Support with the Formulation of
a Comprehensive Plan for Public Transport

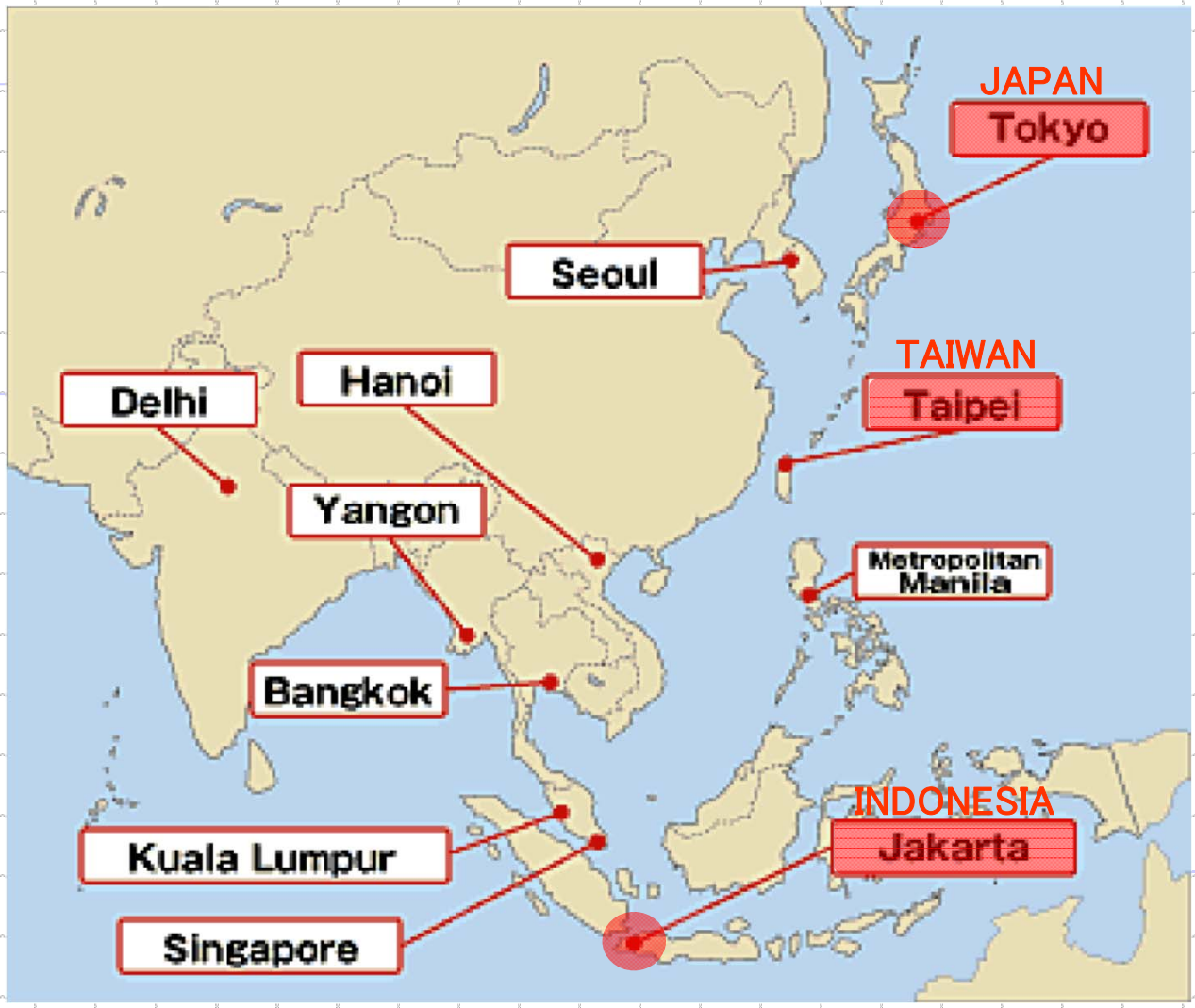
Basic concept of public transport planning in Tokyo

July 12, 2011

Bureau of Urban development
Tokyo Metropolitan Government

Outline of Tokyo

JAPAN in Far East Asia



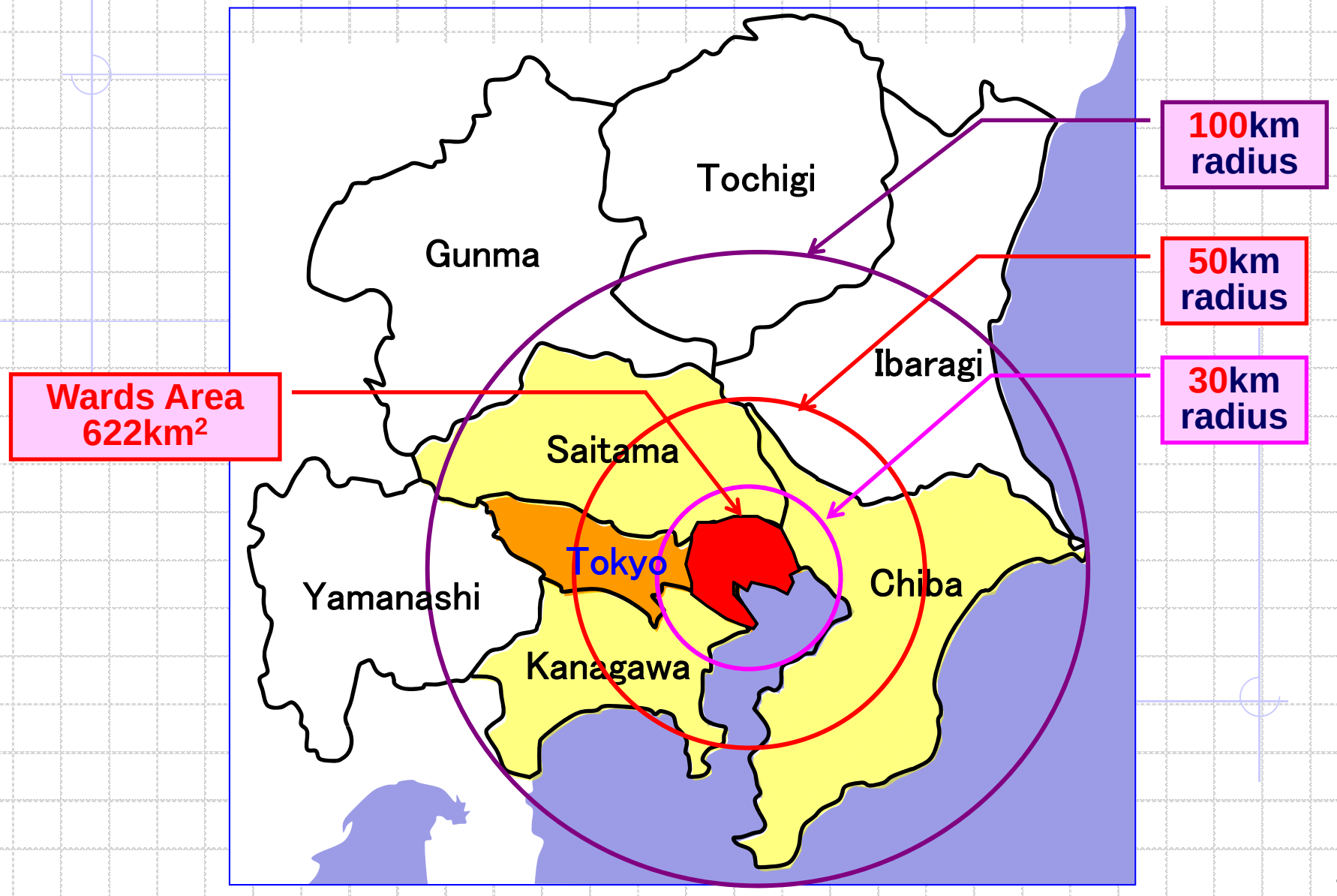
Source ：「ANMC21」

Comparison of Taiwan/Taipei, Indonesia/Jakarta and Japan/Tokyo

Country	Taiwan	Indonesia	Japan
Land area (km^2)	36,000*5	1,860,000*5	377,930*1
Population ($\times 10^3$)	23,024*5	232,516*5	127,510*1
Density (人/km2)	639.9*5	125.0*5	341.9*1
Railway (km)	1,575*6	7,985	27365.7*2
City	**Taipei**	**Jakarta**	**Tokyo**
Land area (km^2)	272	662	2,187*3
Population ($\times 10^3$)	2,600	9,220	13,165*3
Density (人/km2)	9,559	14,185	6,018*3
Railway (km)	101.9*6	150	1,082.2*4

