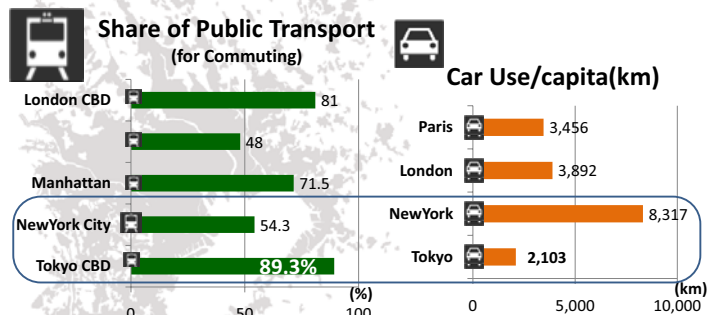


Moving Towards Low Carbon Cities

~ Integrating Public Transport Planning
in Urban Development ~
Case of Japan

Hikaru KOBAYSHI
Ministry of the Environment
Japan

Public Transport is dominant in some cities like Tokyo



Potential for reducing CO2 Emission / Pollutants

Ministry of the Environment

Background

Accelerated urbanisation in Asian countries

Expansion of urban areas leads to
increasing options for personal mobility

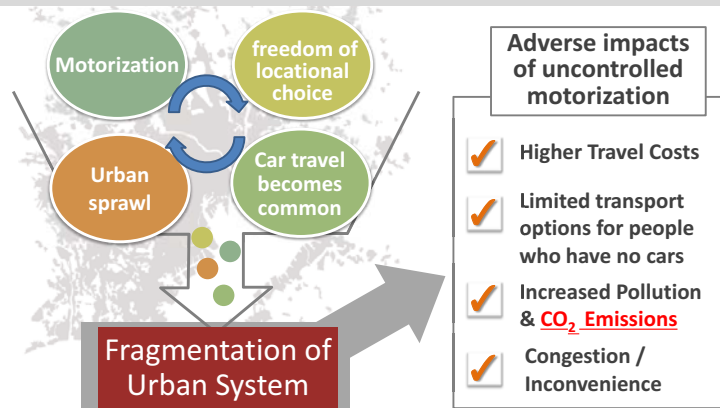
If the trend continues without
adequate planning

Unabated pace of motorisation will continue

What are the implications on cities with rapid motorisation?

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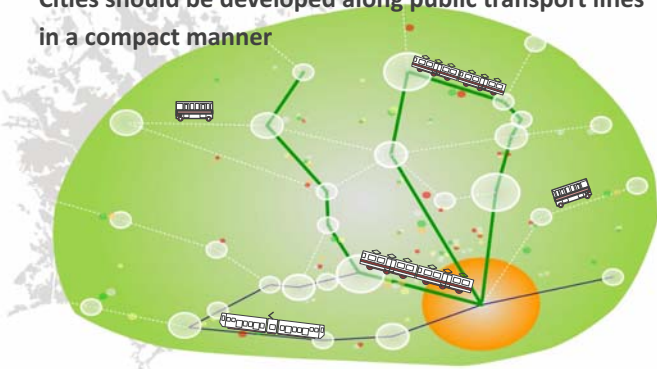
Challenges of Asian Cities and Suburban Cities in Japan



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A Possible Solution : Transit-Oriented Development (TOD)

Cities should be developed along public transport lines in a compact manner

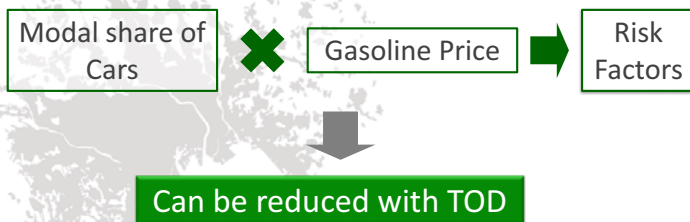


Advantages of TOD

- ✓ Secure means of transportation for those who have no car (low-income segment)
- ✓ Reduce public service costs
- ✓ Mitigate air pollution
- ✓ Reduce energy costs
- ✓ Reduction of CO₂ emissions
- ✓ Use land space efficiently



