



**XXIVth World
Road Congress
Mexico 2011**
Mexico City 2011.

**Ensuring an Appropriate Level of Expressway
Management by Using Outcome Indicators
—Role of JEHDRA after Privatization of Highway Public
Corporations in Japan—**

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XXIVth World Road Congress Mexico 2011

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JEHDRA

(Japan Expressway Holding and Debt Repayment Agency)

JEHDRA

OVERVIEW

1. Road Classes and Length
2. Privatisation of Expressway Corporation (2005)
3. Introduction of Outcome Indicators
4. Outcome Indicators for Expressways
5. Issues
6. Conclusion



1. Road Classes and Length in Japan

Road Classes	Road Administrators (Highway Authorities)	Length (roughly)	% of total length	% of total Vehicle km	note
National Expressways	Six Expressway Companies* on behalf of the Government (MLIT)	7,400km	0.6%	9%	Mostly tolled
National Highways	Government (MLIT)	22,400km	1.9%	19%	Partially tolled
National Highways	Prefectures	32,000km	2.7%	13%	Partially tolled
Prefectural Roads	Prefectures	129,300km	10.8%	33%	
Municipal Roads	Local Governments	1,006,000km	84.1%	27%	
Total		1,197,000km	100.0%	100%	3

2. PRIVATISATION OF EXPRESSWAY CORPORATIONS (2005)

2-1. Privatisation of Expressway Corporations

3 Purposes

- To ensure repaying the interest-bearing debts of 40trillion yen
- To expedite construction of necessary roads with minimum **USD 500b** cost while respecting companies' own decisions
- To provide various and flexible toll rates and services utilizing know-how of private companies

Japan Highway Public Corporation

Metropolitan
Expressway Public
Corporation

Hanshin
Expressway Public
Corporation

Honshu-Shikoku
Bridge Authority



6 Companies: Construction and management of expressways, including collection of tolls

East Nippon
Expressway
Co., Ltd.

Central Nippon
Expressway
Co., Ltd

West Nippon
Expressway
Co., Ltd

Metropolitan
Expressway
Co., Ltd

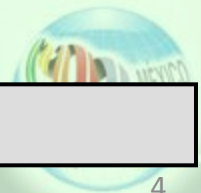
Hanshin
Expressway
Co., Ltd

Honshu-Shikoku
Bridge Expressway
Co., Ltd



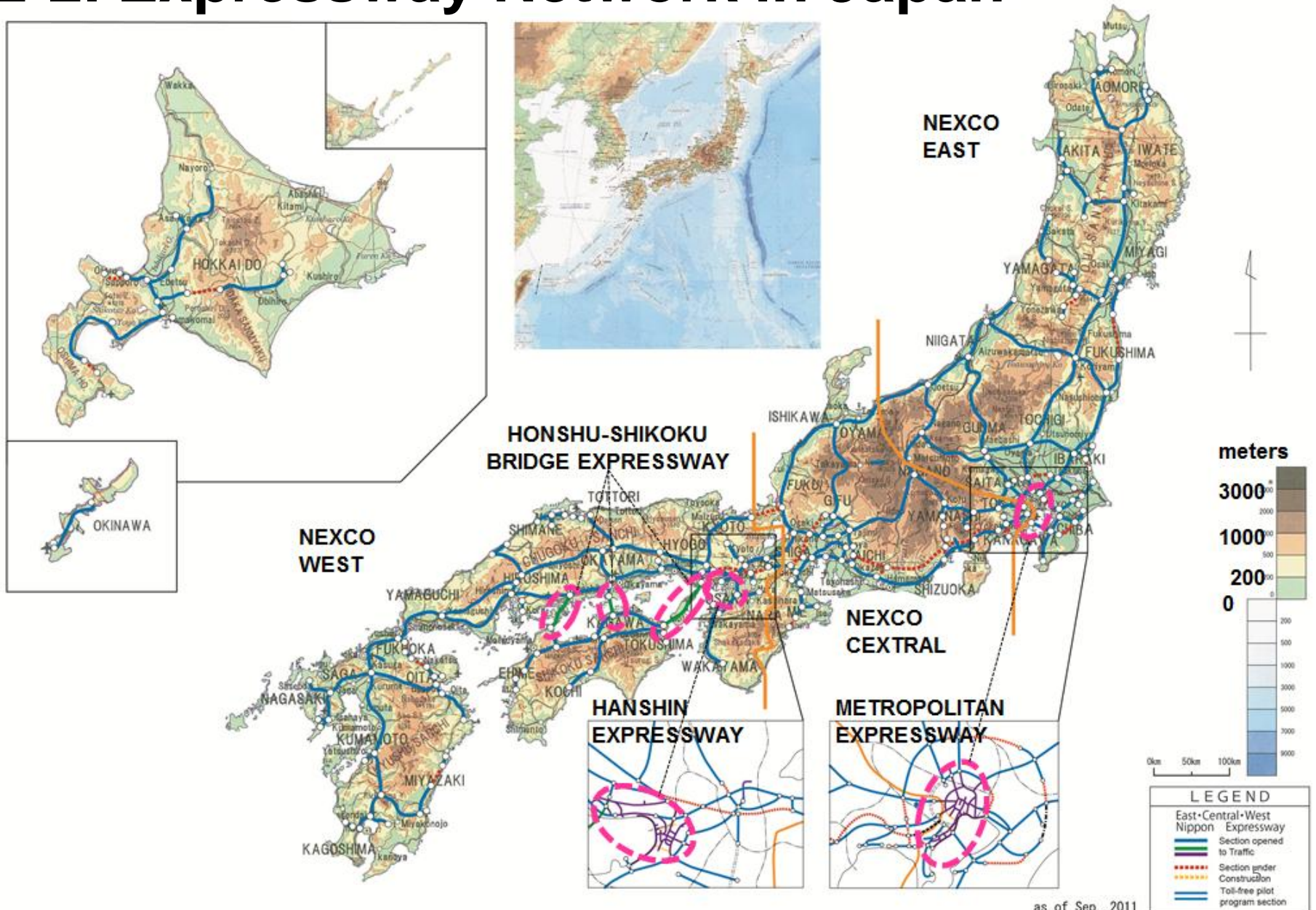
The Agency (JEHDRA): Holding of expressways and repayment of debts

Japan Expressway Holding and Debt Repayment Agency (JEHDRA)



