

Contribution of Railways for the Sustainable Urban Development in Japan



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Characteristics of Railways

1) External economy of railways

- ✓ Railway construction is effective to develop residential areas and business districts.

2) Necessity of Integrated Development

- ✓ Stations should be planned in coordination with regional planning such as bus stations and roads.

In history

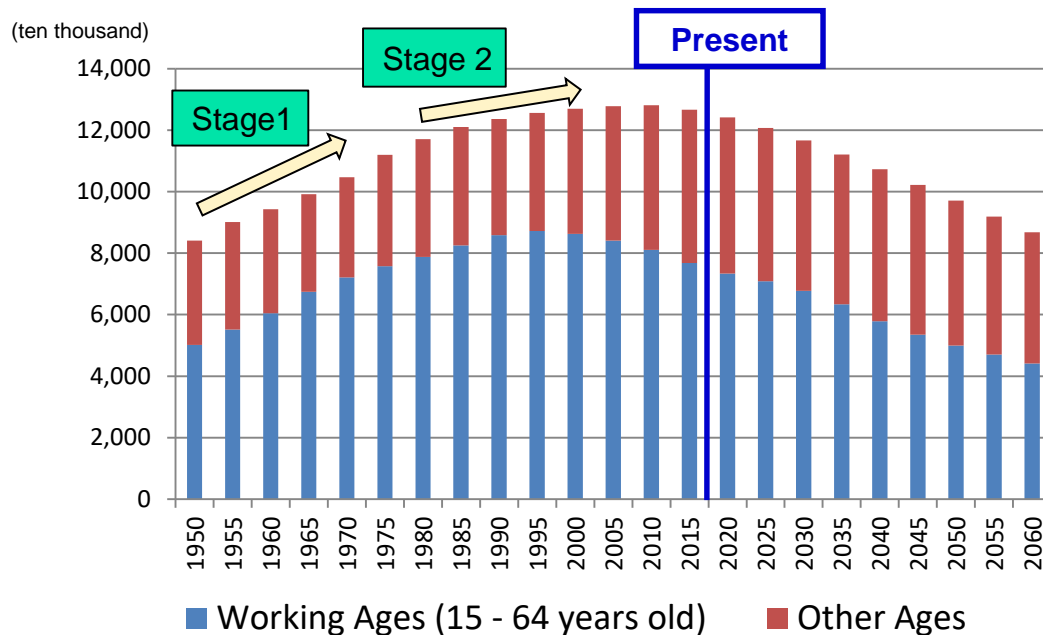
The passenger railway sector in Japan has rich experiences in integrated land development and railway construction.

Railway Construction and Urban Development

Different Contributions to Urban Development

Stage 1: During rapid population increase

Stage 2: During gradual population increase



Stage 1

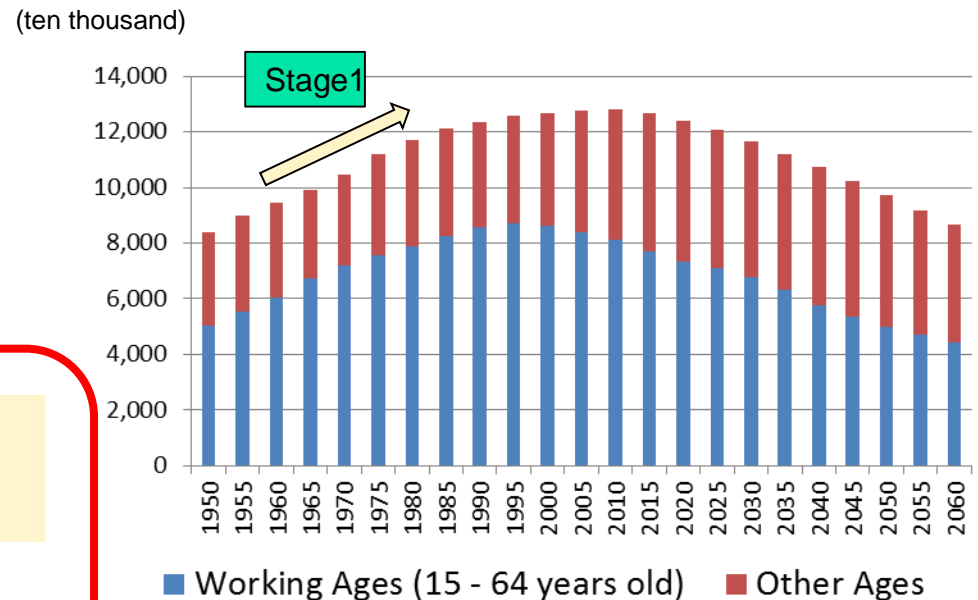
Railway development during rapid population increase