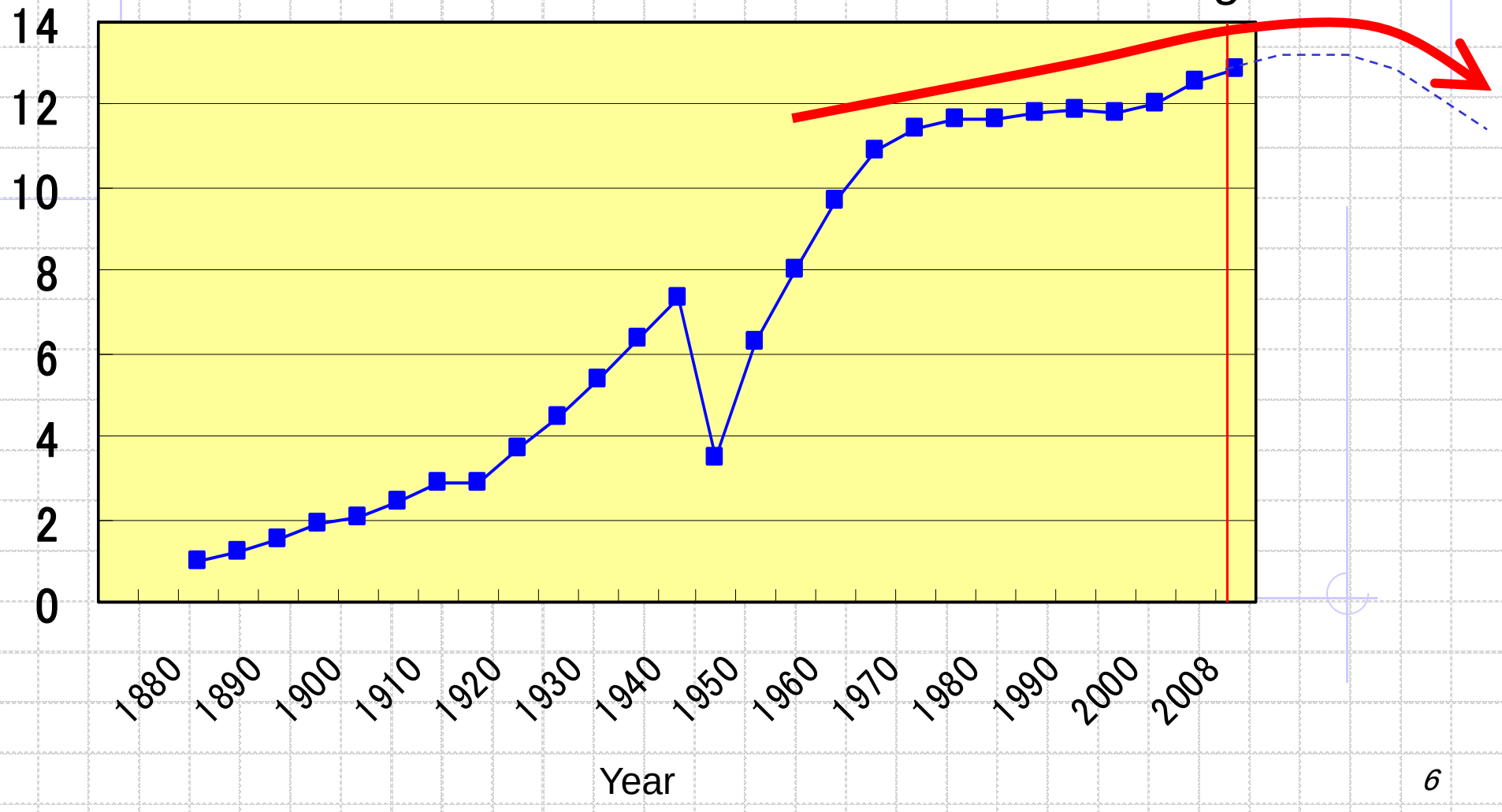
*1：Ministry of Internal Affairs and Communications
「Statistical Handbook of Japan 2011」
*2：Ministry of Land, Infrastructure, Transport and Tourism(2010)
*3：Tokyo Metropolitan Government(2010)
*4：Institution For Transport Policy Studies(2009)
*5： Date Book of The World 2011 published by Ninomiyasyoten
*6： Data was provided by each member city

The Tokyo Metropolis

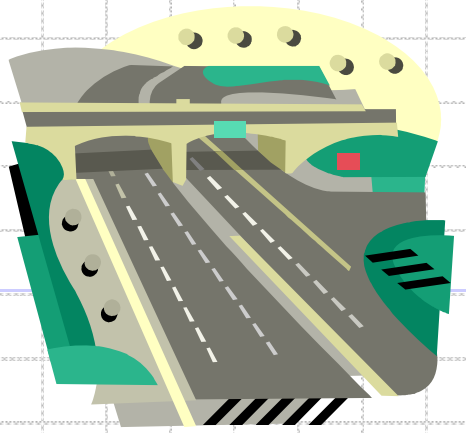


Population Trends of the Tokyo Metropolis

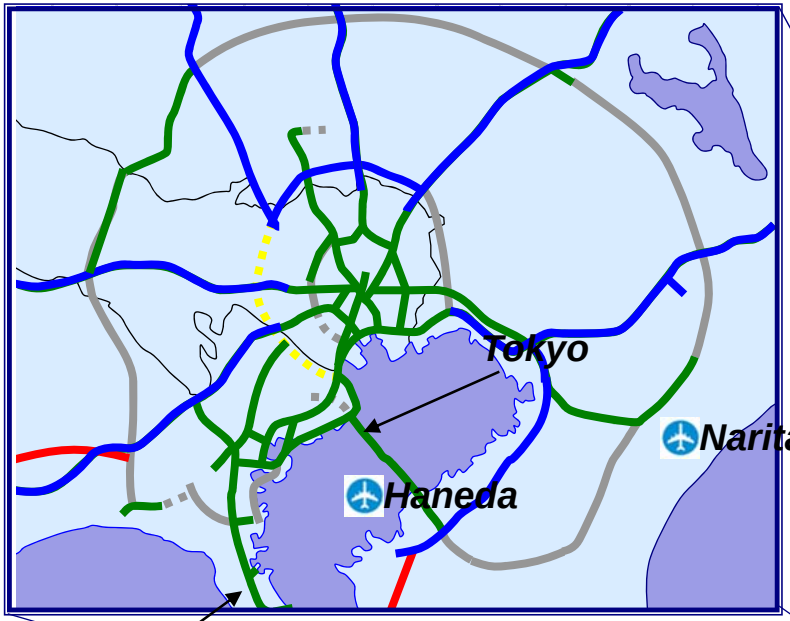
Gradually increasing ,
But estimated to start decreasing after 2015.



Outline of Roads



Expressway Networks in Japan



Sapporo

Kyoto

Hiroshima

Fukuoka

Nagoya

Osaka

Tokyo

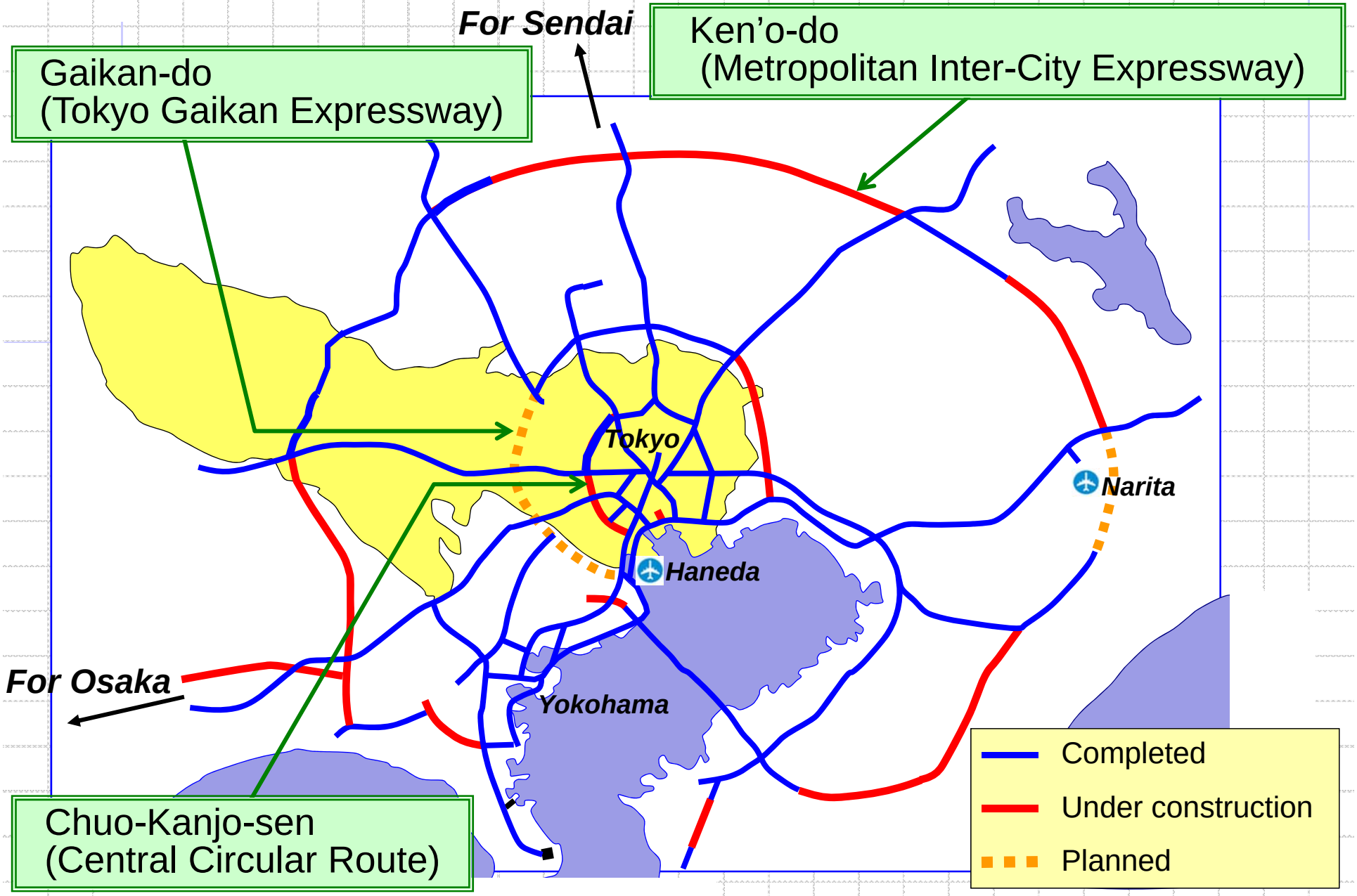
Legend (As of April 2000)