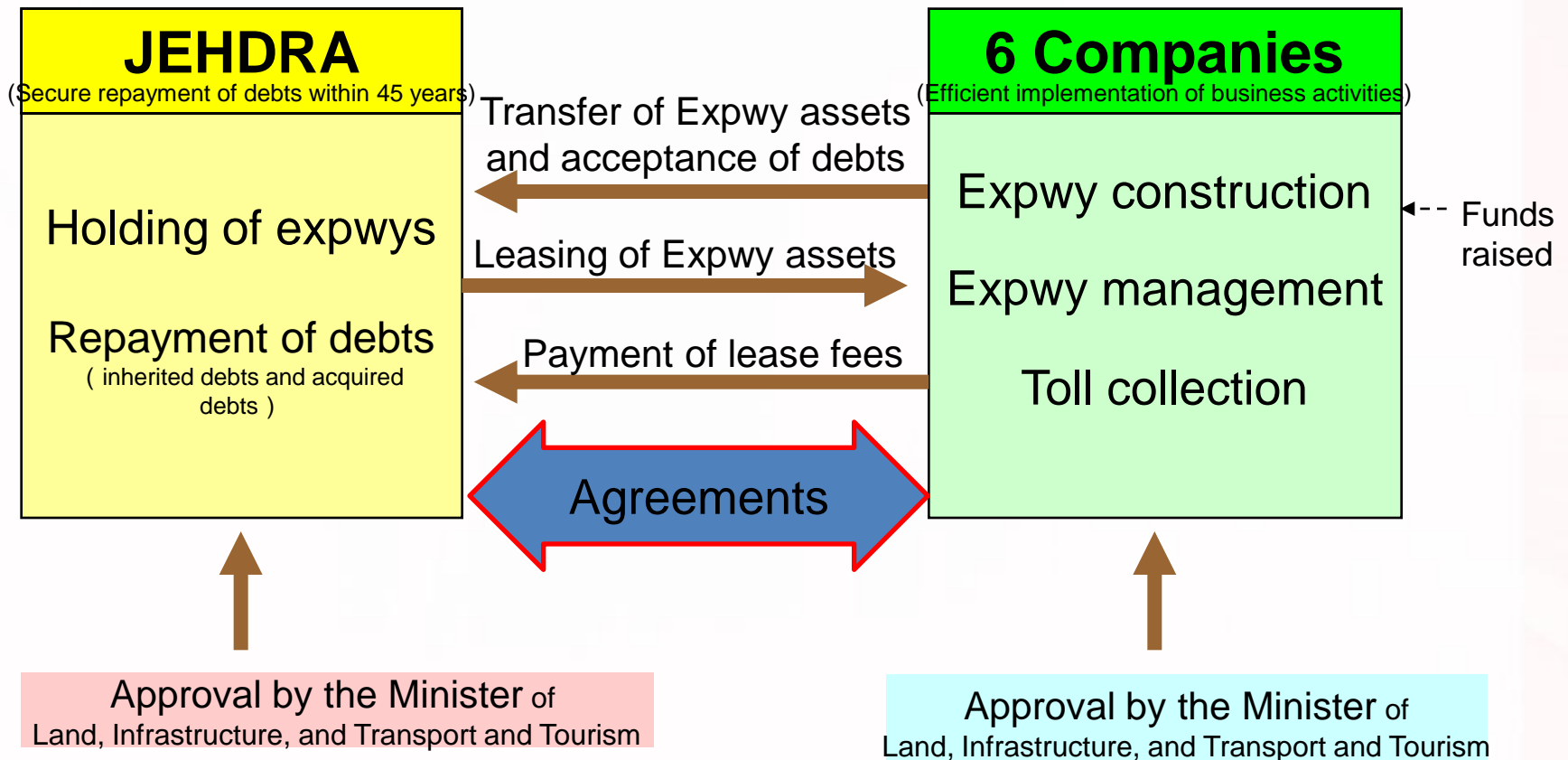
2. PRIVATISATION OF EXPRESSWAY CORPORATIONS

2-2. Expressway Network in Japan



2. PRIVATISATION OF EXPRESSWAY CORPORATIONS

2-3. Expressway Business Framework



This framework is specified in legislation.



3. INTRODUCTION OF OUTCOME INDICATORS

3-1. BACKGROUND OF INTRODUCTION

Around 2003, there were critics about public spending especially for road investment.

In 2003 MLIT[#] (government) introduced new road administration management (performance management of road administration) to the road sector to meet the public needs against road administration.