1) JR Lines

2) Metros

3) Private Railways

Unique to Japan

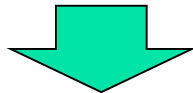


Transition of population in Japan

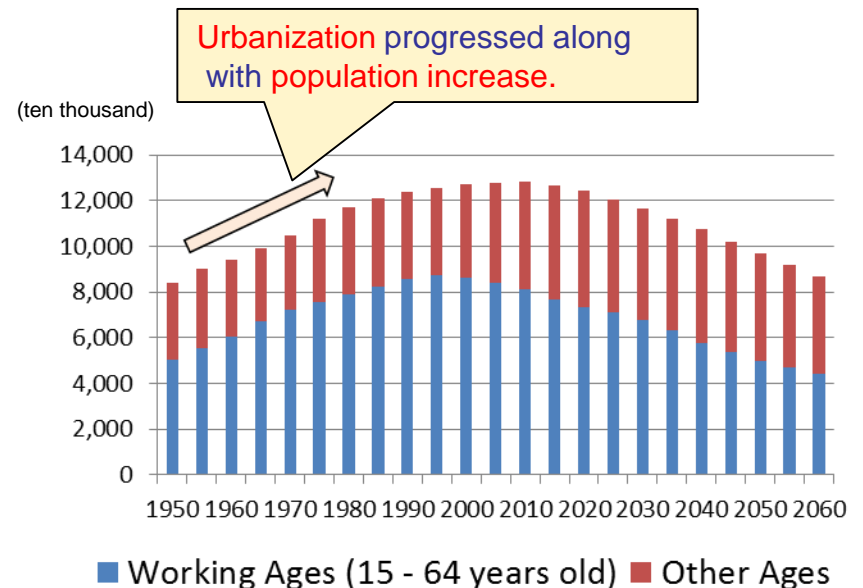
Integrated Development until 1970s

Background

- ✓ Road network was quite poor
- ✓ Expansion of urban rail network was required
- ✓ Land prices soared because of rapid urbanization



Private railway companies constructed suburban rail network along with land development.



Characteristics of Stage 1

Integrated development by private sectors - Kobayashi Ichizo model -

Private railway company

Responsible for both projects

Railway Construction

Land Development



Mr. Ichizo KOBAYASHI
(Source: Hankyu Culture Foundation)

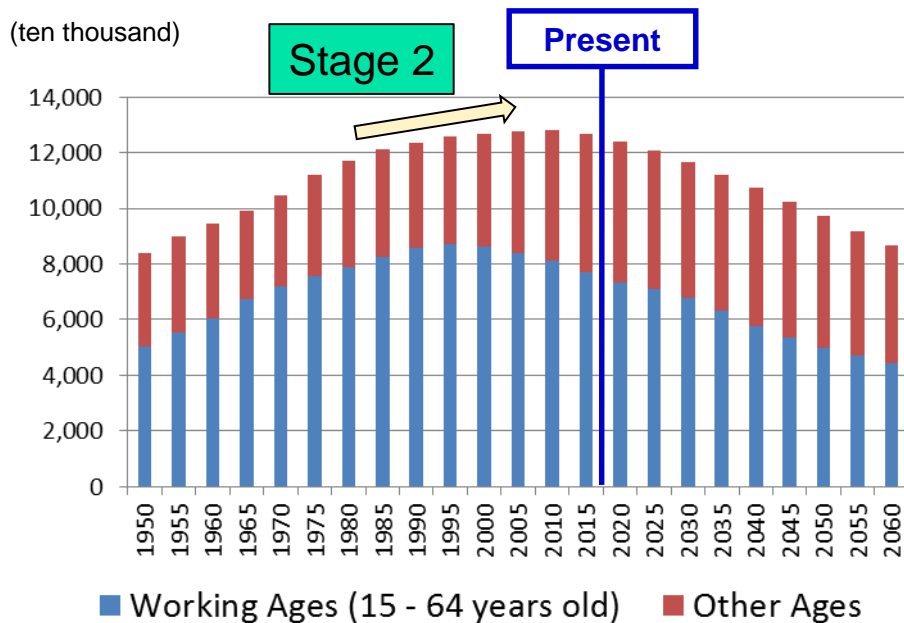
Integrated Development

The company could earn from both businesses.

