

# Public Transportation Development Package in Japan

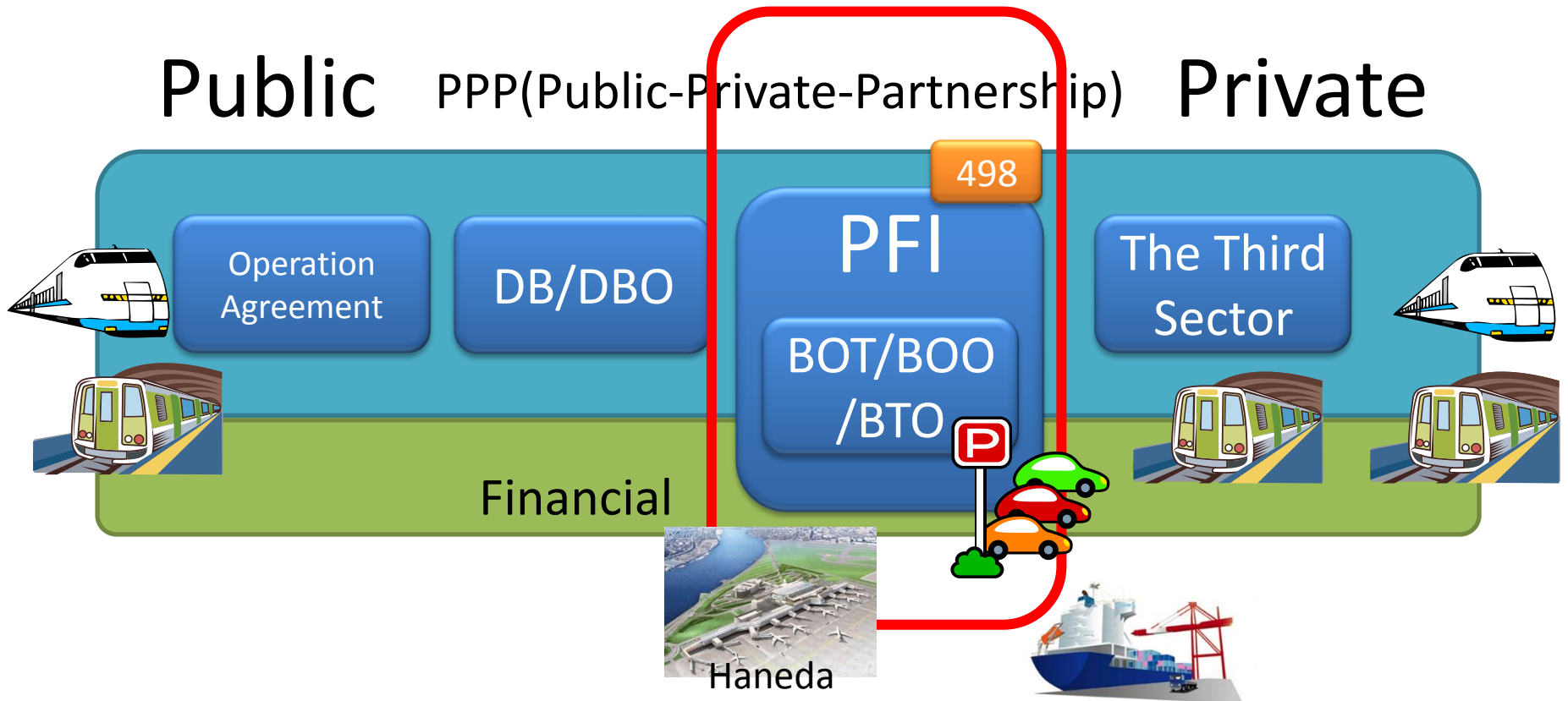


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# What does Package mean?

Public    PPP(Public-Private-Partnership)    Private



EPC; Engineering-Procurement-Construction (EPC)

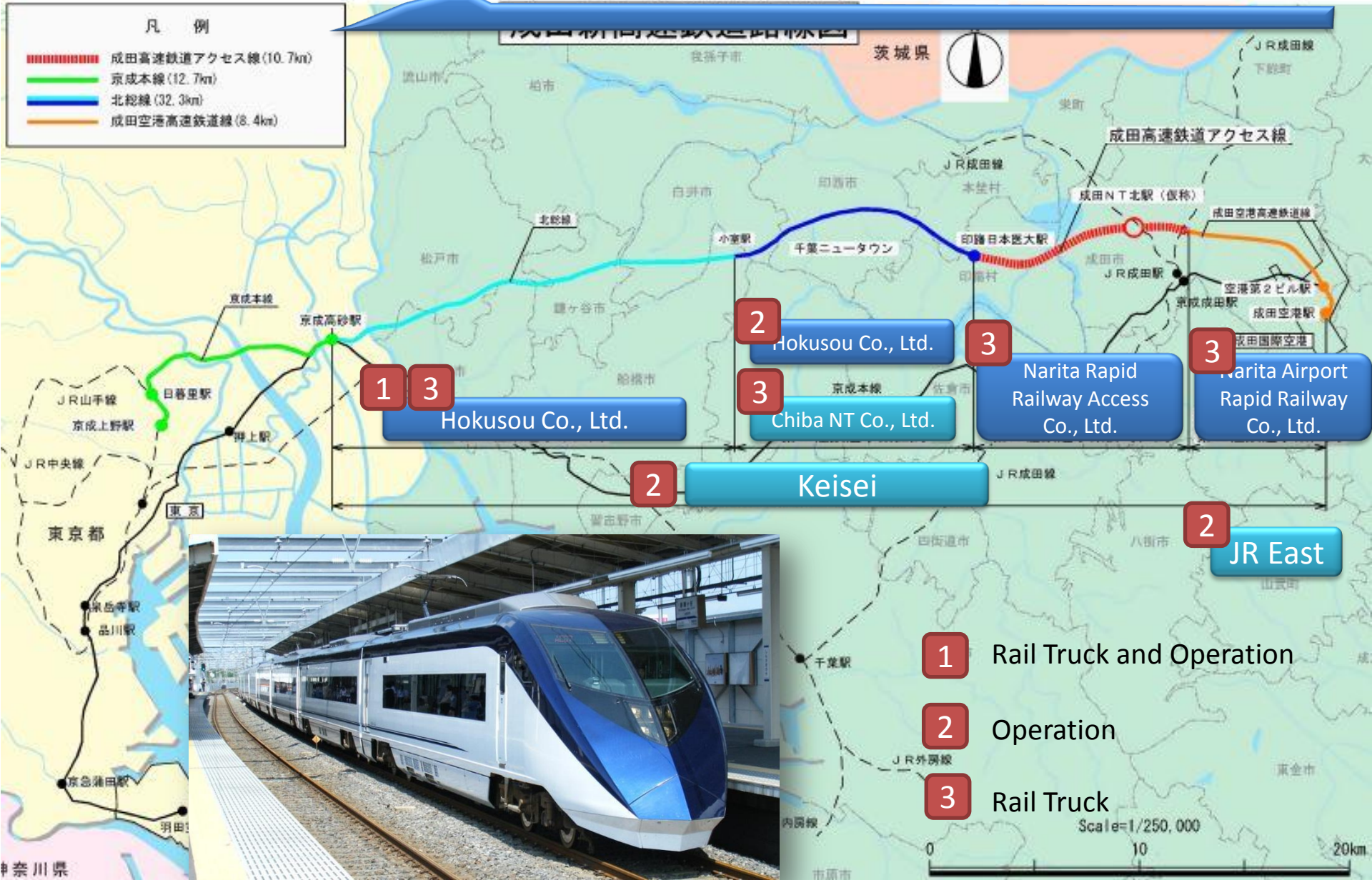
DB; Design & Build, DBO; Design, Build & Operate

