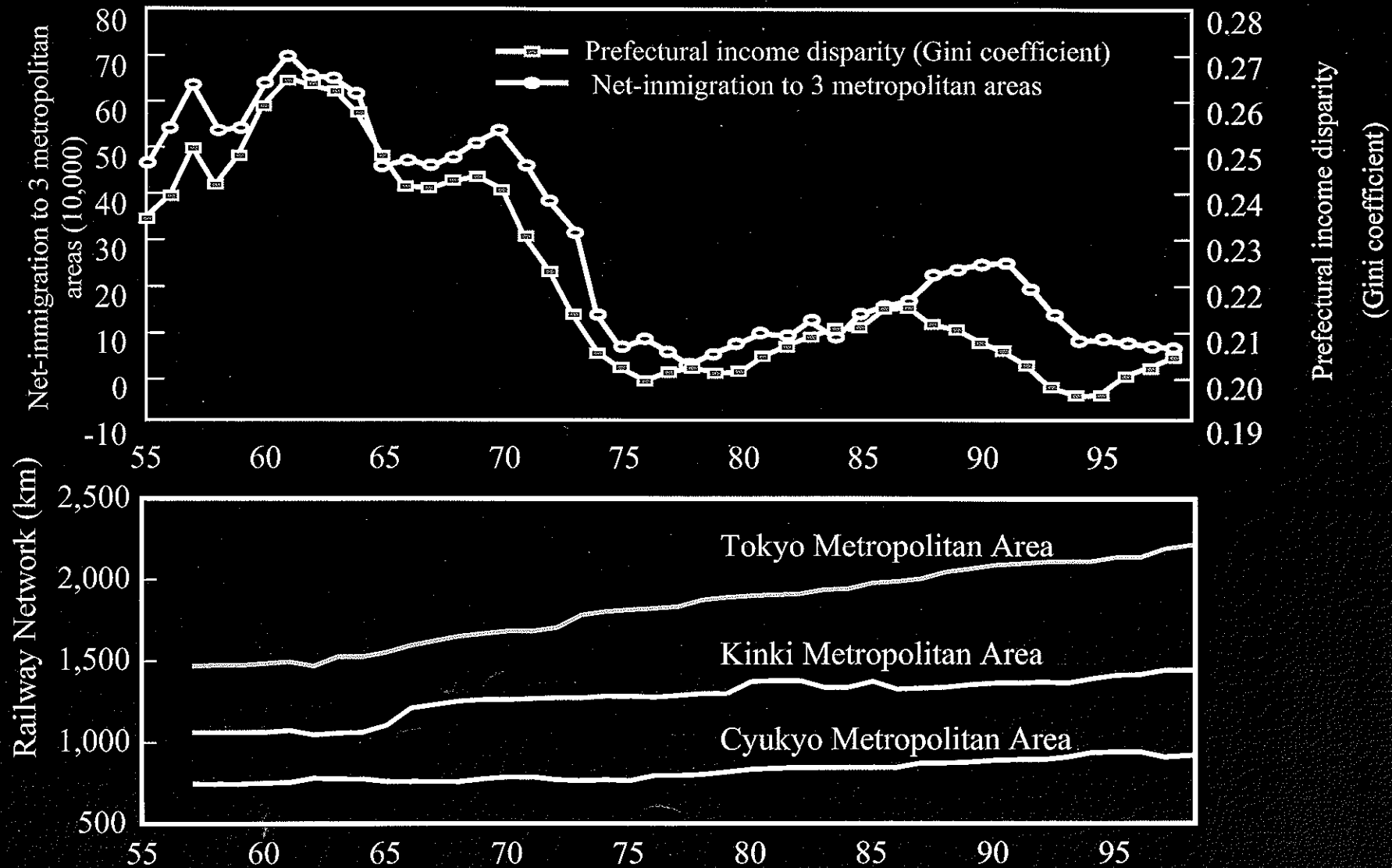


Time-Series Trend of Urbanization



Railway-Oriented Land Use: Road Network and DID



DID: Densely Inhabited District, population density over 4,000 persons/km²
and resident population of over 5,000.

3.1 Pilot Program

- Trial implementation of policies, which are likely to have big social impact

Theme	Contents	No. Impl.	No. Ongoing
Effective use of road space	<ul style="list-style-type: none"> ♦ Coexistence of pedestrian and vehicle in one way ♦ Multipurpose usage of road. (Ex. Terrace cafe) 	16	2
Promotion of public transport	<ul style="list-style-type: none"> ♦ Park and ride ♦ System of car sharing 	12	3
Smoother transportation in tourist site	<ul style="list-style-type: none"> ♦ Limitation of private car entry into tourist site, substitute bus ♦ Comprehensive information system for tourist 	8	2
Promotion of bicycle	<ul style="list-style-type: none"> ♦ Creation of bicycle lane ♦ Introduction of rental bicycle system 	7	2
Logistics and loading policy	<ul style="list-style-type: none"> ♦ Creation of loading space on road ♦ Guiding trucks parked in the streets into parking lots 	4	1
Effective use of toll road	<ul style="list-style-type: none"> ♦ Environmental Road Pricing 	3	Con't
Others	<ul style="list-style-type: none"> ♦ Road safety ♦ Cooperation of road management 	5	1

3.1 Pilot Program: Environmental Road Pricing (1)

- Environmental road pricing was introduced to mitigate environmental impacts around residential areas by charging differential tolls to divert traffic to coastal routes
- The tolls for roads located in coastal areas are set lower than those for roads running through residential areas.
- This measure is introduced in two routes

II. Urban Transport Policy Framework

Comprehensive Urban Transport Policy

- Person-trip survey & Master plan
 - 10 year interval for large-scale cities ($> 300k$ pop.)
- Urban railway master plan for three metropolitan areas