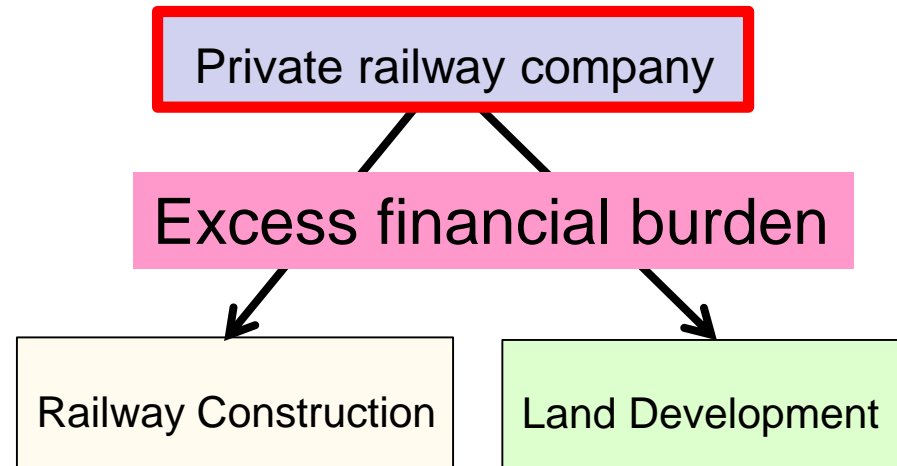
✓ Affiliated businesses cover a large share of the revenue to private urban railways.

Stage 2

Railway development during gradual population increase



Transition of population in Japan



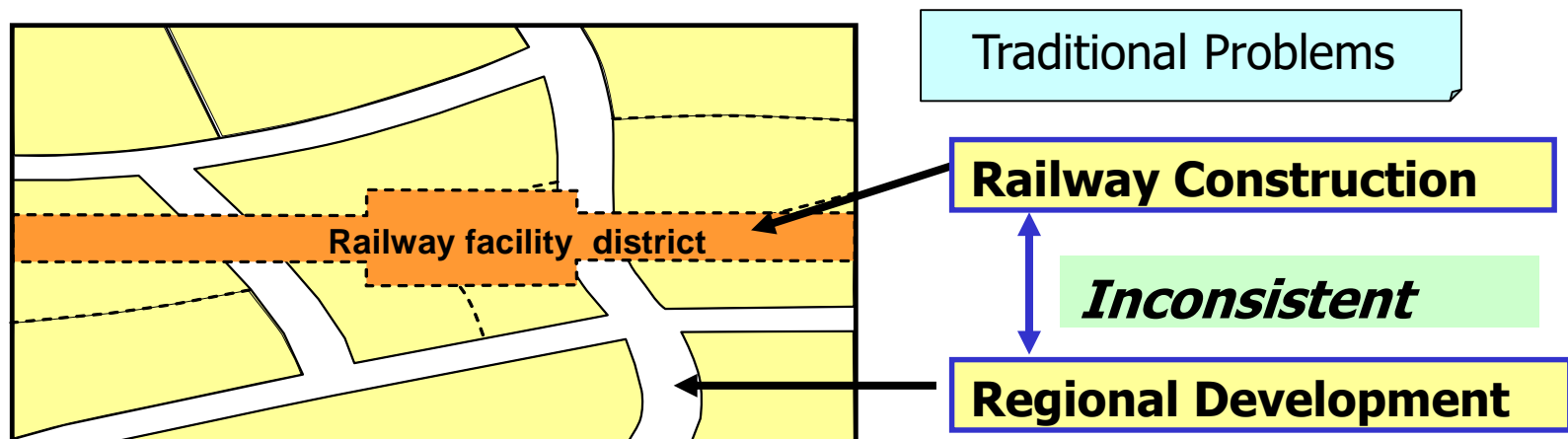
Kobayashi Ichizo model is not effective because of the heavy costs and excess risk for private sectors.