PFI; Private Financial Initiative

BOT; Build, Operate & Transfer, BOO; Build, Operate & Own, BTO; Build, Transfer & Operate

the third sector; a business system in which public enterprises and private companies invest in jointly

# The Third Sector



# Public Transportation Development Package



PTDP for Railway development means to carry out Design, Construction, Management, Maintenance and Financing regarding railway as package by Using PFI Scheme.

PTDP doesn't include TOD, area development, side business, etc. However, those activities are vitally important not only for railway business but also for society.



# Area development at urban area

- 1902 The concept of garden city proposed by **Sir Ebenezer Howard** was introduced for the residential area development
- 1910 President **Ichizou KOBAYASHI** of **Mino-Arima Electric Railway** developed the **Ikeda-Muromachi City**. This is first residential area development introduce the idea **to develop railway together with residential area** in Japan
- During 1910-1960,  
**309 residential areas** were developed by **14 private railway** companies in Tokyo, Nagoya and Oosaka.

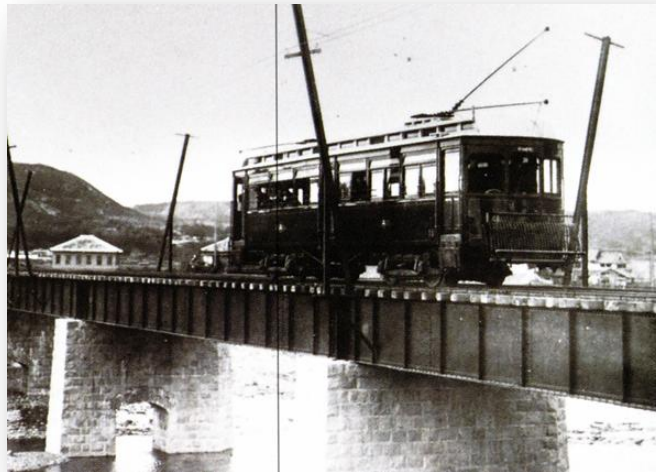
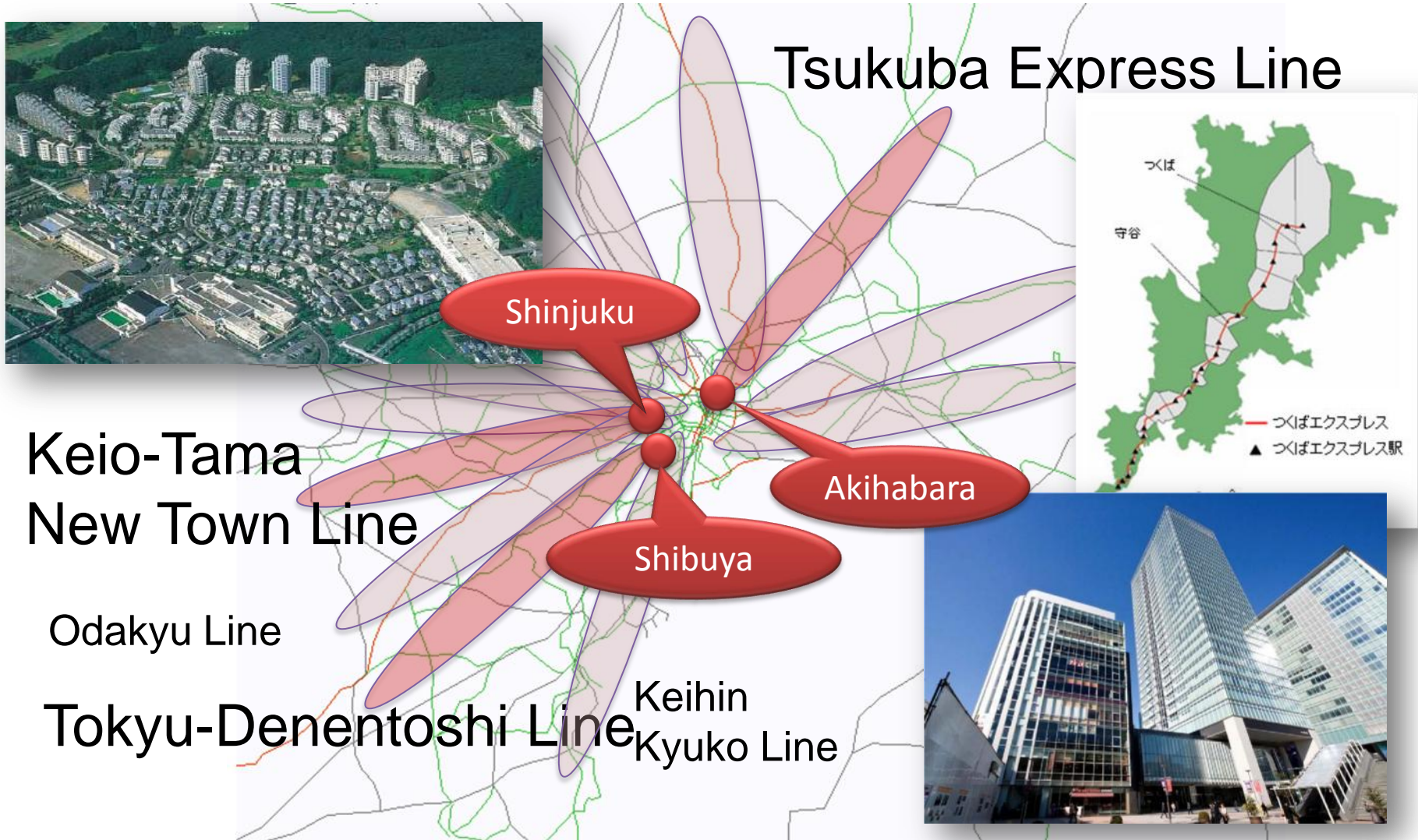


