PIARC National Report ST2
JAPAN
Sustainable Transportation

Global Logistics Strategies

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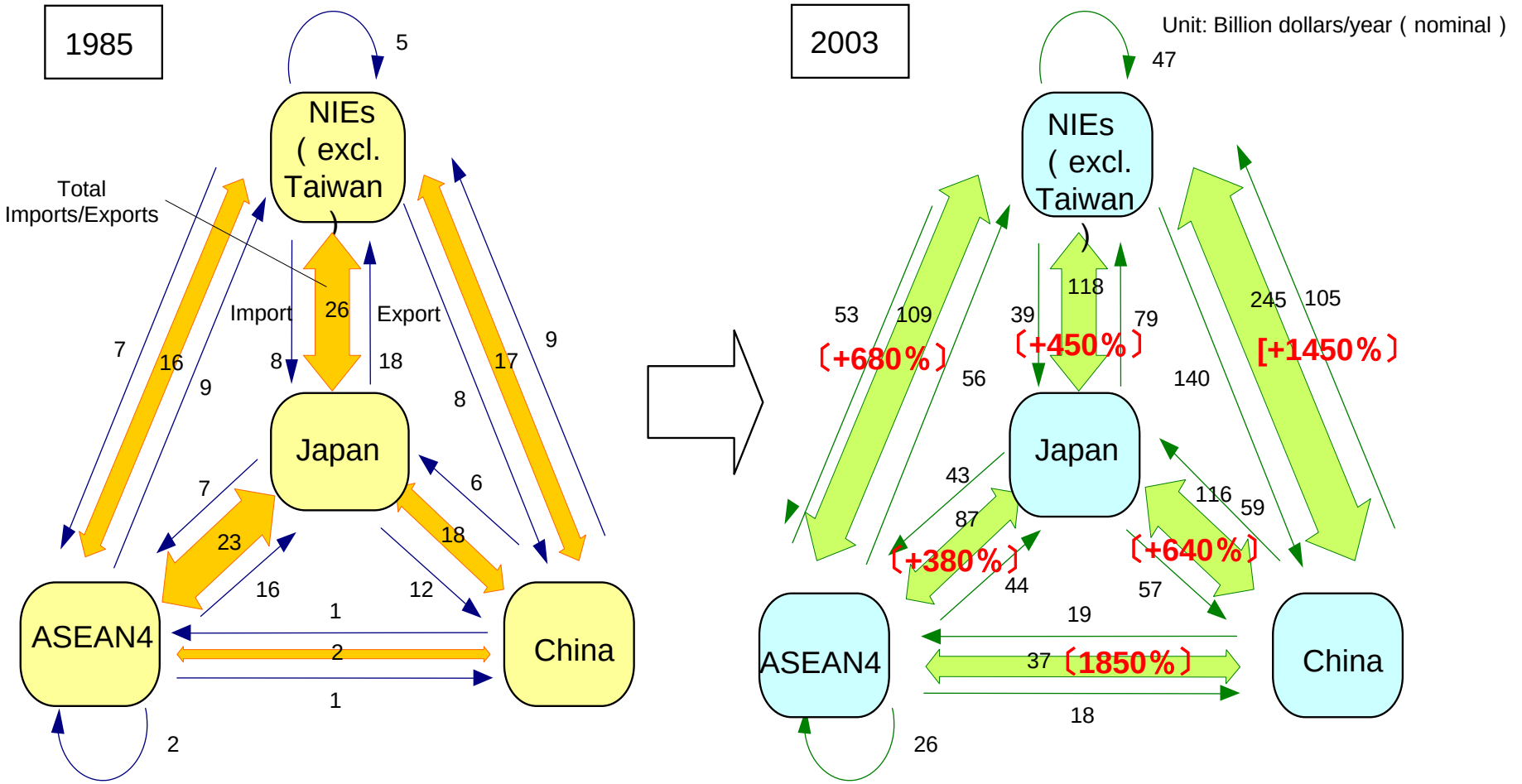
Trade structure within East Asia

In recent years, Asian economic relationship is being enhanced.
Imports/Exports within Asian countries are increasing as well as with Japan.

