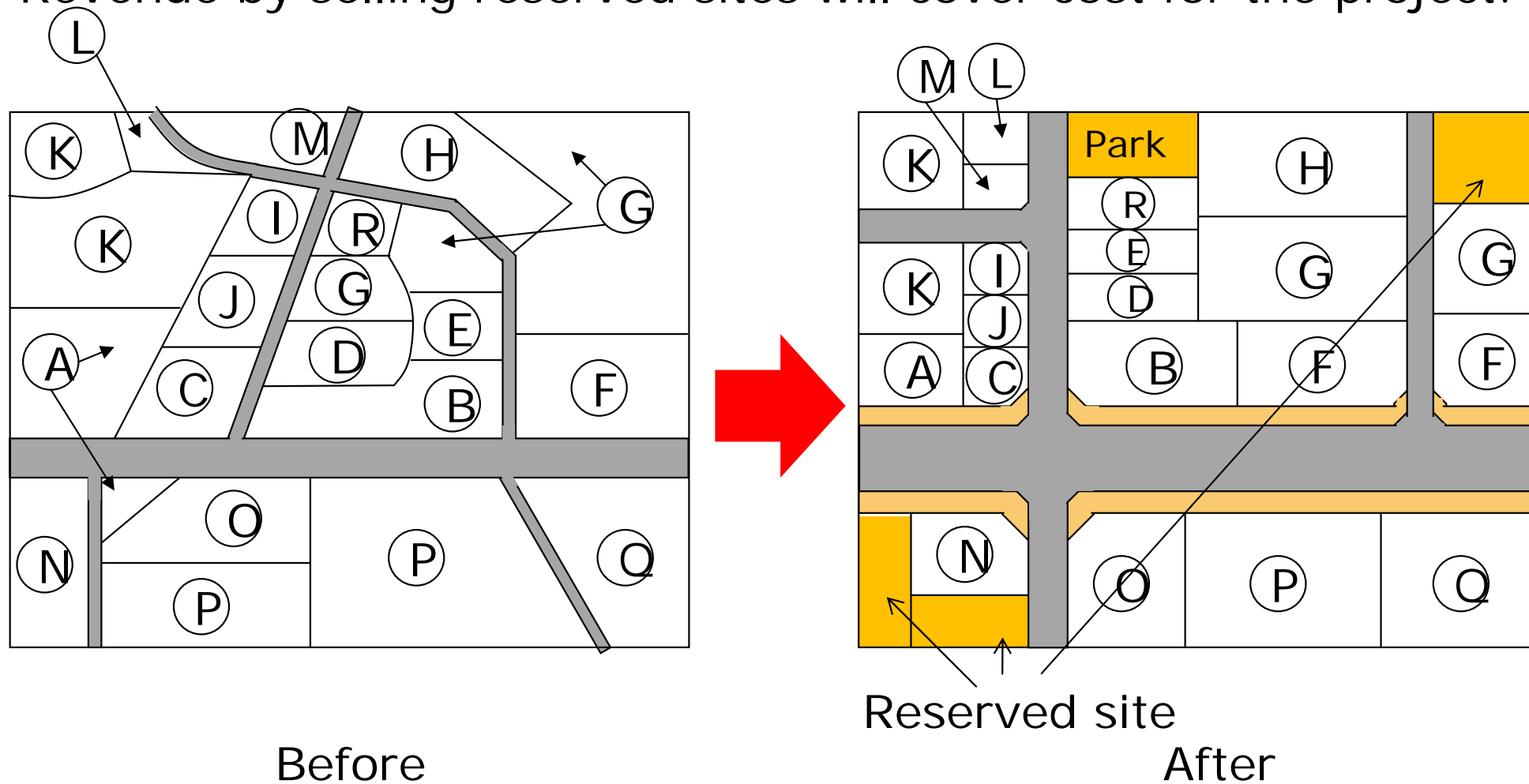
# Land Use Planning Based on City Planning Law





# Concept of Land Readjustment Programs

After applying land readjustment programs, public space such as road, park, etc. will increase and land price will also rise. Revenue by selling reserved sites will cover cost for the project.



