

# Update on Japanese Transport Policy

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# 1 . Introduction

## Road Conditions in Japan after the World War II



1950's National Road Route 1

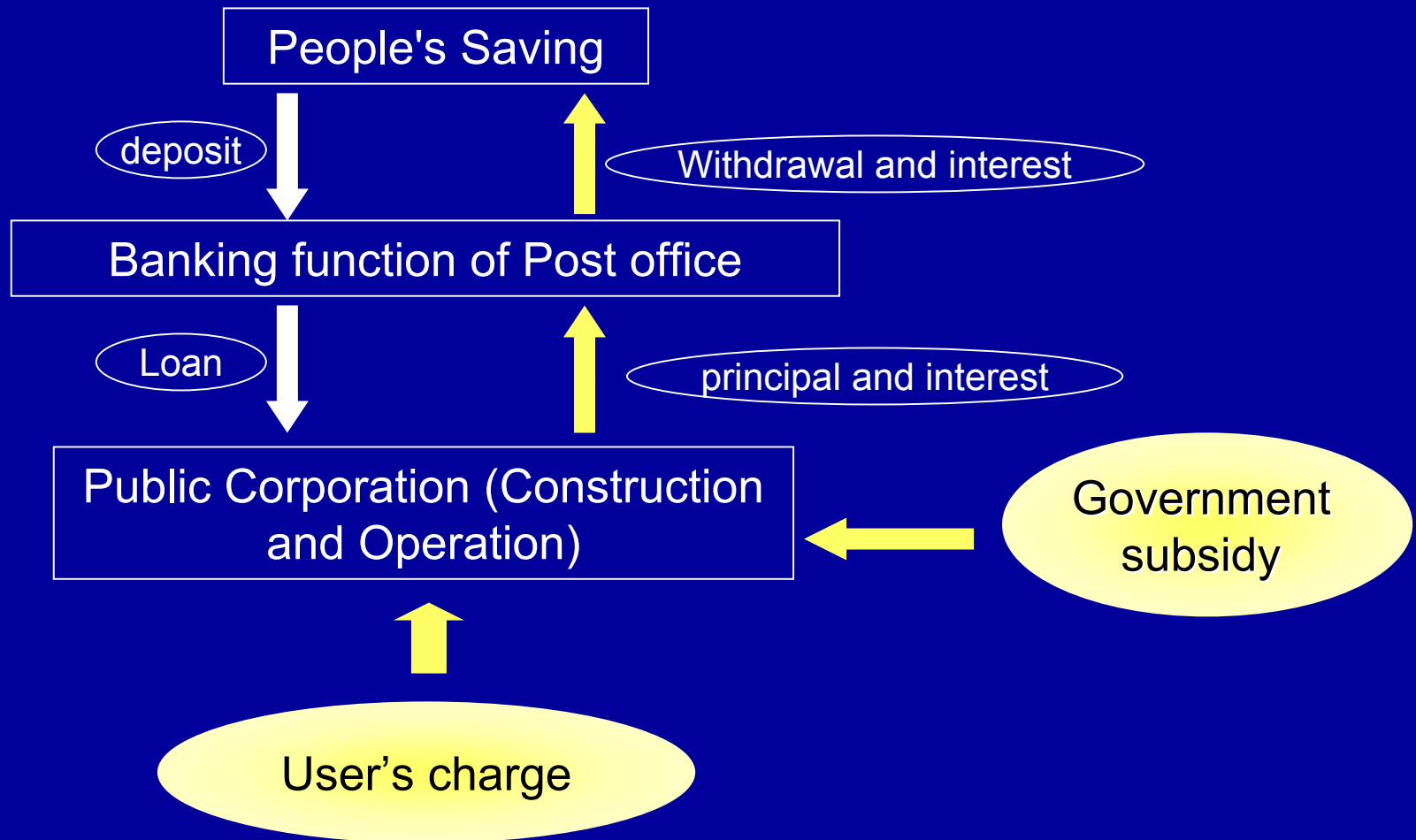
1960's Tokyo



# Financial Institution for Infrastructure Investment: Alternative cases

1. Public investment financed by general revenue
  - Inadequate financial resources
2. Government borrowing (loan or bond)
  - Rapid investment using public debt
3. Cross-subsidy
  - (same level of user charge for all routes)
4. Value Capture case (Urban Railway)

# Government borrowing : Postal Saving Scheme



# Cross-subsidy

(same level of user charge for all routes)

## Prior Route

Higher traffic demand  
Lower construction cost  
Higher profitability



## Posterior Route

Lower traffic demand  
Higher construction cost  
Lower profitability

# Value Capture case (Urban Railway)

- Private Railway Company operates,
  - » Railway Industry
  - » Housing area development
  - » Recreational area development
  - » Various service businesses  
(department stores etc)

# Economical Development Model

Investment for Infrastructure



Private Sector Investment

Expanded Market for Agricultural Product

Increasing Tourists and Businesses



Growing Economy

Job Creation

Upgrading Quality of Life



Decreasing Disparity



# Current Issues Related to Infrastructure policy

- ① Efficiency of Investment and Operation
  - Increase of Non-profitable Infrastructure
  - Low Efficiency of Operation by Bureaucracy
- ② Necessity of Investment for  
Infrastructure Renovation
- ③ Conflict between the Metropolitan Areas

and Rural Areas



- ① Decrease in Population and Demand
- ② Financial Constraints
- ③ Environmental Requirement

## 2 . Current Direction of Transport Policy

### ( 1 ) Outline

1) Institution for Infrastructure Investment  
Airport, Railway, Expressway, Port, etc

2) Privatization

Airport, Railway, Expressway

3) Deregulation & Improvement of Service  
Airline, Railway, Buss, Taxi, Truck, etc

4) R & D

# New Laws Related to Passenger Transport in Japan( 2003-2007)

	Related All Modes	Aviation	Railways	Cars and Roads	Sightseeing
<b>Development of Infrastructure</b>	○ Law for the Priority Planning for Development of the Social Infrastructure (2003)	○ Law for Developing Haneda International Airport (2004)	○ Law for Improving Convenience of Urban Rail Transport (2005)	▲ National Expressway Law (2003)	
<b>Safety</b>	○ Law for Improving Transport Safety (2006)	▲ Law for the Development of Airport (2003) ▲ Air Transport Law (2003) ▲ Air Transport Law (2005)		▲ Road Traffic Law (2004) ▲ Road Transport Law (2006) ▲ Road Traffic Law (2007)	
<b>Improvement of utility</b>	○ The Law for Promoting Barrier-free Transport and Facilities for the Elderly and the Disabled (2006)			▲ Road Transport Law (2006)	▲Travel Agency Law (2004)
<b>Restructuring public sector</b>		○ Law for Privatizing Narita International Airport Public Corporation (2003)		○ Law for the Privatization of Japan Highway Public Corporation ( 2004 )	
<b>better utilization of rural public transport</b>	○ Law for Better Utilization of Rural Public Transport (2007)			▲ Law for Optimizing Operation of Taxi Business (2007) ▲ Road Transport Law (2002) <sup>1)</sup>	
<b>Tourism</b>					▲ Guide-Interpreter Business Law, and Law for Inviting Foreign Tourists (2005) ○ The Tourism Nation Promotion Act (2006)

(Note) A sign before a law name means as follows.