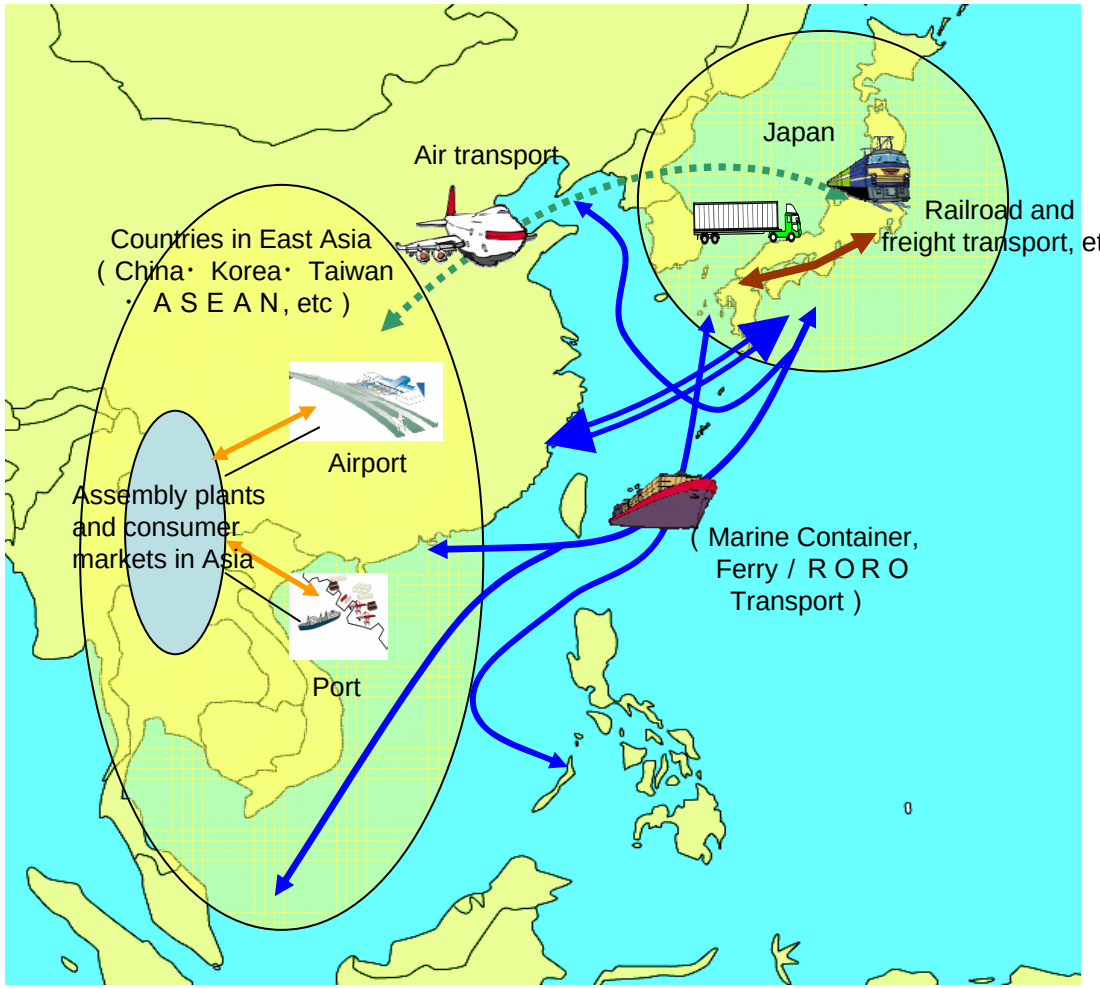


Note 1)NIES (excluding Taiwan) : Korea, Hong-Kong, Singapore. ASEAN4 : Indonesia, Philippines, Malaysia, Thaila
Figures generated based on “UN Commodity Trade Statistics Database (UNComtrade)”
Reference: “Integrated traffic system supporting the new country structure 2-layered wide area”, 2005

“Sub-Domestication” Logistics within East Asia

Supply chain management besides international horizontal division of work and production in the most suitable area of the whole Asia is promoted all over the world.

