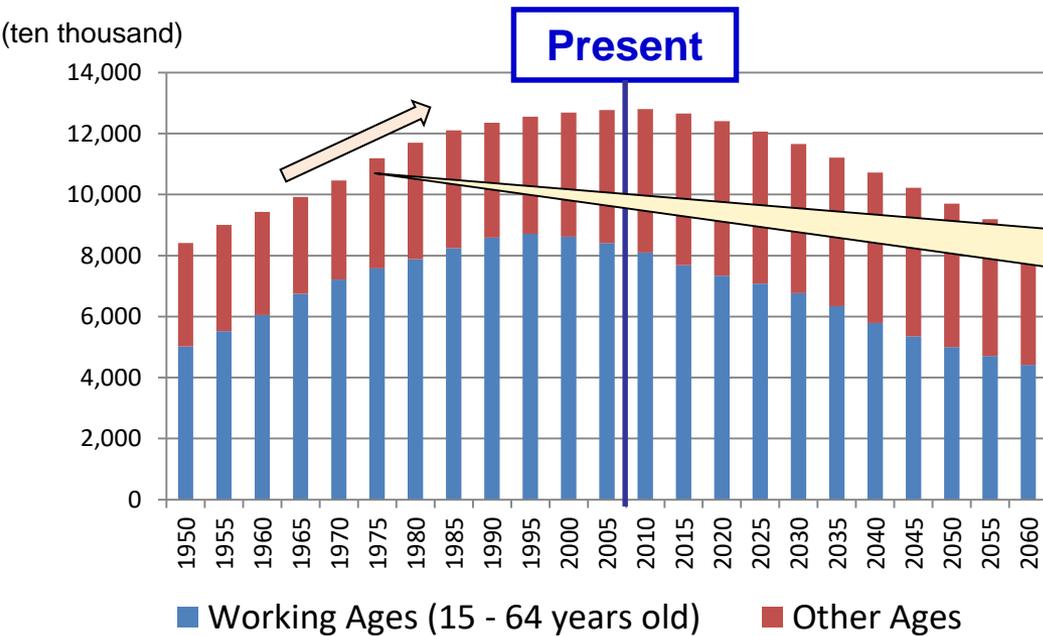


Sustainable Urban Development and Role of Private Sectors: A Case of Japan



Senior Researcher
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Urbanization progressed along with population increase.

Railways played an important role.

Working Ages (15 - 64 years old) Other Ages

Transition of population in Japan



Railways with high market share



Roads with few congestions

TOD could be achieved in Tokyo



Bus stops in front of a station



Taxi stop in front of a station

TOD could be achieved in Tokyo



Bicycle parking space in front of a station



Three Major Types of Railways in Metropolitan Areas

1) JR Lines



2) Metros



3) Private Railways



Metropolitan areas have some types of railway operators, such as JRs, Metros, and private railways.