Expressways (14,000km)

★National Expressways (11,520km)
- Completed
- Under construction
- In basic plan
- Projected route

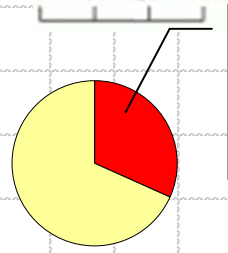
☆Other Expressways (2,480km)
- Completed
- Under construction
- In basic plan

Expressway Network in Tokyo



Completion Ratio of Loop Expressway Networks

Tokyo

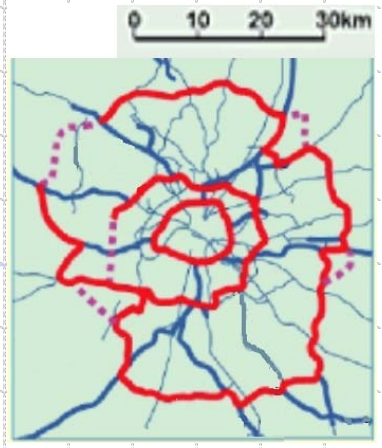


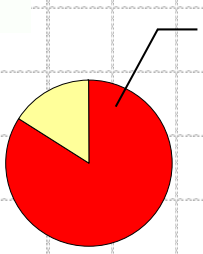
47% completed

Planned	522km
Completed	245km

【2011】

Paris



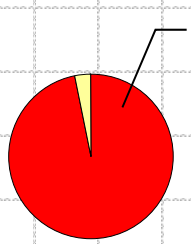


85% completed

Planned	313km
Completed	267km

【2009】

Berlin

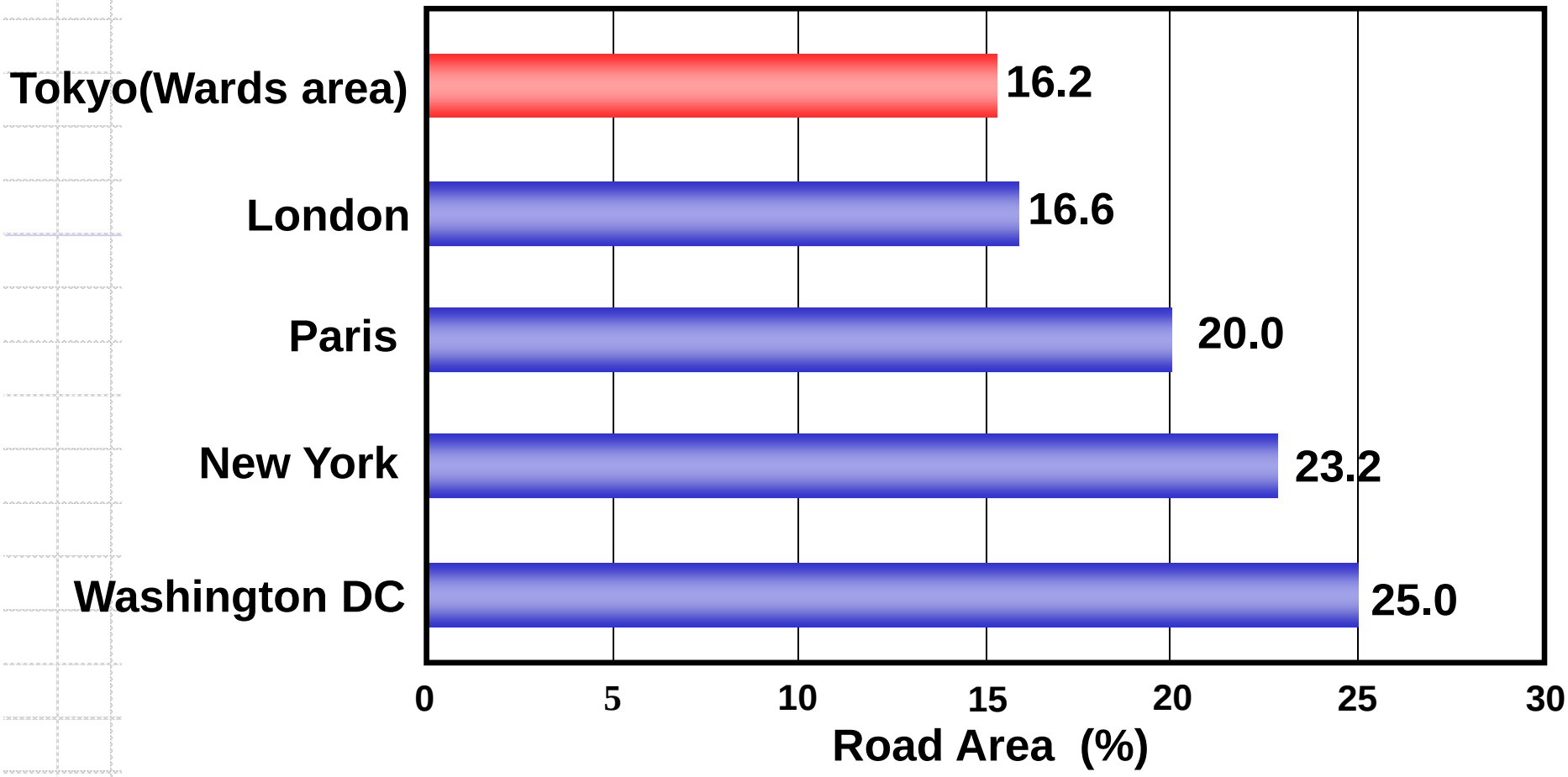


97% completed

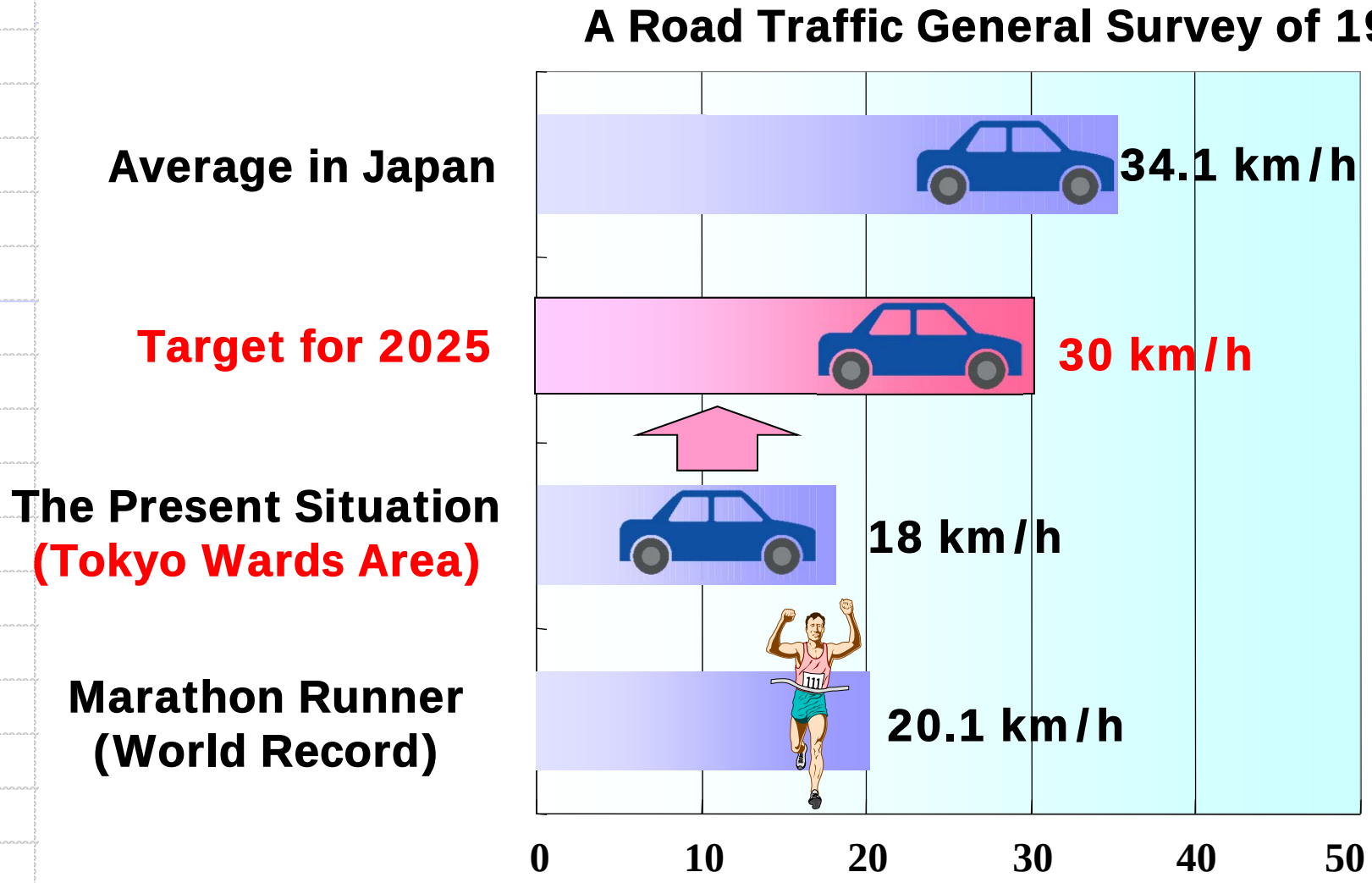
Planned	222km
Completed	217km

【2007】

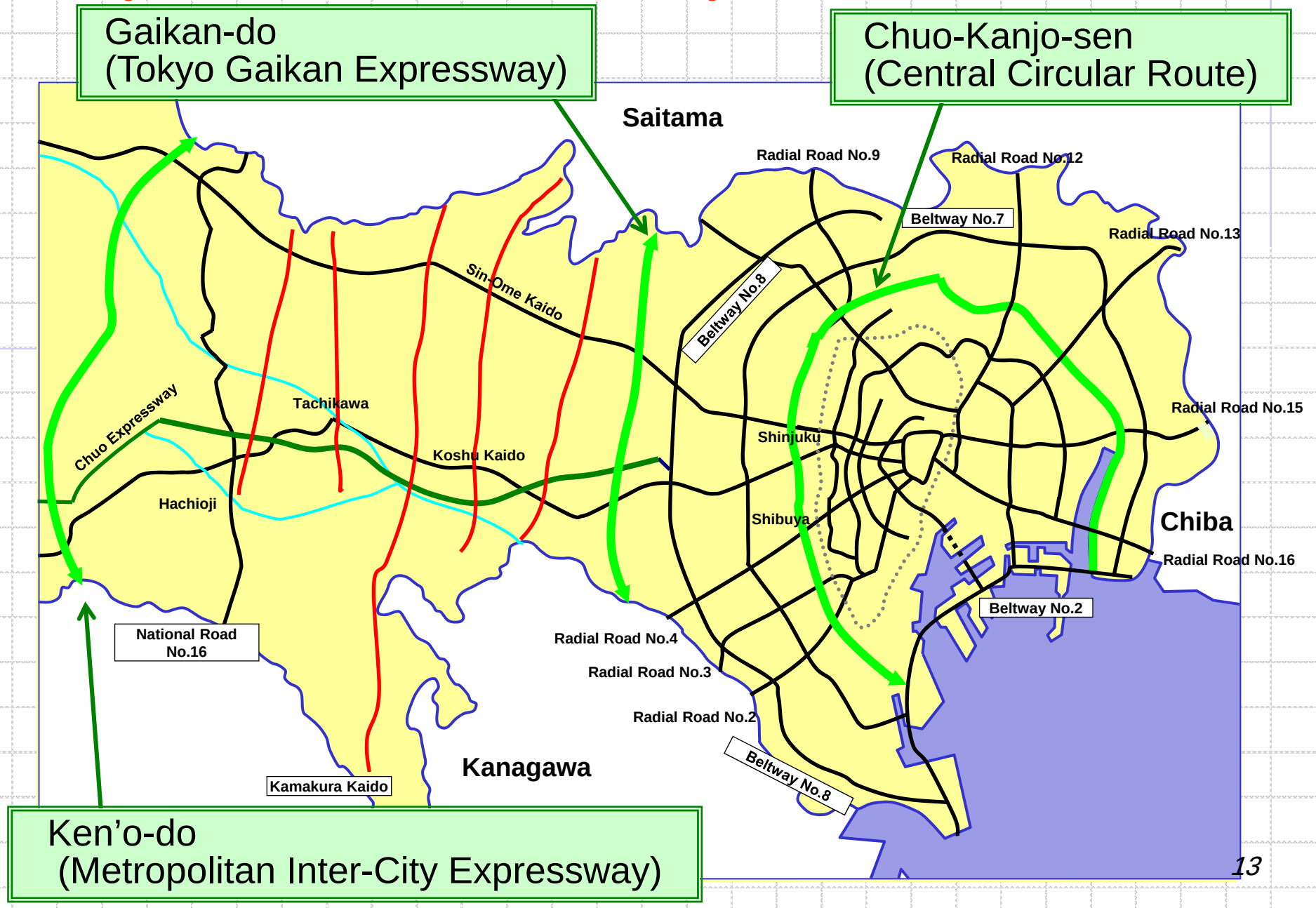
A comparison of Road Density



Current Situation and Target of Average Trip Speed



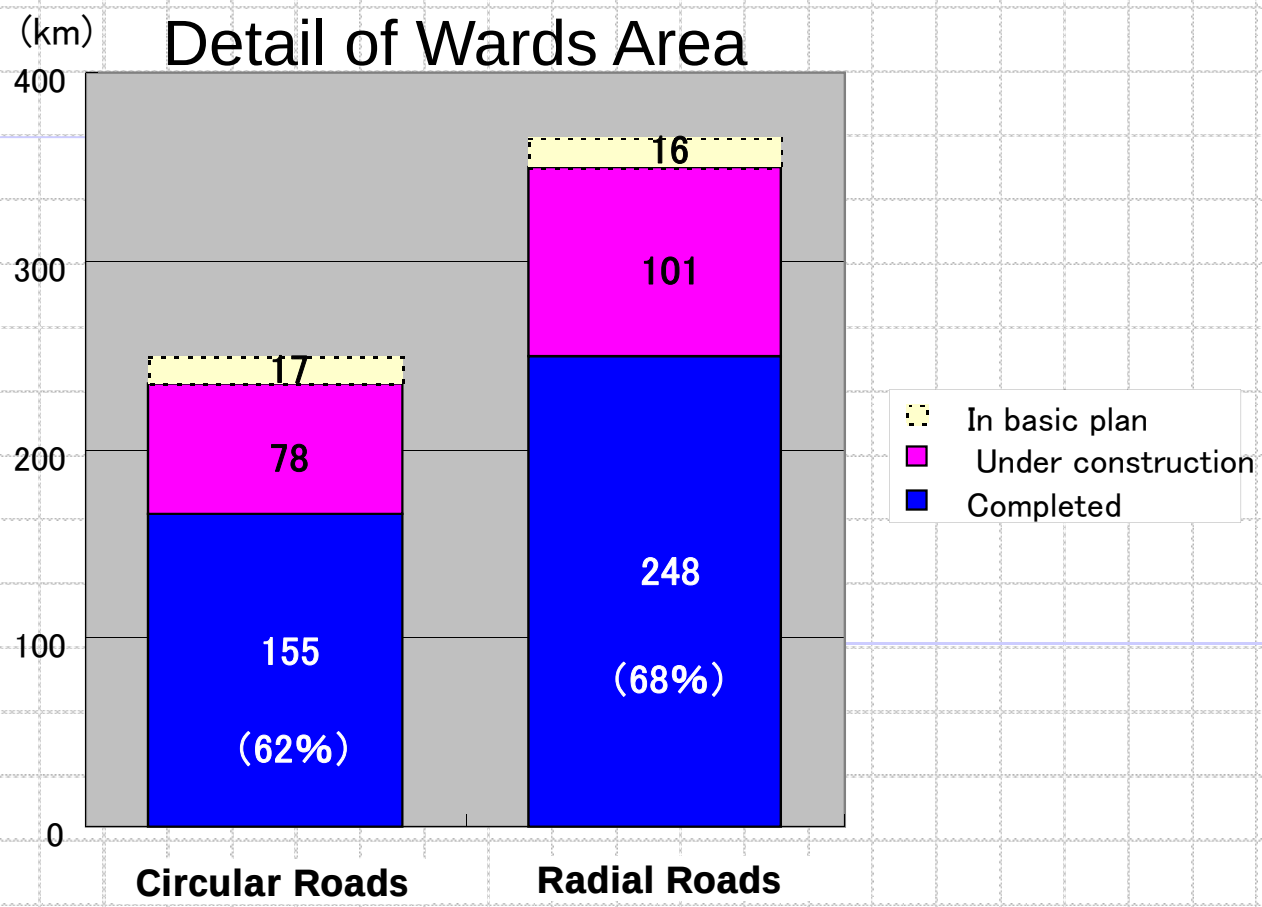
Major Roads Network in Tokyo