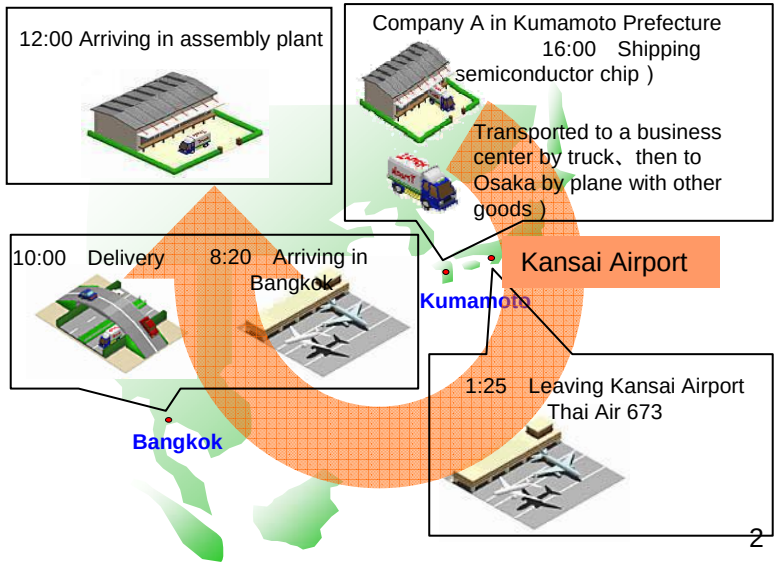
○Image of an efficient logistics system within East Asia



Distance and time in ferry and RORO transport

	Distance	Time required
Shanghai-Hakata	907km	26.5hrs
Busan-Hakata	222km	6hrs
Hakata-Tokyo	1,138km	33hrs
Tokyo-Tomakomai	1,046km	20hrs

Demand for international just-in-time (A case of applying air transport)



Summary of the Trunk Road Network for International Freight

Trunk road network is being developed for smooth transports between ports/airports and physical distribution bases aiming speedy, seamless and inexpensive logistics by taking measures such as strengthening bridges.

The Trunk Road Network for International Freight is…

A trunk road network consisting of the following roads for freight vehicles carrying the international standard containers (height 4.1m, maximum GVW of 44t) so that they can travel without reloading

(a) Trunk road, such as a high-standard trunk road, national highway or ring road.
(b) Access road which connects airports/ports and the roads mentioned in (a).
(c) Access road which connects a distribution center and the roads mentioned in (a).

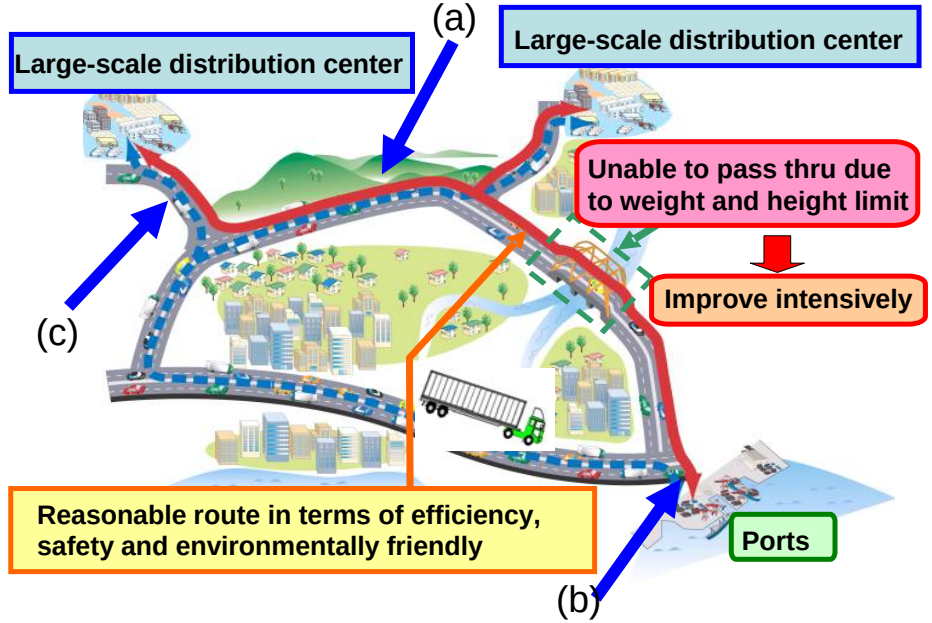


Image picture of Trunk Road Network for International Freight

The current total network length is 29,000km.