○ : Newly established in 2003-2007 ▲ : Amendment in 2003-2007

# *New Laws Related to Public Transport in Japan*

## *( from 2003 to 2007 )*

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Note ) ○ : Newly Established in 2003-2007 ● : Amendment in 2003-2007

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### **【2007】**

#### **● *Law for Better Utilization of Rural Public Transport***

Provision for coordinating with local stakeholders while deciding on comprehensive transport plan for local regions.

Provision for a smooth introduction of transport service under new forms, such as DMV (Dual Mode Vehicle)

#### **● *Law for Optimizing Operation of Taxi Business*** **【Amendment】**

Provision for reviewing taxi drivers' registration system

#### **● *Road Traffic Law*** **【Amendment】**

Provision for tightening the penalty for drunken drivers

The measures to control bicycle use

【2006】

○ ***Law for Improving Transport Safety***

Strengthening the measures that require transport operators to ensure transport safety

● ***Road Transport Law [Amendment]***

Establishing a system, which enables volunteers from NPO to operate transport services for a fee

○ ***The Law for Promoting Barrier-free Transport and Facilities for the Elderly and the Disabled***

Design standards and specifications for passenger facilities and vehicle structure to improve barrier-free transport

○ ***The Tourism Nation Promotion Act***

Comprehensive and planned promotion of measures in order to realize the vision of Tourism Nation

【2005】

• ***Law for Improving Convenience of Urban Rail Transport***

Provisions for constructing new connecting lines within the urban railways network and promoting the development of large terminals

• ***Guide-Interpreter Business Law, and Law for Attracting Foreign Tourists [Amendment]***

Provisions for supporting sightseeing promotion enterprise through improvement of the interpreter and guide system and involvement of private sector organization

Obligatory requirement for the provisions of passenger information on public transportation in the foreign language

• ***Air Transport Law [Amendment]***

Centralizing management of aviation traffic

【2004】

▶ ***Law for Developing Haneda International Airport***

The funding scheme for developing the 4th runway in Haneda Airport

▶ ***Law for the Privatization of Japan Highway Public***

***Corporation***

Privatizing the public highway corporation which constructs and manages Expressways

▶ ***Travel Agency Law [Amendment]***

Setting up of the new mode of a plan travel contract

Review of the system for the person-in-charge of authorized tour operating

▶ ***Road Traffic Law [Amendment]***

Strict prohibition of the use of mobile phones while driving

【2003】

▶ ***Law for the Development of Airport  
[Amendment]***

The funding scheme for upgrading the landing system  
of airports

▶ ***Air Transport Law [Amendment]***

Prohibition of safety inhibiting acts, such as the use of  
portable electronic devices

▶ ***Law for the Priority Planning for Development of  
the Social Infrastructure***

Making the plan for advancing provision of the social  
infrastructure higher priority (abolition of the  
development plan for every social infrastructure)

*(To be continued)*



## 【2003】 (Continued)

### • **National Expressway Law [Amendment]**

Provision for construction of partially toll-free Expressway by public sector

### • **Law for Privatizing Narita International Airport Public Corporation**

Privatization of the public corporation that manages Narita Airport

## 【2002】

### • **Road Transport Law [Amendment]**

Abolition of the regulation for supply and demand adjustment in bus and taxi business

Note: Although this amendment of this law was very important in terms of public transport policy in Japan, this revised law went into effect in 2002.)

# ( 1 ) Institution for Infrastructure Investment

Airport, Railway, Expressway, etc

## ① Airport

Expansion of Tokyo (Haneda) Airport  
PFI Scheme

## ② Bullet Train Network

Vertical Division

## ③ Expressway

Non-toll road by Government

## ( 2 ) Privatization

### Airport, Railway, Expressway

#### ① Airport

Privatization of Tokyo (Narita) Airport

#### ② Railway

Japan National Railway : 1987

Tokyo Metro : Full Privatization 2009

#### ③ Privatization of Highway Public Corporations

# ( 3 ) Deregulation & Improvement of Service

## Airline, Railway, Bus, Taxi, etc

- ① Airline Deregulation  
: Impacts on Network & Service
- ② Local Transport Support  
Railway & Bus: Maintain the Network  
Declining Demand & Aged People
  - Collaboration in Community
  - Beneficiary Burden
  - Subsidy & Incentive
- ③ Taxi Deregulation : Safety Problem

# ( 4 ) R & D

- Aircraft & Engine
- Railway
  - MAGREV
  - Free Gauge Train
  - Bullet Train Vehicle
  - Dual Mode Vehicle
  - IC Ticket System
  - Freight Railway System
- Road & Automobile
  - ITS
  - Freight and Logistics System
  - Traffic Safety