図2 常盤台住宅地配置図 注7

# Urban Growth and Railway Development





# Business operated by Railway Company



Bus



Shinjuku

Odakyu Line



Sightseeing  
(Hakone)



Hotel



Department Store

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)
第12ブロック					第3ブロック				
1	野川第一	22.1	1959/05	1962/03	2	栗田第一	27.4	1961/04	1965/03
6	有馬第一	68.8	1962/07	1967/05	4	栗田第二	172.9	1962/04	1968/01
7	十橋	122.7	1962/12	1979/03	5	下谷本西八郎	104.5	1962/04	1967/04
12	宮崎	129.9	1964/09	1979/03	9	栗田第三	65.0	1963/06	1968/09
13	坂ヶ谷第一	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	栗田第四	54.8	1965/09	1971/11
23	小台	36.2	1968/06	1976/05	17	西八郎第一	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	大倉	18.0	2000/03	2006/03	29	上谷本第二	29.2	1970/12	1975/02
	合計	666.0			32	奈良原田	49.1	1971/03	1977/05
第2ブロック					34	上谷本第三	43.8	1971/07	1976/03
3	窪田第一	29.7	1961/06	1969/02	37	栗田第五	90.5	1972/08	1982/06
8	元石川第一	118.0	1963/03	1969/11	38	鶴志田第二	16.2	1973/06	1977/11
10	市ヶ尾第一	28.9	1963/09	1968/10	50	上栗田	58.2	1983/07	1990/08
20	元石川第二	21.9	1967/05	1969/11		合計	939.8		
20	元石川第二	94.8	1967/05	1973/07	第4ブロック				
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	輪山第一	90.3	1971/02	1975/03	15	小川第一	95.1	1965/07	1969/04
31	輪山第二	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
34	元石川第三	87.2	1972/06	1980/08	35	南町田第一	38.9	1972/05	1975/12
39	小島	43.9	1973/08	1979/10	42	南町田第二	4.3	1977/09	1979/10
40	市ヶ尾山和	42.3	1975/11	1980/04		合計	361.4		
41	市ヶ尾第二	9.9	1977/06	1981/01		総合計	3,204.3		
43	窪子田	67.5	1977/11	1984/09	<凡例> 土地地区型整地地区の位置				
44	保木	97.8	1978/06	01		第1ブロック(川崎市宮前区、一軒)			
45	池原	3.1	1978/10	01		第2ブロック(横浜市青葉区、都築)			
46	富士塚	47.7	1978/10	01		第3ブロック(横浜市青葉区)			
47	泉田向	46.4	1979/01	01		第4ブロック(横浜市緑区、町田市)			
48	黒須田	23.8	1983/01	01					
49	大場第一	40.0	1983/01	01					
51	赤田	68.7	1985/01	01					
52	大場第二	11.2	1989/12	01					
53	大場第三	3.6	1989/12	01					
54	間耕地	11.1	1991/08	20					
	合計	1,237.1							

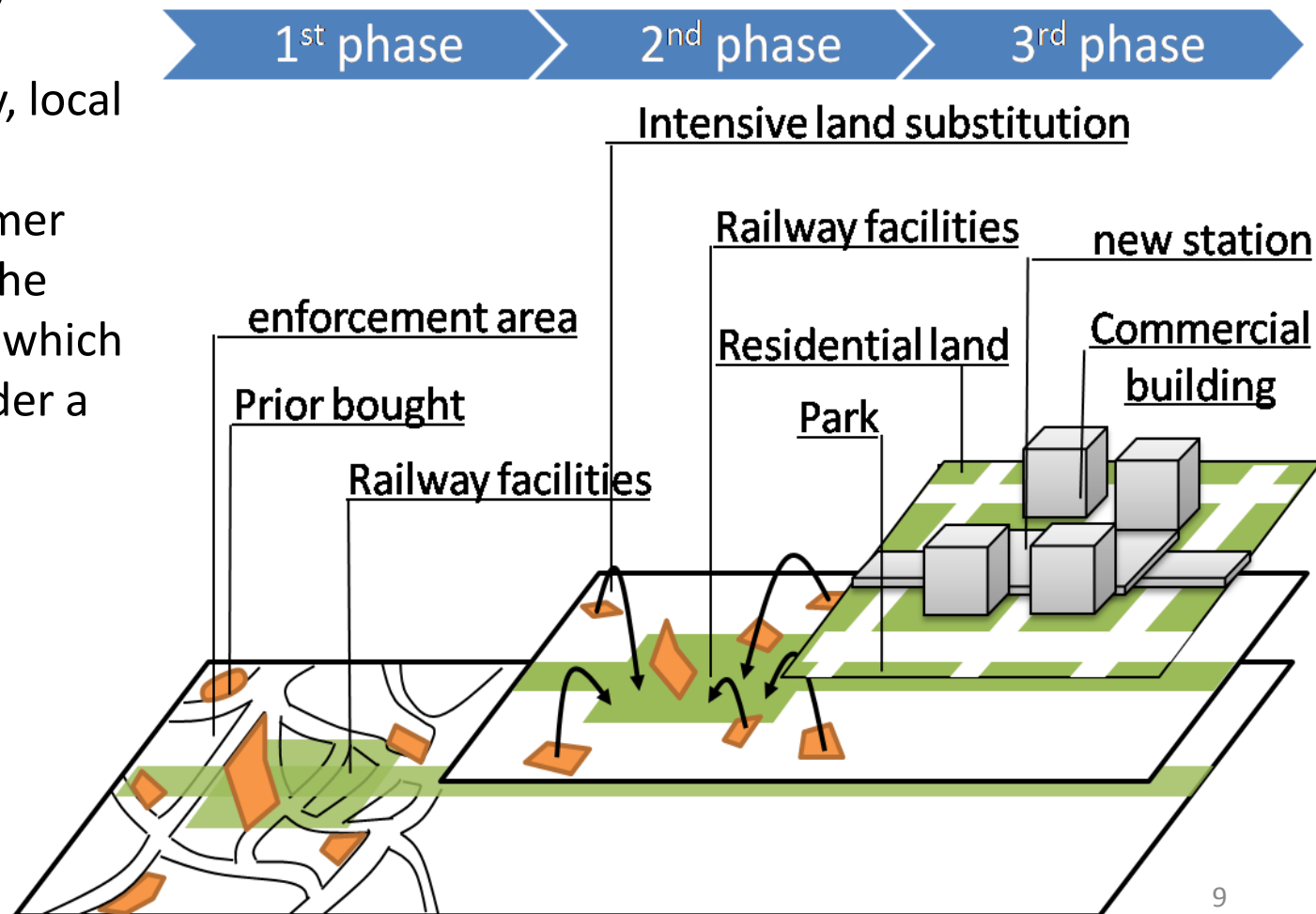
Land adjustment project  
carried out at 54 areas along  
Tokyu Denen Toshi Line.  
Total area became 3,204.3 ha





# 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.



# National Development and HSR

Through Comprehensive National Development Plans below, **well-balanced national development** has always been promoted. HSR development has played an important role with National Expressway development.