1) JR Lines

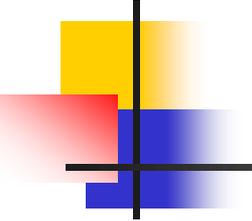
Chuo Line



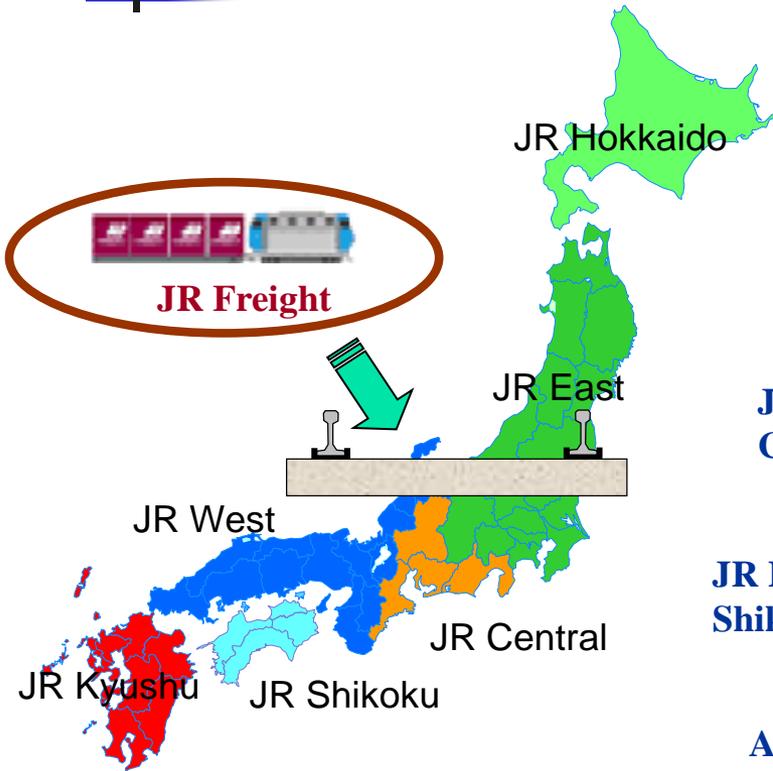
Tokyo Station

A station and trains in Tokyo

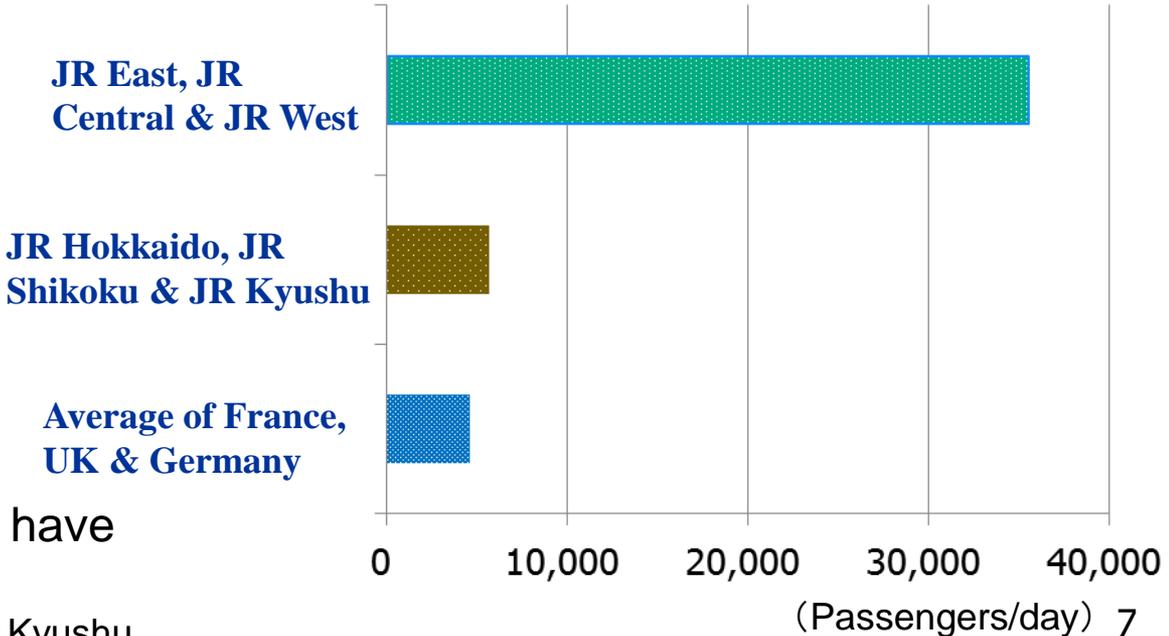
1) JR Lines



JNR Reform in 1987



Passenger Traffic Densities in 1987

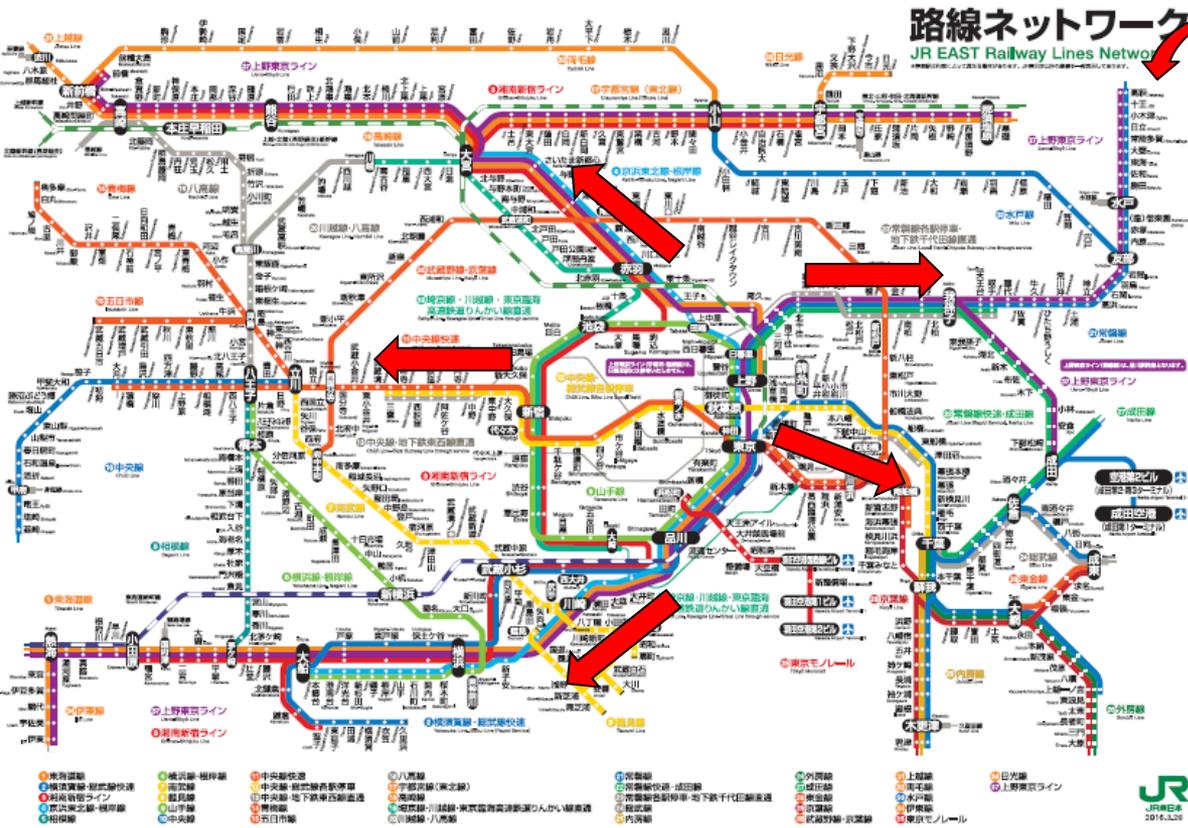


The four JR passenger railways* have become private companies.

*: JR East, JR Central, JR West, and JR Kyushu

1) JR Lines

Construction & Operation in Tokyo



Source: "Railways of the World" JARTS

Before the Reform (1987)
: Japanese National Railways (JNR)



Network was almost completed

After the Reform : JR East



In principle, JR East invests when the return covers the costs

Source : Website of JR-East

2) Metros



A train of Tokyo Metro
(Changing drivers for through train operation.)



Tochomae Station
(Station in front of Tokyo Metropolitan Gov.)