- Railway-oriented land-use
- Road investment to respond to rapid motorization

Collaboration among Central, Local Government and Private Sector

1. Railway

- Planning process collaboration
- Financial burden sharing for investment
- Mixture of railway operators
 - Japan National Railway ➡ Privatized, JR
 - Teito Rapid Transit Authority ➡ Privatized, Tokyo Metro
 - Operators owned by municipality
 - Semi-public operators
 - Private operators

Collaboration among Central, Local Government and Private Sector con't

2. Road

- Central government
 - Japan Highway Public Corporation
 - ➡ Privatizing
- Central and local government
 - Urban expressway public corporations (Tokyo, Osaka-Kobe) ➡ Privatizing
- Local Government
 - Highway public corporations
(Subsidized by Central government)

Hierarchical Network Structure

Road

- Urban expressway
- Arterial road
- Distributor, collector
- Local street

Railway

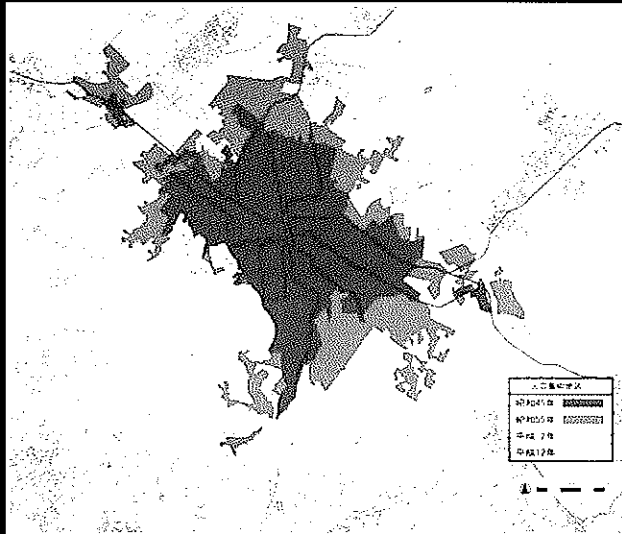
Railway Type	Station Distance	Operating Speed *
Shinkansen Railway	30 – 50 km	120 -130 km/hr
Inter-city Train	5 – 6 km	50 - 60 km/hr
Express Train		
Ordinary Train	1 – 2 km	40 - 45 km/hr
Subway	0.5 – 1 km	30 - 35 km/hr
Monorail / AGT	0.5 – 1 km	20 - 30 km/hr

* Includes stoppage time at station

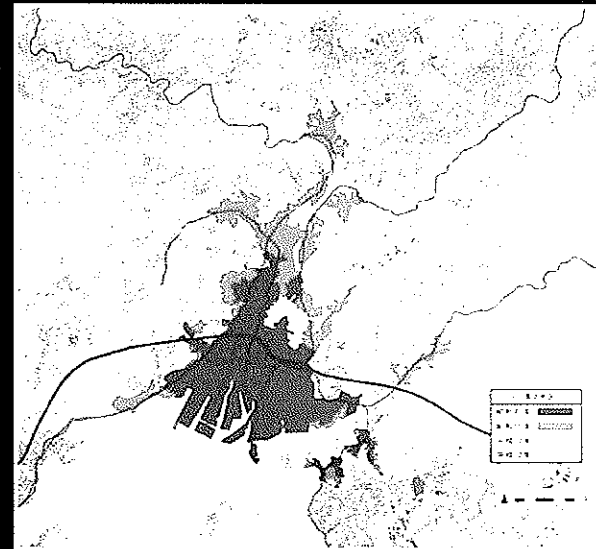
III. Major Institutions for Urban Transport