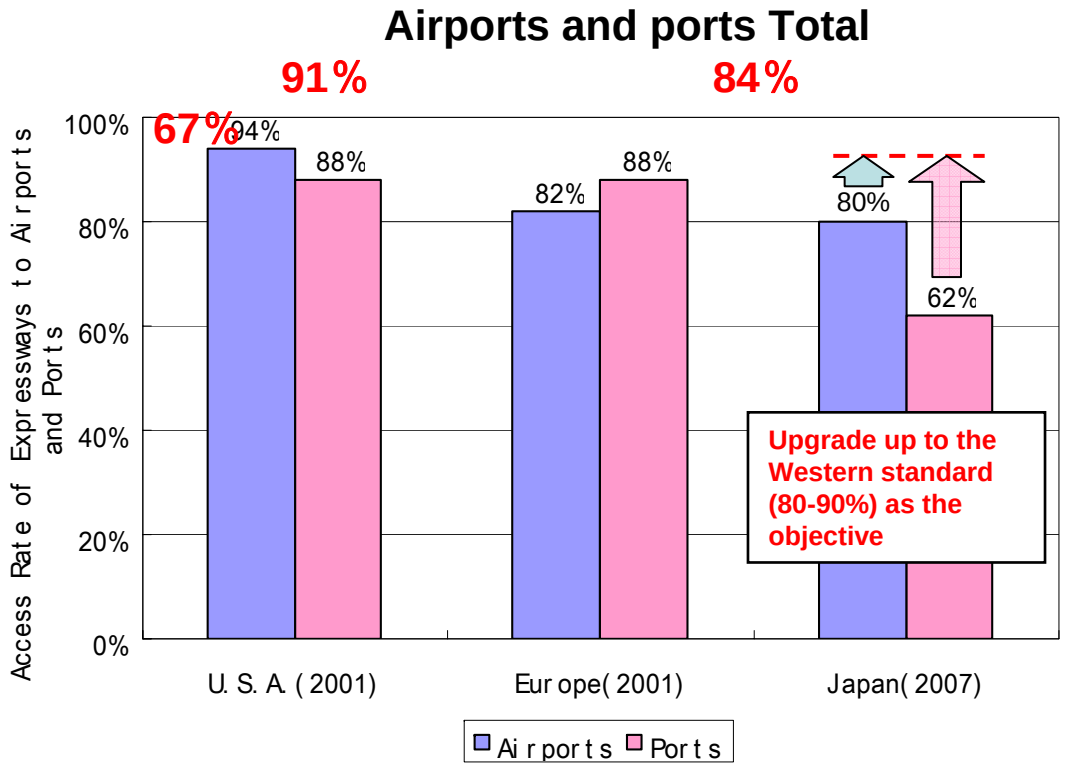
(Including 41 bottlenecks, there is a total of 510km where freight vehicles with the international standard containers cannot pass through) (As of April, 2007)

Reinforcement of bridges and development of by-passes to eliminate the bottlenecks

Development of Airport/Port Access Roads

Not enough networks between bases of distribution such as airports and ports.

- The access rate to the major airports and ports



- Access routes in conjunction with opening of Chubu International Airport

Note. 1: The figures are based on the major airports and ports.
Note. 2: The accessibility ratio is defined here as (number of airports and ports which is accessible from/to the nearest exit of a high-standard roads within 10 min / total number of airports and ports) × 100
Source: Ministry of Land, Infrastructure and Transport

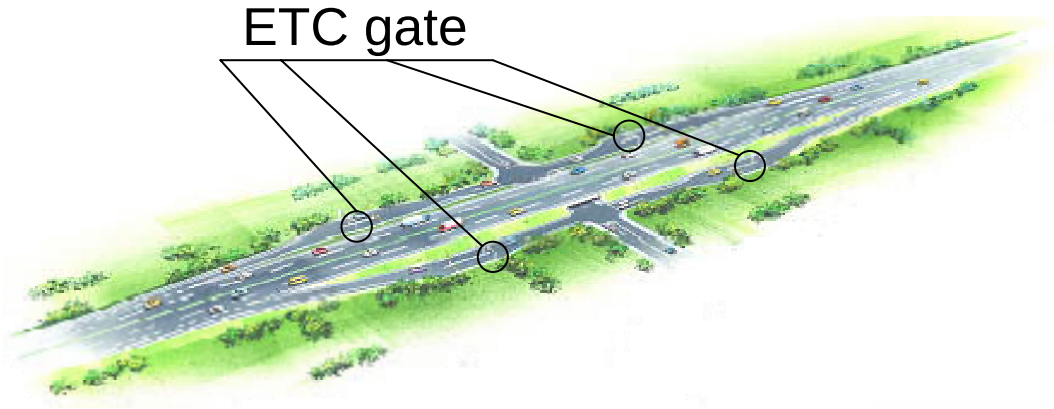
Smart IC

・ Smart ICs system is introduced so as to improve accessibility of Japanese expressway network, whose average IC intervals is relatively long.
・ Smart ICs (ETC-only Interchanges) enable the reduction of operation and installation costs of toll gates.