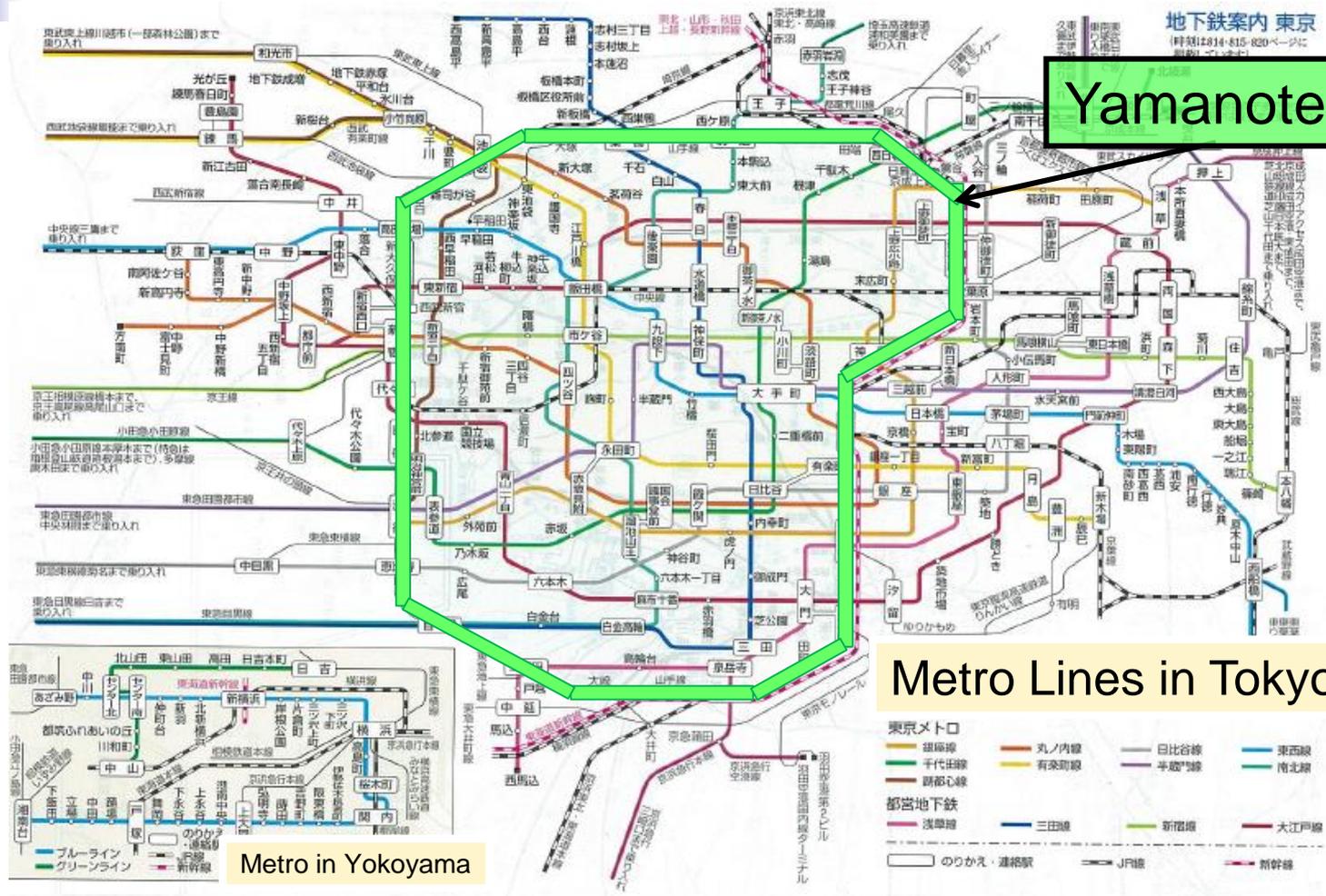
Metro systems in Tokyo are operated by Tokyo Metro and TOEI Subway.