Transport/Land-use Policy

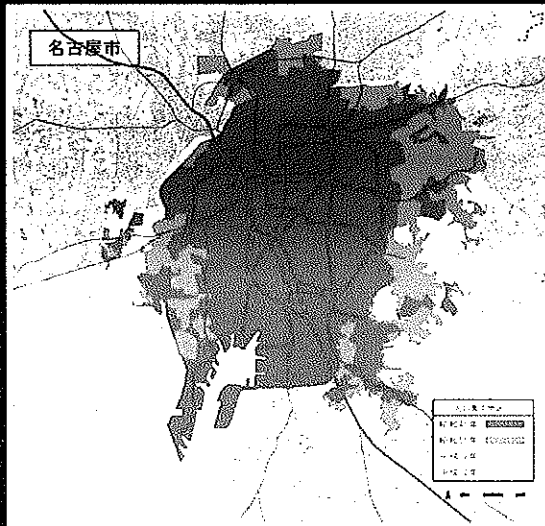
Sapporo



Hiroshima



Nagoya



Kitakyusyu

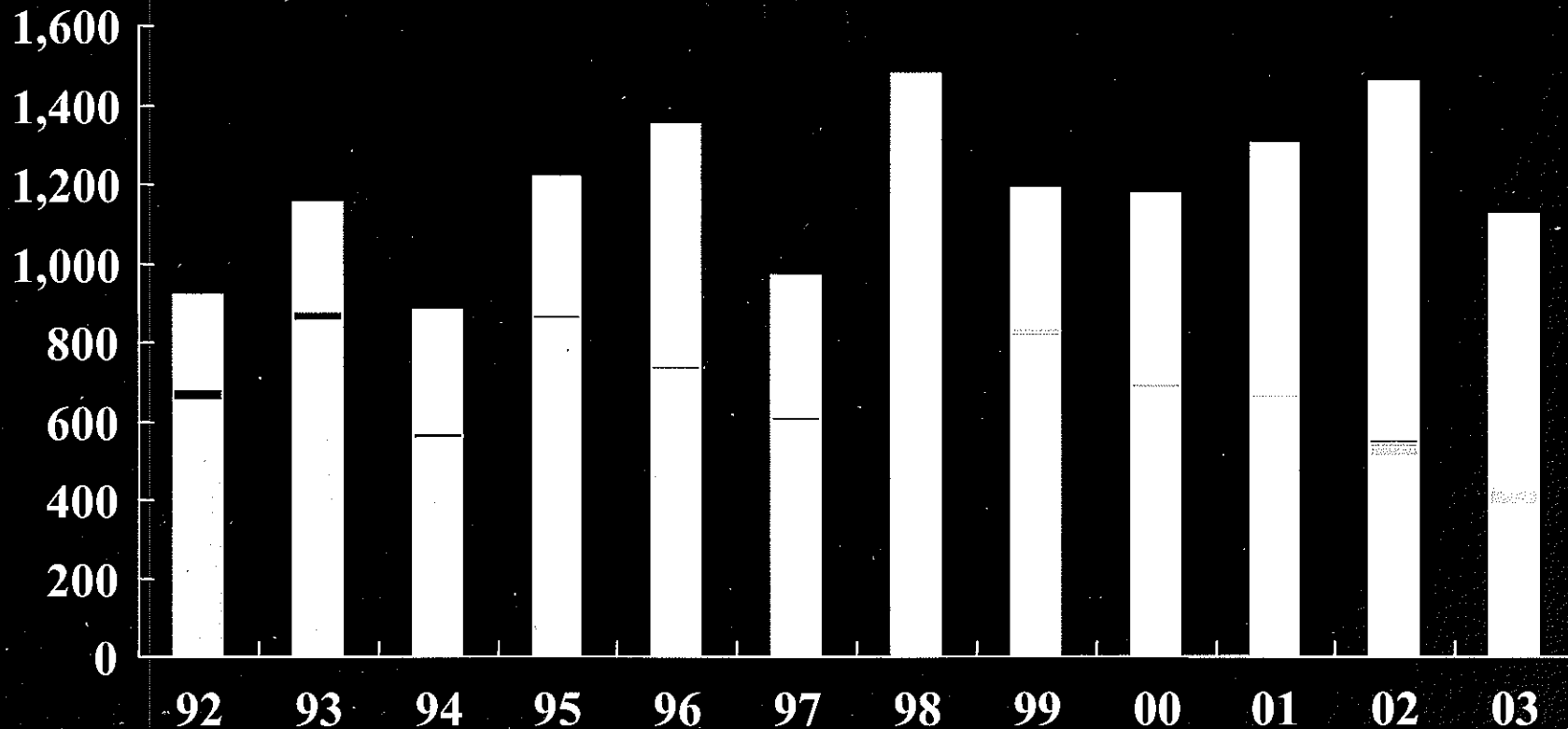


Major Subsidy System for Urban Railway

- Subsidy for : Subway
 - : Monorail
 - : LRT
- Interest free financing for JOBAN-SHINSEN
- Subsidy for Newtown Railway
- Subsidy for grade separation of rail and road crossing
 - : Individual intersection
 - : Continuous elevation of railway

Subsidy for Urban Railway

(million US\$)



- Subsidy for subway
- Subway for Newtown Rail
- Subsidy for urban-use improvement of intercity railway
- Subsidy for terminal improvement
- Subsidy for private railway
- Interest free financing for JOBAN-SHINSEN

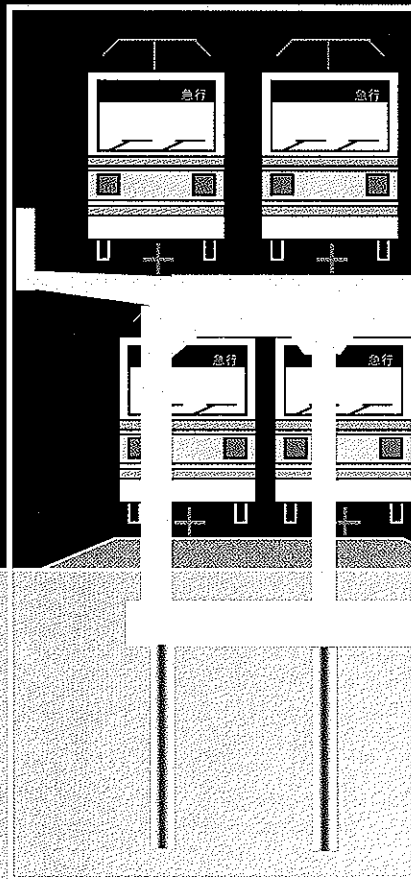
Source: ITPS

Burden Sharing for Each Subsidy System

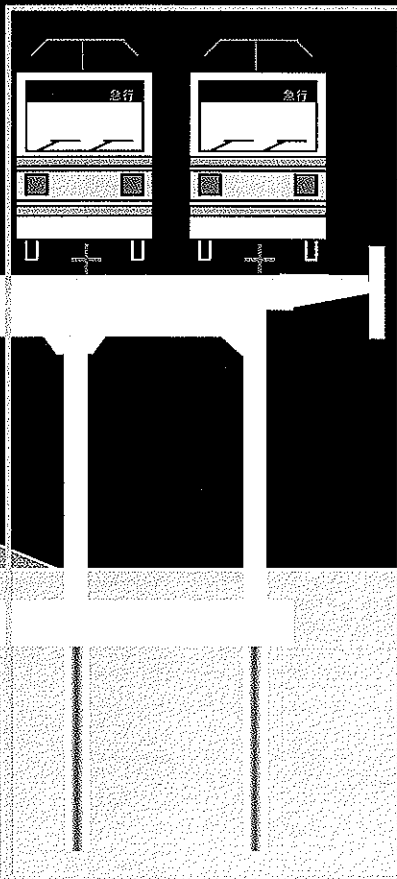
		Central Government	Local Government
Subsidy for	Subway : Construction cost	35%	35%
	for Monorail: Infrastructure	30%	30%
	for LRT : Track, Station etc.	33%	33%
Subsidy for	Newtown Railway : Construction cost	15%	15%
Interest free financing for	JOBAN-SHINSEN : Construction cost	40%	40%
	: Equity	0%	less than
Subsidy for	grade separation of rail and road	28.7 -	20% -
crossing		63.3%	31.6%