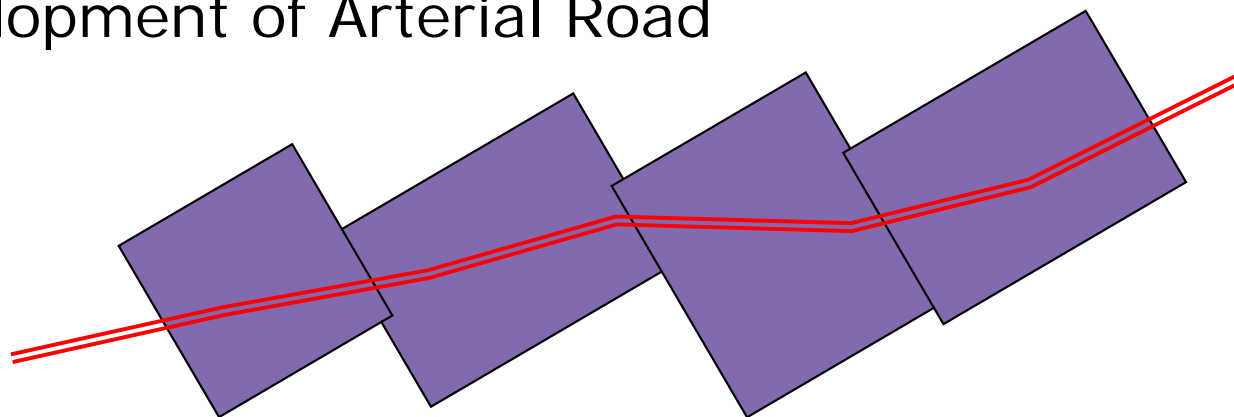
# Impacts of Land Readjustment Programs

---

## Improvement of Urban Sprawl



## Development of Arterial Road



# Coordination of Housing and Railway Development at Tama Garden Area

地区番号	組合名	面積 (ha)	設立認可 (年/月)	解散年月 (年/月)	地区番号	組合名	面積 (ha)	設立認可 (年/月)	解散年月 (年/月)
<b>第1ブロック</b>					<b>第3ブロック</b>				
1	野川第一	22.1	1959/05	1962/03	2	恩田第一	27.4	1961/04	1965/03
6	有馬第一	68.8	1962/07	1967/05	4	恩田第二	172.9	1962/04	1968/01
7	土橋	122.7	1962/12	1979/03	5	下谷本西八朔	104.5	1962/04	1967/04
12	宮崎	129.9	1964/09	1979/03	9	恩田第三	65.0	1963/06	1968/05
13	梶ヶ谷第一	76.7	1964/12	1971/04	11	下谷本第二	64.0	1964/06	1968/11
22	有馬第二	137.1	1968/03	1979/03	16	恩田第四	54.8	1965/09	1971/11
23	小台	36.2	1968/06	1976/05	17	西八朔第二	51.5	1967/01	1970/06
26	神木	16.2	1969/06	1972/06	18	上谷本第一	53.1	1967/03	1971/06
27	北山田第一	38.3	1969/07	1973/01	21	成合	59.6	1967/05	1971/06
55	犬蔵	18.0	2000/03	2006/03	29	上谷本第二	29.2	1970/12	1975/02
合計		666.0			32	奈良恩田	49.1	1971/03	1977/05
<b>第2ブロック</b>					34	上谷本第三	43.8	1971/07	1976/03
3	荇田第一	29.7	1961/06	1969/02	37	恩田第五	90.5	1972/08	1982/06