1962- Comprehensive National Development Plan

1969- **New** National Comprehensive Development Plan

1977- **3rd** Comprehensive Natl. Development Plan

1987- **4th** Comprehensive National Development Plan

1998- **5th** Comprehensive National Development Plan

“Grand Design for the 21st Century”

1975



2011



2010



1985



1964

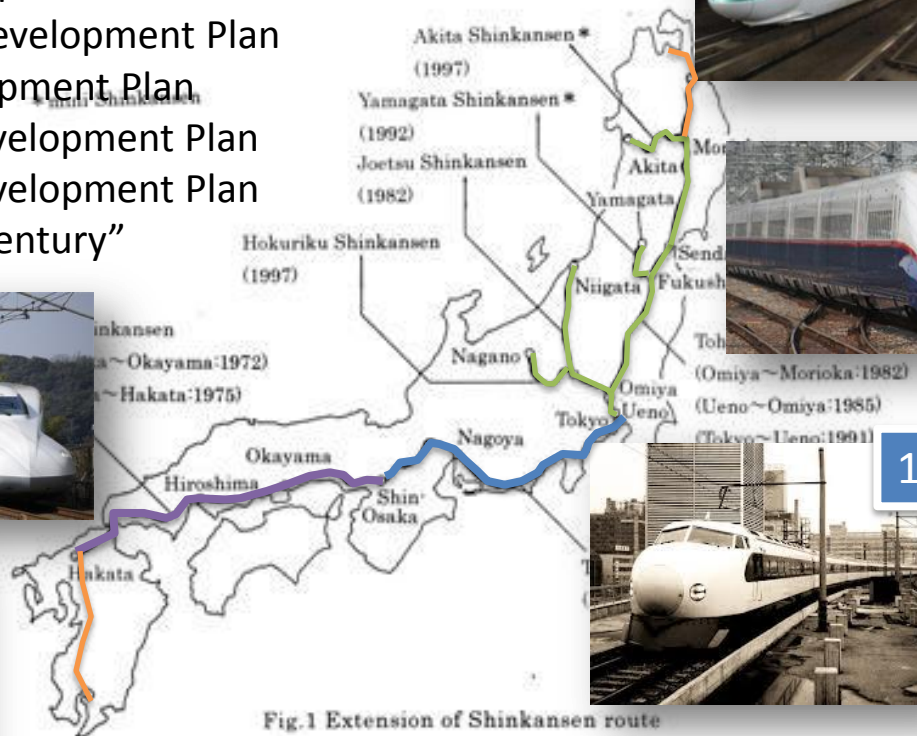
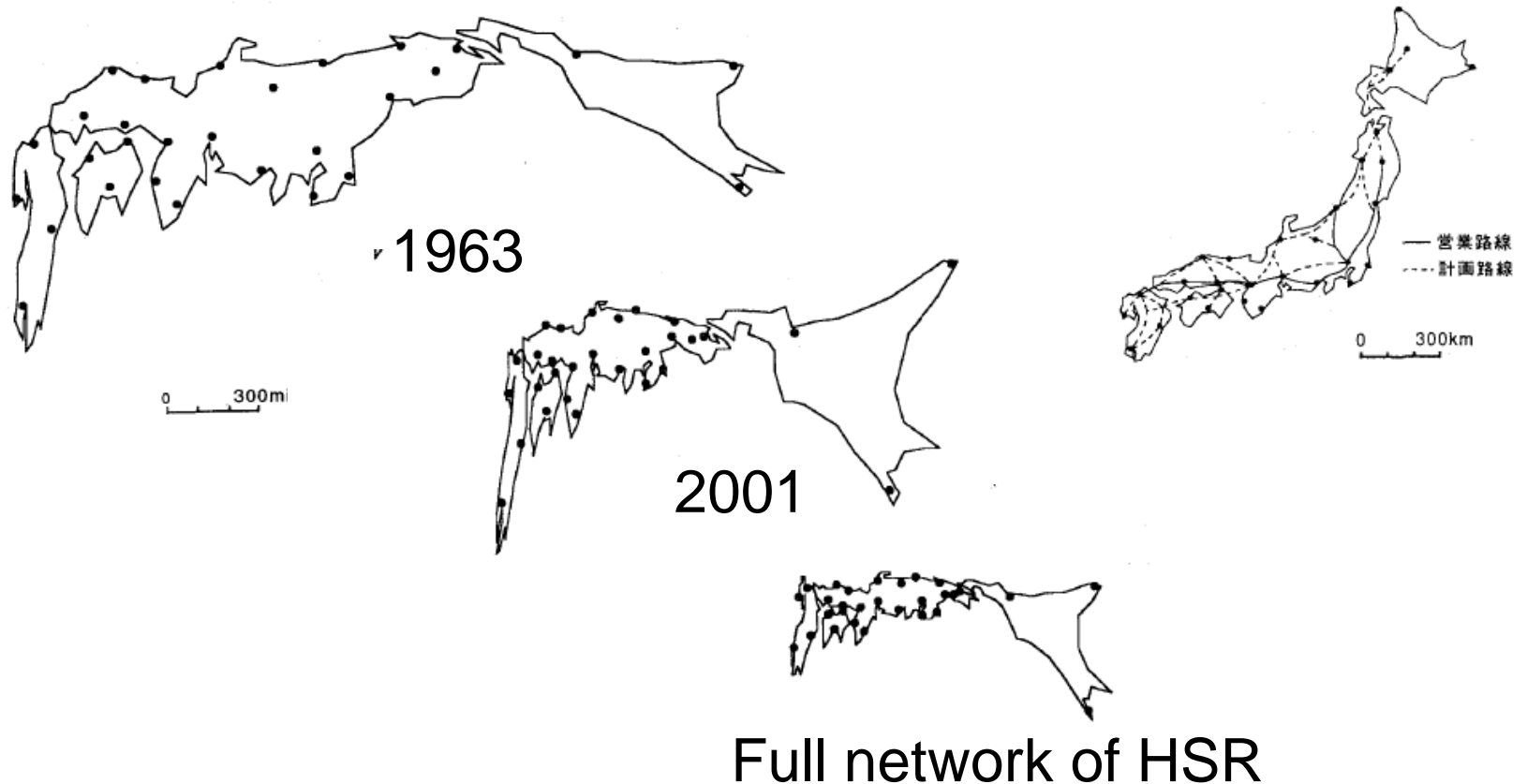