- to expressways as well

#MLIT = Ministry of Land, Infrastructure, Transport and Tourism



3. INTRODUCTION OF OUTCOME INDICATORS

3-2. Purposes

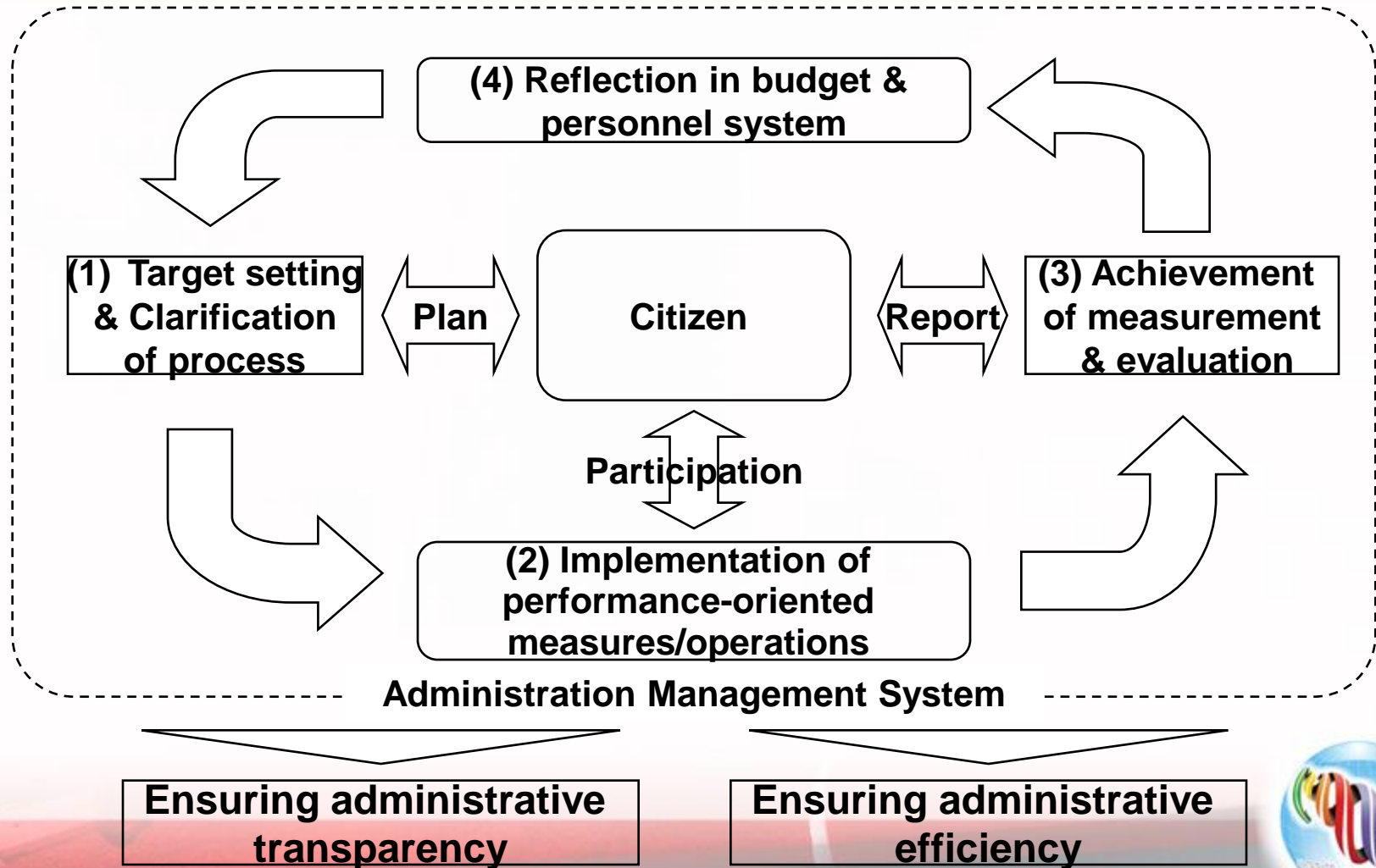
Purposes:

- To establish a framework to distribute limited resources to appropriate places and objects
- To raise staff consciousness for change so that they can contribute to efficient operations.
- To enhance transparency of the road business
- To rebuild relationships between road users and governments.