# New Vehicle of Tokaido Shinnkansen



N700系先頭形



270km Operation on the  
Truck Designed for 200km

Energy & Environmental  
Improvement

# Dual Mode Vehicle for Local Line



出典：JR北海道

<http://www.irbokkaide.co.jp/new/dmy/index.html>

# Hybrid Train

Diesel Engine & Battery

Energy : 10% reduced

Emission: 60%





# MAGREV

Expansion of Test Truck from 2008  
Construction of Operating Line from 2025



# ETC Ticket System for Rail & bus



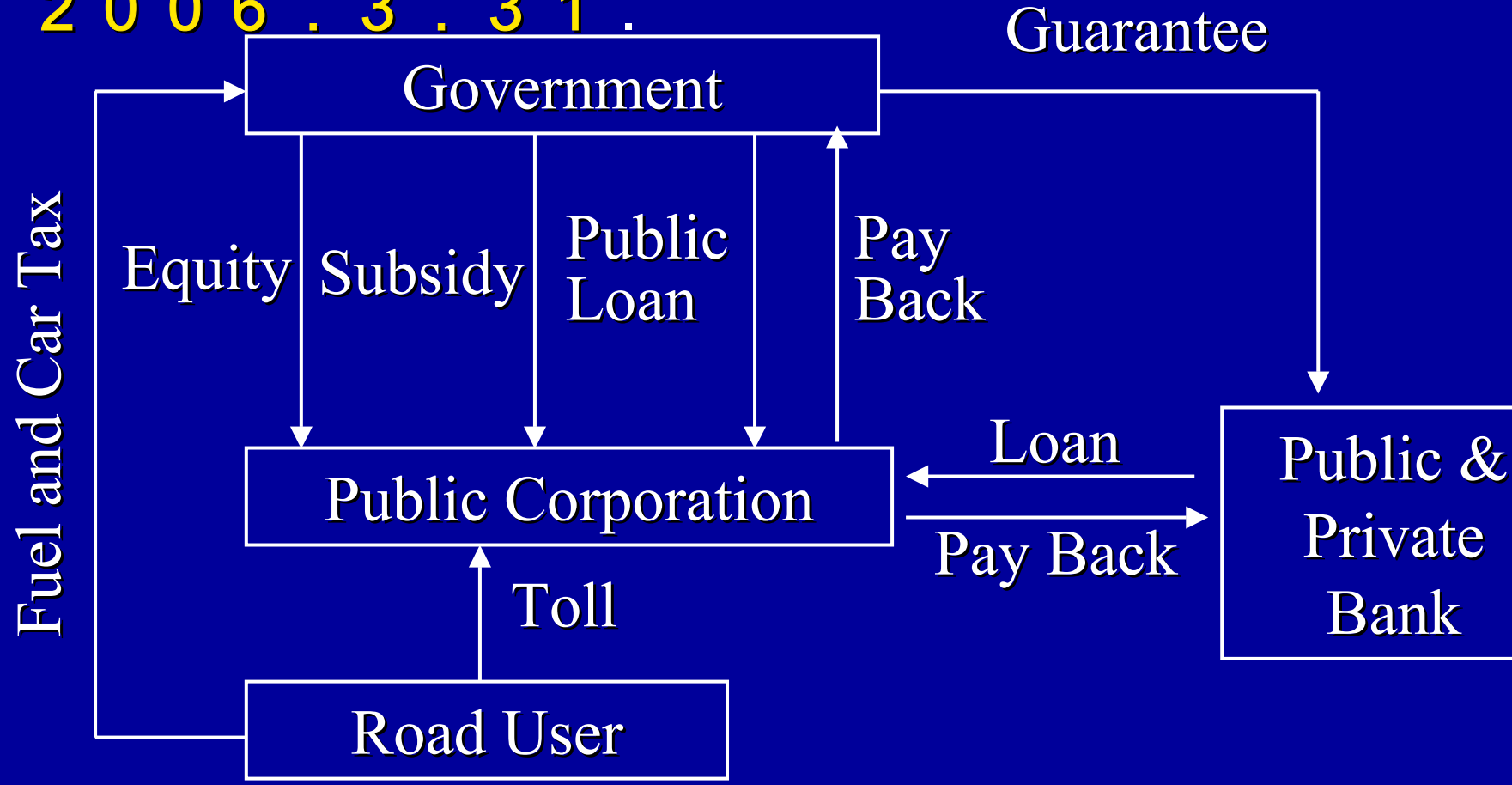
出典：沖電気工業株式会社

<http://www.eki.com/jp/SSC/ITS/jpn/etc.html>

## Electric Toll Collection System

# 5 . Privatization of Highway Public Corporation

Original Toll Road Scheme  
2 0 0 6 . 3 . 3 1 .



# Highway Public Corporations

- ① Japan Highway Public Corporation
  - National Expressway Network
  - Individual Toll Road
- ② Urban Expressway
  - Metropolitan Expressway Public Corporation
  - Hanshin Expressway Public Corporation
- ③ Honshu-Shikoku Bridge Authority

# Toll Policy for National Expressway

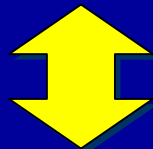
- Public BOT scheme

- Uniform Toll Rate for all routes

$(24.6\text{yen} / \text{km} + 150\text{yen}) \times 1.05$  (consumption Tax)