Fig.1 Extension of Shinkansen route

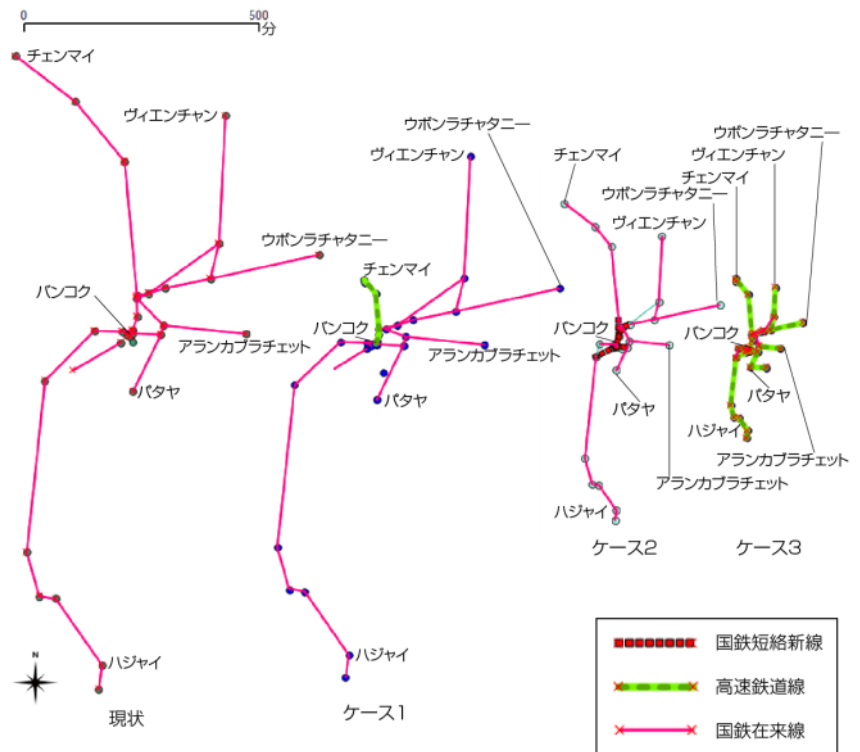
# Impact on Travel Time

The **time distance map** (Shimizu) shows us impact of HSR development on travel time.