Reduction of Energy Costs

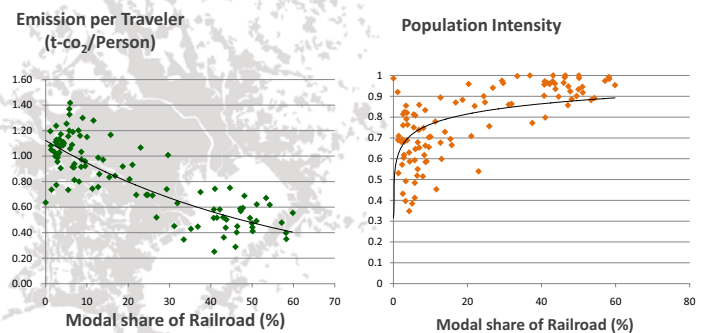


Society dependent on automobiles is highly vulnerable in terms of energy security given the soaring gasoline price.

Meanwhile, TOD can mitigate this risk by encouraging people to use public transportation which is much more energy efficient.



Contribution to the Reduction of CO₂ Emissions



In Compact cities, the Modal share of Railroad is high, and in cities with a high railroad modal share, the emission of CO₂ from transportation sector is low



Effective Space Utilisation



Public Transportation system allows more efficient move of people



Moving Towards Solutions

< Course of Action >

Compact urban forms supported by public transportation systems are necessary to achieve a Low Carbon City



< Actions In line with Course of Action >

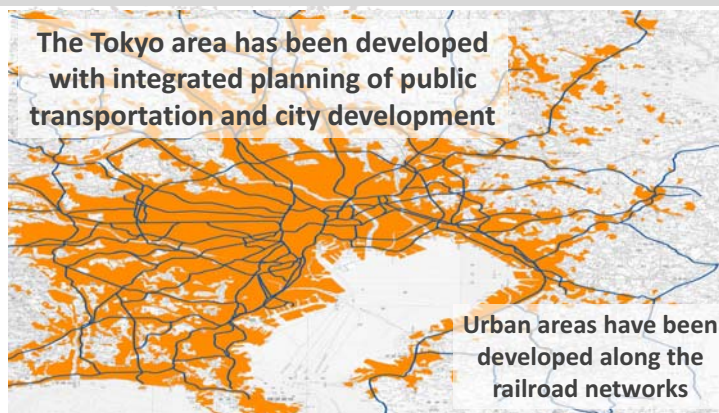
Integration of land use and public transport systems in urban development



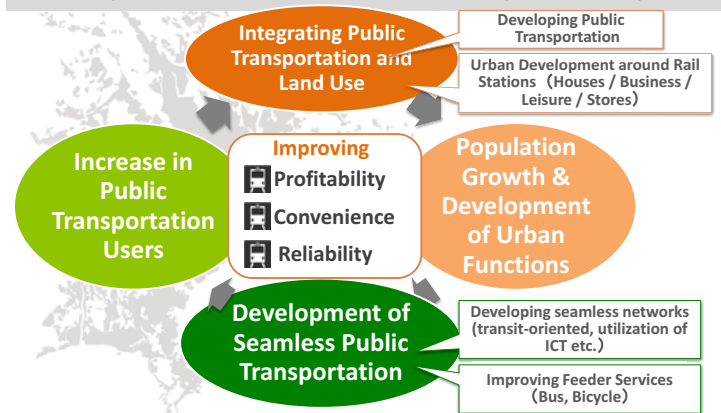
Experiences of Mega-cities in Japan



Japanese Experiences



Positive Cycle of Benefits for Cities as Promoted by Public Transportation



Integrated Development of Railroad & Urban Functions

Rail service providers developed new city and service facilities along the new railroad in same time

New City Areas:
Tokyu Tama Dennen City
Area : 50km²
Population : 560,000

Tokyu Corporation

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Center of Tokyo

Integrated Development of Railroad networks & Urban Functions

Strategy for enriching communities along railroads
~ "Pea Structure" ~

Formulating identities of railroad areas

【Approaches from a "Hardware" Perspective】

【Approaches from a "Software" Perspective】

Services for enriching communities

Establishing Tokyu Stores (Since 1963)

Upgrading Bus Services,
Attracting Hospitals, etc

Leisure & Sports Facilities

Shopping Centre

Information Service

Shopping Mall

Tokyu Corporation

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Station-centered City Planning can provide high quality services