- Payback Period

50 years from Last Route Construction



Cross Subsidy Scheme

between Prior and Posterior Routes

# Toll Policy for Tokyo Metropolitan Expressway Public corporation

Public BOT scheme

Flat Toll by Zones

Tokyo Zone : ¥700

Kanagawa Zone : ¥600

Saitama Zone : ¥400



Distance-based Fare  
From 2008

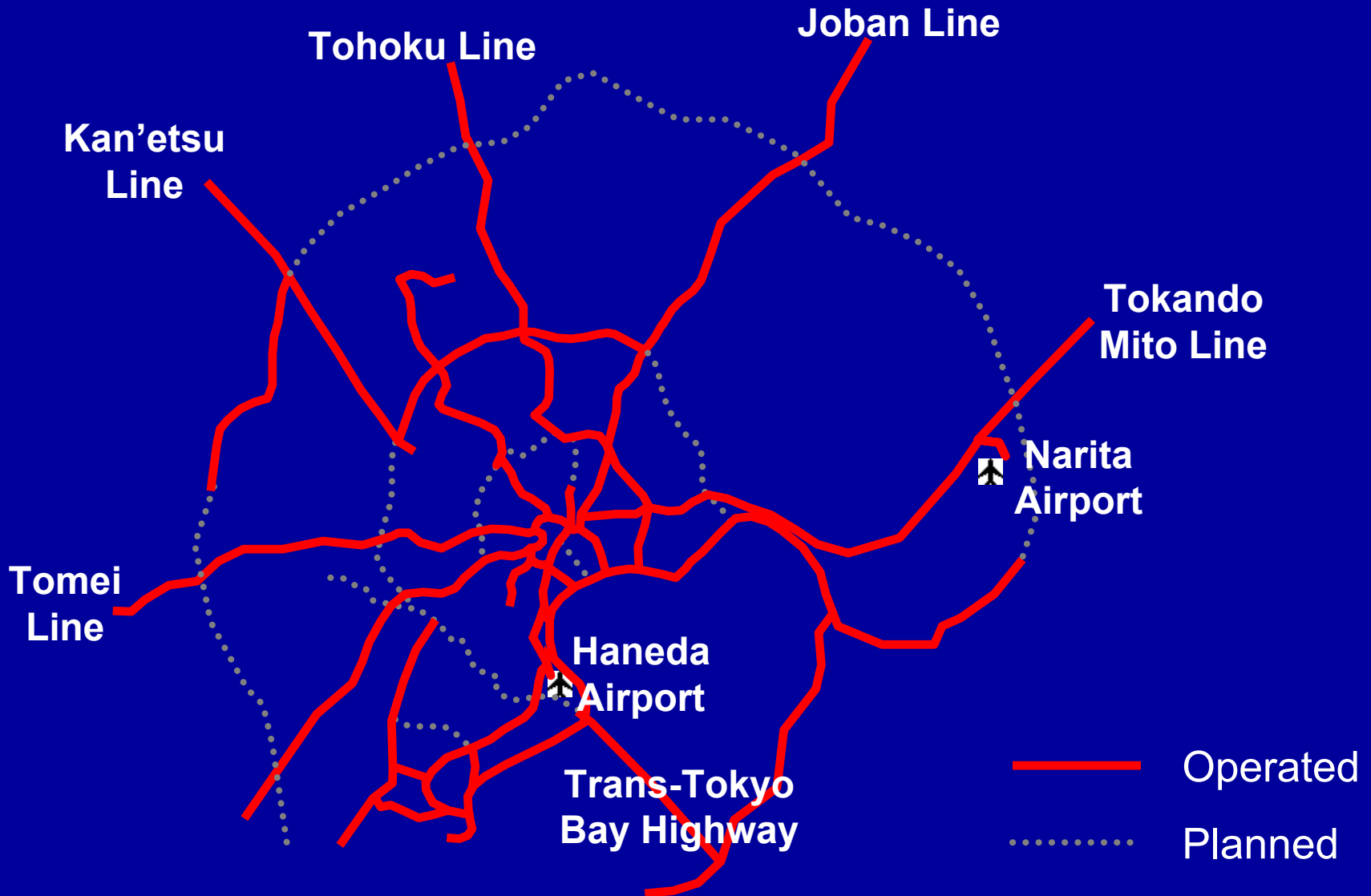
Payback Period

45 years from Last Route Construction



Payback until 2050

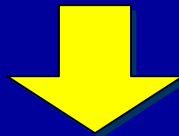
# Metropolitan Expressway Network in TMA



# Background of Policy Change

Criticisms;

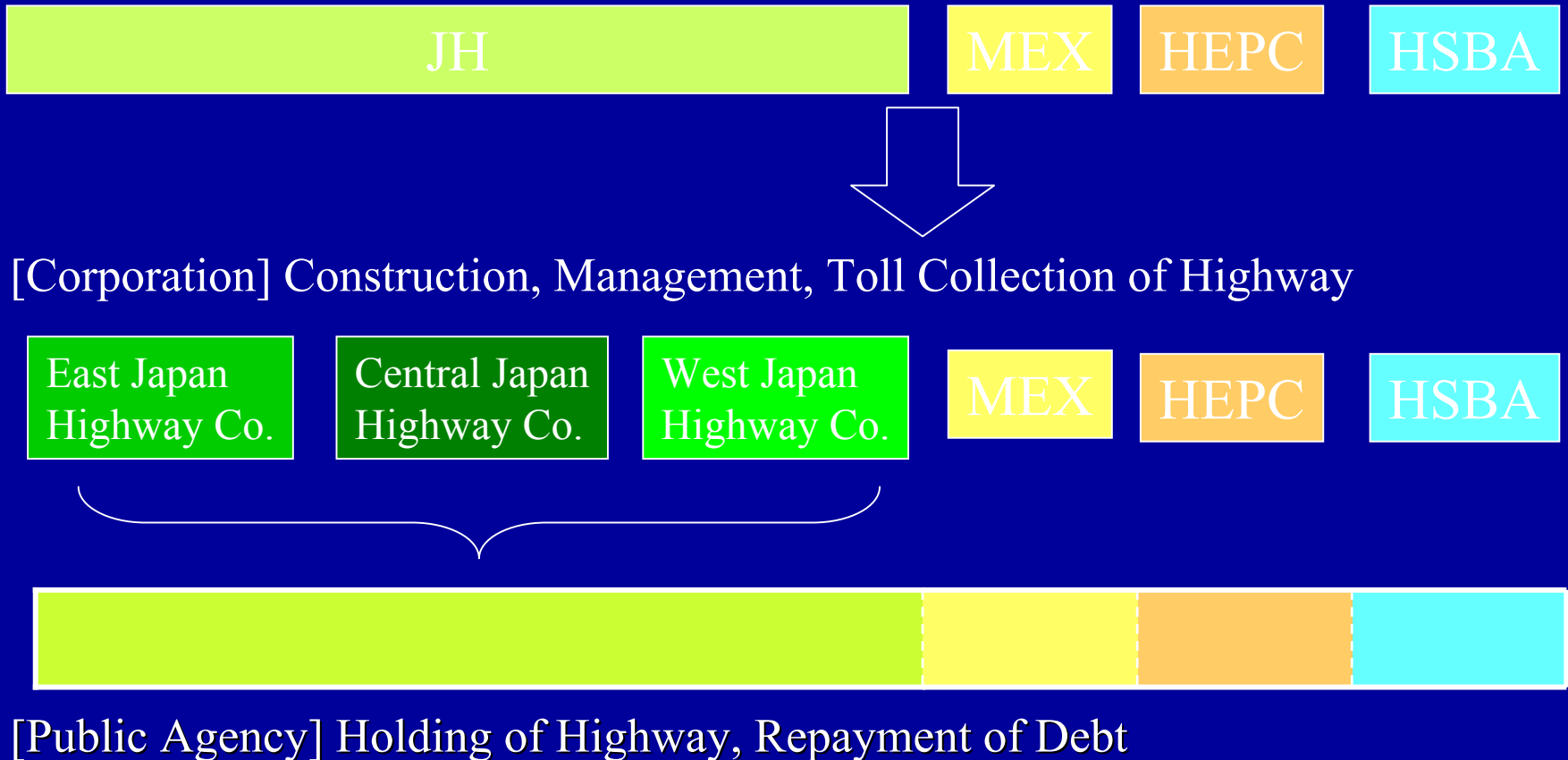
- High Toll Rate
- Efficiency of JH
- Risk of Huge Debt
- Unprofitable Expansion of Network