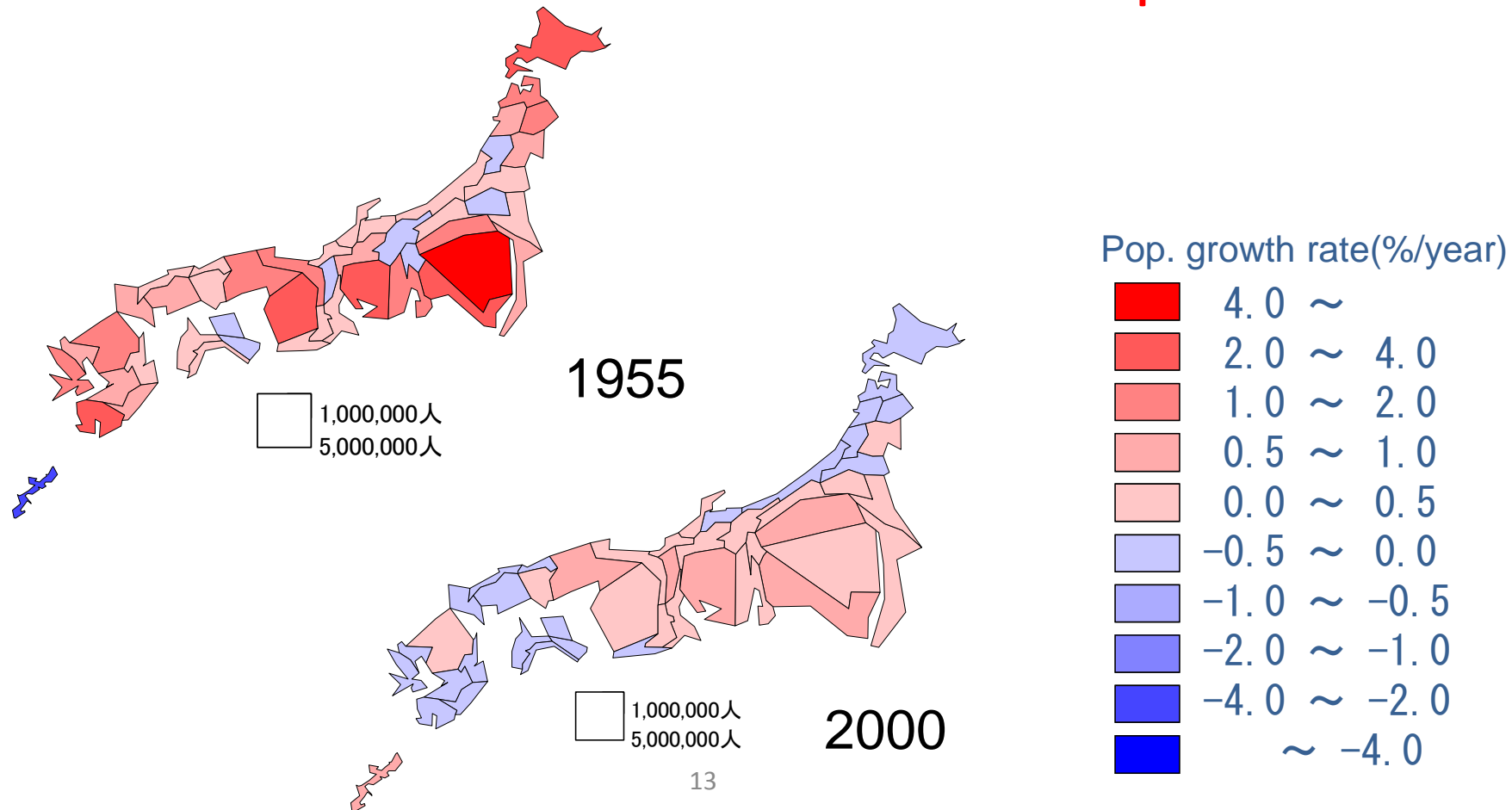


# Time Distance Map for HSR in Thailand

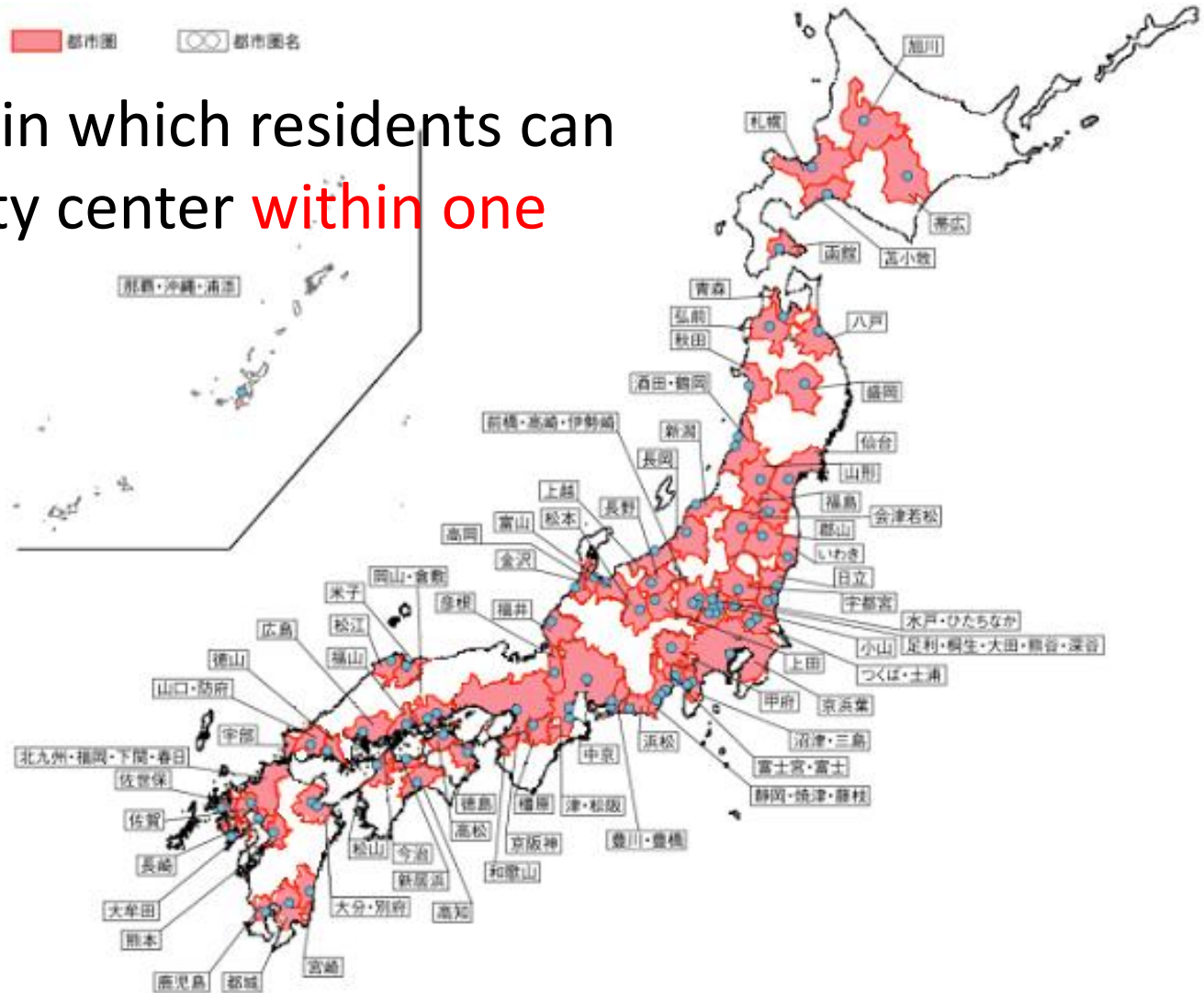


# Well-balanced National Development?

Did development of transportation network realize **well-balanced national development**?



access to city center within one hour.

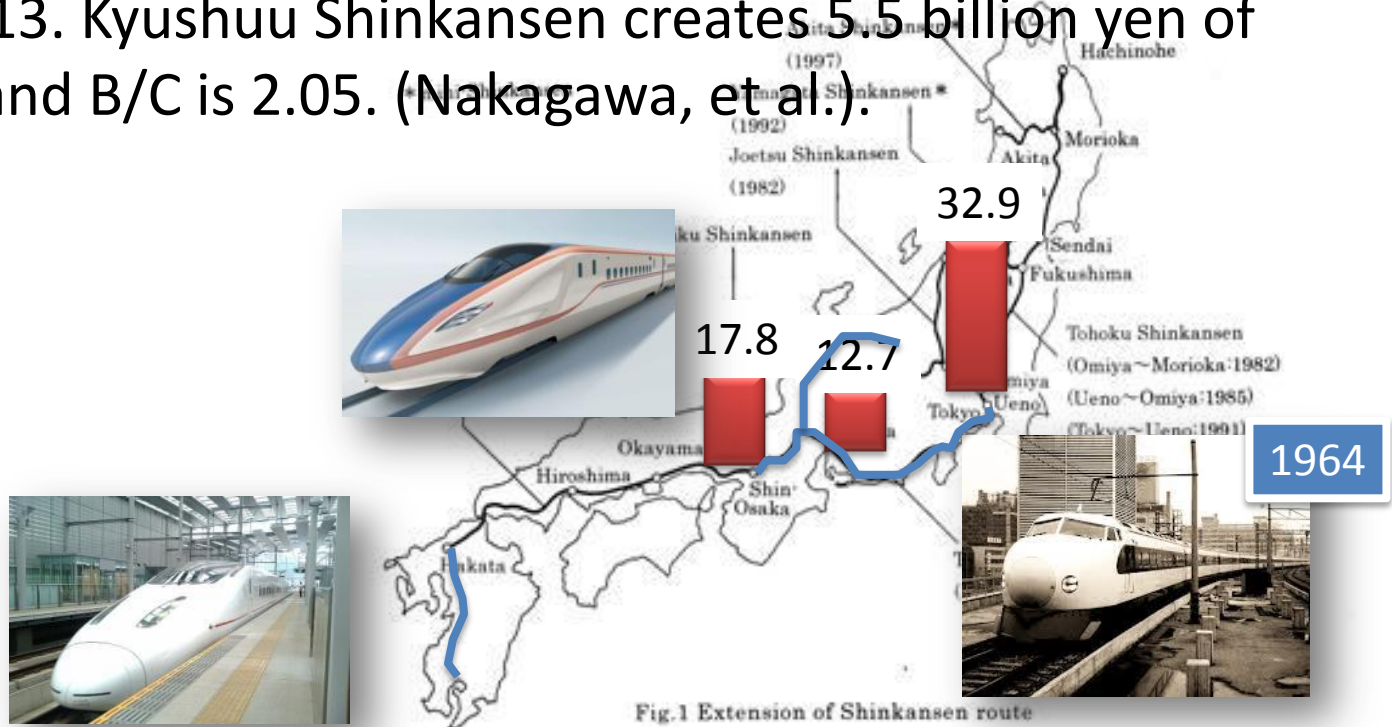




# Benefit of HSR Development

User Benefit used to estimated as consumers surplus.