Tokyo Metro : <http://www.tokyometro.jp/index.html>

TOEI Subway: <https://www.kotsu.metro.tokyo.jp/subway/>

2) Metros

Network of Metros in Tokyo



3) Private Railways



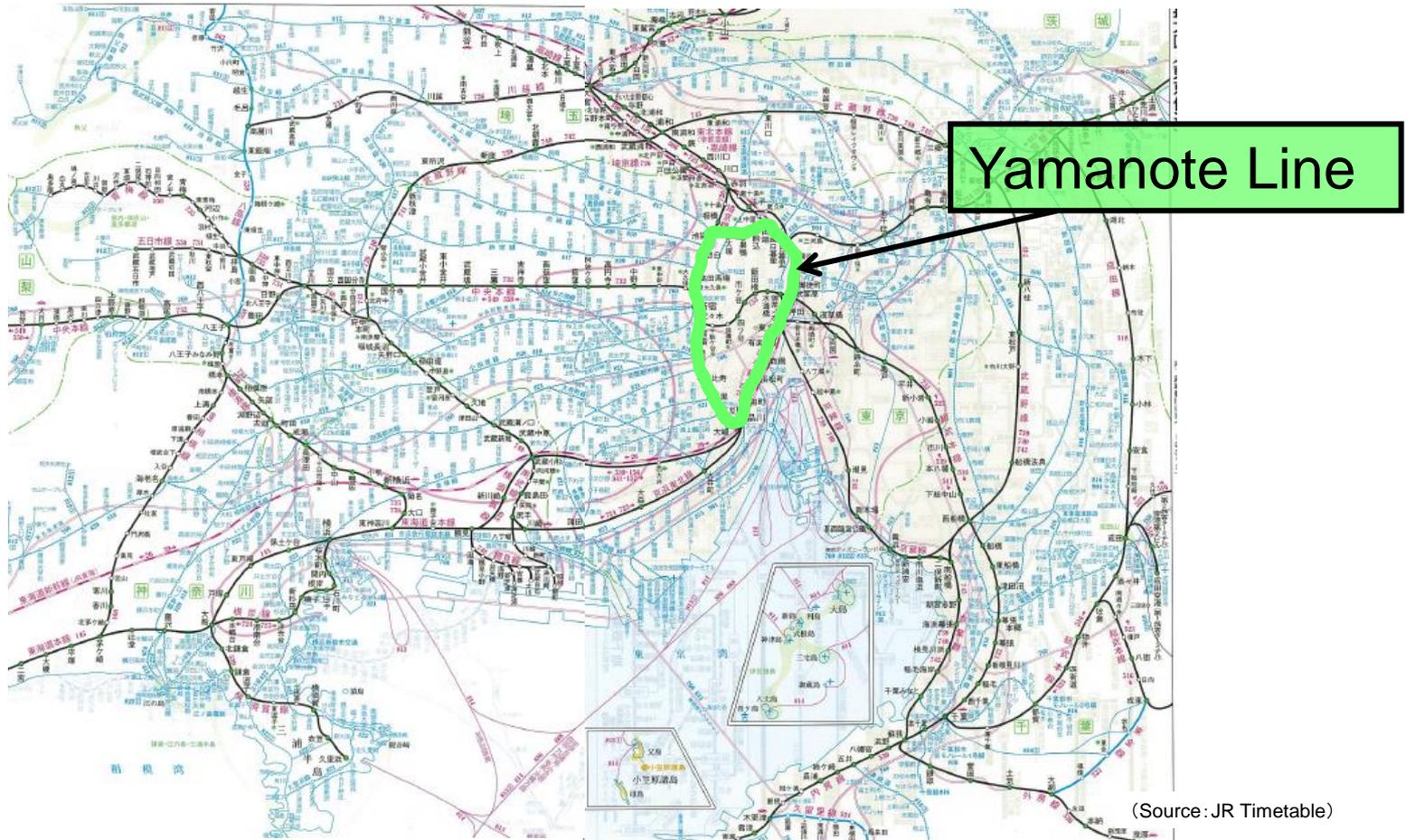
Keio Corporation



Tokyu Corporation

3) Private Railways