Privatization and Reform of Public Corporation



# Concept of Privatization

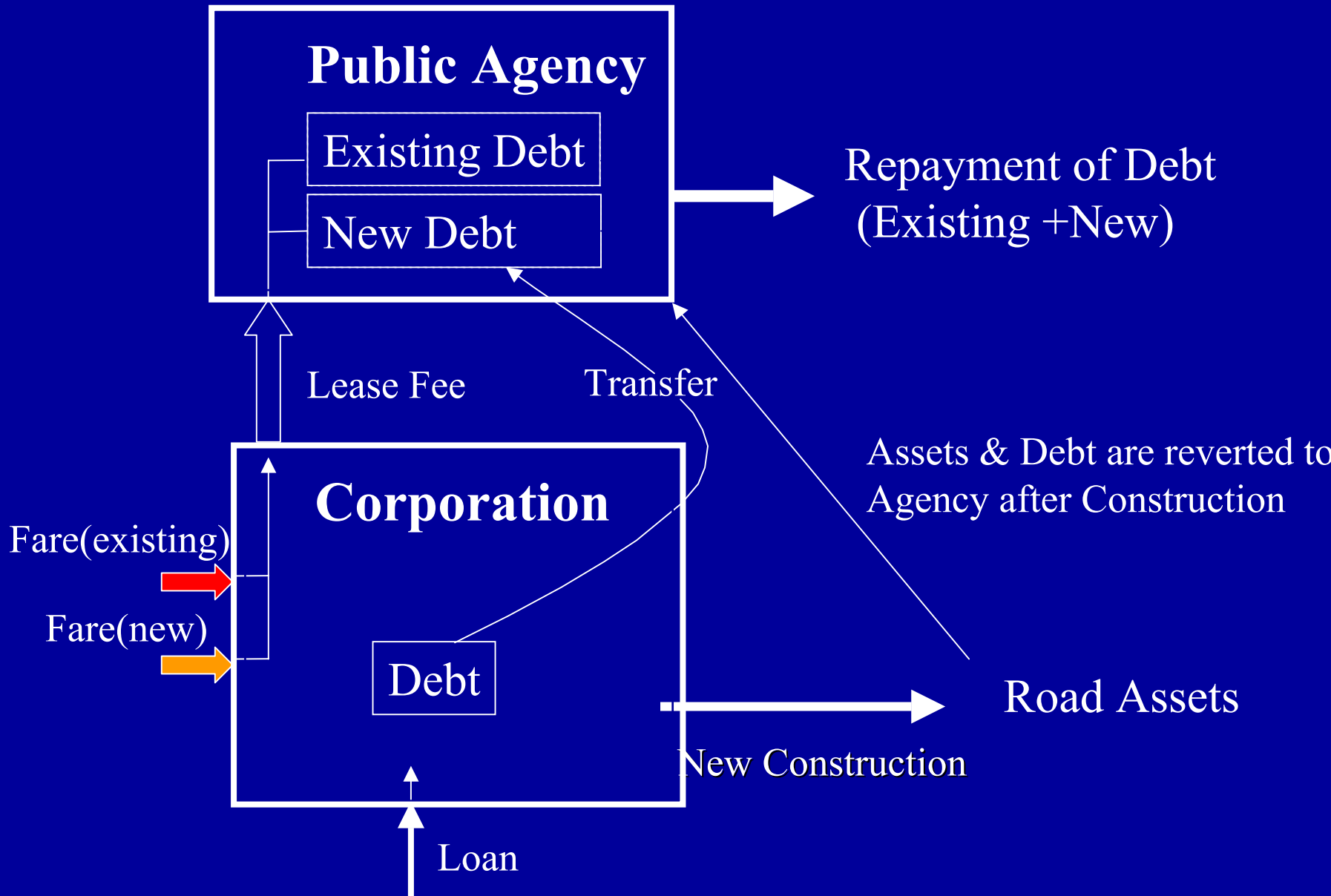


JH: Japan Highway Public Corporation

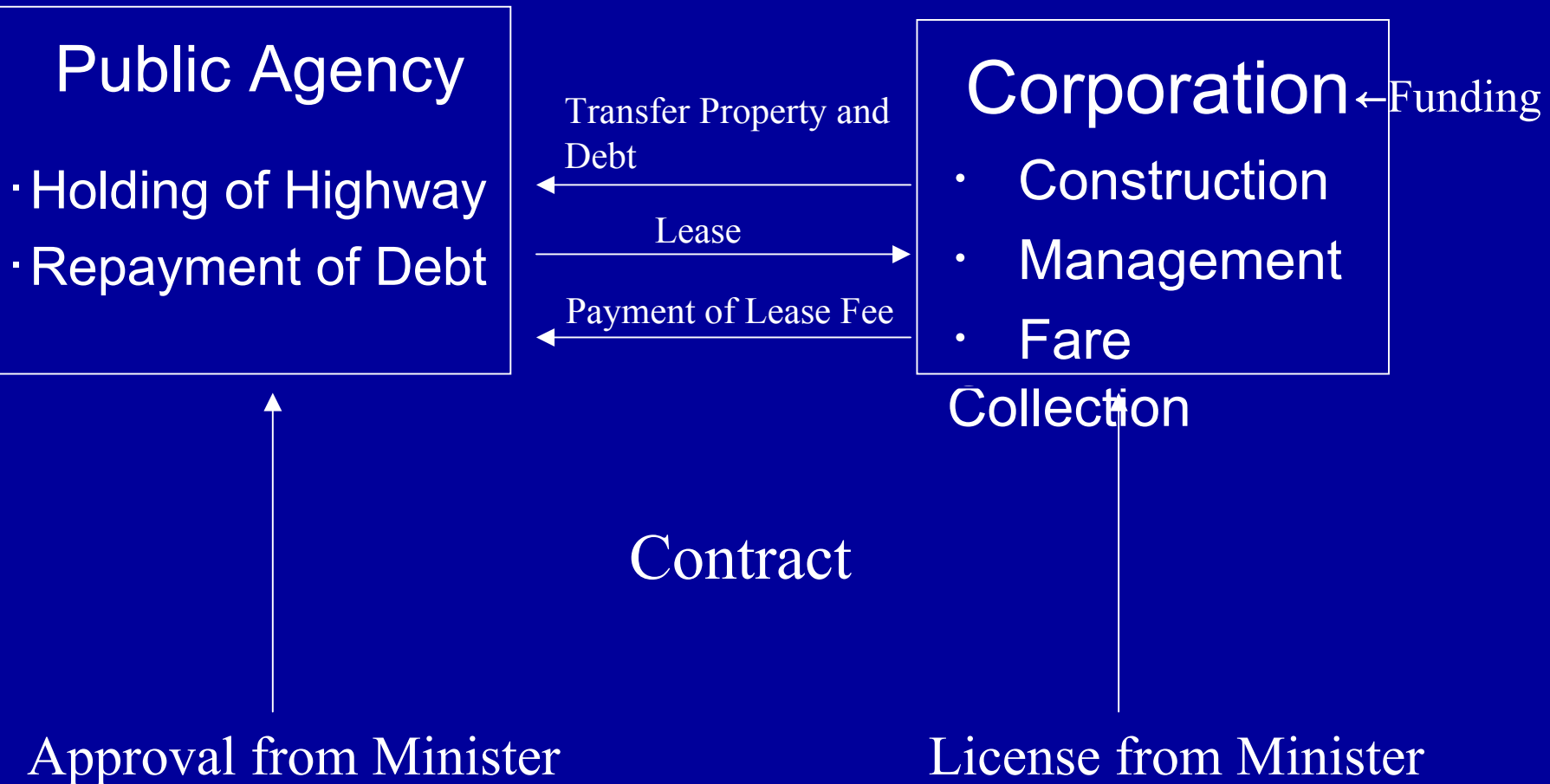
MEX: Metropolitan Expressway Public Corporation