3. INTRODUCTION OF OUTCOME INDICATORS

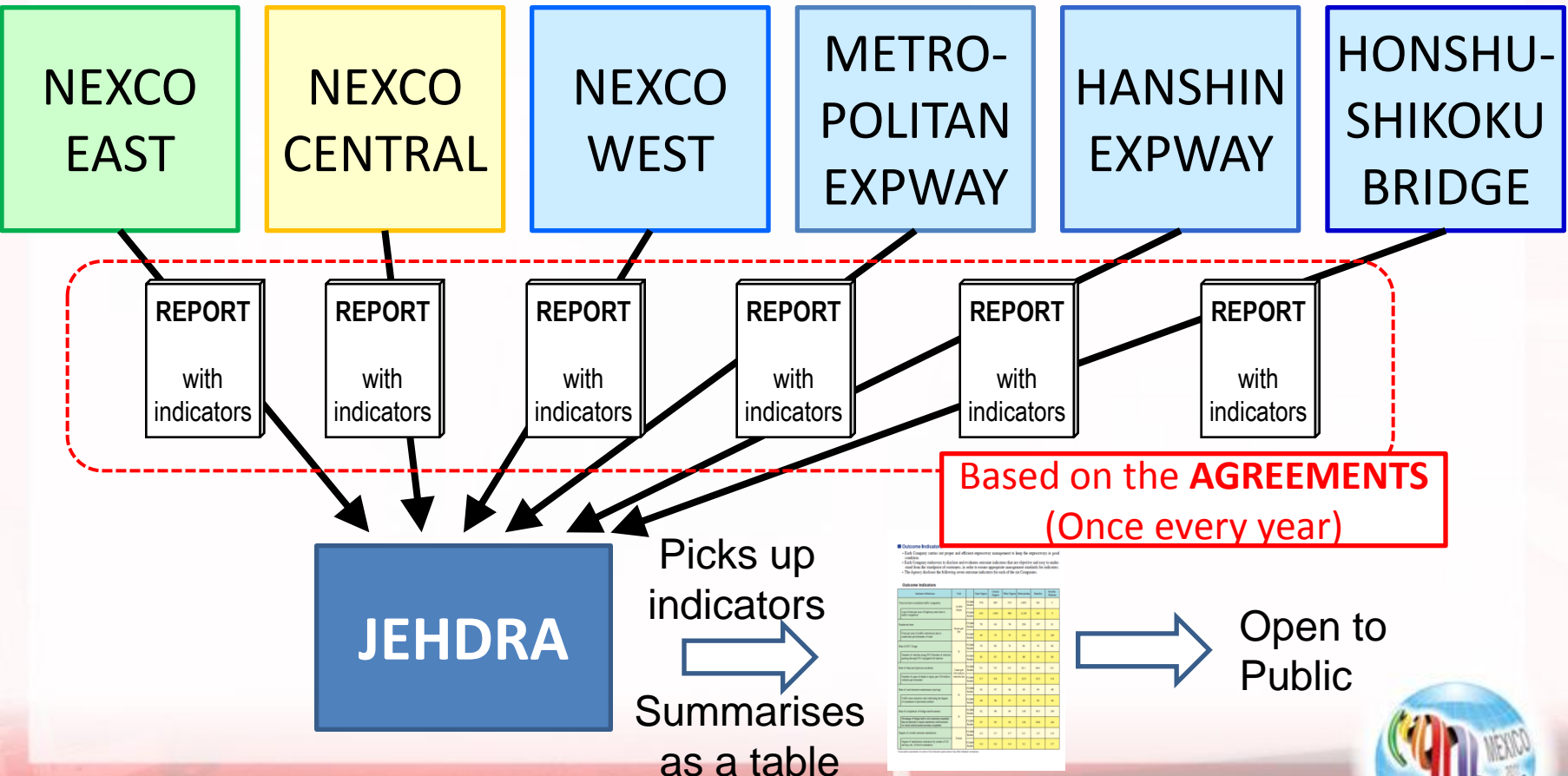
3-3. Road Administration Management



4. OUTCOME INDICATORS FOR EXPRESSWAYS

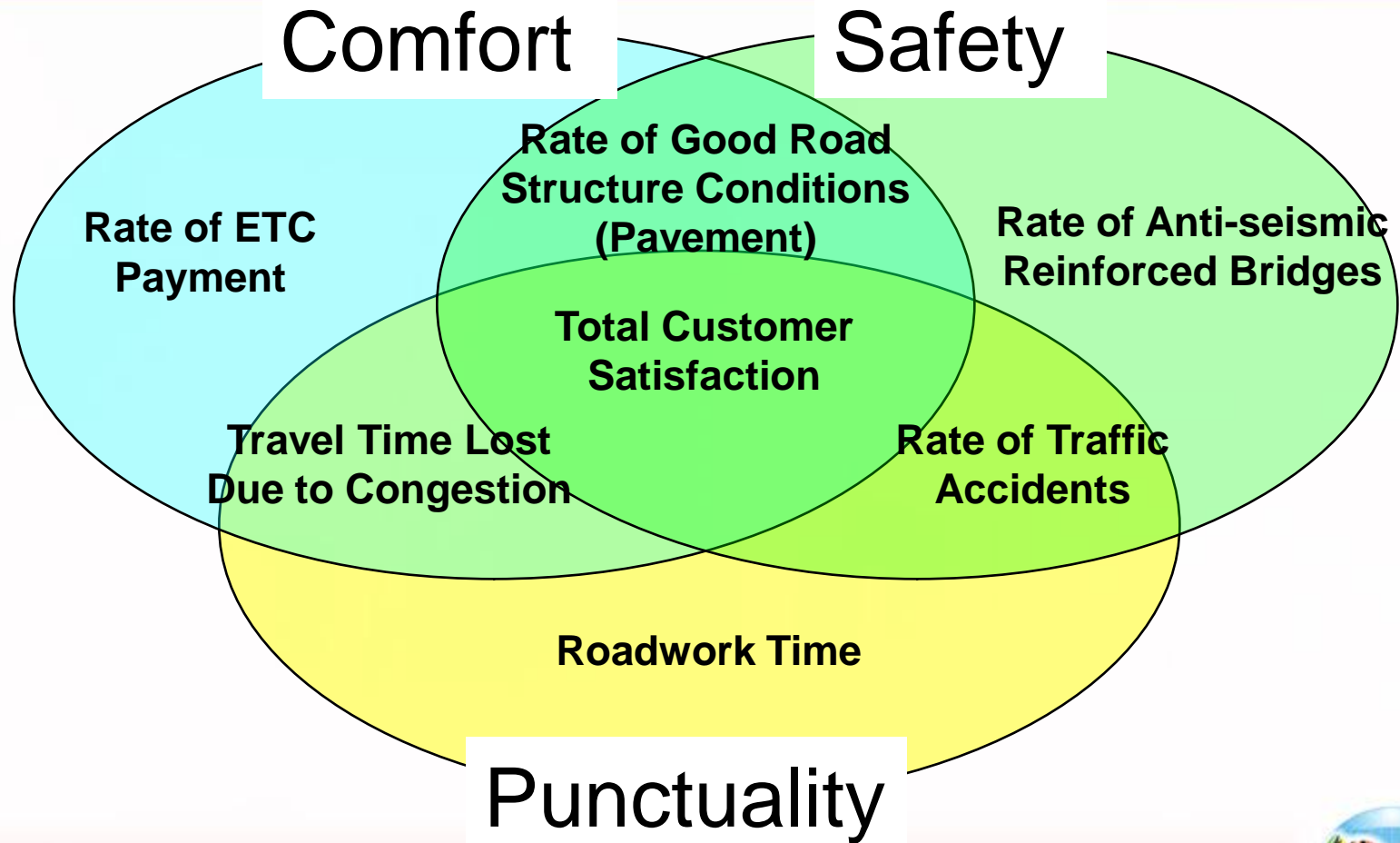
4-1. Outcome Indicators and the Agreements

SIX COMPANIES



4. OUTCOME INDICATORS FOR EXPRESSWAYS

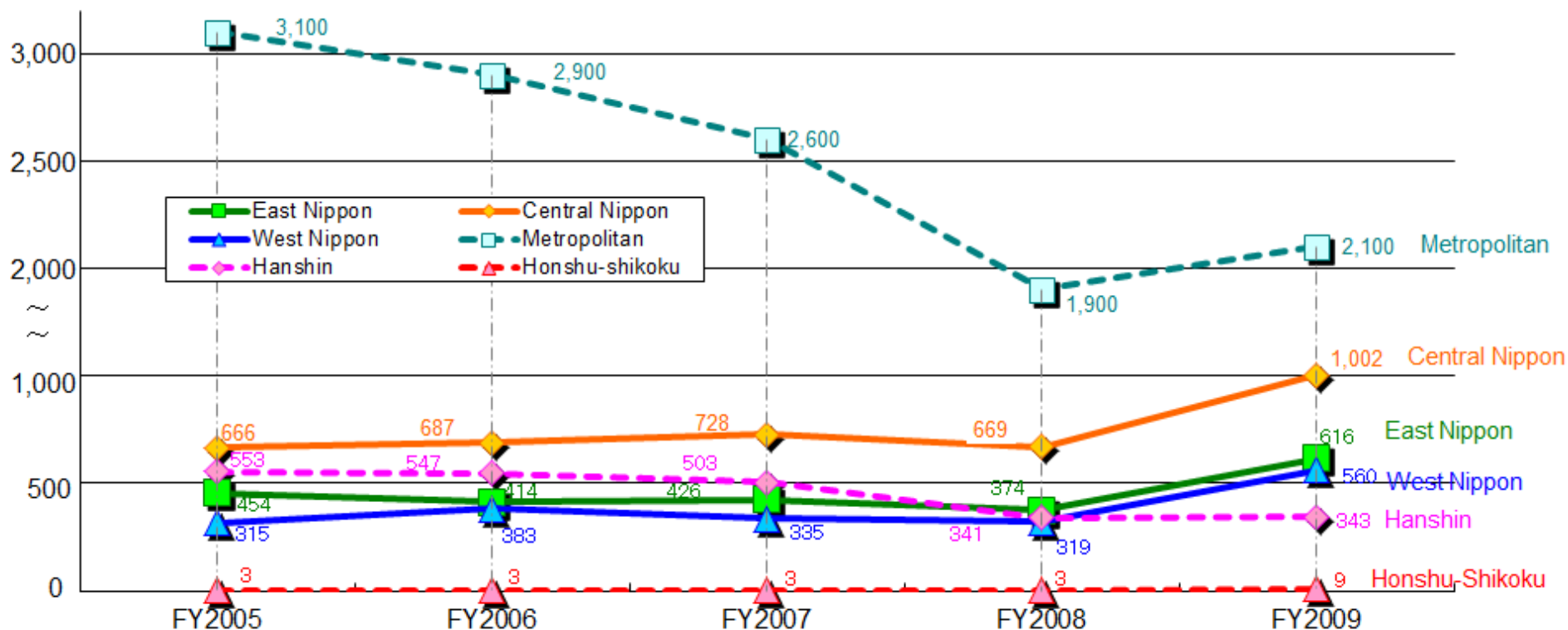
4-2. Grouping of Seven Outcome Indicators