Subsidy for Grade Separation of Rail and Road Crossing

Existing infrastructure



Expanded Infrastructure



- Ensuring comfortable traffic and Promoting local interaction
- Sharing financial burden between road and rail sides

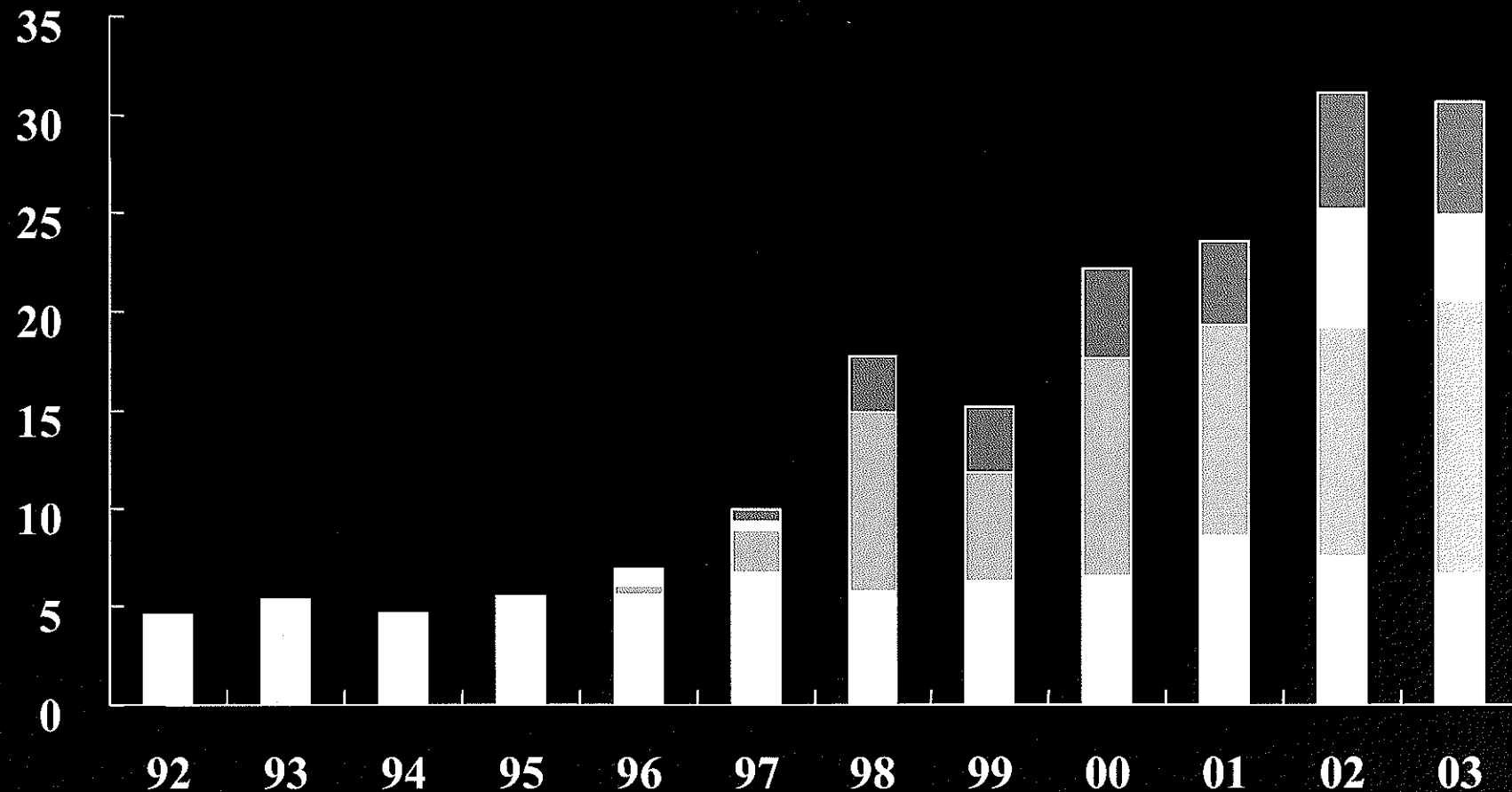
		Financial burden	
Construction cost	Elevation of Existing Infrastructure	Road	86-95%
		Rail	14- 5%
	Elevation of New Infrastructure	Road	0%
		Rail	100%

Subsidy for Urban Bus Operators

- Improvement of bus systems
- Universal service improvement
- Low-emission vehicles
- Introduction of New Bus Service
- Pilot program and research

Subsidy for Urban Bus Operators

(million US\$)



■ Bus system Improvement ■ Pilot Program & Research ■ Universal service improvement
■ Low-emission vehicles ■ Introduction of New Bus Service

IV. Japanese Policy Related to ECMT Recommendations

Recommendations for National Governments from ECMT, 2001(1)

- Establish a supportive national framework
 1. Improve institutional co-ordination and co-operation
 2. Encourage effective public participation, partnership and communication

Recommendations for National Governments from ECMT, 2001(2)

3. Provide supportive legal and regulatory framework
 - Ensure a comprehensive pricing and fiscal structure
4. Rationalise financing and investment stream
5. Improve data collection, monitoring and research

1. Improve institutional co-ordination and co-operation

1.1 Existing institution and its improvement

1.2 New institution for better railway service: from 2005

- Infrastructure improvement to upgrade function of urban rail network
 - Improving accessibility by developing shortest route
 - Ex: Developing connecting track between Sotetsu & JR
 - Upgrading function of terminal
 - Redevelopment of set of stations for smooth mobility
 - Ex: Development of Sannomia station

2. Encourage effective public participation, partnership and communication (1)

2.1 Public Comment Procedure for policy making: from 1999

- Provision to seek suggestions from wider section of citizens.
- Administrative agencies make final decisions taking account of the public comments.
- Administrative agencies must follow the procedure when they formulate new regulation, and revise or abolish existing regulations.