HEPC: Hanshin Expressway Public Corporation

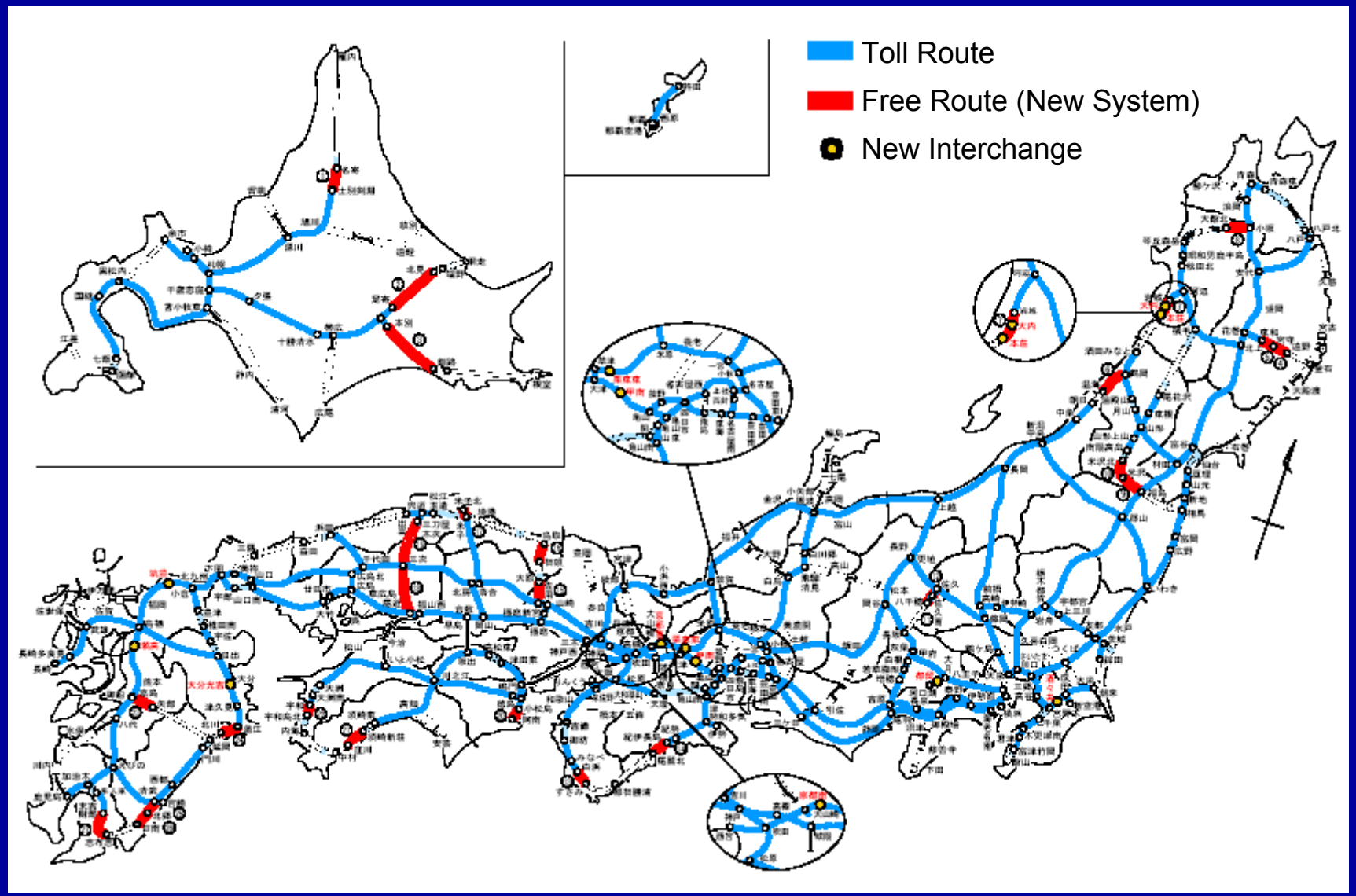
HSBA: Honshu- Shikoku Bridge Authority



# Concept of Business Operation by Corporation and Agency



# Free and Toll Road Network



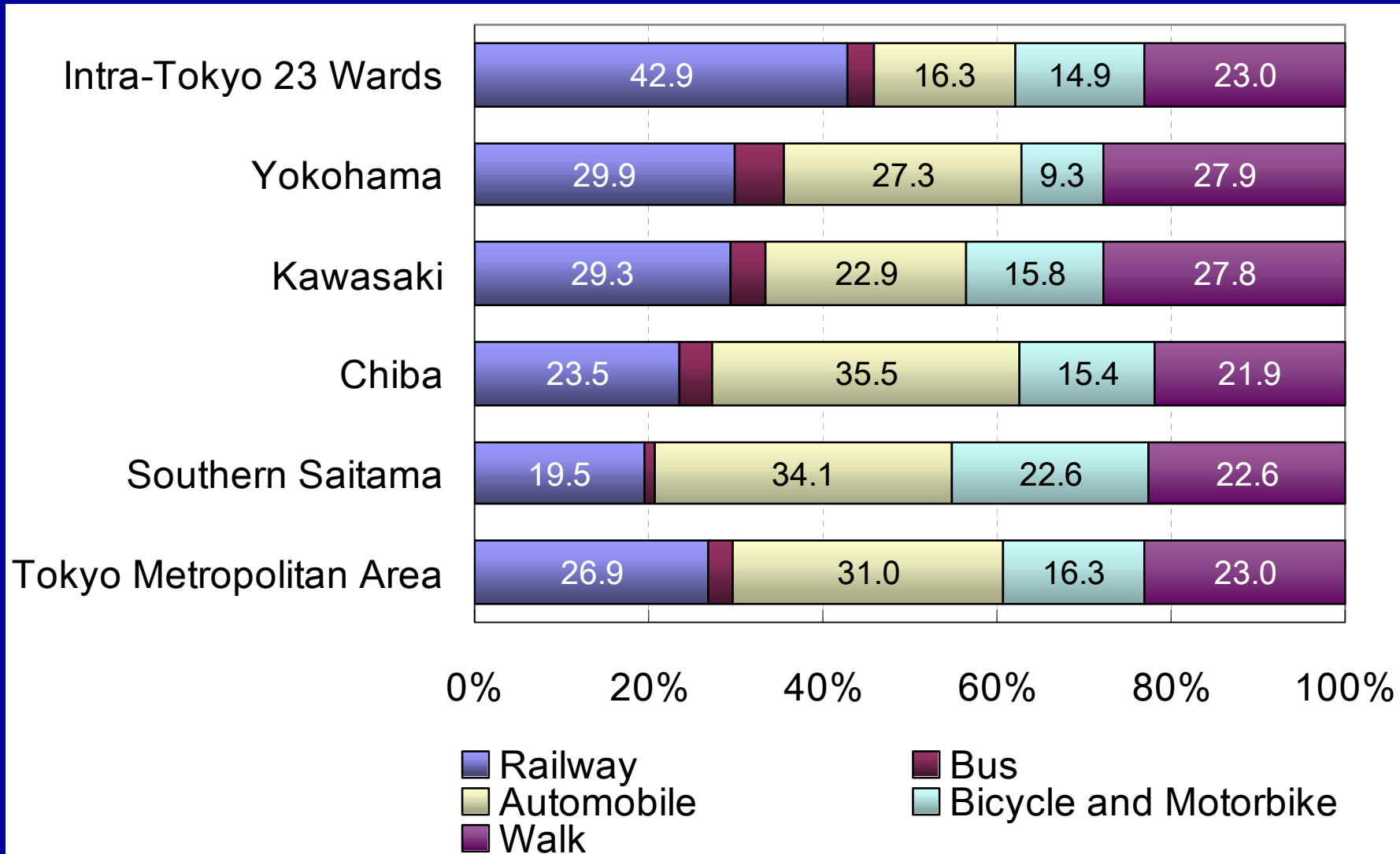
# 4 . Regional Public Transport

## ( 1 ) Urban