

A green growth strategy for the Transport Sector in Japan

1. Characteristic Situation of Transport in Japan
2. National Policy Initiatives in Japan
3. Areas to be Addressed in the International Collaboration
4. Introduction of Relevant Research Work

Koichi FUJISAKI

Institute for Transport Policy Studies (ITPS)

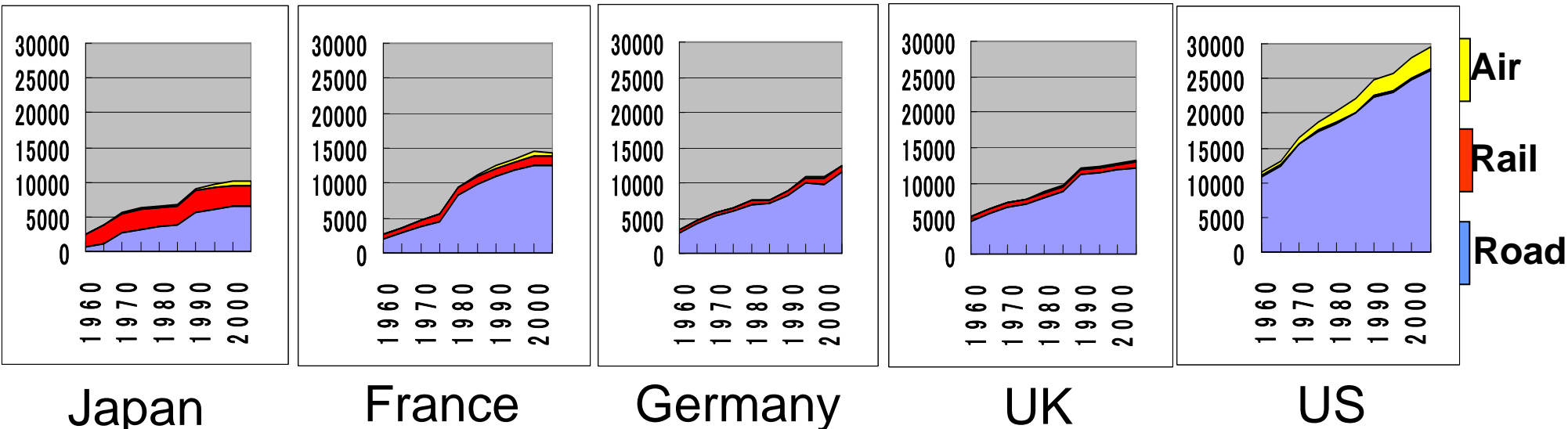


May 2010



1 Characteristic Situation of Transportation in Japan

(1) Trends on Passenger-km/Capita and on Modal Share



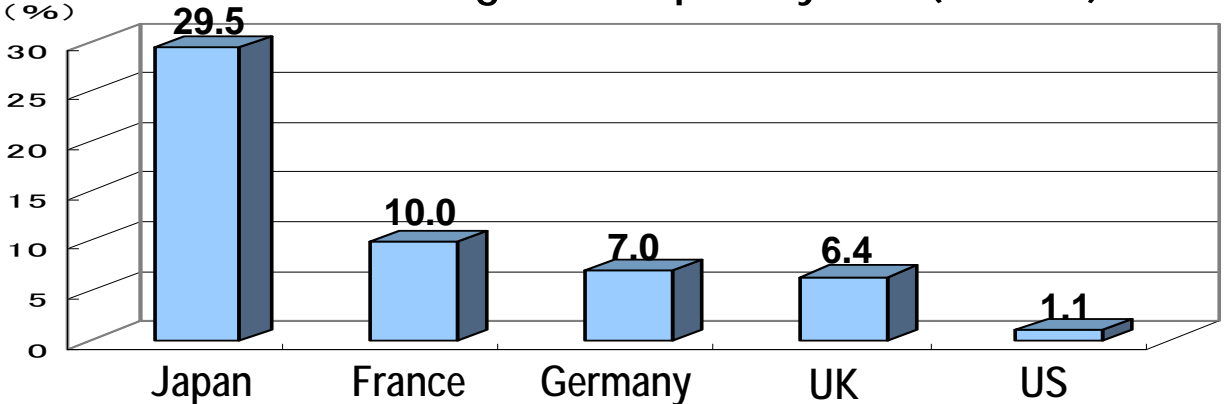
Data Source

JP,FRA,GE: Japan,Ministry of Land, Transport and Tourism (MLITT) (Only the data of Air of FRA and GE:ICAO),

US: U.S. Department of Transportation (DOT) Research and Innovative Technology Administration

Population: World population prospect of UN

○ Share of Passenger Transport by Rail (in 2004)



*1) In 2005 in Japan
 *2) excluding aviation and ships
 *3) calculated by passenger-km