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-3. [Outcome 1]: Time Lost Due to Congestion

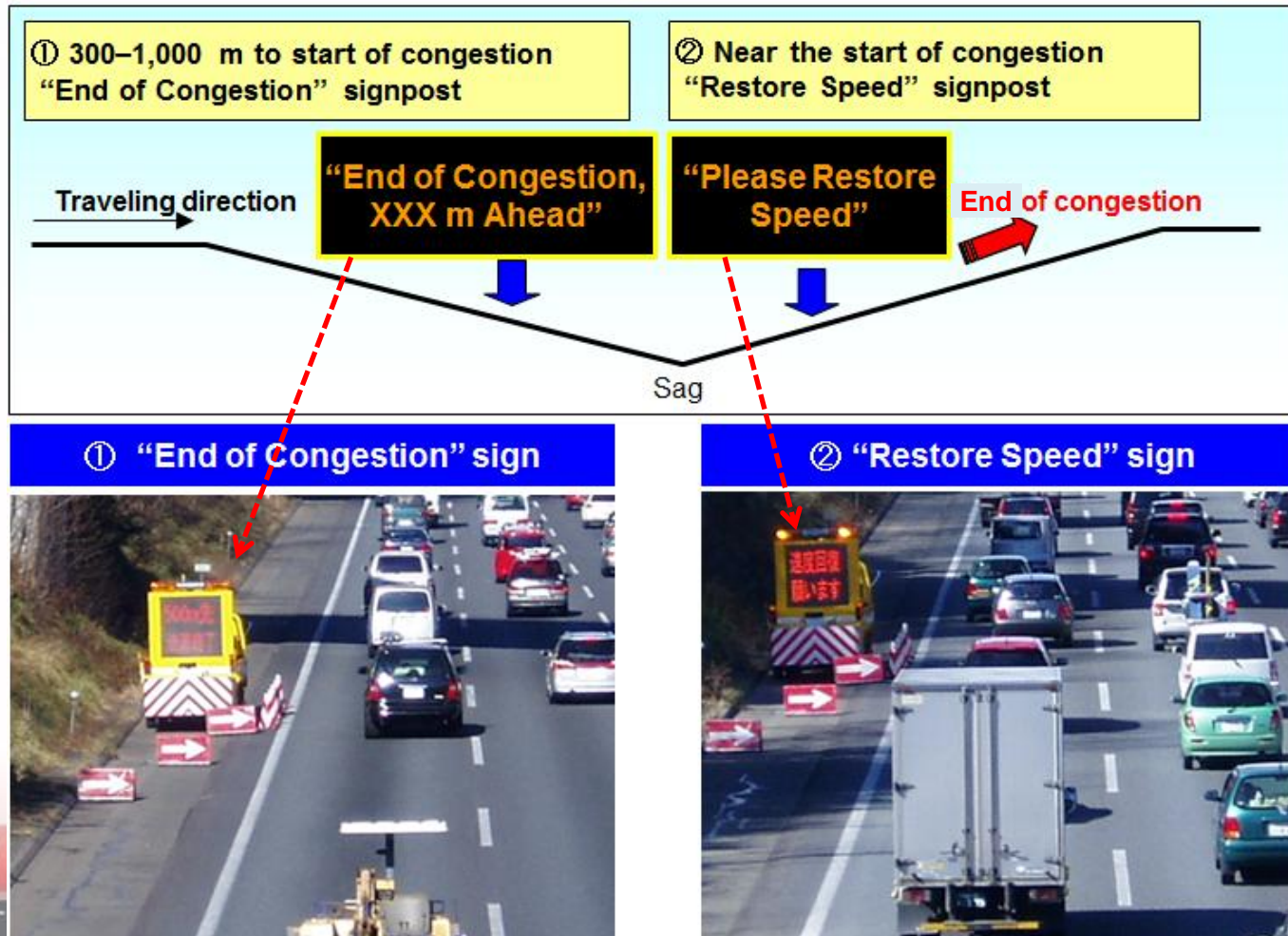
[Unit: 10,000vehicle-hours/year]



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-4 Example of Improving Outcome Indicator (congestion)