Private Railways in Tokyo Metropolitan Area



Blue: Private Railways' lines

Black: JR East's lines

3) Private Railways

Construction of Private Railways

Suburb ← → Center of Tokyo

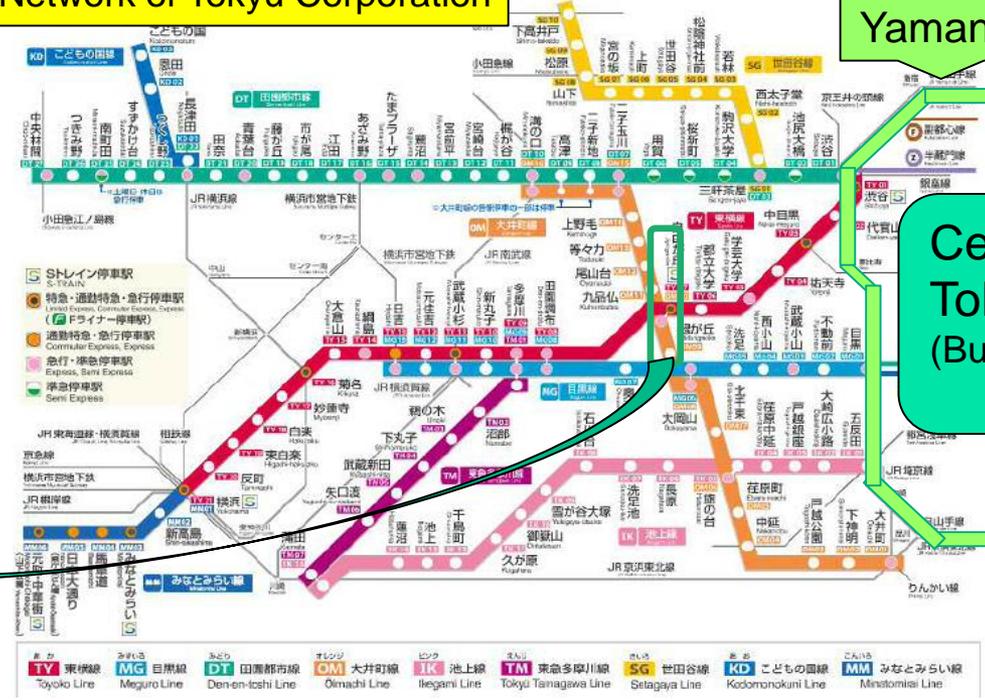
Network of Tokyu Corporation

Yamanote Line

Center of Tokyo (Business District)