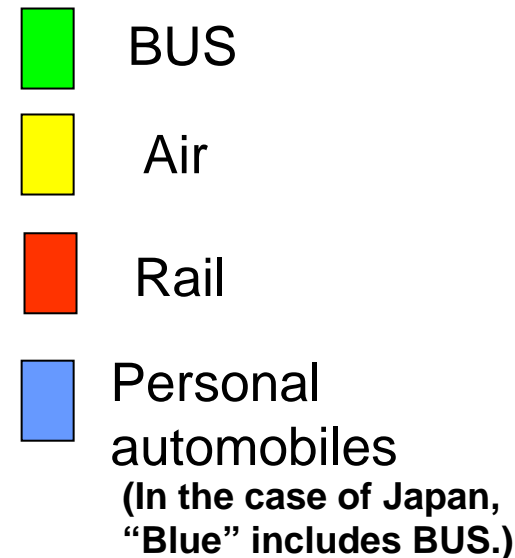
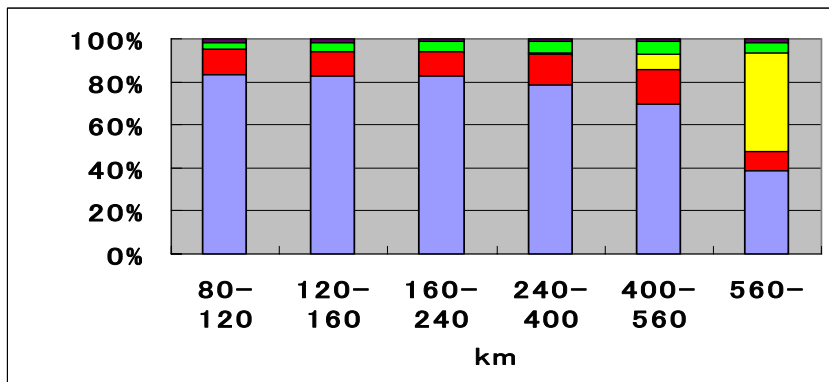
1 Characteristic Situation of Transportation in Japan



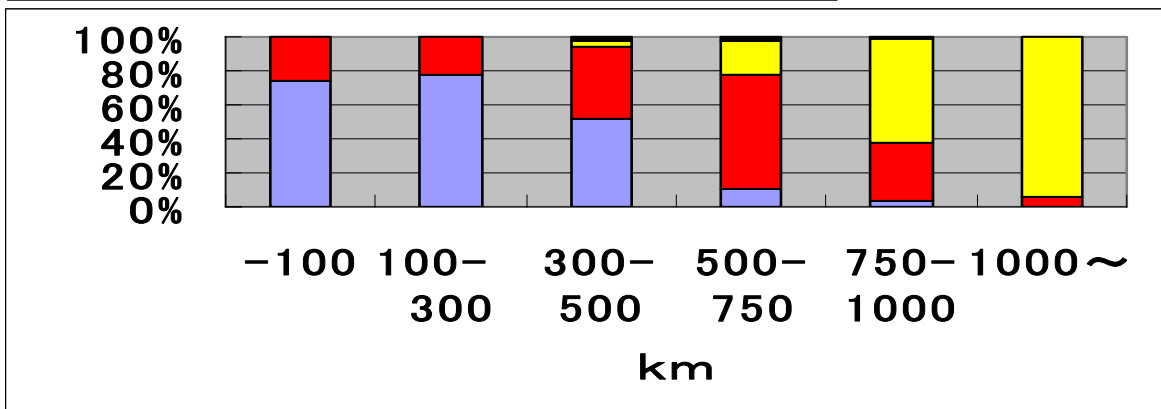
(2) Modal share by passenger domestic long travel distance in UK, Japan and US

Data Source: UK DfT, Japan MLITT
U.S. DOT Research and Innovative
Technology Administration

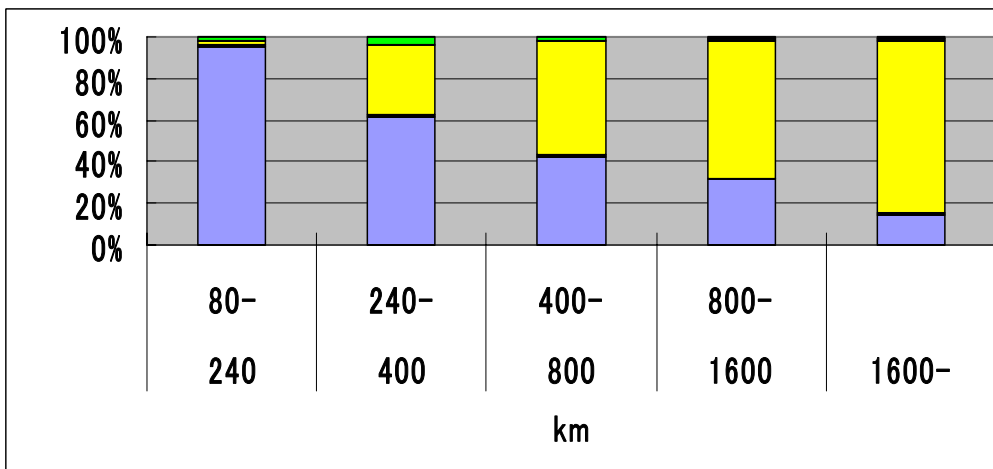
UK
(2006~
2008)



Japan
(2007)