8	元石川第一	118.0	1963/03	1969/11	38	鴨志田第二	16.2	1973/06	1977/11
10	市ヶ尾第一	28.9	1963/09	1968/10	50	上恩田	58.2	1983/07	1990/08
19	下市ヶ尾第一	21.9	1967/05	1969/11	合計 939.8				
20	元石川第二	94.8	1967/05	1973/07	<b>第4ブロック</b>				
25	元石川大場	179.7	1969/06	1977/08	14	大和市北部第一	112.5	1965/07	1970/06
30	鹼山第一	90.3	1971/02	1975/03	15	小川第一	95.1	1965/07	1969/04
31	鹼山第二	29.7	1971/02	1975/03	24	小川第二	70.4	1968/10	1972/05
33	早野	35.3	1971/04	1975/04	28	下長津田	40.2	1969/07	1974/03
36	元石川第三	87.7	1972/06	1980/08	35	南町田第一	38.9	1972/05	1975/12
39	小黒	43.9	1973/07		<b>&lt;凡例&gt; 土地調整地区の位置</b>				
40	市ヶ尾川和	47.2	1975/07		■ 第1ブロック(川崎市宮前区、一部横浜市都筑区)				
41	市ヶ尾第二	9.1	1977/07		■ 第2ブロック(横浜市青葉区、都築区、川崎市麻生区)				
43	荇子田	67.5	1977/07		■ 第3ブロック(横浜市青葉区)				
44	保木	97.8	1978/07		■ 第4ブロック(横浜市緑区、町田市、大和市)				
45	池尻	3.1	1978/07						
46	富士塚	47.7	1978/07						
47	泉田向	46.4	1979/07						
48	黒須田	23.8	1983/07						
49	大場第一	40.0	1983/07						
51	赤田	68.7	1985/07						
52	大場第二	11.2	1989/07						
53	大場第三	3.6	1989/07						
54	開耕地	11.1	1994/07						
合計		1,237.1							