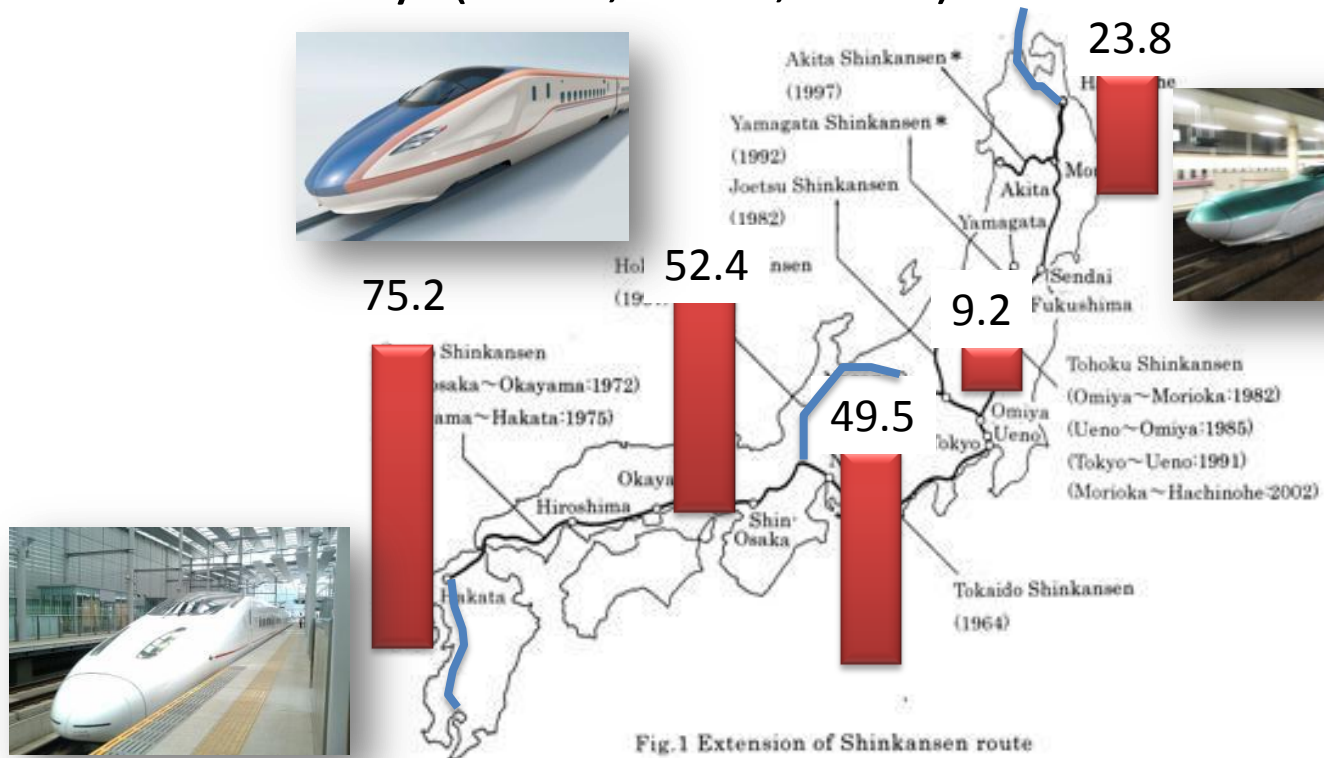
- ✓ Tokaido Shinkansen create 189.2 billion yen of benefit in 1995 (Kawakami, et al. \*Cost;300 billion).
- ✓ Hokuriku Shinkansen creates 8.24 billion yen of benefit and B/C is 2.13. Kyushuu Shinkansen creates 5.5 billion yen of benefit and B/C is 2.05. (Nakagawa, et al.).



# Benefit of HSR Development

Benefit including impacts on regional economy was estimated by using SCGE model.

✓ Tohoku, Hokuriku and Kyuushuu Shinkansen create 217.5 billion yen of benefit annually (Koike, Ueda, et al.).



# Benefit of HSR Development

Increase rate in GRP and growth rate in real wage rate from 2000 to 2050 were estimated by using dynamic SCGE model with condition of 20 % improvement of travel time (Higashiyama, Morisugi, Fukuda).

Economic impacts in metropolitans area became higher than those in local areas.