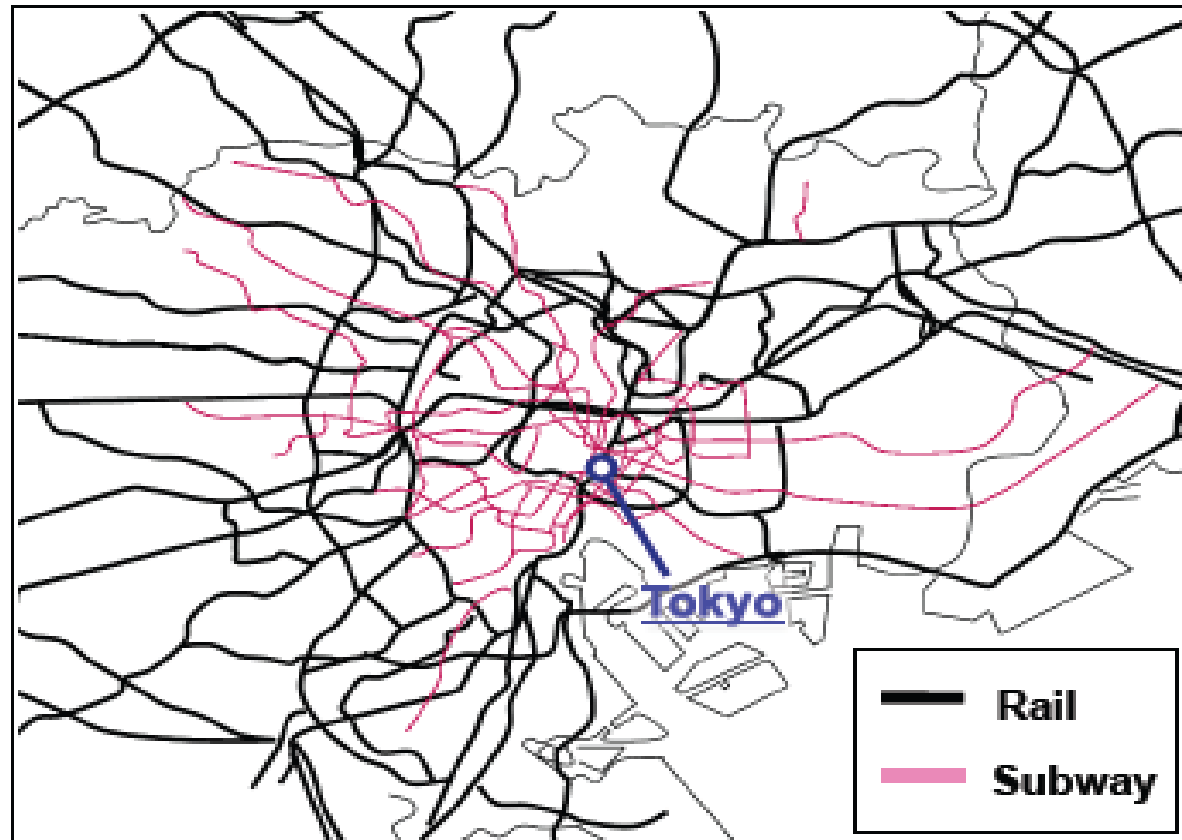
US
(2001)



(3) Development of Railway Networks in Japan

■ **Tokyo**: Share of passengers who traveled by rail **76%** (in 2005)