Development of City Planned Roads 2010

	Completion Ratio	
Total	59%	
Wards Area	60%	Circular roads 62%, Radial roads 68%
Other Area	57%	

Detail of Wards Area



Promoting Transportation Demand Management (TDM)

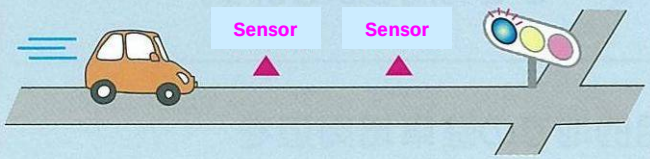
Transportation Friendly to People and the Environment

Promotion of Transportation Demand Management (TDM) Measures

Utilization of ITS Technologies

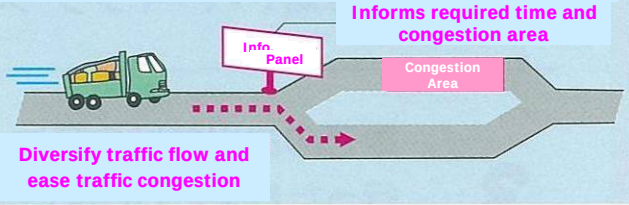
Demand-Forecasting Signal Control — **Improvement and Optimization of Signal Control**

By forecasting traffic flow, the optimal signal control can be achieved. Rapid change in traffic flow can be corresponded.

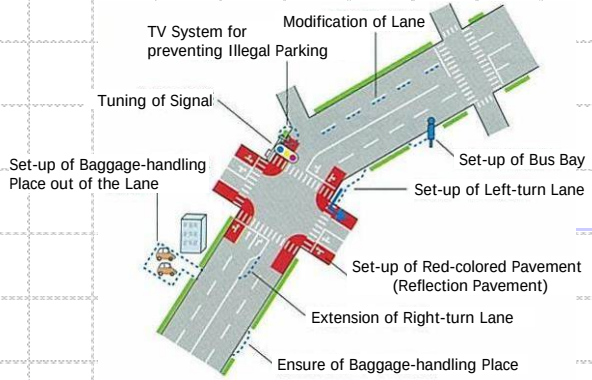


Traffic Information Panel — **Diversification of Traffic Demand**

Traffic information panels give driver the information on traffic congestion and necessary time. They also suggest driver to make a detour, so that the traffic demand is diversified.