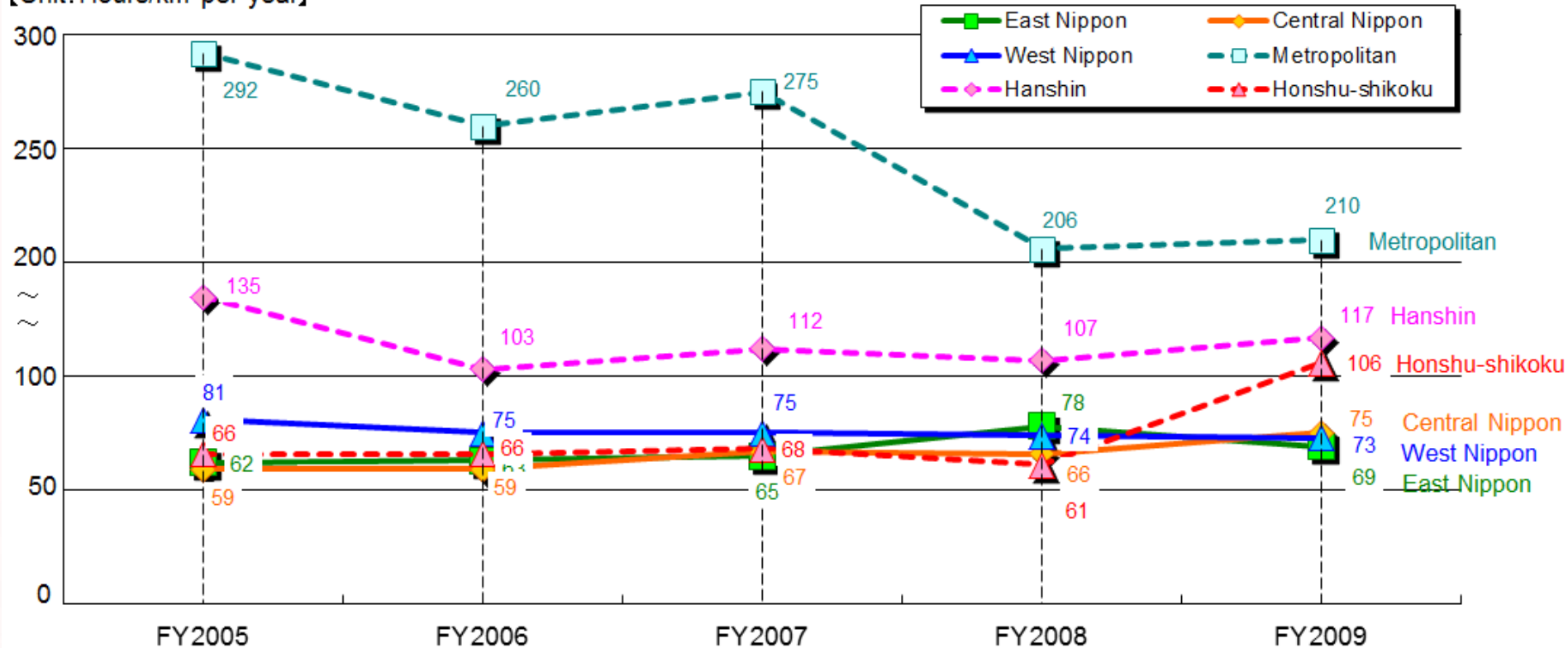
Mitigating Congestion in a Sag Section by Temporary Signboards



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-5. [Outcome 2] Roadwork Time

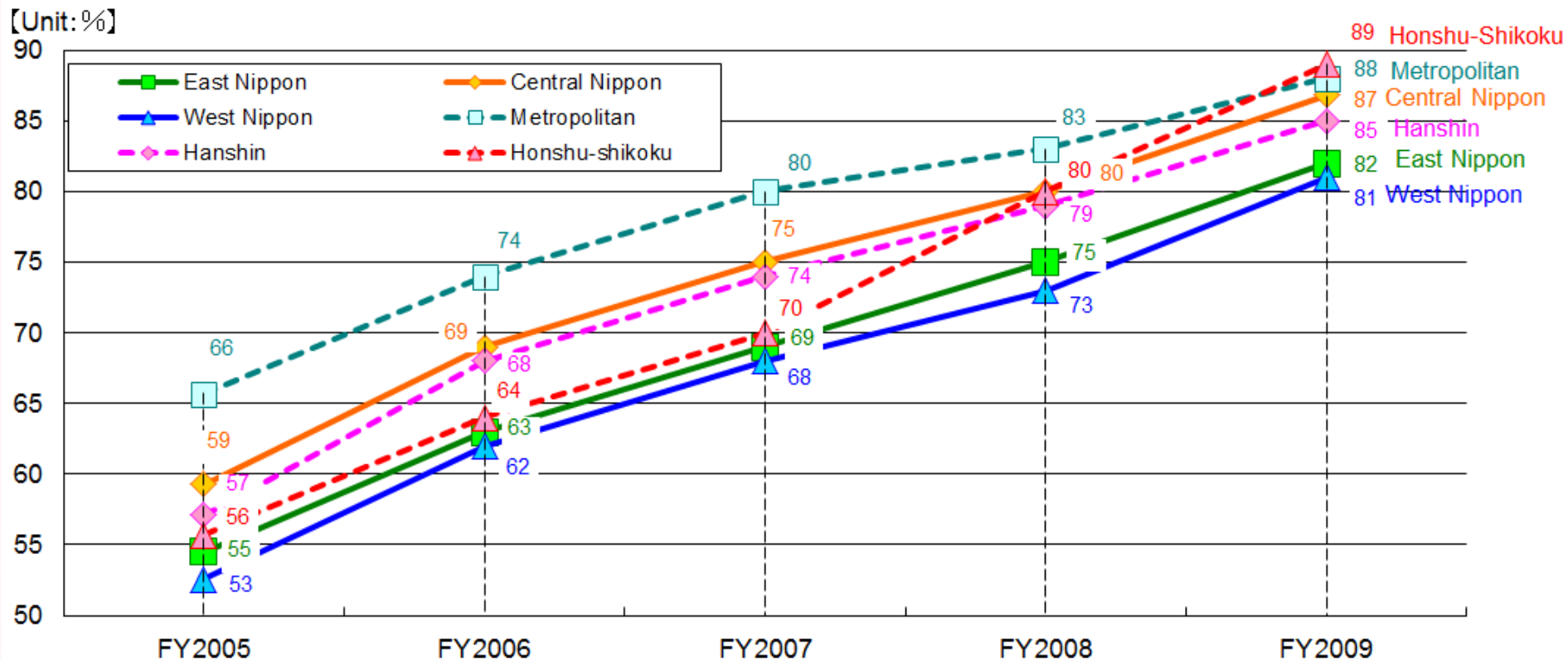
[Unit: Hours/km per year]



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-6. [Outcome 3] Rate of ETC Usage