However, the concept of integrated development remains essential.

Problems without coordination

■ Inconsistency with regional development

- ✓ Regional development usually occurred after the railway line started its operation.
- ✓ Inconsistency with regional development such as road planning.

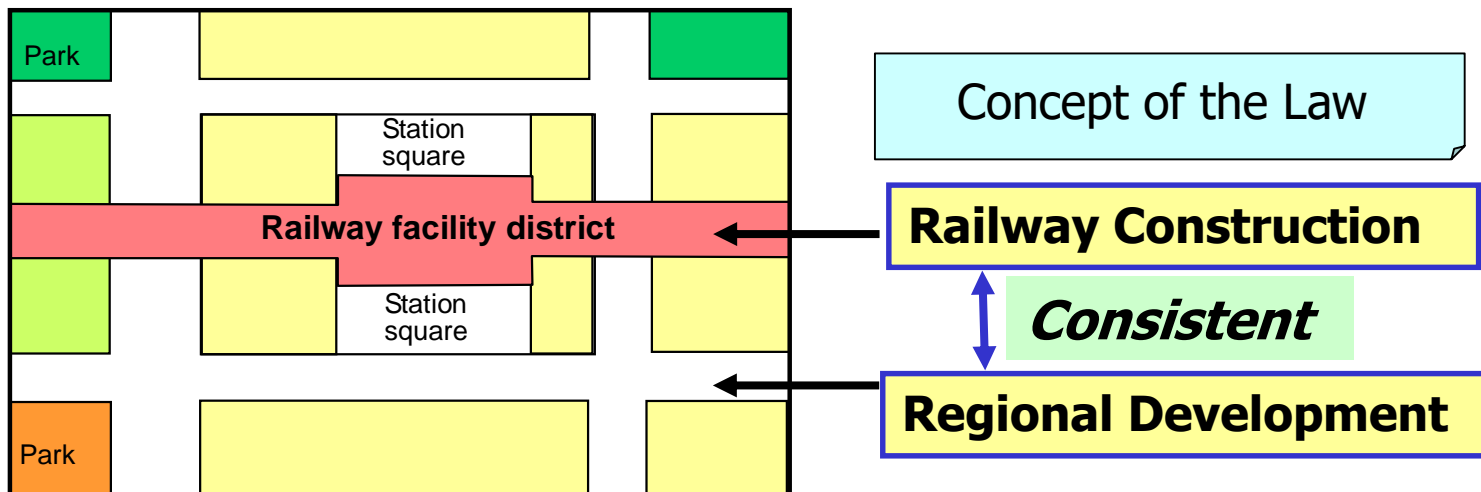


Integrated Development Law

Aim of the Law

- **To solve inconsistency between railway planning and regional planning.**

⇒ *The law promotes to supply large area of residential/business district in an integrated manner .*