2. Encourage effective public participation, partnership and communication (2)

2.1 Public Comment Procedure for policy making: from 1999 (con't)

- Ensuring fairness and transparency of policy and decision making process

2.2 Public Involvement Procedure for road and airport: from 1996

- From the first stage of planning

3. Provide supportive legal and regulatory framework

3.1 Pilot program: from 1999

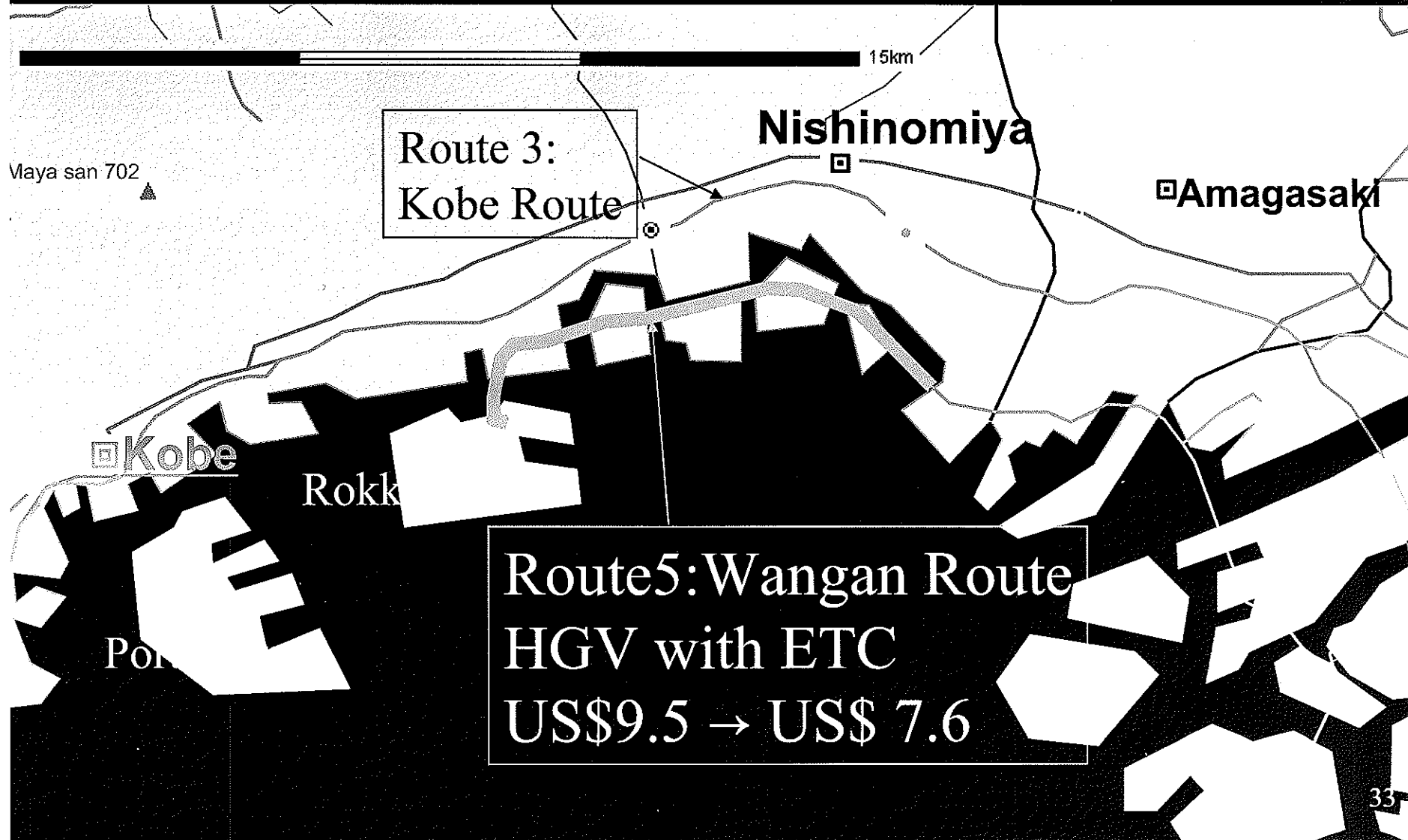
– Environmental Road Pricing

3.2 Automobile NO_x and PM Act: from 1992, 1994, 2002

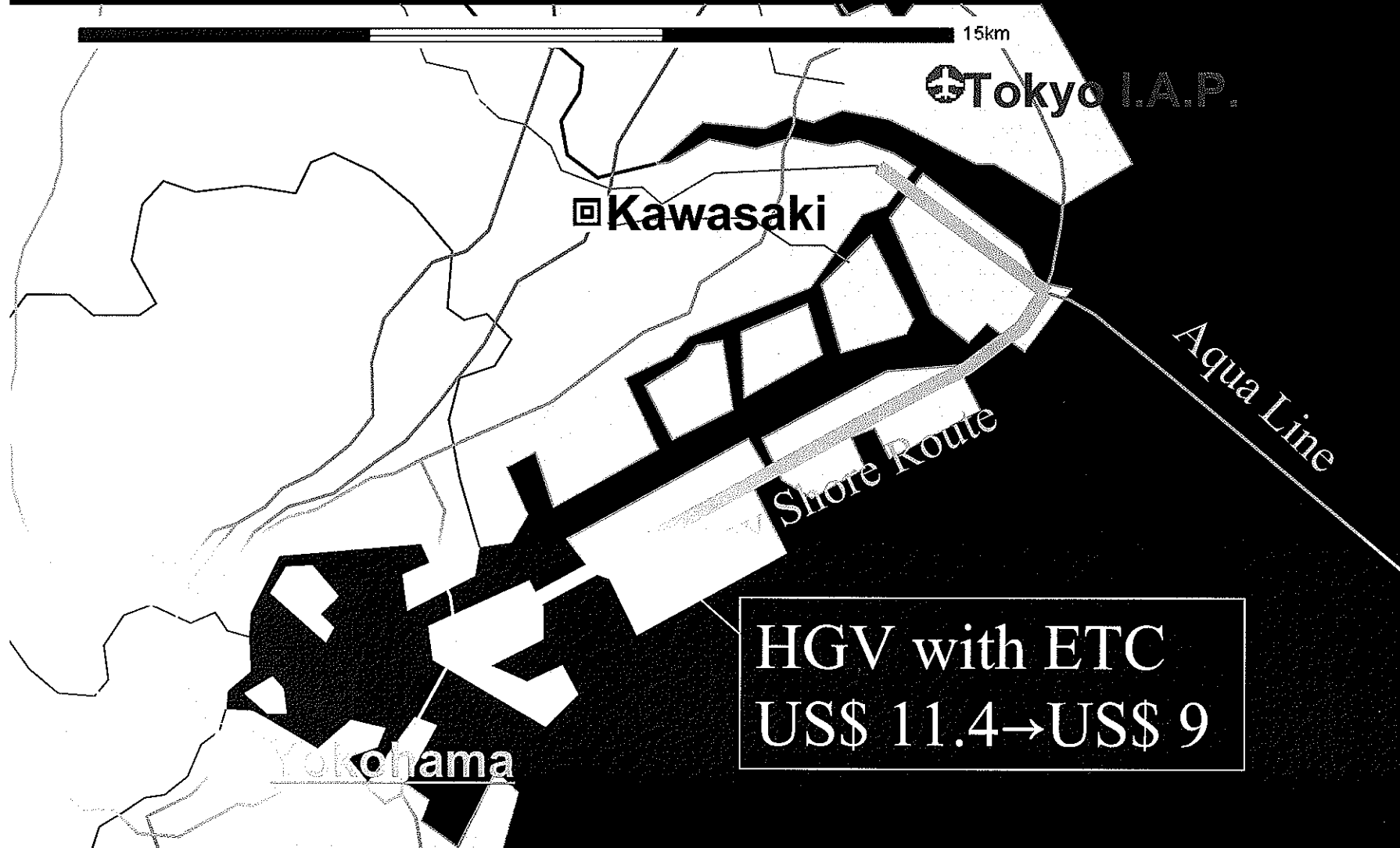
3.3 Regulation for diesel vehicle in Tokyo Metropolitan Area: from 2003

3.4 Revised energy saving law for fuel economy: from 1999

3.1 Pilot Program: Environmental Road Pricing (2)



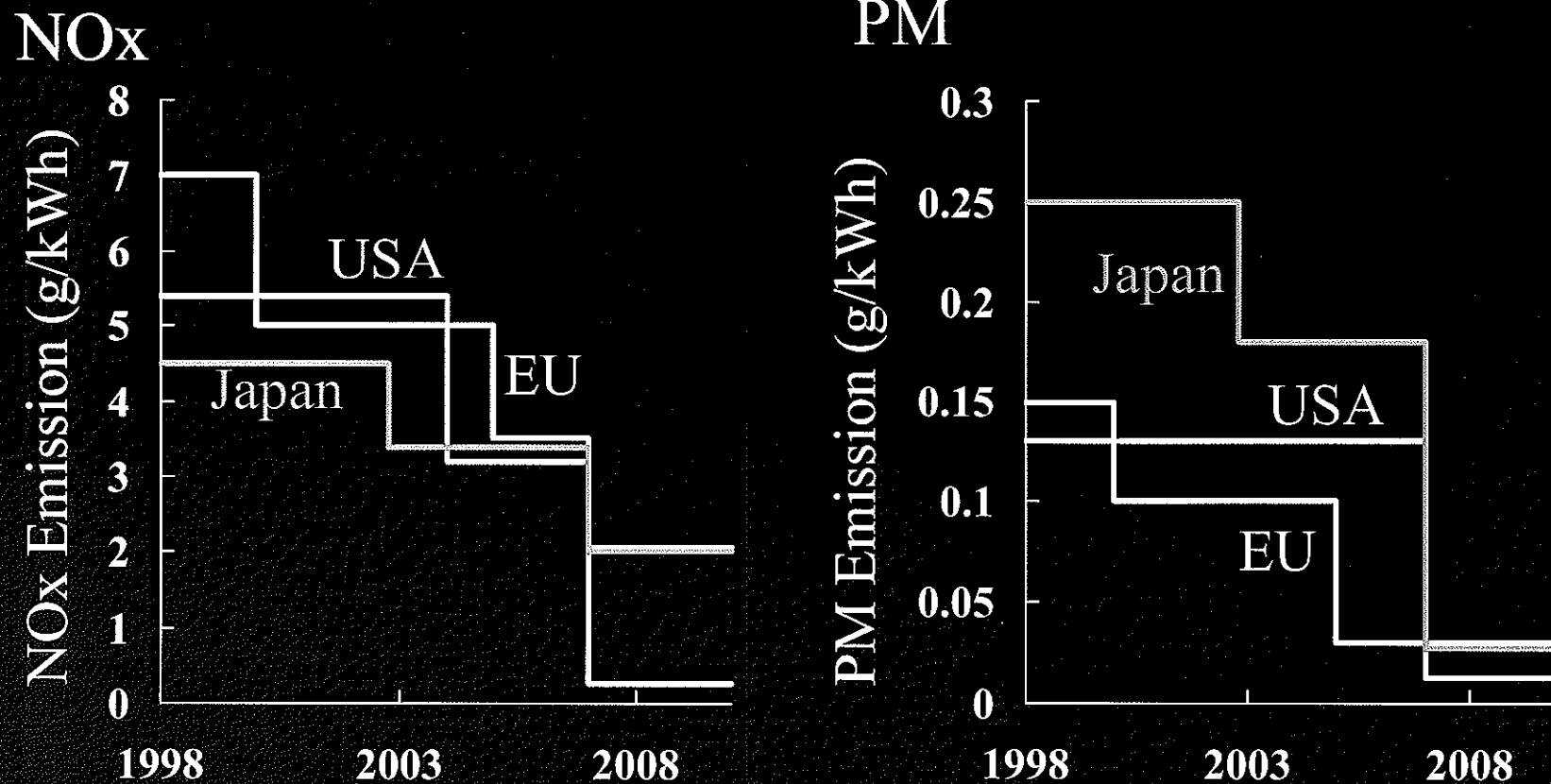
3.1 Pilot Program: Environmental Road Pricing (3)