Improvement of Road Facilities



Measures for loading

Measures for Taxis berth

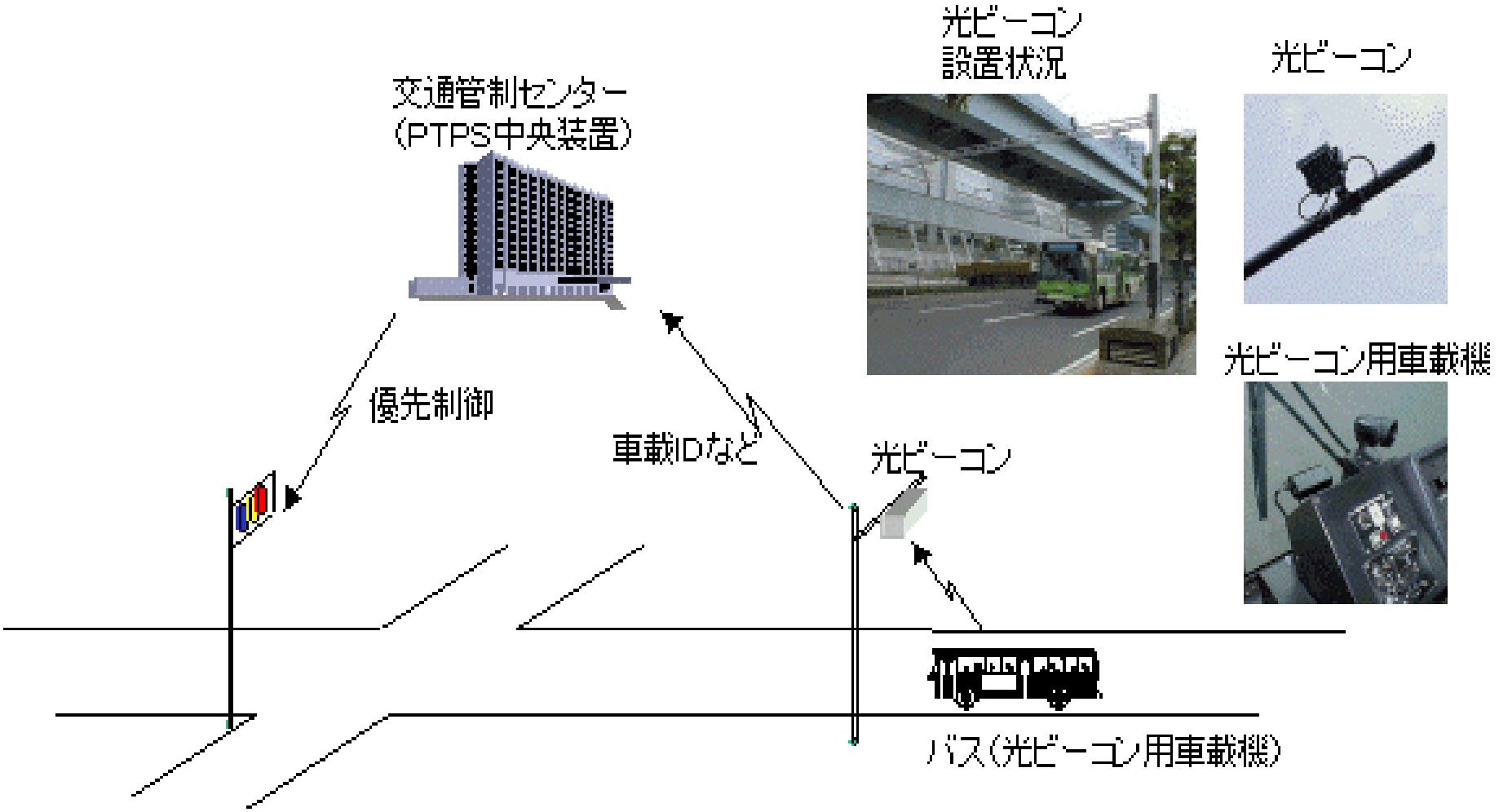
Source: Brochure “Hyper Smoothing Tactics”, (TMG, Tokyo PD, Tokyo Bureau of National Road)

Bus : Bus Operations Management System

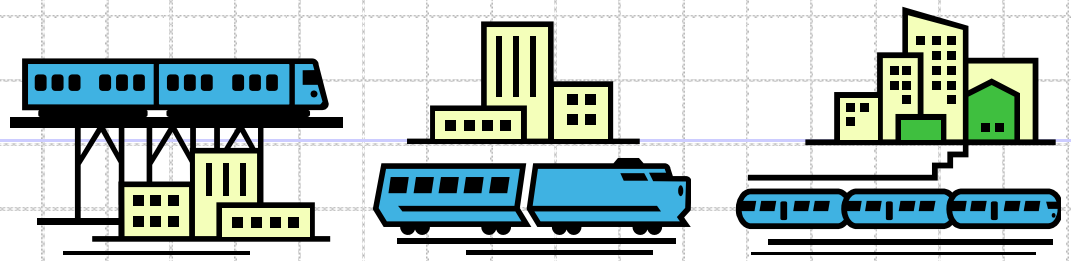
Standing type Transceiver

Connection of the Vehicle Equipment

Bus : Public Transportation Priority System



Outline of Railways



Characteristics of Railways in Japan

- Railway networks in Japan are highly developed.
- '*Shinkansen*' and many limited expresses link major cities.
- In 3 metropolises (Tokyo, Osaka and Nagoya), railway networks have been developed by various private railways other than national railway companies and municipal subway companies.
- The Japan National Railway was privatized in 1987 and divided into seven 'JR' companies.
- Operation service is quite on schedule.

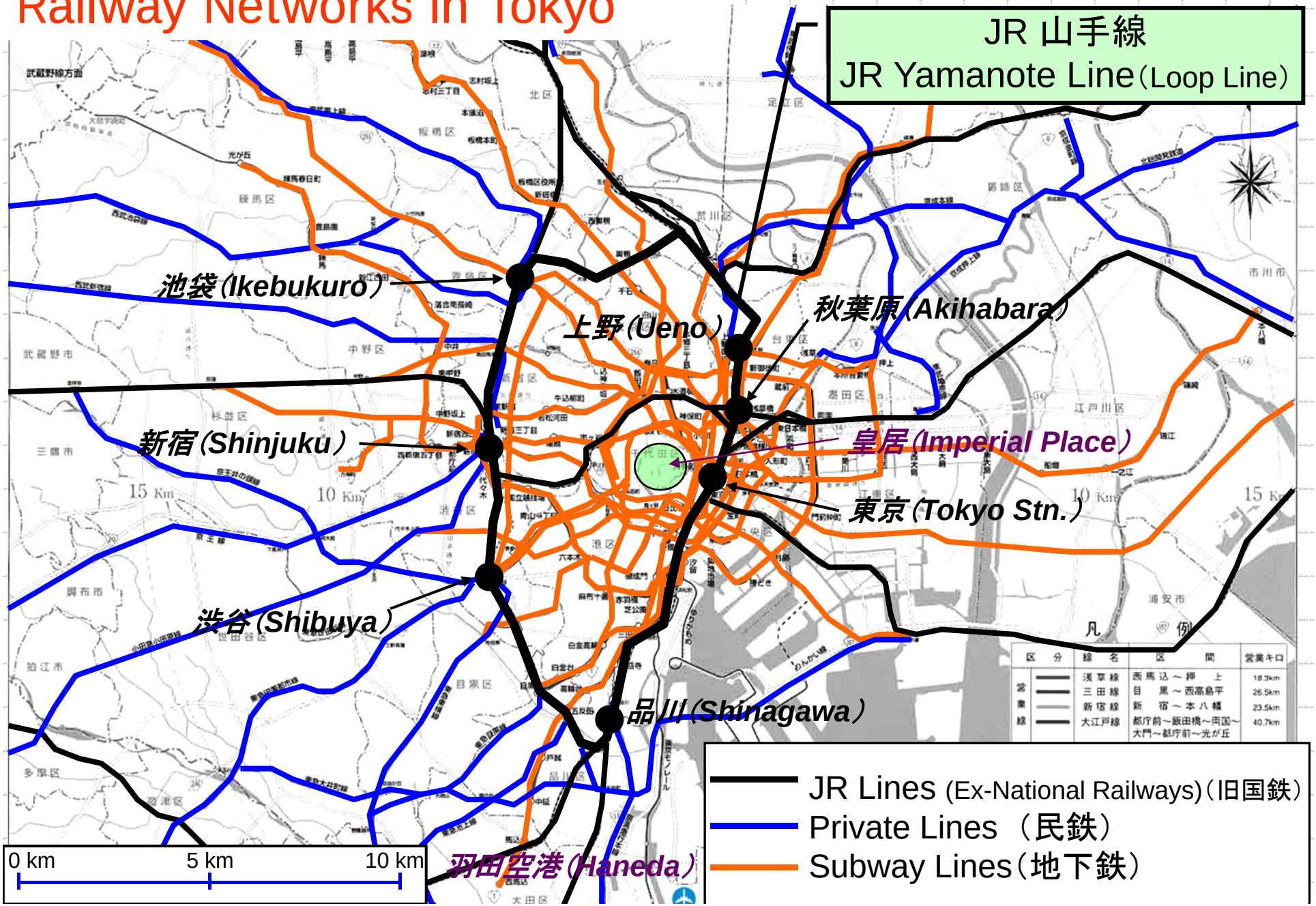
Subway Oedo line

JR Tokaido Shinkansen

Hankyu railway (private railway)