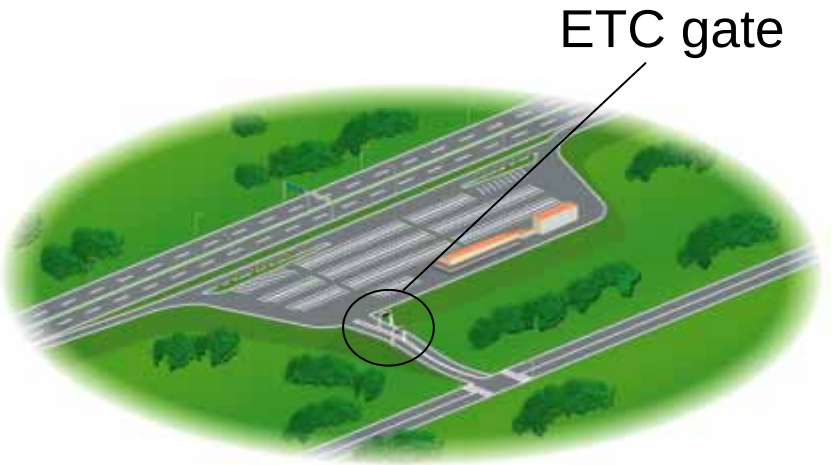
Average IC intervals:

- ◎ US : 5 k m
- ◎ Germany : 7 k m
- ◎ UK : 4 k m
- ◎ Japan : 10 k m

※The Japanese data is the average IC intervals of the whole expressway network in service in Japan