Railway

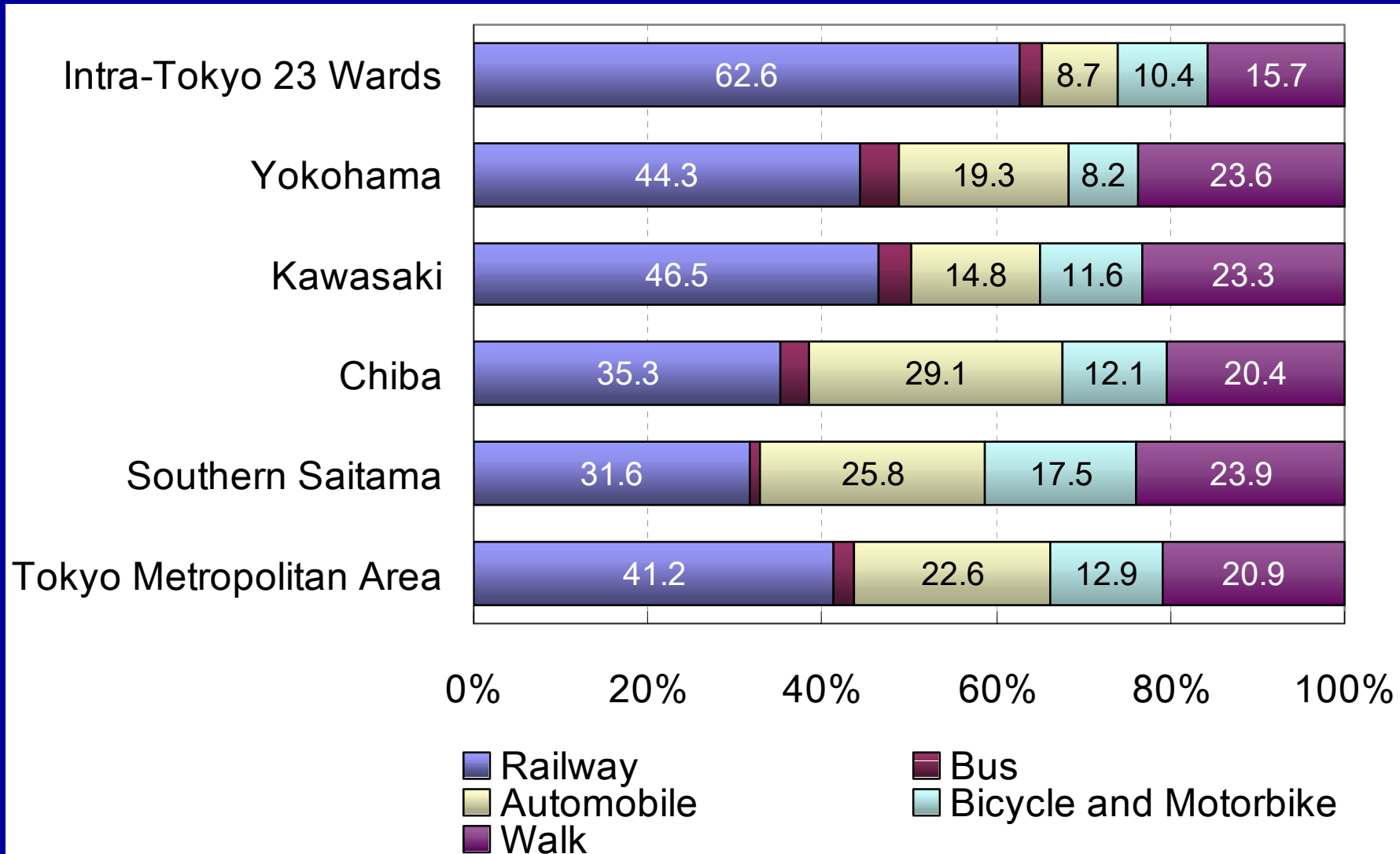
### Example in Tokyo

- Privatization of Metro
  - Reform of Subsidy Institution
    - toward Improvement of Service
    - Network Coordination
    - Universal Design
    - Unified Ticket System
- for 50 Rail & Bus Operators  
(Subsidy only for Bus Operators)