3.2 Automobile NO_x and PM Act (1)

- NO_x and PM emission regulation for trucks and bus with diesel engine
- This regulation applies for all diesel vehicles, which are owned and used in regulated areas
- Regulated areas
 - Tokyo Metropolitan Area
 - Aichi, Mie prefecture
 - Osaka, Hyogo prefecture

3.2 Automobile NO_x and PM Act (2)



Source: various statistics

3.3 Regulation for Diesel Vehicle in Tokyo Metropolitan Area (1)

- Prohibition of usage of diesel vehicle,
which does not satisfy the emission
standard
- This regulation came into force on October
2003

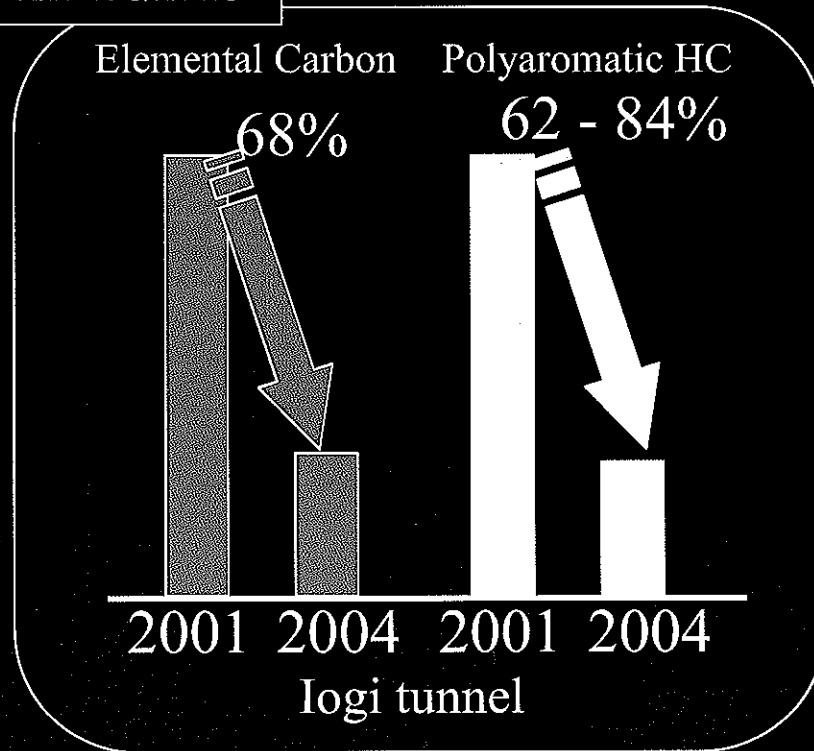
3.3 Regulation for Diesel Vehicle in Tokyo Metropolitan Area (2)

- Main contents of regulation
 - Setting PM emission standard
 - Obligation of introducing low-emission vehicle for company bigger than given size
 - Submission of vehicle management plan
 - Compliance with idling stop

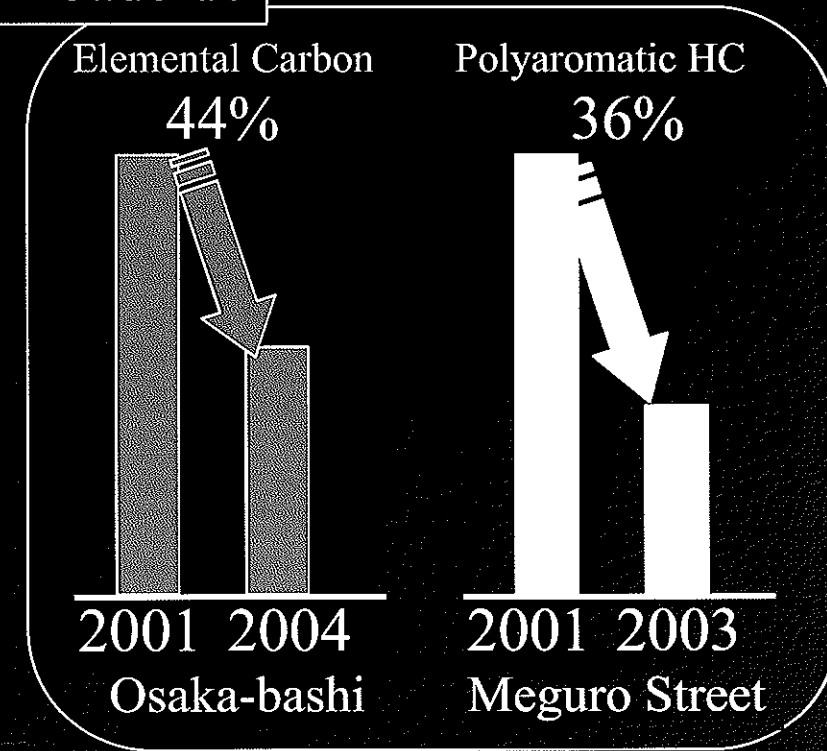
3.3 Regulation for Diesel Vehicle in Tokyo Metropolitan Area (3)