○ Railway Networks in Tokyo Metropolitan district



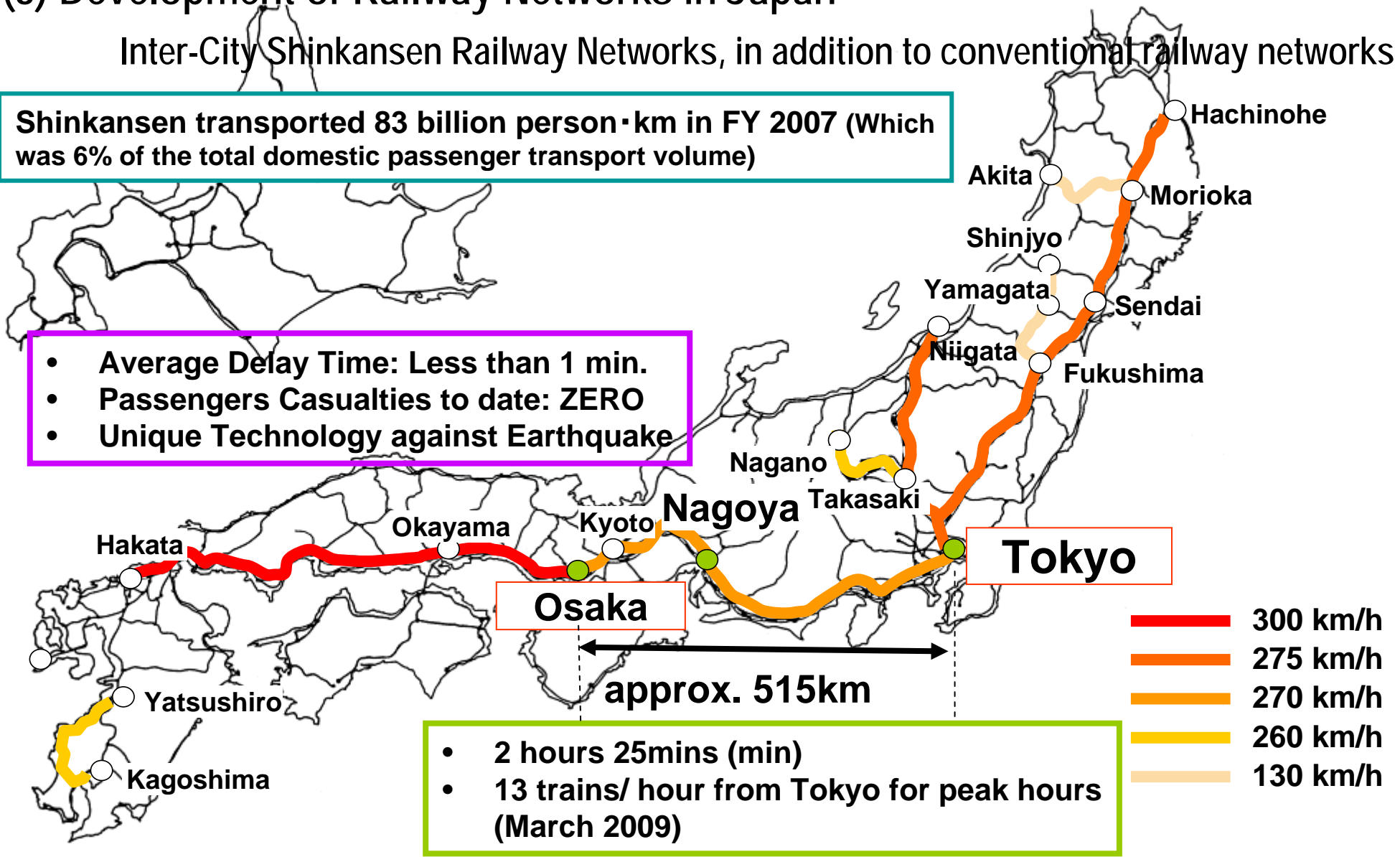


(3) Development of Railway Networks in Japan

Inter-City Shinkansen Railway Networks, in addition to conventional railway networks

Shinkansen transported 83 billion person·km in FY 2007 (Which was 6% of the total domestic passenger transport volume)

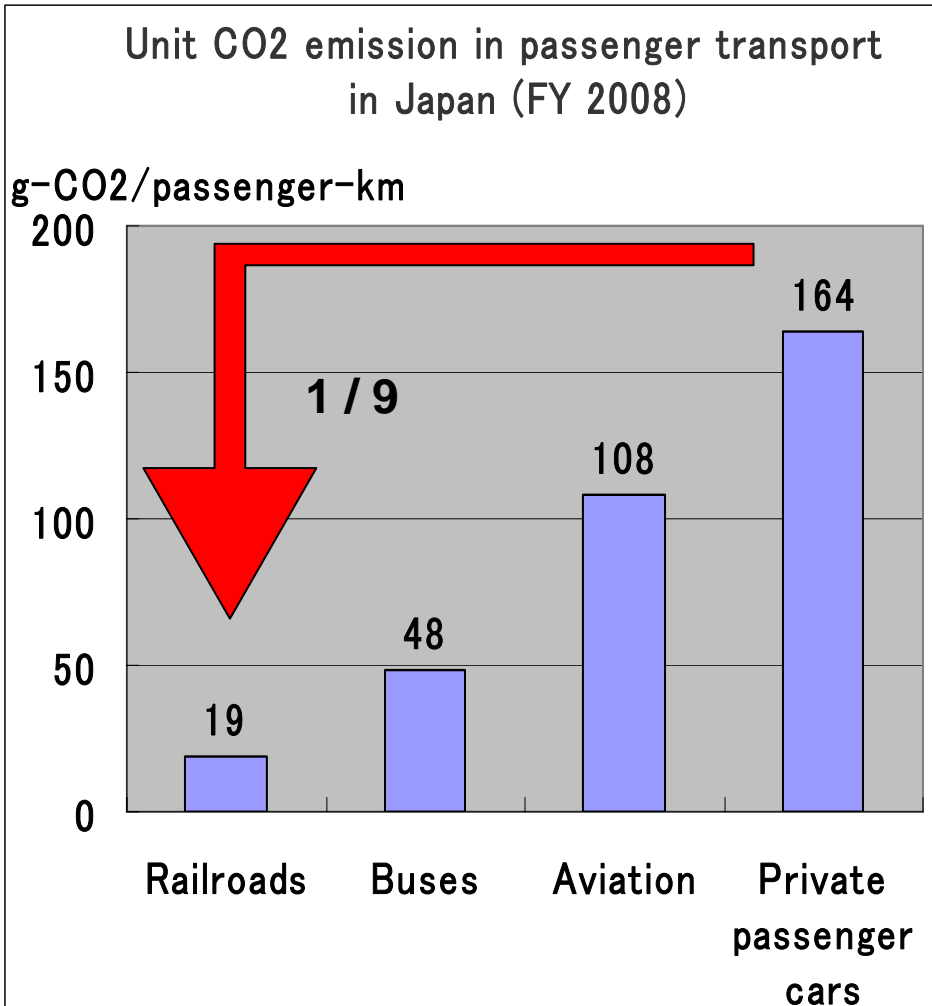
- Average Delay Time: Less than 1 min.
- Passengers Casualties to date: ZERO
- Unique Technology against Earthquake



- 2 hours 25mins (min)
- 13 trains/ hour from Tokyo for peak hours (March 2009)