JR Yamanote line

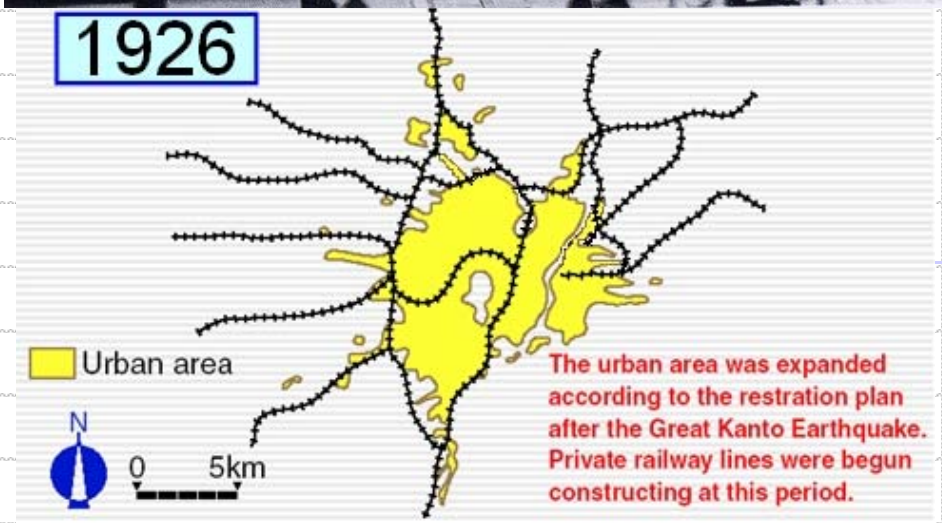
Railway Networks in Tokyo



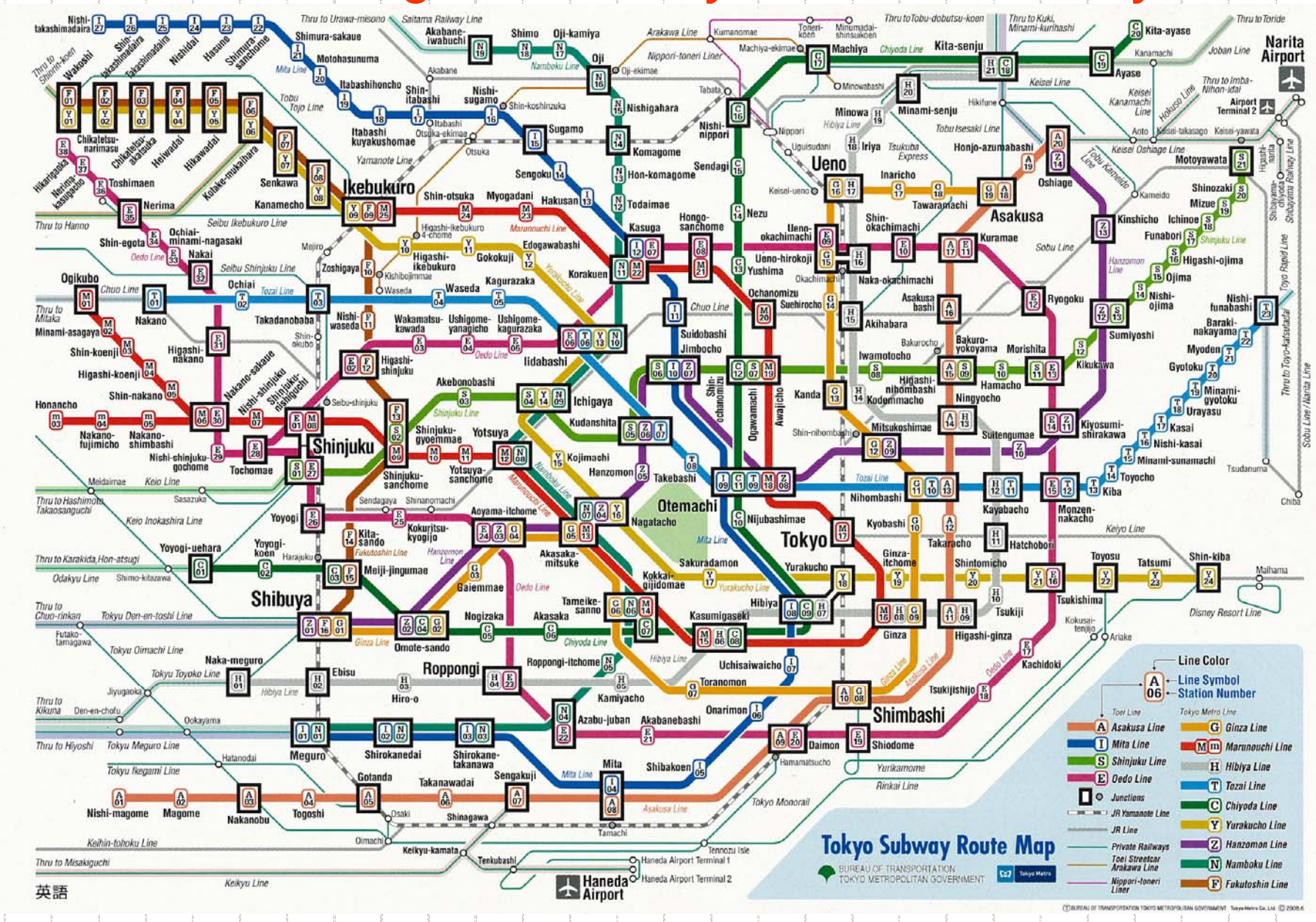
Characteristics of Railways in Tokyo

- Railway networks in Tokyo carry 24 million passengers daily.
- Peak-hour railroad operation interval: 1 to 2 min.
- Annual average delay per train: 0.7 min.

Development of Railway Networks
In response to the expansion of the Metropolitan Area



Metro and regional railway networks in Tokyo



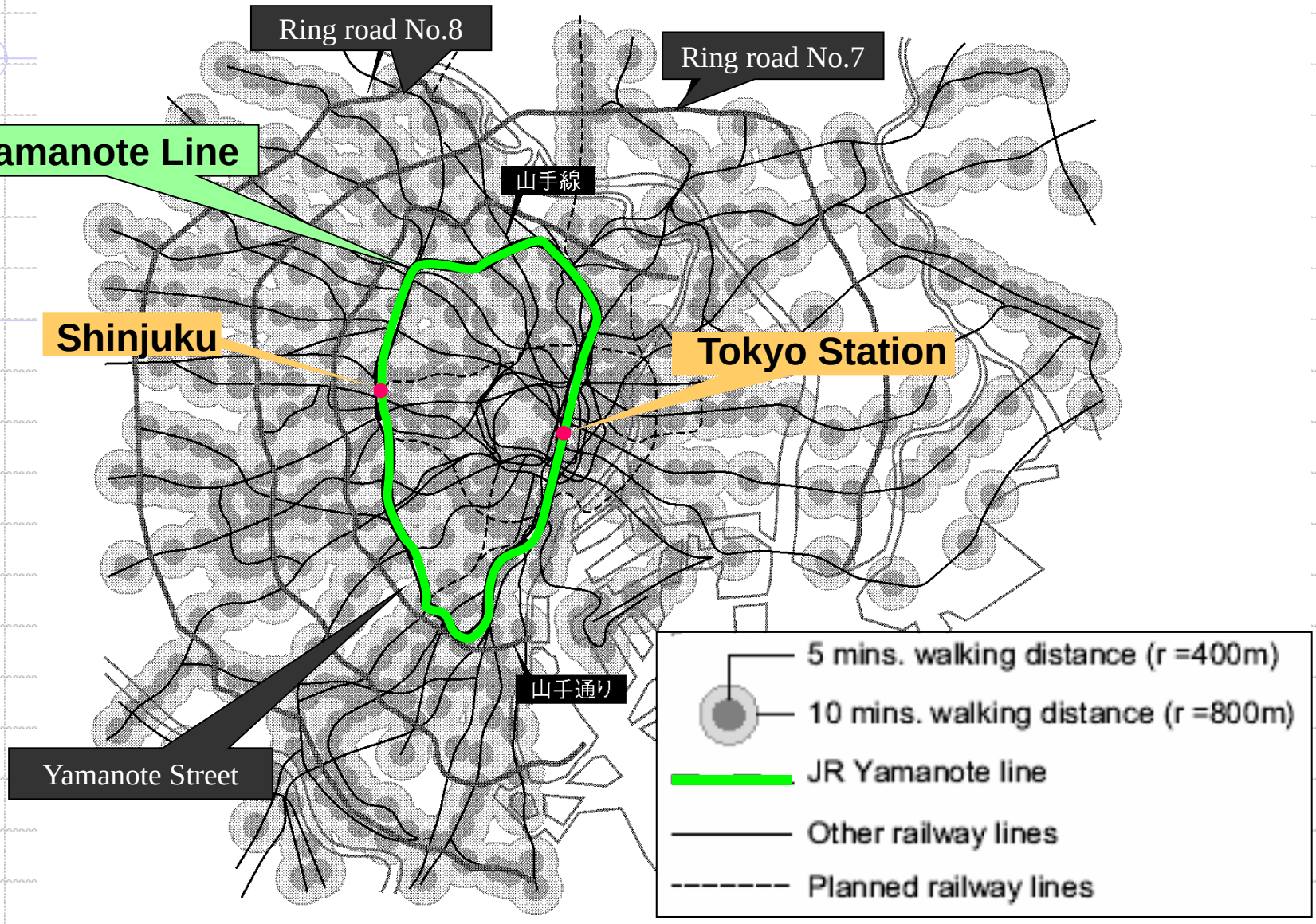
Note : Tama area is not included in this figure

Railway Networks in Tokyo

(Nov. 2010)