- Recent results of the regulation at Tokyo

In Tunnel



Roadside

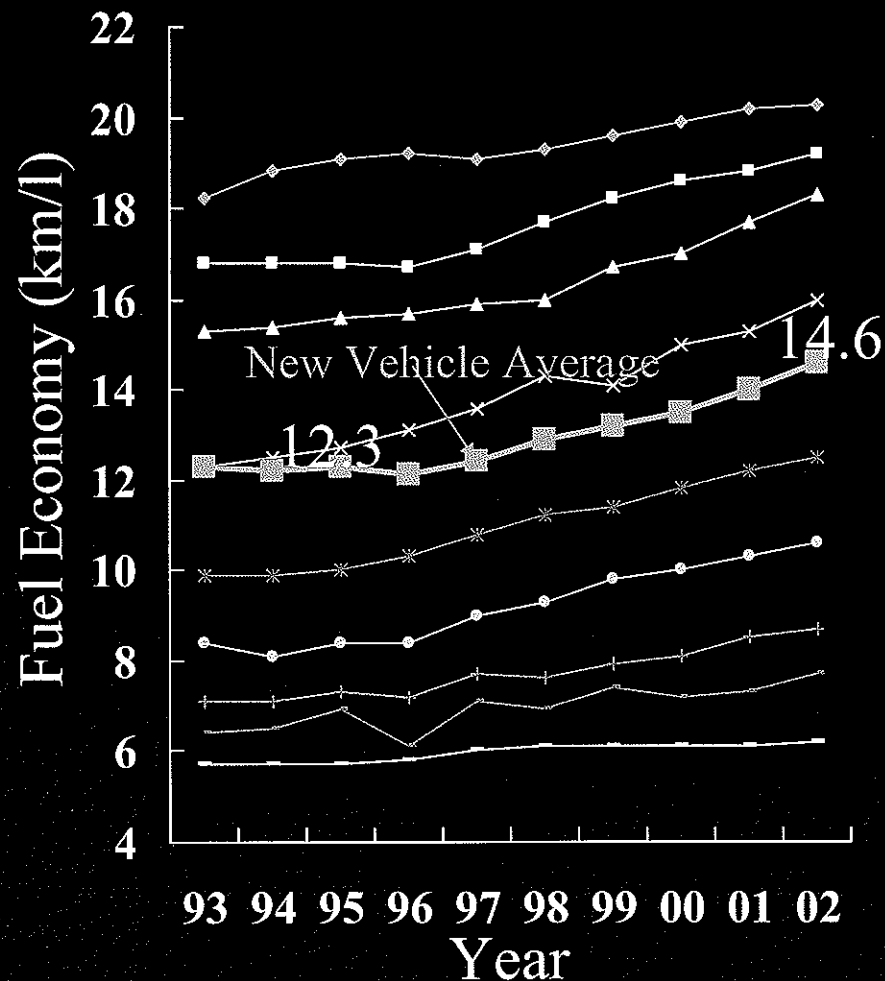


Source: Tokyo Metropolitan Government (2005)

3.4 Revised Energy Saving Law for Fuel Economy (1)

- Automakers must achieve regulated level for fuel economy until 2005 or 2010
 - Gasoline car: 22.8% above 1995 level
 - HDV: 14.9% above 1995 level

3.4 Revised Energy Saving Law for Fuel Economy (2)



- Average fuel economy of new gasoline vehicle has been improved.

- 12.3(km/l) to 14.6 (km/l)
- Increase of 19% above 1995 level

Source: MLIT (2004)

4. Rationalise financing and investment stream

4.1 Diversified use of earmarked road funds

- Depending on social circumstances, diverting a part of earmarked funds to
 - Development of information networks
 - Development of ITS
 - Improvement of roadside environment
 - Universal service improvement

4.2 Subsidy for Environmental-Friendly Technology (1)

- Central Government
 - Automobile Green Tax: from 2002
 - Subsidy or tax exemption for introducing low-emission vehicle

4.2 Subsidy for Environmental-Friendly Technology (2)

- Local Government
 - Subsidy for Diesel Particulate Filter
 - Subsidy for low-emission vehicles
 - Tax exemption for introducing low-emission vehicle
 - Subsidy for natural gas station
- Soft loan from government-affiliated financial institution

5. Improve data collection, monitoring and research

- Person-trip survey
 - Aiming for grasping “Person Movement” as Traffic Subject
 - Data from this survey is utilized for Master plan
- Urban Transportation Census: every 5 years from 1960
 - Aiming for grasping the usage of mass rapid transit in three major metropolitan areas

V. Concluding Remarks

1. Three Major Metropolitan Areas(1)

- Urban railway improvement brought higher modal split of rail, especially in three major metropolitan areas.
- Urban Expressway policies contributed to reduce the pollution through the improvement of congestion.
- High toll rate is working like the road pricing policy and the ITS technology is expected to be effective for environmental management.

1. Three Major Metropolitan Areas(2)

- Remaining problems are high modal split of automobile for passenger transport in suburban areas and for freight transport.

2. Mid-size and Small Cities (1)

- In the cities with more than one million population including suburban area, Urban railway had been constructing.
- However, in smaller cities LRT policies is expected to improve the urban transport system.
- Better bus service with lower fare had been introducing especially in down town areas.

2. Mid-size and Small Cities (2)

- Auto restricted zone in city-center is so limited in Japan.
- Pedestrian Mall and Transit Mall are not accepted by citizens and storekeepers.
- Without control of car-usage, LRT and bus share could not increase especially in mid-size and small-size cities.

3. CO₂ Mitigation Policy (1)

- While central government tightened regulations for supply side, it seems that additional efforts are necessary to achieve the targets set under Kyoto Protocol.

3. CO₂ Mitigation Policy (2)

- Comprehensive economic measures for demand side and CO₂ reduction target have been vigorously discussed.
 - Introduction of Environment Tax
 - Allocation of CO₂ reduction target
 - Central government revises target for each sector. Target for local government, region and corporation is under discussion.