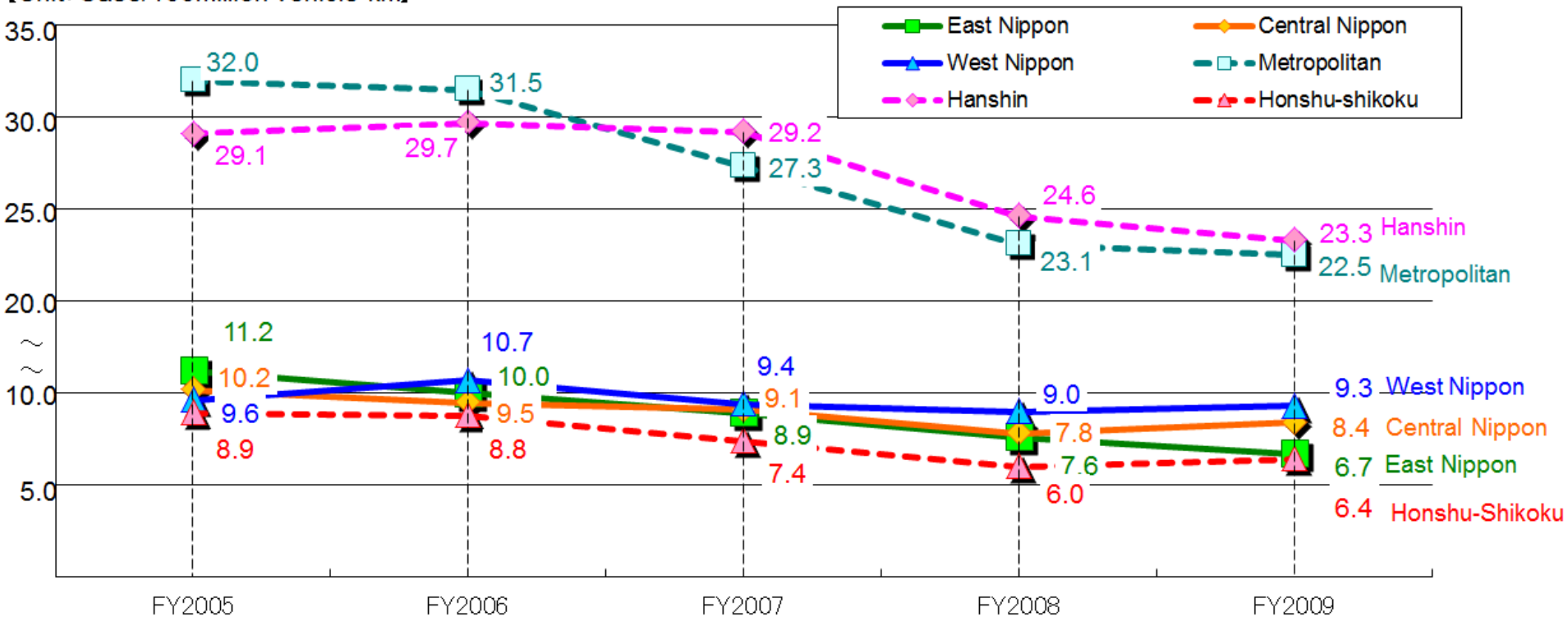
(Electronic Toll Collection System)



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-7 [Outcome 4] Rate of Fatal and Injurious Accidents

[Unit: Case/100million vehicle-km]



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-8. Examples Of Improving Outcome Indicator (safety)