Land adjustment project carried out at 54 areas along Tokyu Denen Toshi Line.

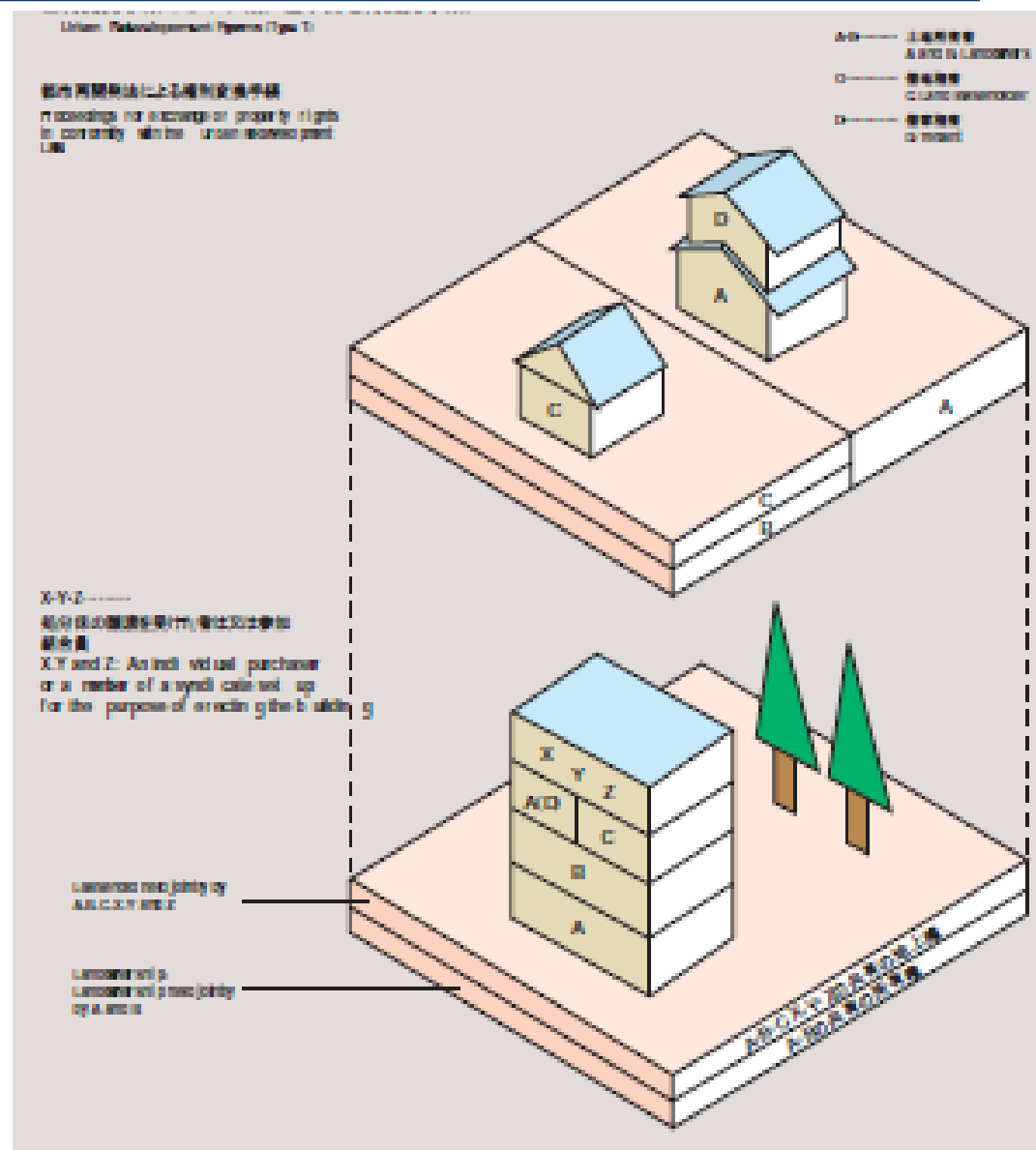
Total area became 3,204.3 ha





# Concept of Urban Redevelopment Programs

A program is implemented in one of two ways through exchange of property rights between Interested parties for Type 1 Urban Redevelopment Programs or through direct purchase for Type 2 Urban Redevelopment Programs.