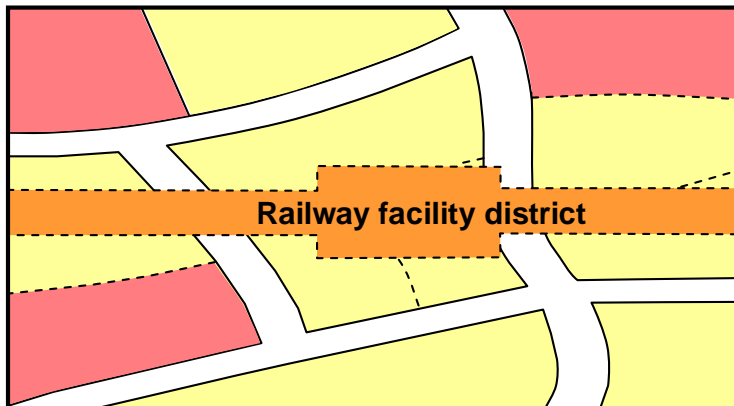


Approach

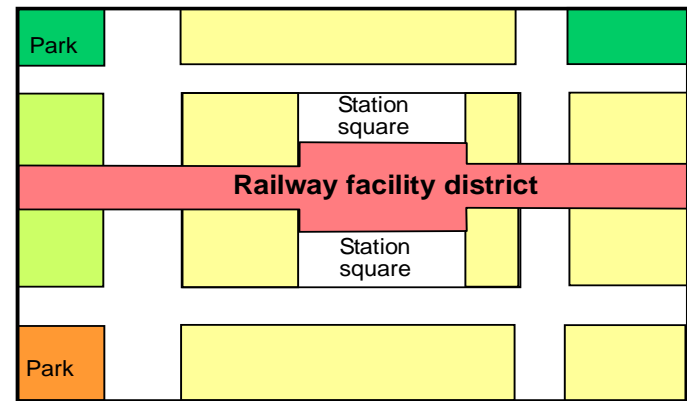
"Railway Construction" + "Land Readjustment"

Land readjustment

- ✓ Effective for comprehensive regional development.
- ✓ Infrastructure is financed by the sale of a part of the reserved area.



- *Different physical shape*
- *Poor public facilities*

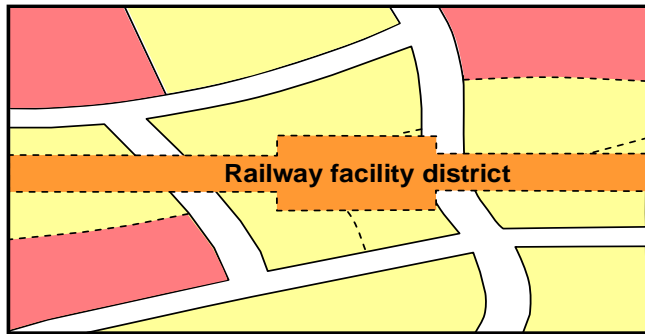


- *Reshaped land*
- *Sufficient public facilities*

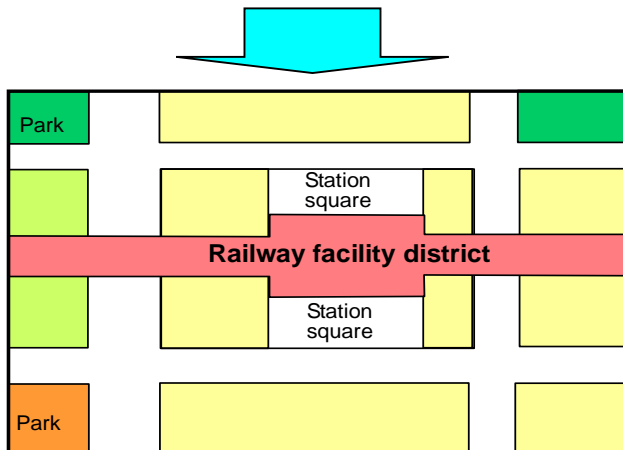
The concept was applied to Tsukuba Express (TX) project

Concept of the Law

Integration of “railway construction” and “land development”