Old type pavement High Performance Pavement

High-Performance Pavement

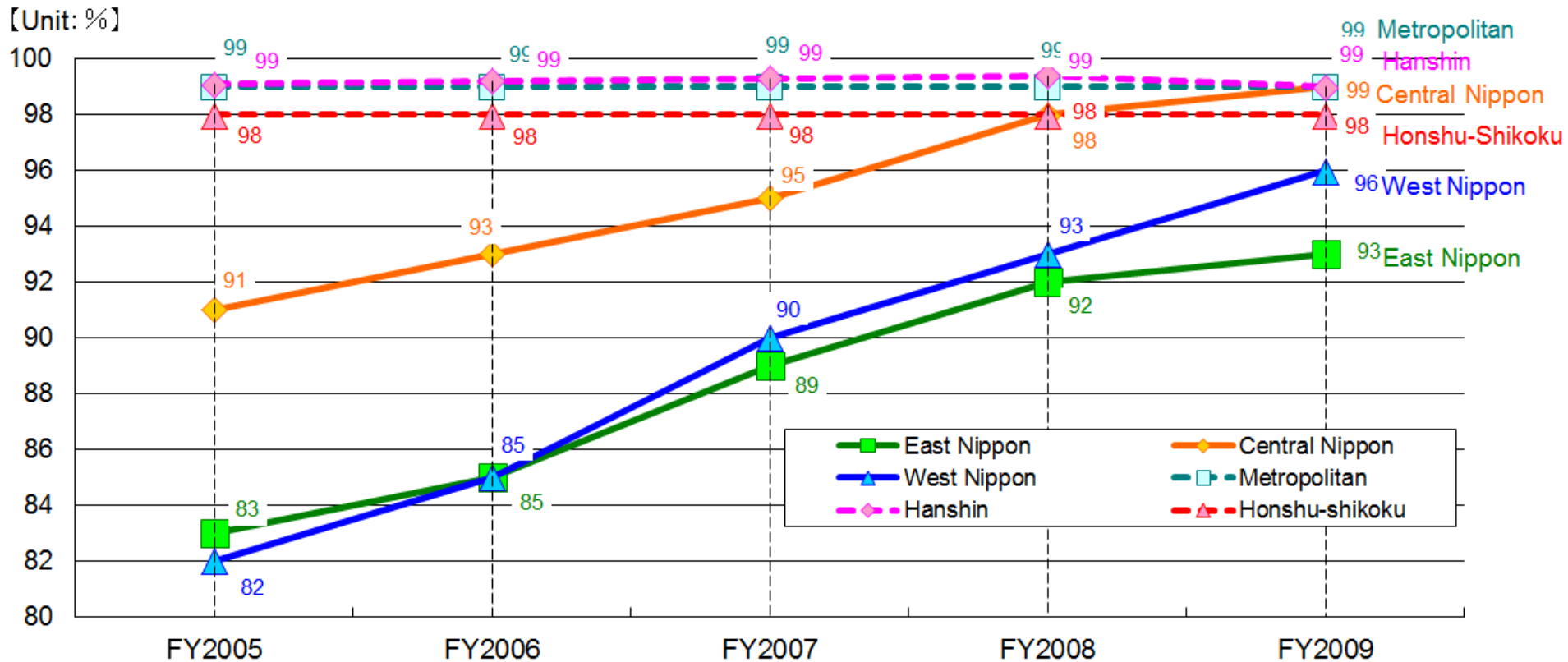


Safety Devices in a Sharp-Curve Section



4. OUTCOME INDICATORS FOR EXPRESSWAYS

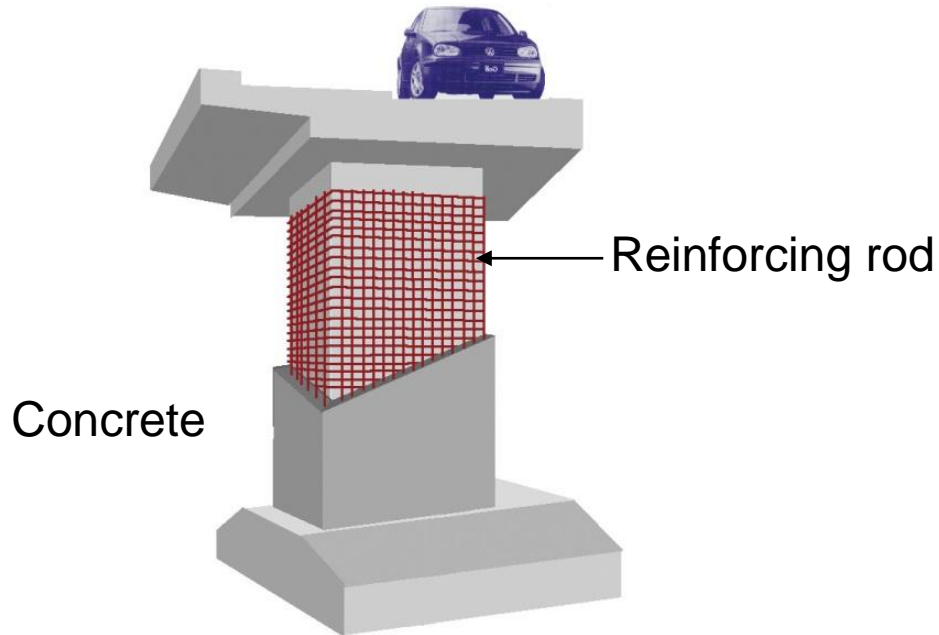
4-9 [Outcome 5] Rate of Road Structure Maintenance (pavement)



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-10 [Outcome 6] Rate of completion of bridge reinforcement

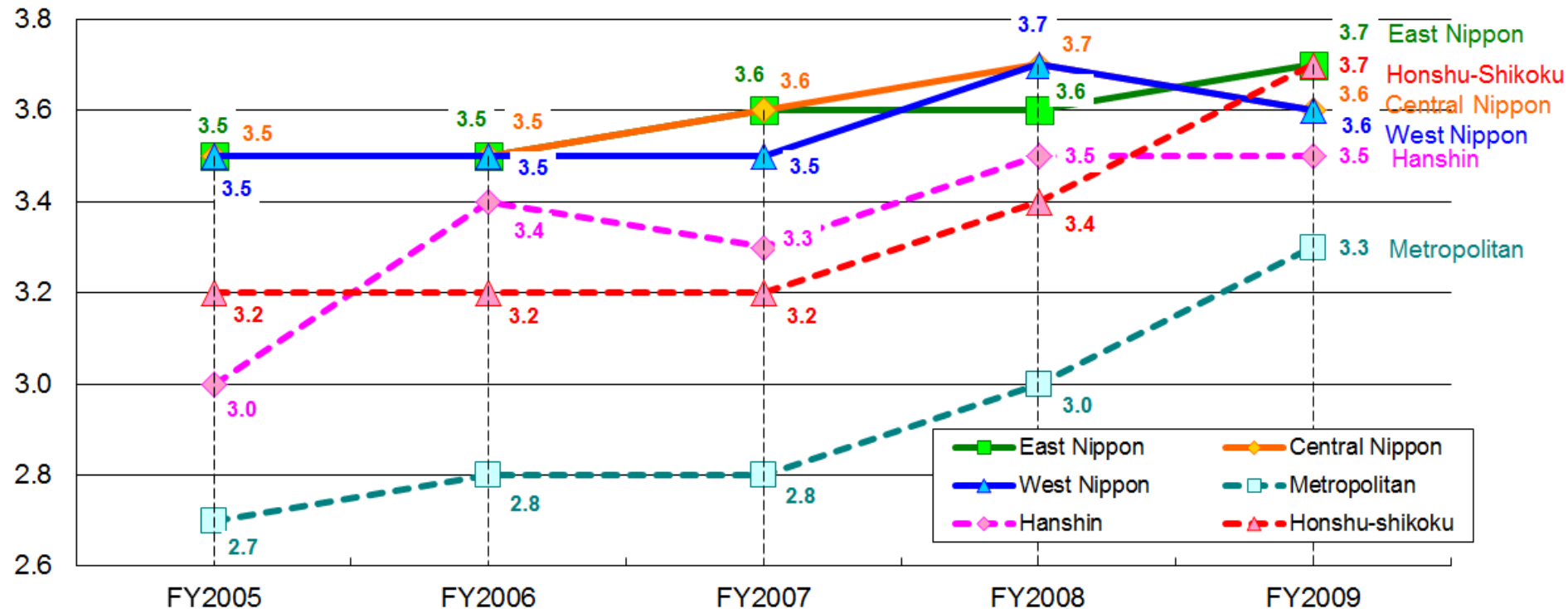
Reinforcement almost completion by 2011



4. OUTCOME INDICATORS FOR EXPRESSWAYS

4-11 [Outcome 7] Degree of Overall Customer Satisfaction

[Unit: Points]



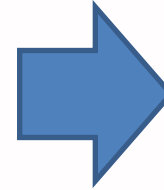
Changes in the Degree of overall customer satisfaction



5. ISSUES

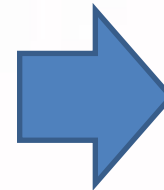
1. Definitions of indicators are different among companies

- regional characteristics,
- management policies, and
- continuity from the past.



**Standardisation
of Indicators**

2. Seven indicators are not enough to evaluate all of expressway businesses



**Additional
Indicators**



6. CONCLUSIONS

- **JEHDRA** puts together **outcome indicators** set by expressway companies and discloses them.
- **Comparing** outcome indicators over years and among companies **helps improve** performances with the PDCA system.
- Publication of outcome indicators helps to **rebuild relationships** between users and highway authorities
- Outcome indicators **change the consciousness of staff**, which enables to ensure the appropriate level of expressway management.
- As the seven outcome indicators are not absolute, they **need to be reviewed** occasionally.