▲ Hitachinouchiku (Ibaraki)

The urban area is station-centered with high quality facilities and are surrounded by green areas

▼ Yokohama Garden City (Kanagawa)

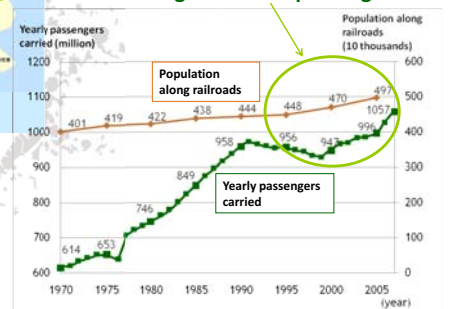


Sagami Railway / UR

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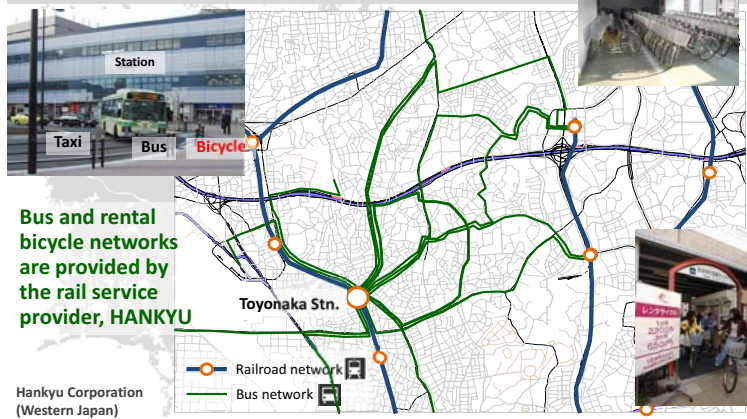
Seamless Public Transportation Systems

Improved transit connection to Subway networks in Tokyo enhanced users' convenience and resulted in increasing number of passengers



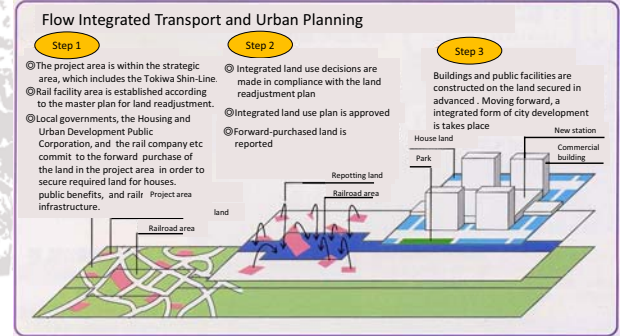
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Seamless Public Transportation System



Institutions and Policies to Facilitate and Support Implementation

Prioritising railroad use in land readjustment plans, and providing residential areas that are based on proximity to railroad locations



Tsukuba Express

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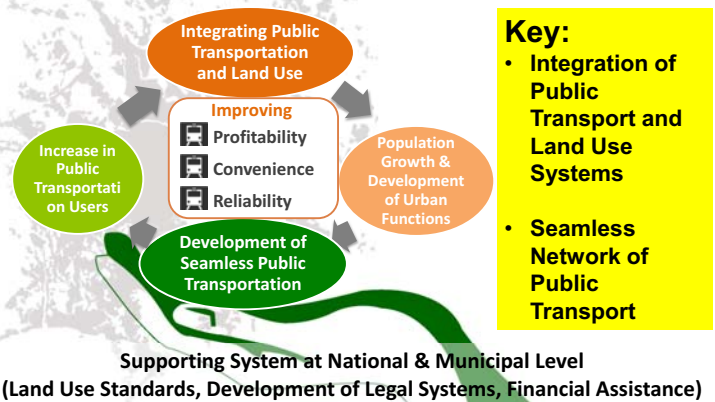
Institution and Policy Contributing to Implementation

National government supports the establishment of private railroad and development along railroads from various perspectives:

- ✓ Urbanisation Promotion Area in city planning
- ✓ Formulating metropolitan area plan
- ✓ Legislating integral development of railroad network and along-urban functions.
- ✓ Financial support for development of railroad network

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Transit-Oriented Design (TOD) is Essential for Low Carbon City



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Role of Integrating Land Use and Public Transportation System