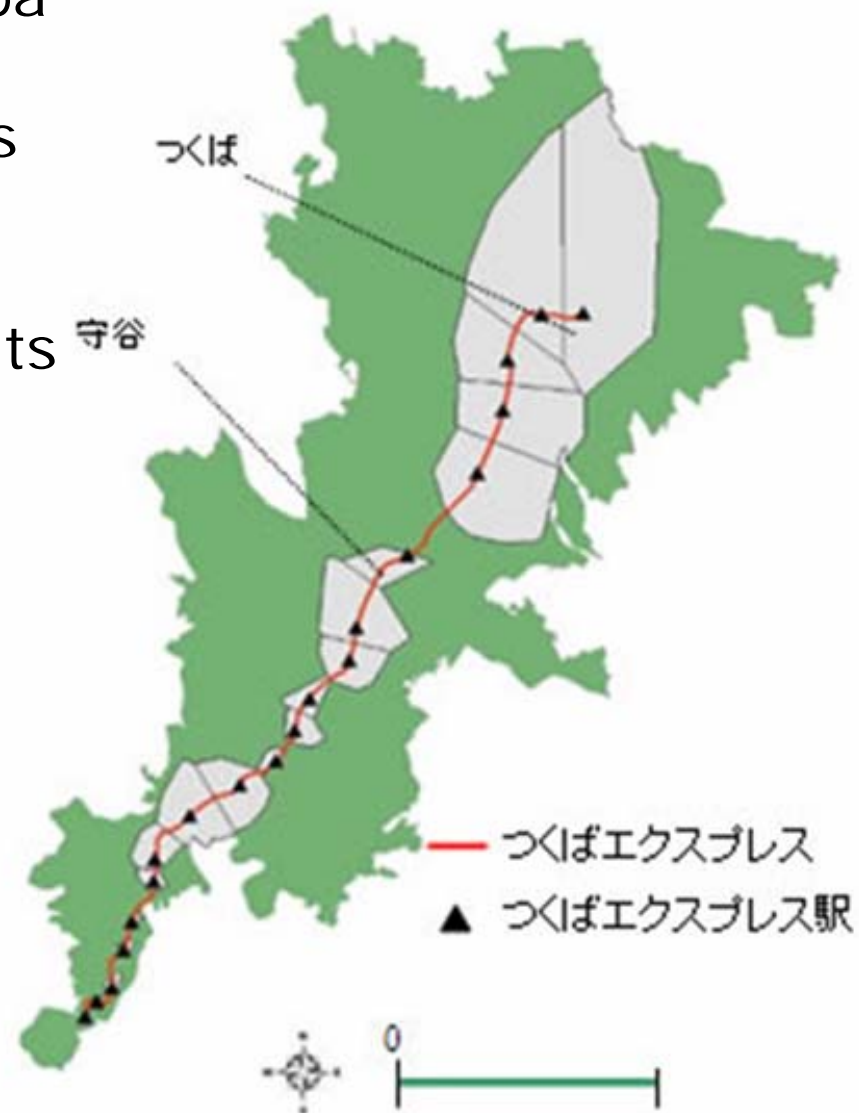




### 3. Area Development of ~Tsukuba Express~

# Development of Tsukuba Express (TX)

The Tsukuba Express connects Tsukuba city and Akihabara (58.3 km, 20 stations) in minimum 45 minutes. This business was planned to prevent congestion on JR Joban line, and was decided to construct in 1985, started its construction in 1994 and started its operation from 2005.





# Development of Tsukuba Express (TX)

---

The Tsukuba Express is a third sector metropolitan railway financed and managed by Tokyo, Saitama, Chiba, Ibaraki and local governments along TX

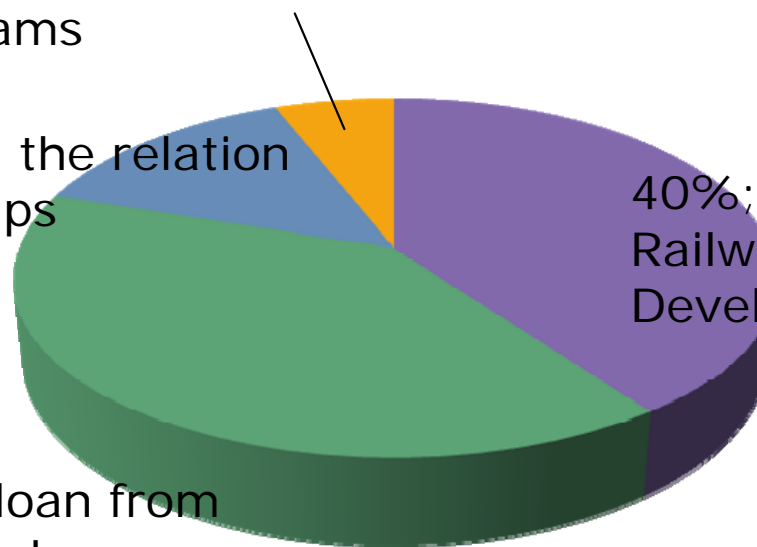
The total cost of construction around 810billion yen

6% loan from the government's loan and investment programs

14%; Investment from the relation and the provinces groups

40%; interest free loan from Railway and Transport Development Agency

40%; free interest loan from local government (Tokyo, Saitama, Chiba, Ibaraki)