Jiyugaoka Station

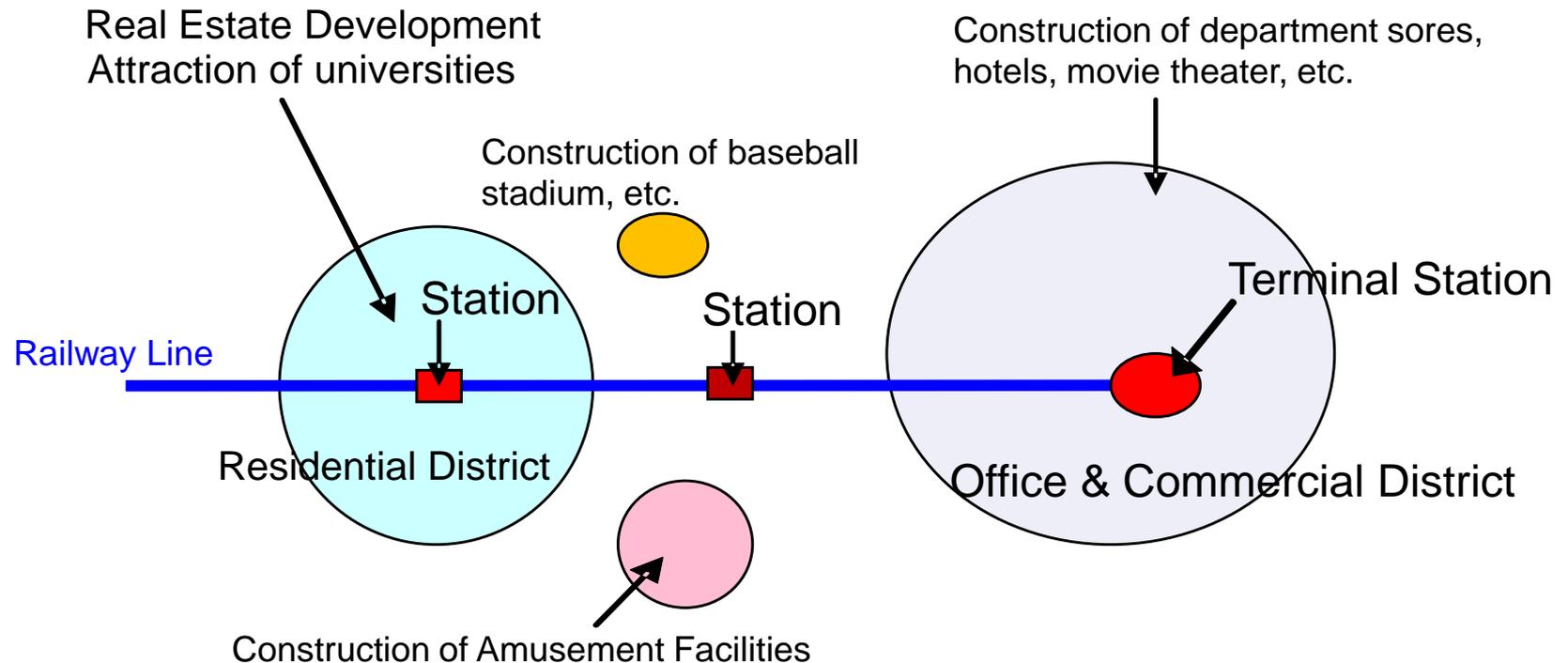


Source: Tokyu Corporation

The network lines have been extended by the railway company's funds.

3) Private Railways

Business Strategy by Japanese Private Railways



Integrated Development
(Railways + Real Estate)



The company could earn
from both businesses

3) Private Railways

Revenue from Affiliated Businesses

Large-scale Private Railways' Revenue (Billion JPY)

Company	Transport Revenue	Subsidy	Revenue from the Affiliated Businesses [a]	[a]/ Total Revenue (%)
Tobu	156	0	65	29.3
Seibu	94	0	98	51.1
Keisei	53	0	8	12.8
Keio	78	0	23	22.6
Odakyu	108	0	51	31.9
Tokyu	122	0	162	57.1
Keikyu	66	0	48	42.3
Sotetsu	32	0	81	71.9

(Figure: FY 1996)

Source: "World City Tokyo Established by Railways" (Yajima, Ieda. et al., 2014)



JR Companies have been following the private railways' business model.

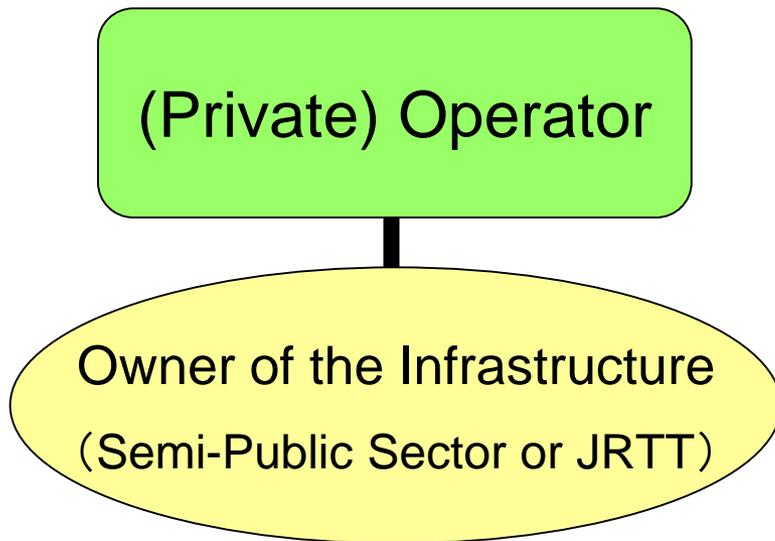
Management by Private Railways

- ✓ Several private passenger railways constructed the lines and operate in profit in metropolitan areas in Japan.
- ✓ These railways play an important role for commuting between suburb and CBD in metropolitan area.
(In Tokyo metropolitan area, 8 large-scale private passenger railways cover more than 1,200km track and transport about 13 million passengers.)
- ✓ Besides transport services, private railways earn revenues from affiliated businesses including urban development.