Without Coordination



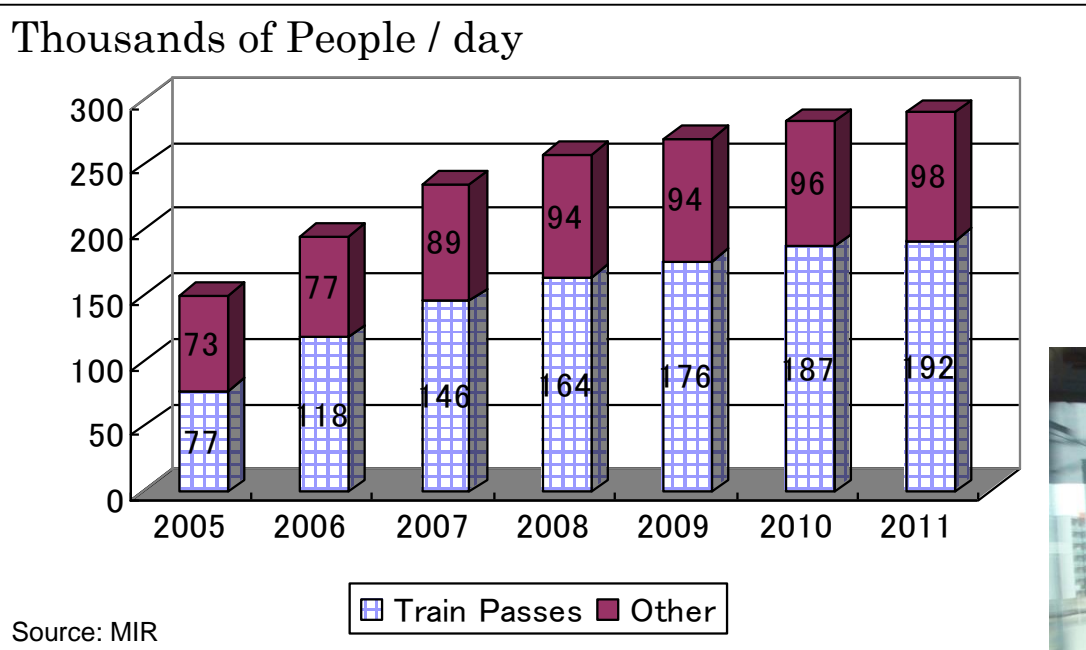
Integrated Development



<Web of TSUKUBA EXPRESS> <http://www.mir.co.jp/> ¹¹

Outcomes of TX Project

Rider-ship of Tsukuba Express (TX)



Passenger has been increasing steadily.

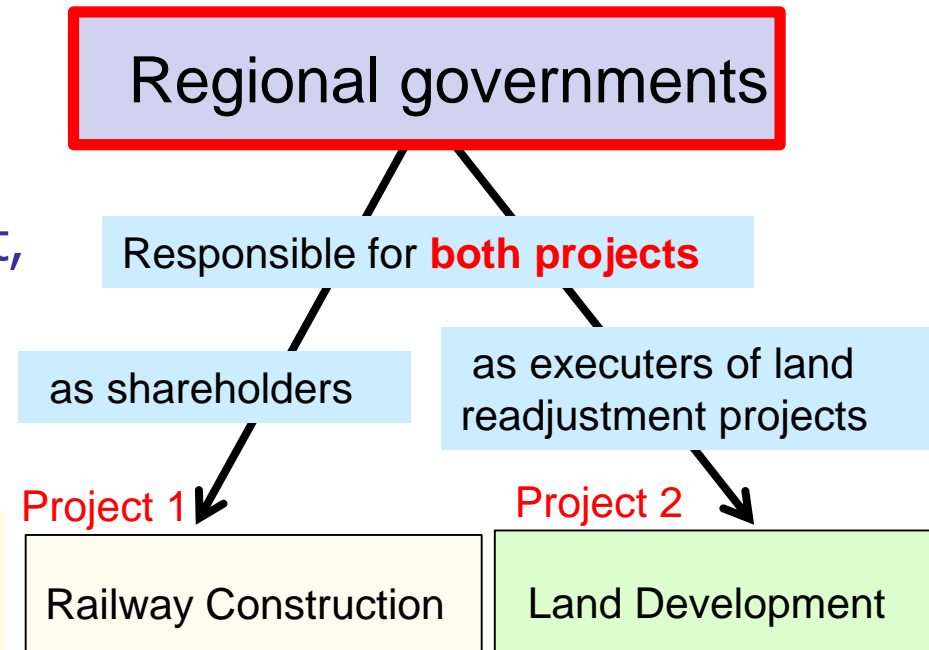


Integrated development by regional governments

- Since the 1970s, it has become too risky for the private sector to promote both “railway construction” and “land development”.
- For promoting integrated development, regional governments leded both projects to construct TX line.



Two projects are closely related, and regional governments receive benefits through dividends as shareholders of TX and increase of real estate tax.



Summary of Presentation

During **rapid** population increase

Private Sector

Railway Construction

Land Development

During **gradual** population increase

Public Sector

Railway Construction

Land Development

Point 1

Railway construction and urban development should be integrated.

Point 2

Public sector should also play an important role for the projects these years.

Contribution of Railways for the Sustainable Urban Development in Japan

Thank you

<Reference>

Kurosaki, F. and Ogura, M. (2013) Construction of Tsukuba Express and Urban Development Based on the Integrated Development Law, *Selected Proceedings for 13th WCTR*

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