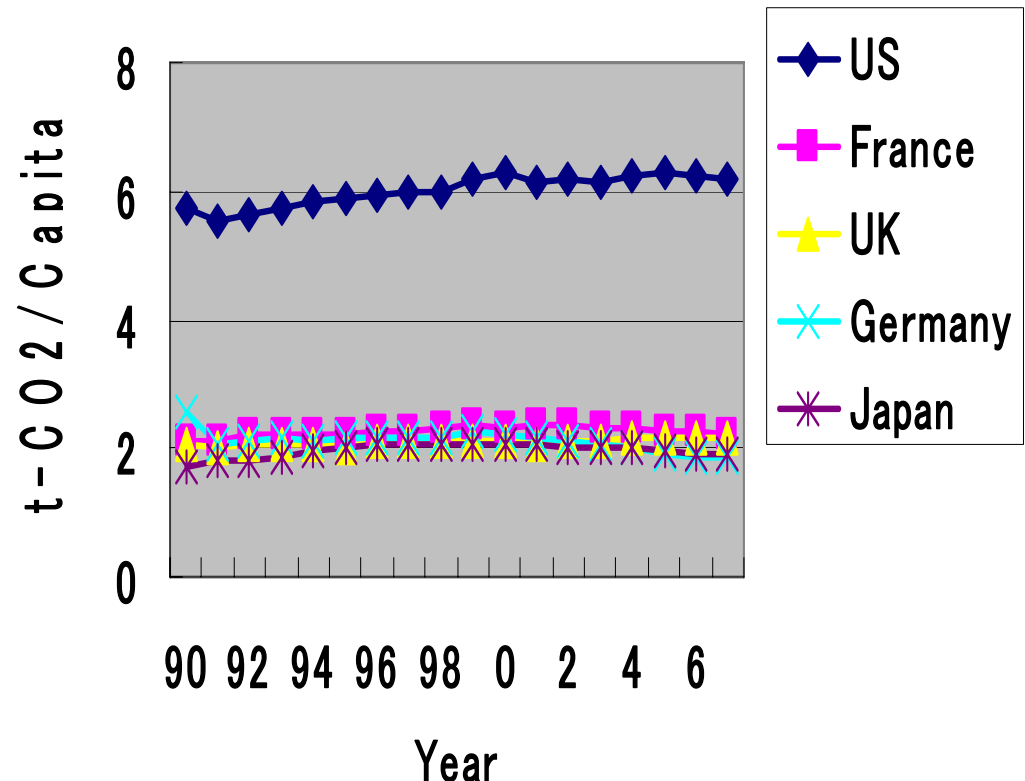


(4) Trends on CO2 emissions



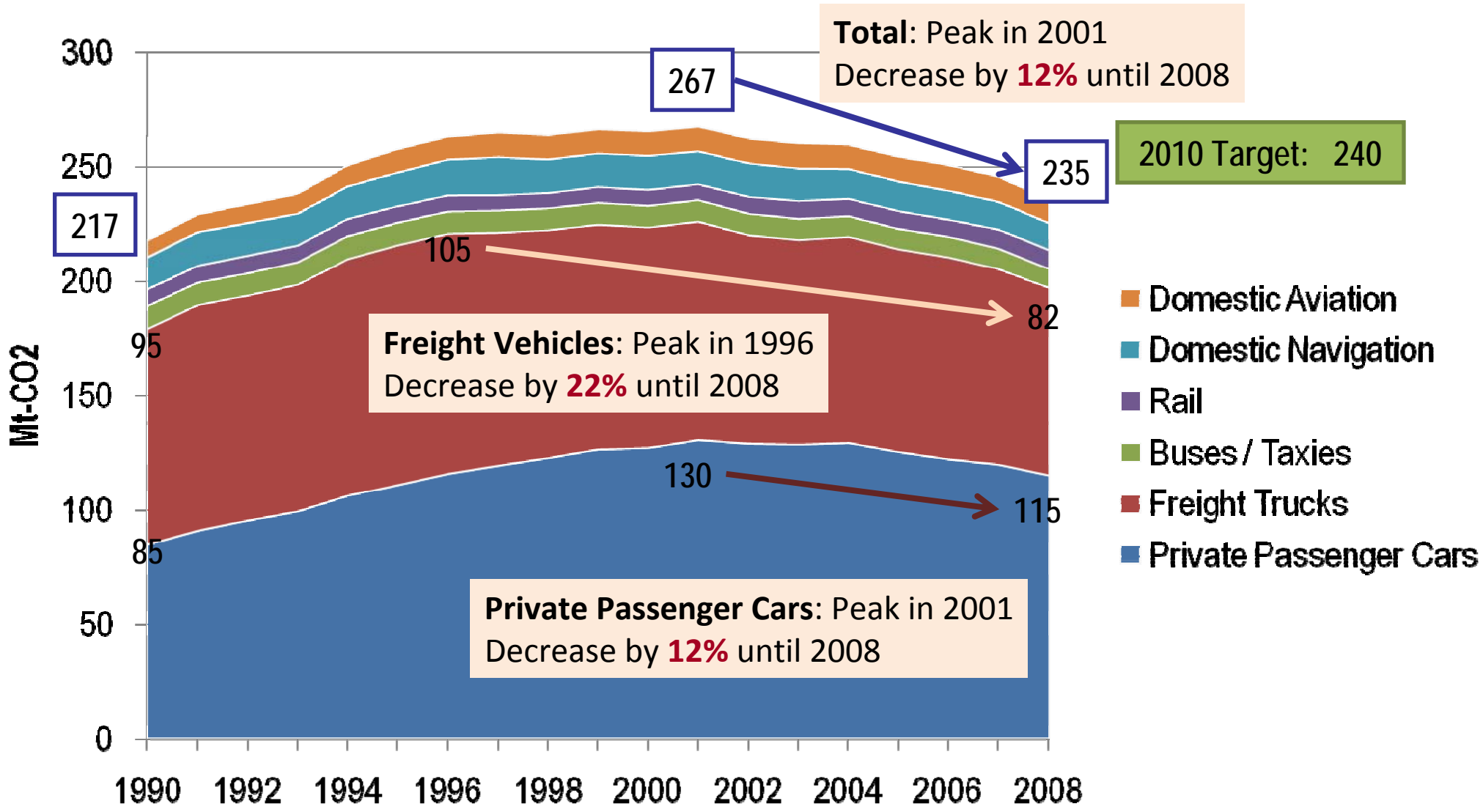
Data Source: prepared by MLITT based on the data from Greenhouse Gas Inventory Office of Japan and the transport statistics from MLITT

GHG Emissions in t-CO₂ Equivalent per Capita from Transport Sector excluding international aviation & maritime