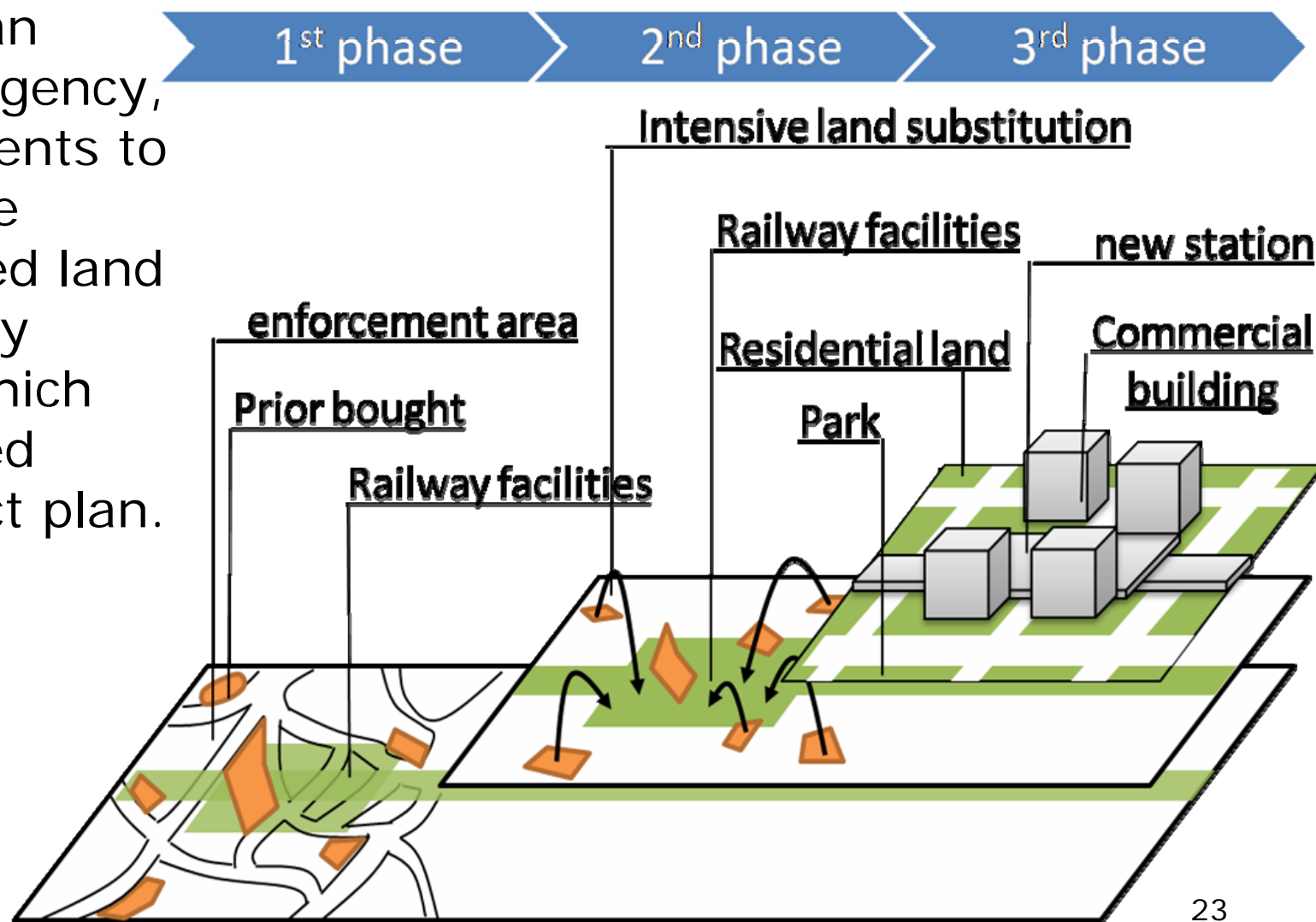
# Coordination of Housing and Railway Development in Urban Area

---

- Problems at area development along railway
  - Expansion of construction period and un-recovered cost because of negotiation for land acquisition
  - Difficulty of land acquisition and lack of funds because of land price increment in metropolitan areas
  
- The law called the "Special Measures Related to the Coordination of Housing and Railway Development in Urban Regions" or simply "Takutetsu-ho" was established to carry out coordination of residential development and railway development .
  
- This is a model case for new development along railway that is designed to prevent urban sprawl and create a more livable residential environment.