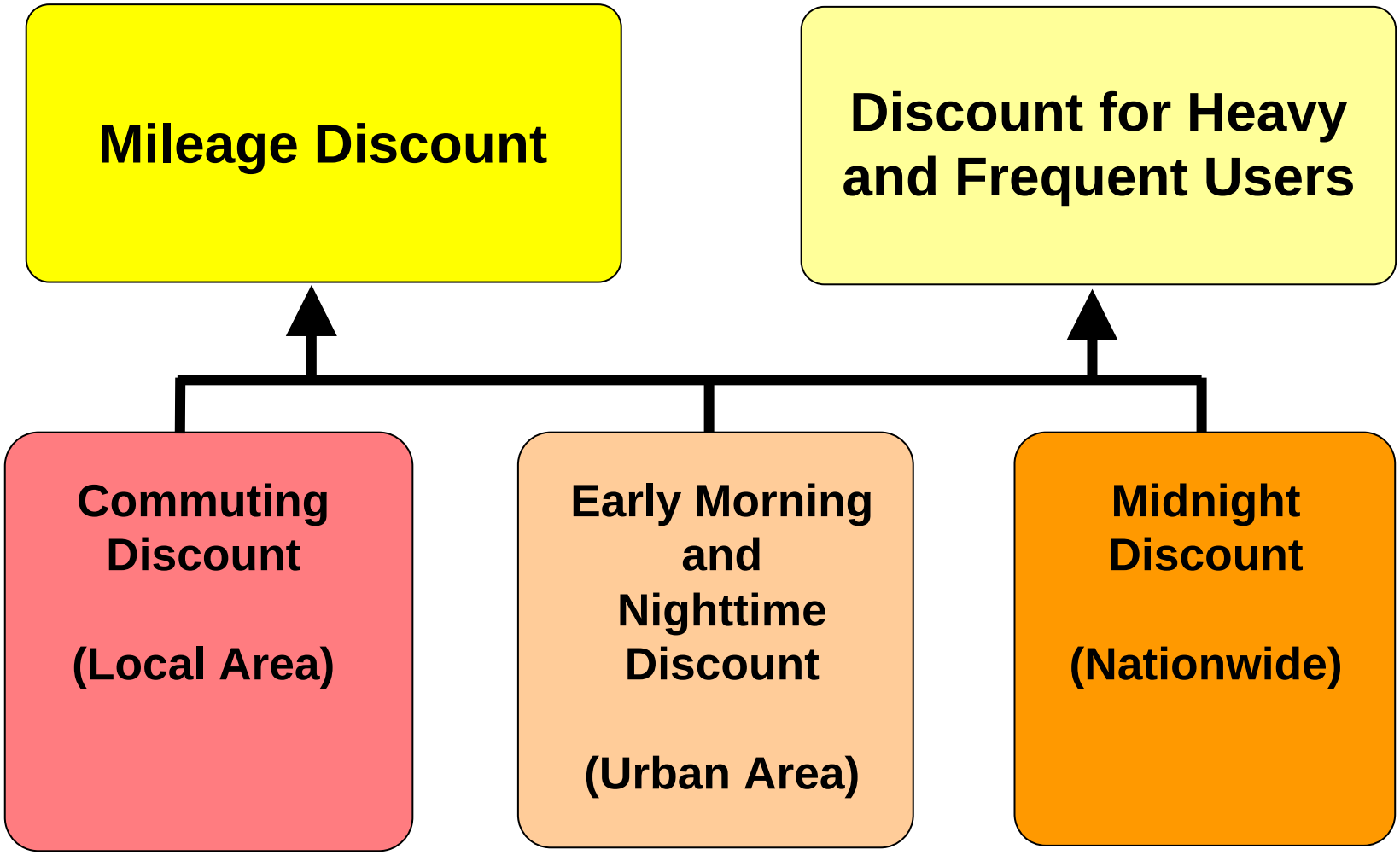
Connected to mainline



Connected to SA/PA

Setting Flexible Toll-charges

Tolls for national expressways are discounted according to usage frequency and time-of-day.



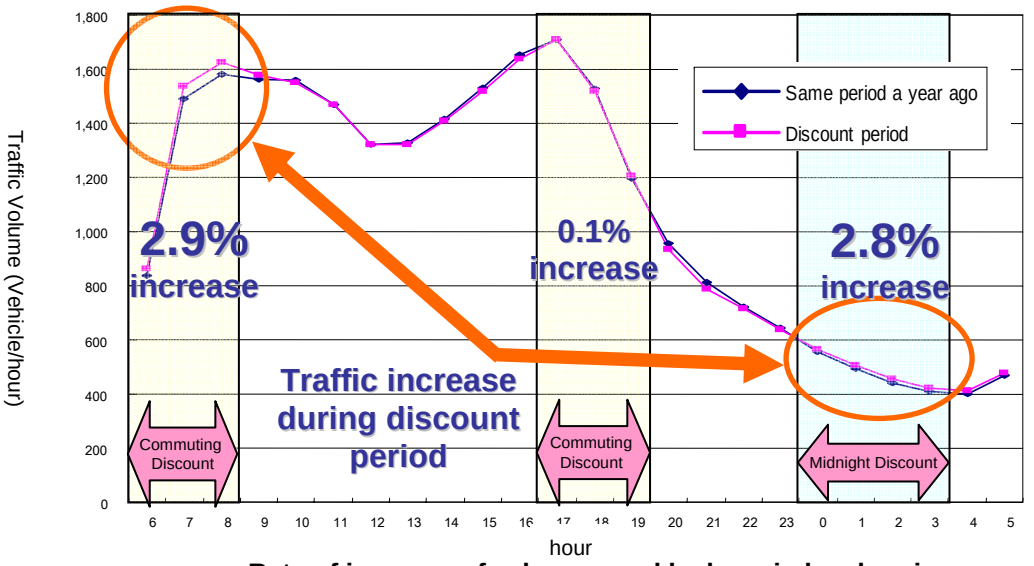
Impact of Flexible Toll-charges 1

- Increase of expressway vehicle-kilometers during various types of discount periods (increase from previous corresponding period)
  - Vehicle kilometers during commuting (morning) discount periods: increase of 2.9%
  - Vehicle kilometers during midnight discount periods: increase of 2.8%