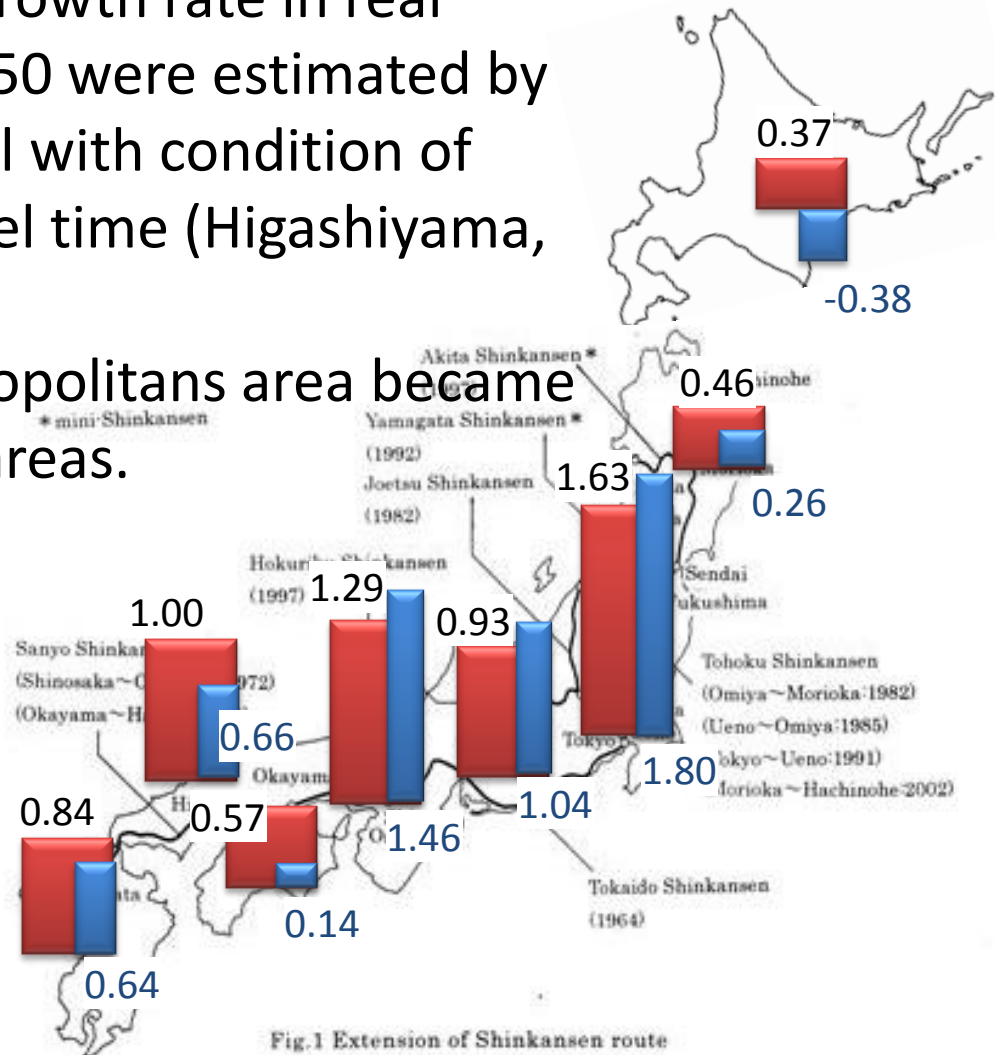
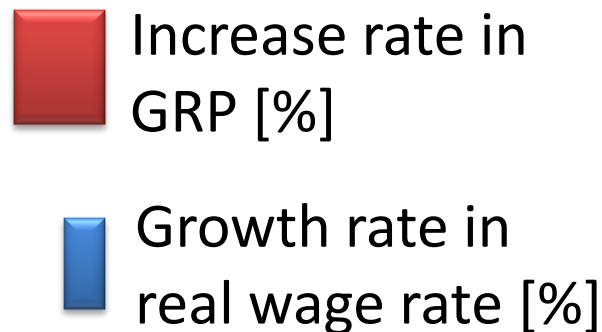
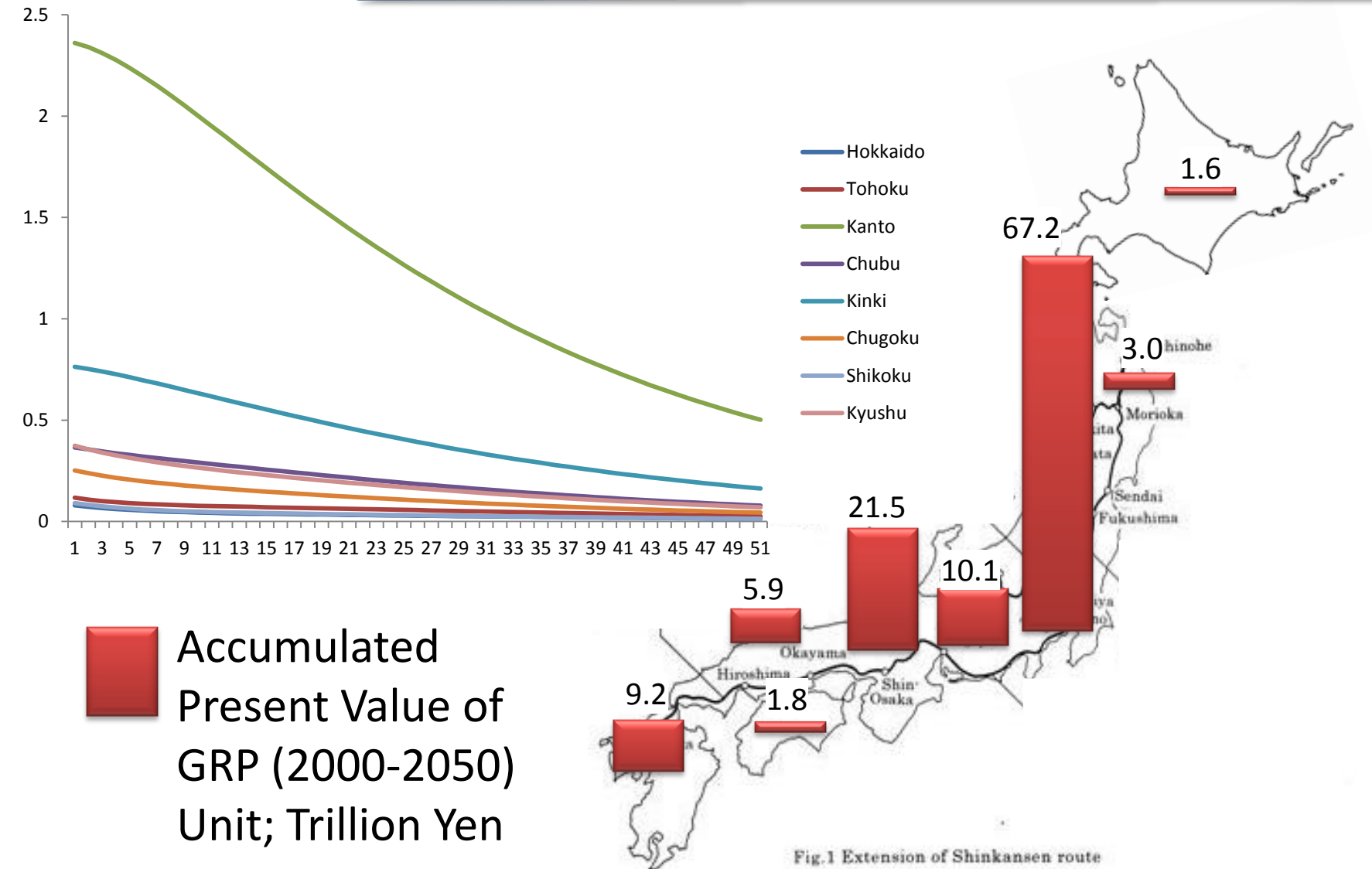


Fig.1 Extension of Shinkansen route



# Benefit of HSR Development

Trillion Yen



# Terminal Development for HSR

HSR development used to become a **trigger** for **terminal development** in Japan. However, this is different with TOD.



Shinagawa Station



Tokyo Station

# Business at Terminal

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



**Thank you for your  
attention!**