# Modal Share – All Purpose



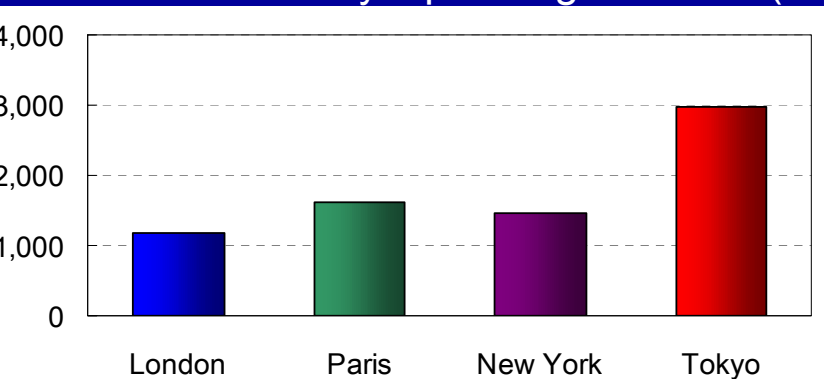
# Modal Share of Commuters



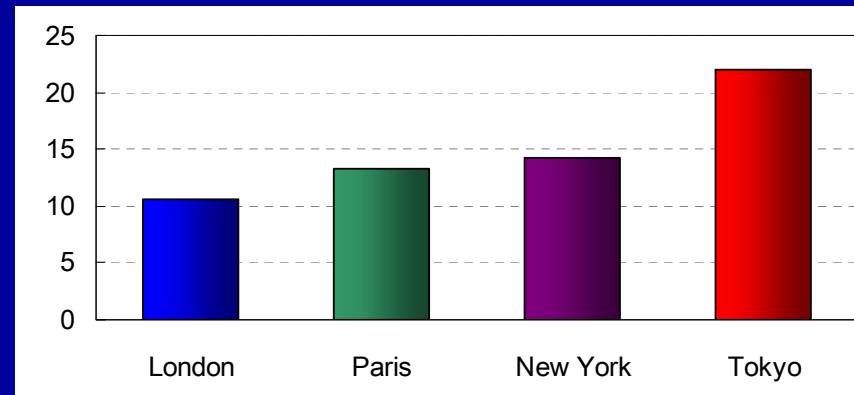
# Comparison of Metropolitan Area in the World

	London	Paris	New York	Tokyo
Population	12,321	10,651	13,200	32,546
1,000 people	(38)	(33)	(41)	(100)
Area km <sup>2</sup>	11,262	12,012	10,360	13,494
	(83)	(89)	(77)	(100)

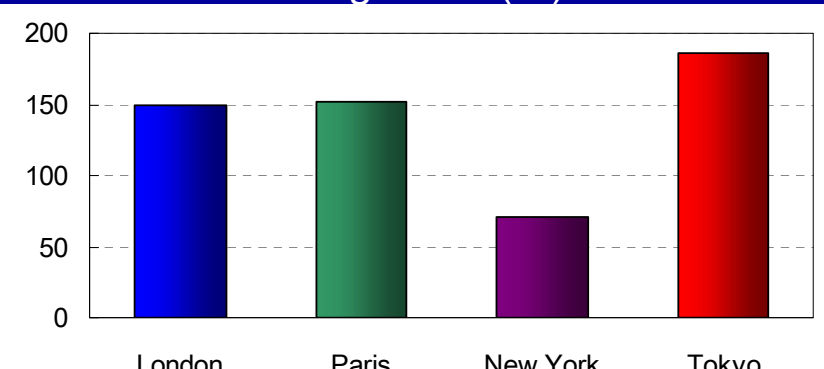
Urban Railway Operating Distance (km)



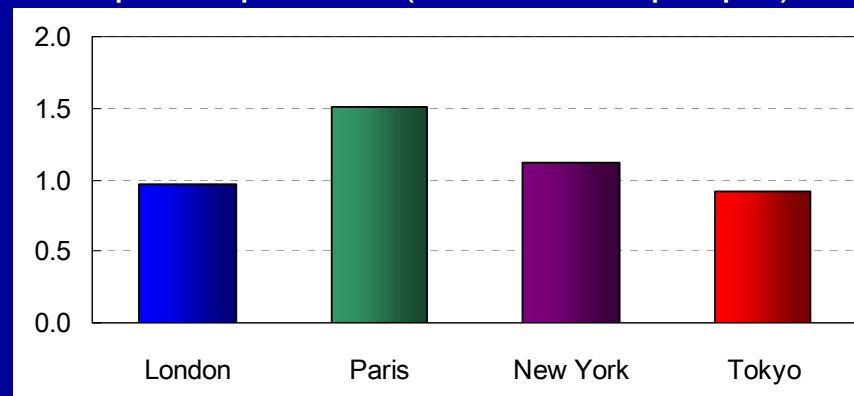
Urban Railway Operating Distance per Area (km / 100km<sup>2</sup>)



Raito of Congestion (%)



Urban Railway Operating Distance per Population (km / 10,000 people)





## ( 2 ) Local Cities and Rural Areas

- Incentive to Maintain the Service Level  
Support for Planning, Finance,  
Information and Coordination
- Improvement of Operators' Efficiency
- Mobility Management
- Coordination Mechanism
- Several Types of  
Vertical Separation for Railway
- Deregulation to Save the Cost

# 4 . Conclusion

## Challenging Term for Transportation Experts

- ① On-going Institutional Reform for Policies
    - Ex. - Special Account for Road
      - Full Privatization of Narita Airport
      - Support for Public Transport
  - ② Negative Aspect of Deregulation
  - ③ Asset Management of Aged Infrastructure
  - ④ Urgent Environmental Improvement
  - ⑤ International Competition between Cities
- e t c