	Length	Number of Stations
JR Lines (Ex-National Railways) 	419km	141
Private Railways (7 major companies) 	383km	293
Subways (2 major companies)  	300km	234
Monorail, New Transit and Others  	76km	101
Total	1,178km	769

Zones accessible within 5 minutes and 10 minutes walk from station (23ward)



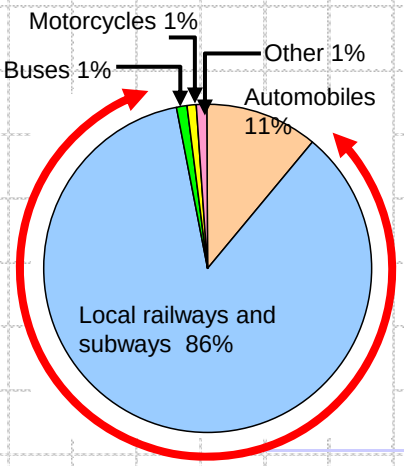
The Current Conditions of Urban Transportation in Tokyo (23ward)

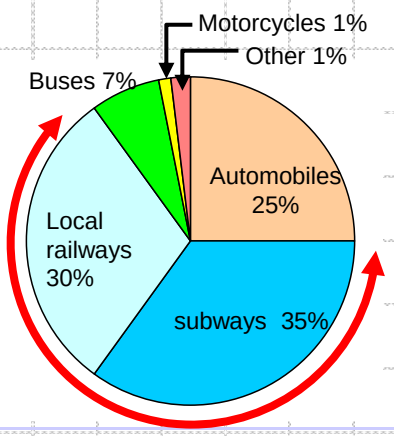
World-Leading Railway Line Development

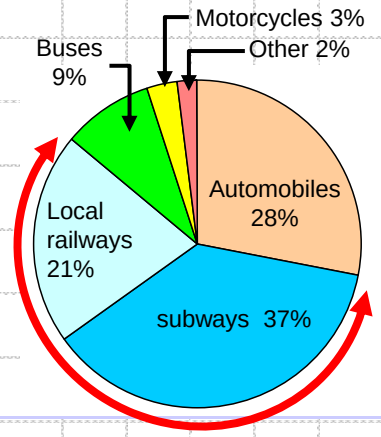
Comparisons of Route Density and Transportation Modes in Tokyo and Major Overseas Cities

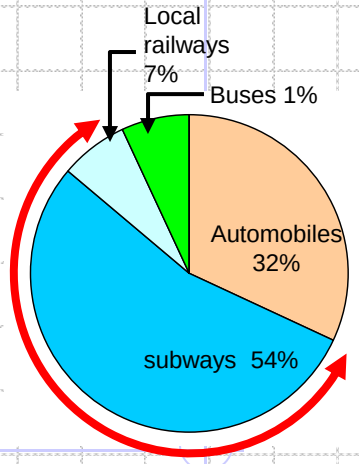
	Tokyo	London	Paris	New York
Route density (km/km²)	1.01	0.74	0.41	0.74

Shares of Movement by Transportation Mode





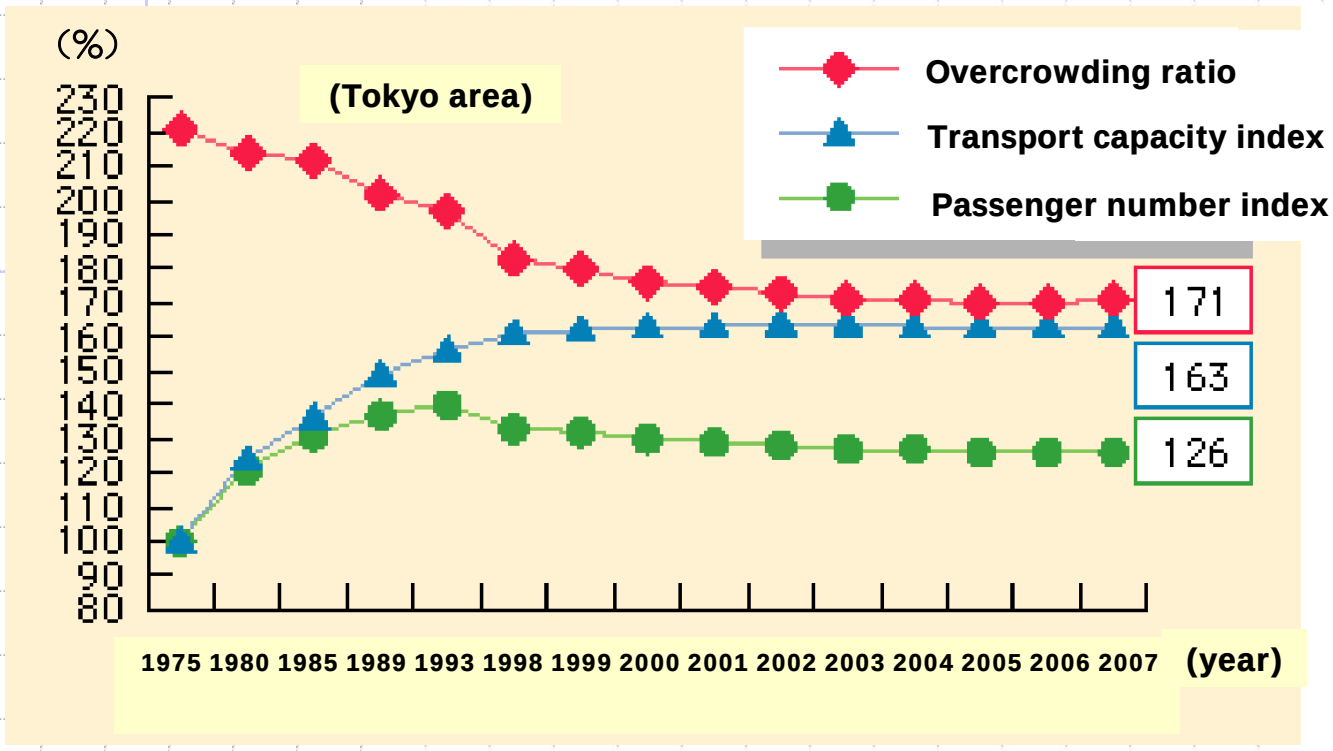


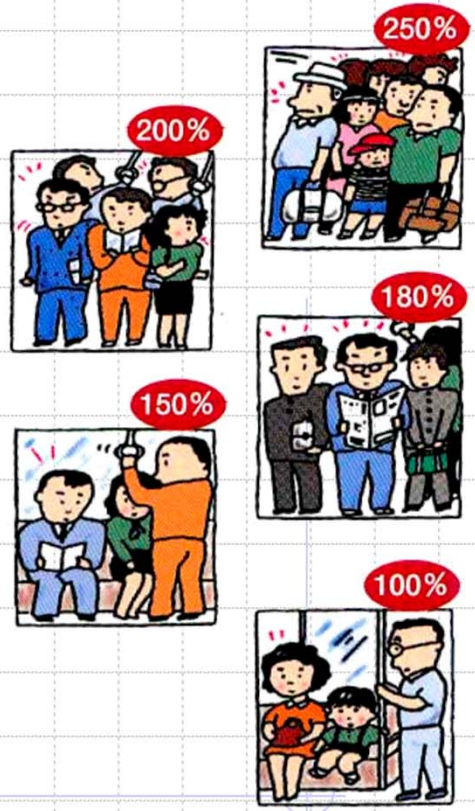


Tokyo	London	Paris	New York
Railway・Subway 86%	Railway・Subway 65%	Railway・Subway 58%	Railway・Subway 61%

The Current Conditions of Urban Transportation in Tokyo

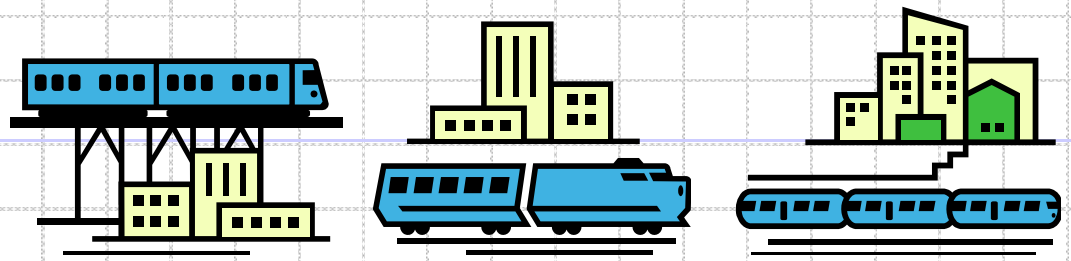
Railway Crowding





Source：「WHITE PAPER ON MLIT IN JAPAN (2008)」

Improvement of Railways



Policy Report of the Council for Transport

◆A basic plan

Concerning the development of transport links on the rapid-transit railway in Tokyo metropolitan area

◆History

The policy report of the council for transport revised almost every 10 to 15 years recently.