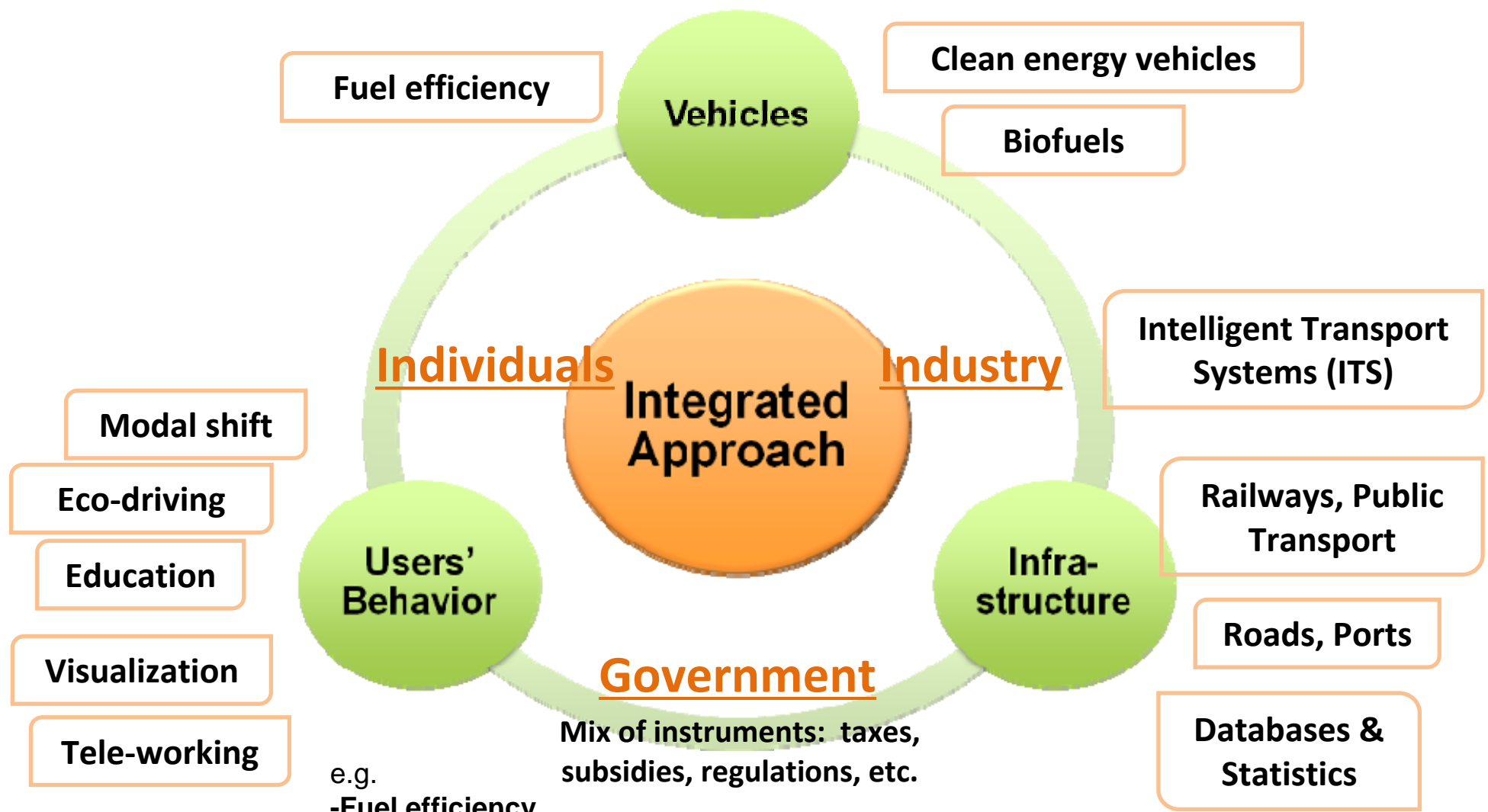
Data Source: UNFCC(emissions), OECD.stat(population)

(1) CO₂ Emissions from Transport in Japan





Integrated Approach to Transport Policies - *To achieve growth & low-carbon transport*



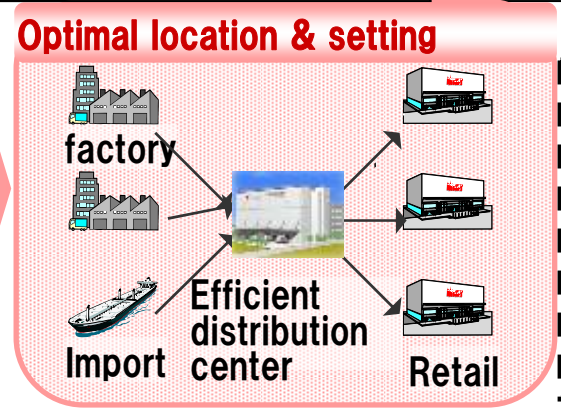
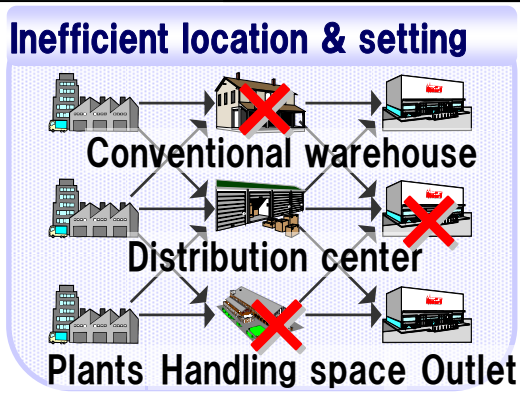
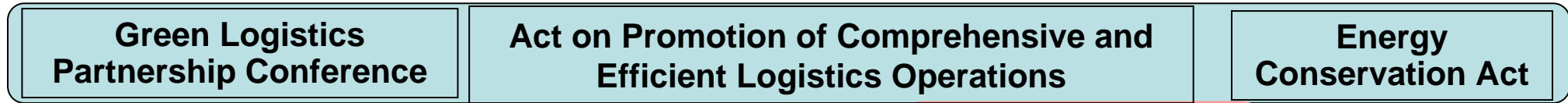
e.g.