Construction by the Public

Act on Enhancement of Convenience of Urban Railways

The act is valid for constructing missing links and terminal station facilities.

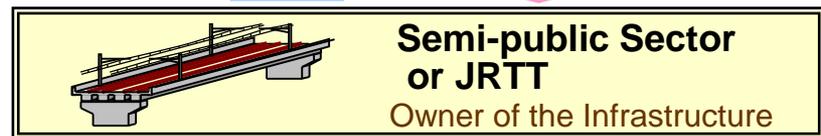


1. Construction: Public Works

Owner of the Infrastructure 1/3	Central Government 1/3	Local Government 1/3
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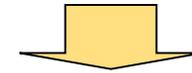
2. Operation: Vertical Separation



Track Usage Fees

-  : Expected Revenue
-  : Expected Expenses

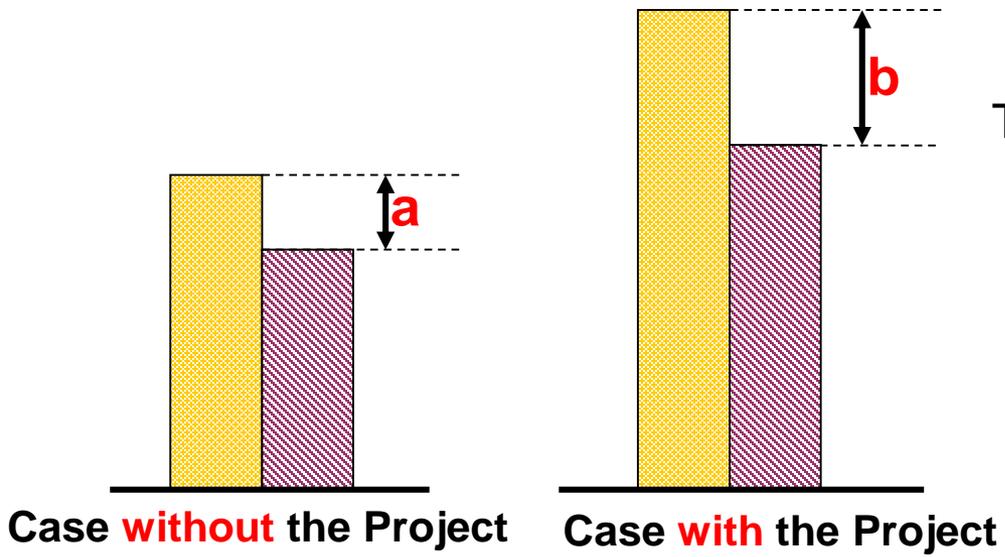
Usage fees of the new infrastructure planned by the project



The amount is calculated based on “b-a”

Benefits received as an operator of the new infrastructure
(Calculation Period) 30 years old

→ The operator neither gains nor loses through the project.



The relationship between the railway company and the public can be adjusted by the track usage fees.

Competitiveness of Trains and Public Transport

Metropolitan Areas

Short-distance

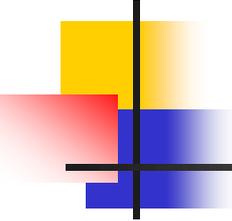
Medium-distance

Long-distance



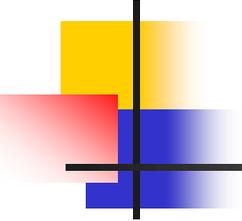
Combined Utilization + Bus services & Bicycle

Competitiveness against Cars



Summary

1. Sustained by a large volume of passengers, private sectors operate many urban railway lines in Japan.
2. They have been promoting urban development and other affiliated businesses utilizing the external economy of railway operations.
3. Even in metropolitan areas in Japan, public finance is required to construct a new segment of railway lines.
Vertical separation can be useful for the financial coordination between the railway company and the public.



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Thank you

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