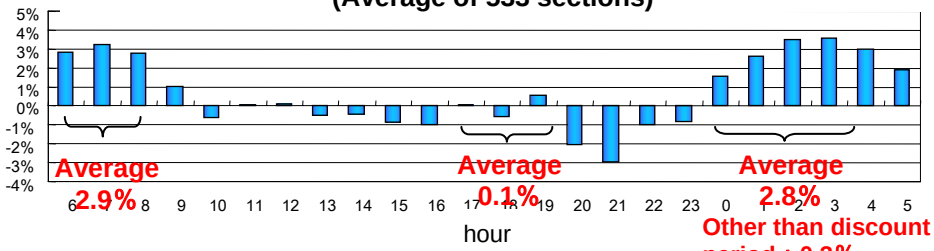
Vehicle travel by hour in local regions

(Average of 533 sections where commuting discount

Case in local regions



Rate of increase of vehicle travel by hour in local regions
(Average of 533 sections)



※Measuring sections : measured in 5 3 3 sections (excludes suburbs of the metropolitan areas) and 7 7 sections (suburbs of the metropolitan areas) ;
Source of the data : Data obtained by vehicle detectors along expressways; Measuring period:March 2005 and the same period a year ago

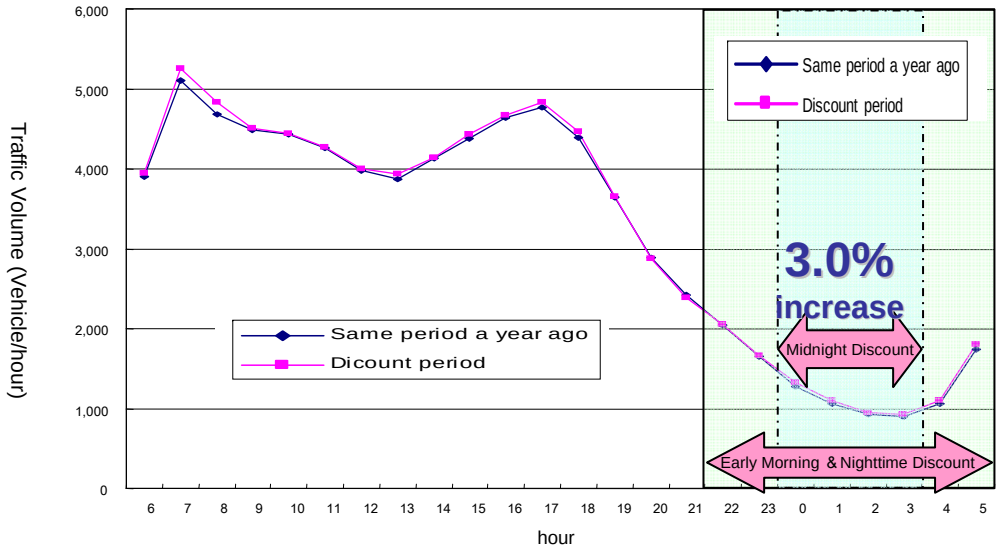
Impact of Flexible Toll-charges 2

- Increase of expressway vehicle-kilometers during various types of discount periods (increase from previous corresponding period)
  - Vehicle kilometers during early morning and nighttime discount periods: increase of 3.0%

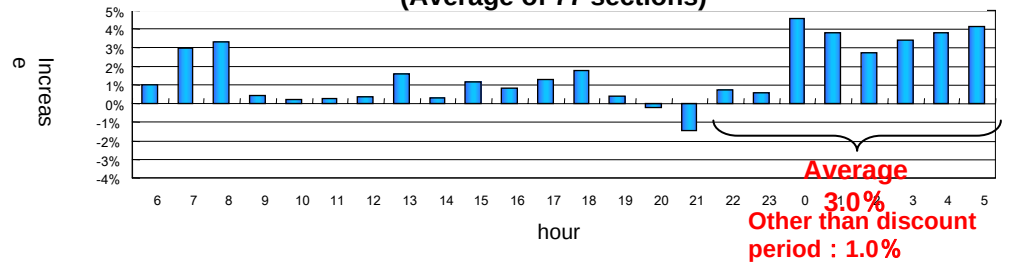
Vehicle travel by hour in large urban regions

(Average of 77 sections where early morning and nighttime discount and the midnight discount are applied)

Case in large urban regions



Rate of increase of vehicle travel by hour in large urban regions (Average of 77 sections)



※Measuring sections：measured in 5 3 3 sections (excludes suburbs of the metropolitan areas) and 7 7 sections (suburbs of the metropolitan areas) ;
Source of the data：Data obtained by vehicle detectors along expressways; Measuring period:March 2005 and the same period a year ago