- Fuel efficiency
Top-runner standards: 28% improvement (1995 to 2007)
- Automobile **“Green Taxes”**
Low-emission vehicles: 29% of all registered passenger cars (2007)

2 National Policy Initiatives in Japan



Promotion of Improvement of Cargo Distribution Efficiency Comprehensively



Promoting comprehensive logistics that cover transportation, storage, and other value-added services

Environmentally Friendly Marine Transport

- Promote development and extension of such new technologies as super eco-ship



1st super eco freight ship, "Shin-ei Maru"

- Revitalizing coastwise marine transportation
- Introduction of and support to energy-saving ships and facilities

Efficiency improvement of truck transportation

- Upsizing of vehicles: 24 to 25 tons
80,000 vehicles (2002) → 150,000 vehicles (2007)
- Increase in commercial/private ratio 77% (1997) → 87% (2007)
- Improvement of cargo payload efficiency



Modal shift to railway

- Strengthen transportation capacity such as preparation of infrastructure, introduction of new high-performance trains
- Promotion of enhancement of awareness of eco friendly freight railway transportation



Reduction of onshore transportation distance of international cargos

- Preparation of such infrastructure as international offshore container terminal



2 National Policy Initiatives in Japan

Promotion of the Use of Public Transportation Systems

Construction of new railways Promotion of existing railways & bus lines

- New urban railways commissioned during the period from fiscal 2003 to fiscal 2008



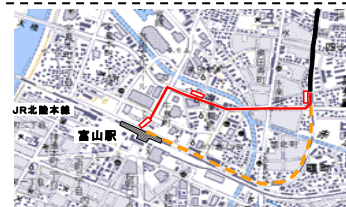
Tsukuba Express Line

- Utilization of IT technologies
ex. IC card tickets available commonly across different modes and operators



- Promotion of installation of LRT

- ◇ TOYAMA LIGHT RAIL (total length: about 8 km)
- ◇ LRT is contemplated in other cities



* Section for which a new track was installed.

Eco-commuting promotion

- Enhancement of public transportation

- Promotion and awareness-raising to commuters

- Operation of shared commuter buses

- Promotion of converting private cars to public transportation or bicycle

- To improve convenience in passenger transit between railways and bus lines



- To improve convenience of public transportation systems

- Introduction of the bus location system

- Introduction of the low-floor bus

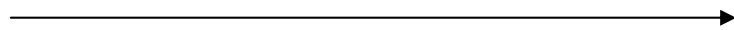


- **New Growth Strategy – Toward a Radiant Japan**

- **“Green Innovation” Strategy**: Environment & energy is one of the six focused areas.
 - Accelerate R&D, establish an eco-friendly economy & society.
 - Create over JPY50T in new markets, 1.4M new jobs.
 - Achieve **25% GHG reduction** by 2020 (compare to 1990 level).
 - **Transport**: Next-generation vehicles, modal shifts, etc.

MEET Process

Vision



Actions

[Long-term Vision]

Low-carbon & Low-pollution Transport Systems

[3 Key Areas]

- 1.Strategy
- 2.Financing
- 3.Capacity building

COP16 @Cancún
(Nov-Dec 2010)

MEET2

(October 2010: Italy)

**MEET
FUM**

(June 2009)