# Integration Land Readjustment Programs

This allows a railway operator, Urban Renaissance Agency, local governments to consolidate the former acquired land into the railway facility area which was established under a project plan.





# Area Development along TX

Total around 3,280 ha along the TX line has already been developed for housing.

Total around 2,800 ha were developed using land readjustment programs.



Ootakano-mori



# Area Development along TX

- Other coordination were made as follows;
  - Arterial road which forms urban corridor was developed together with TX
  - Defrayal by petition station method
  - Project evaluation



1970



Present

Area development at Kenkyu Gakuen Station in Tsukuba.



# Land Readjustment Project near Akihabara Station

TX Akihabara Station was developed together with Land Readjustment Project at 88 ha Akihabara area. Total project cost will be 346 billion Yen.



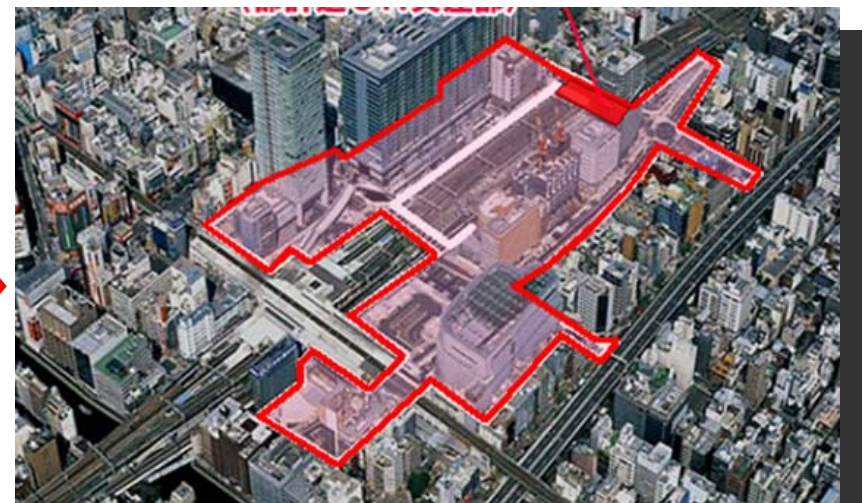
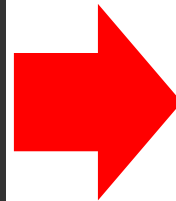
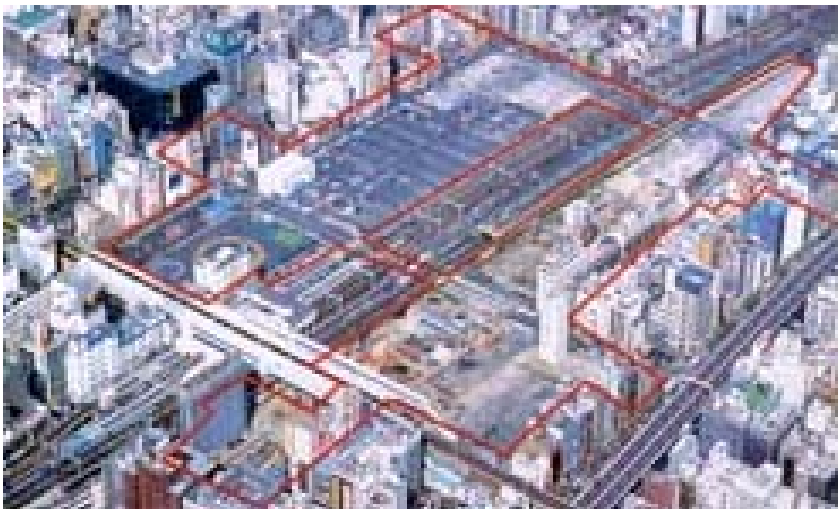


# Land Readjustment Project near Akihabara Station

Station square was provided.

Ridership increased 20.9%

The number of resident was also increased.





**Thank you for your attention**