MEET1

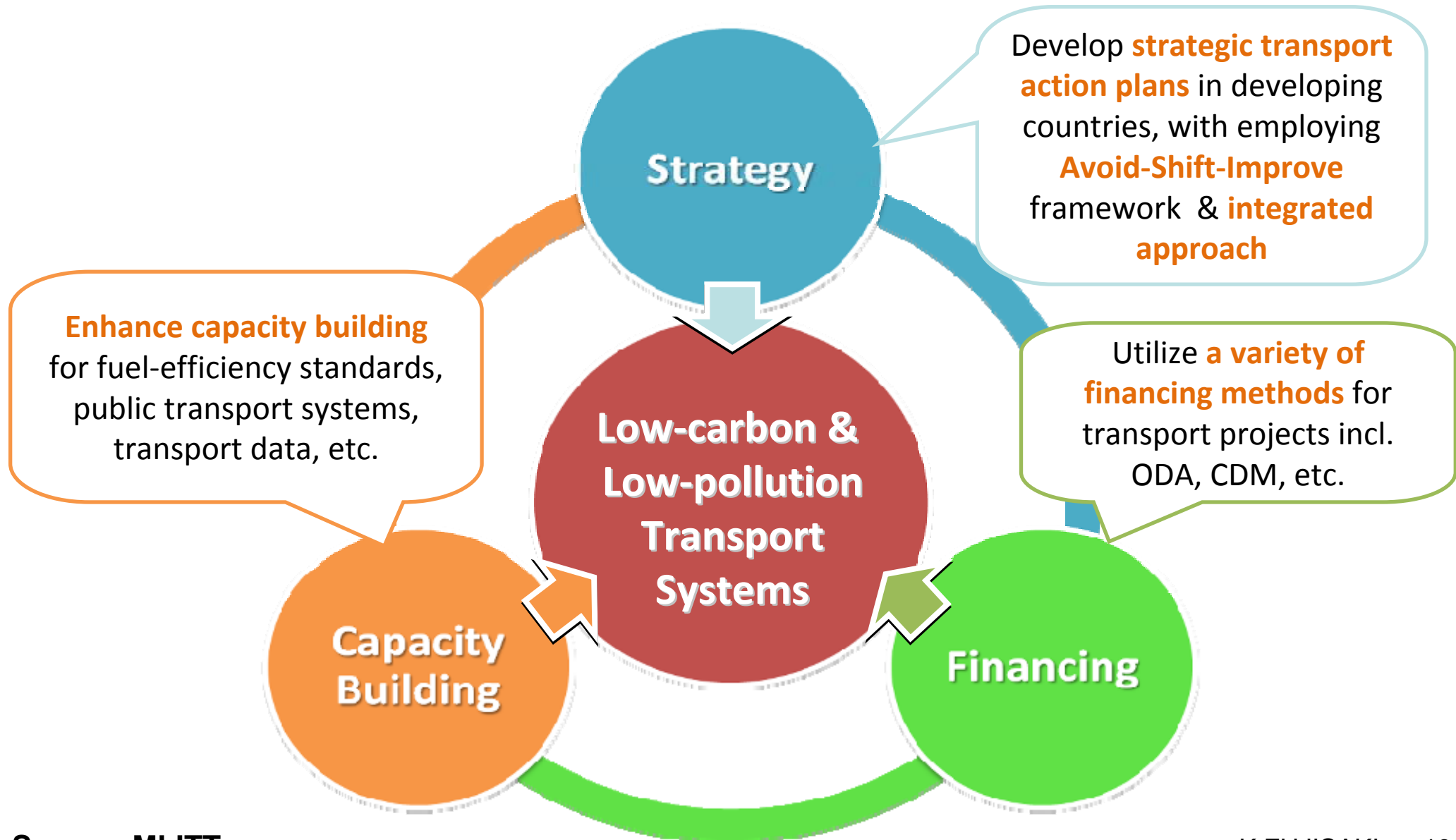
(Jan 2009)

**ADB Transport
Forum @Manila**



THE MINISTERIAL CONFERENCE ON
GLOBAL ENVIRONMENT AND
ENERGY IN TRANSPORT

Areas to be addressed for Transport Sector



Ongoing/Prospective Int'l Collaboration

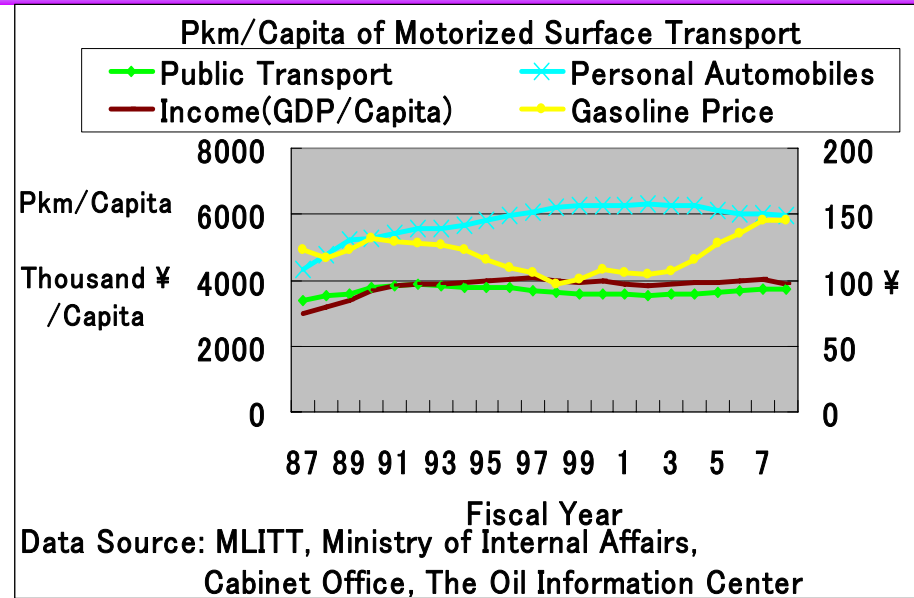
- **“ASEAN-Japan Action Plan on Environment Improvement in the Transport Sector”**
 - Collaborative joint action plan between ASEAN countries & Japan;
 - Followed by further collaborative efforts in the areas of:
 - Developing national transport action plans
 - Establishing fuel efficiency standards & effective regulation
 - Developing transport statistics with common platform etc.

4 Introduction of Relevant Research Work



Official time series Transport Statistic Data in Japan
(Rail + Bus in P-km = Public Transport in P-km)

Empirical analysis of the effect of fluctuation of gasoline price on transport behavior in Japan, (FUJISAKI, ITPS 2009~2010)



		Gasoline Price Elasticity	Income Elasticity
Public Transportation	Pkm/Capita	Plus 0.11~0.20	Plus
	Modal Share	Plus 0.25~0.31	Minus
Personal Automobiles	Pkm/Capita	Minus -0.38~-0.24	Plus
	Modal Share	Minus -0.19~-0.15	Plus

If the provisional gasoline tax rate were to be abolished (price down by 20%)

Effect (%)
Minus -4.1~-2.2
Minus -6.8~-5.1
Plus 4.9~7.6
Plus 3.1~3.9

CO2 emissions in this field would increase by 4~7%

Policy implications: The provisional gasoline tax should be substantially maintained.
Rather, Fuel Tax can contribute to the control of transport CO2 emissions.