1956 Policy Report of the Council for Urban Transport No.1
1962 Policy Report of the Council for Urban Transport No.6
1968 Policy Report of the Council for Urban Transport No.10
1972 Policy Report of the Council for Urban Transport No.15
1985 Policy Report of the Council for Transport No.7
2000 Policy Report of the Council for Transport No.18

Policy Report No.18 of the Council for Transport

(Issued in January, 2000)

◆Target year ⇒ 2015

◆Basic Aspects

1) Decrease average ratio of train congestion, future target: 150% at peak time

2) Improve express services

3) Ease accesses to airport and Shinkansen

4) Make traffic service barrier-free and seamless

Planned Routes categorized in the Policy Report No.18

Planned Route A1

Routes that should be open by 2015

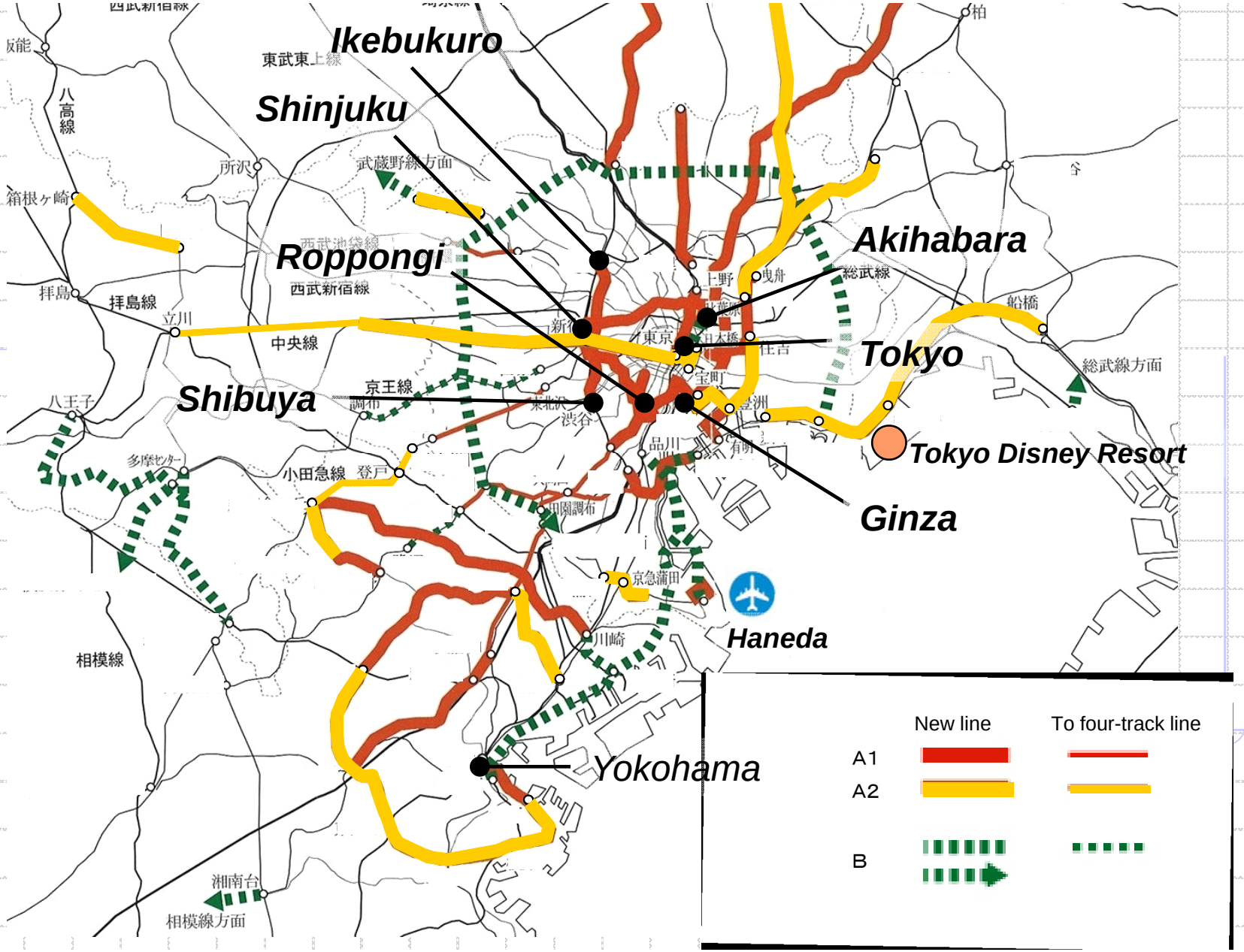
Planned Route A2

Routes that should start building by 2015

Planned Route B

Routes that construction
should be examined in the future

Planned roads mentioned in the Policy Report No.18

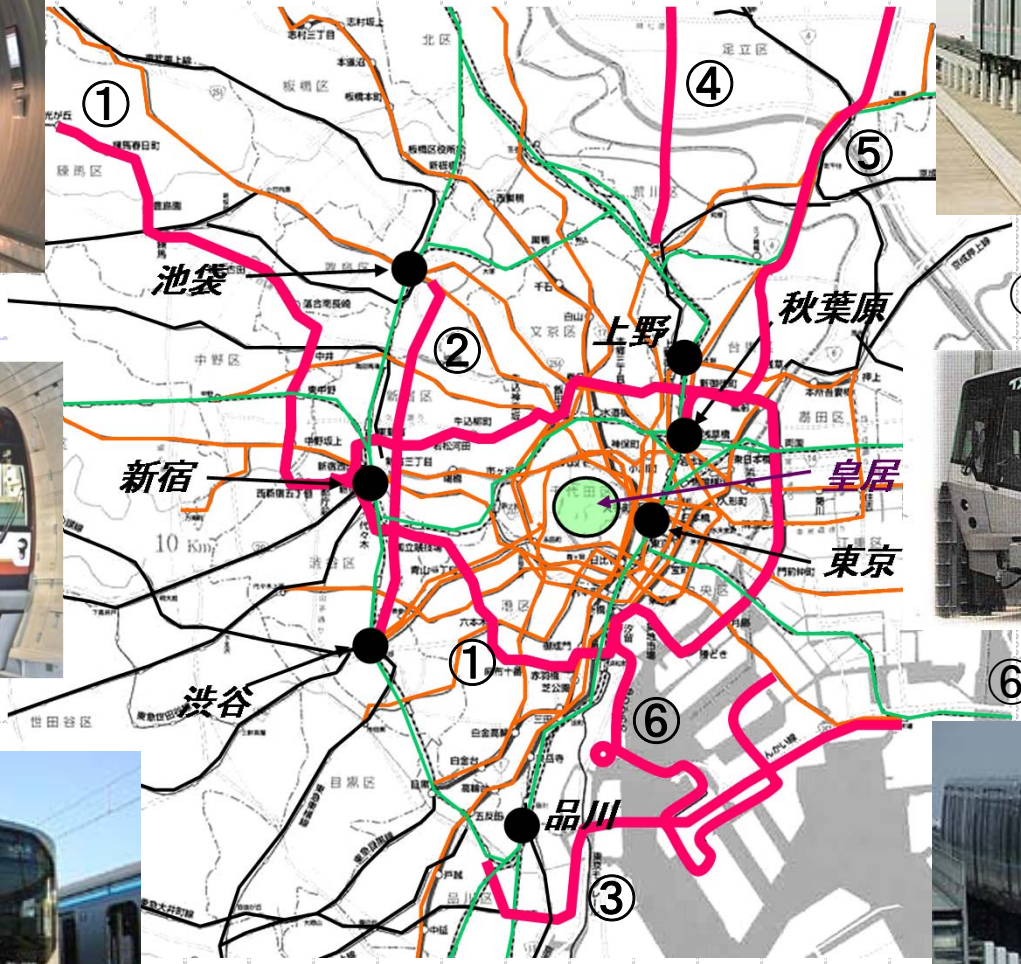


Recent Development of Railway in Tokyo

①Oedo Line

②Fukutoshin Line

③Rinkai Line



④Nippori-Toneri Liner

⑤Tukuba Express

⑥Yurikamome Line

Current States of A1, A2 and B Routes

- **All A1 Routes** have already been open or under construction
- but, **any A2 and B Routes** are not under construction

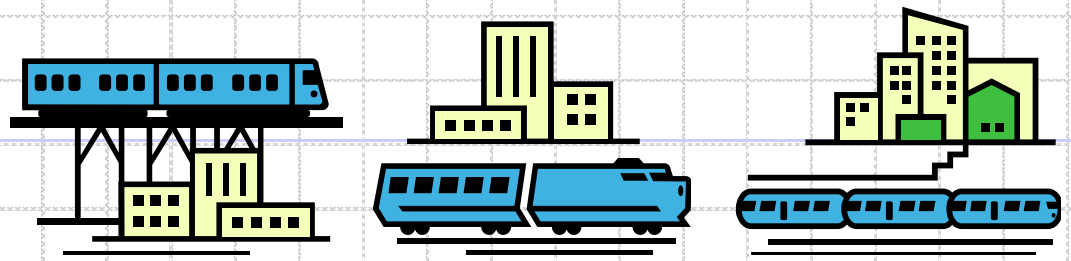
Issues

1 To find an entity who take care of the project
2 To secure funds for the huge project expenses
3 To improve profitability of the project

Outline of major subsidy systems related to railway development

System	Subject	Outline	Subsidy rate		Applicable lines
			National	Local	
Subsidy for development of underground rapid speed railways	Public Public-private Metro	Subsidy for construction of new lines and large-scale improvements	35%	35%	Tokyo metropolitan government, Tokyo Metro, Nakanoshima Rapid Railway Nishiosaka Railway
Subsidy for development of airport access railways	Public Public-private	Subsidy for development of new town railways	15%	15%	Yokohama City Sendai Airport Transit Narita Rapid Railway Access * Subsidy rate: 1/3
		Subsidy for development of airport access railways	18%	18%	
Subsidy for improving convenience of urban railways	Public-led such as public-private	Subsidy for development of short lines and mutual direct operation facilities as well as improvement of existing stations	1/3	1/3	Sotetsu-JR through line Sotetsu-Tokyu through line Improvement of Hankyu Sannomiya Station
P-line system	Private railways	- System in which the Japan Railway Construction, Transport and Technology Agency undertakes the development, and assigns their properties to the operator by long-term annual installments (25 years). - The national and local governments pay interests exceeding 5% evenly.			Rinkai Line Tokyo Monorail

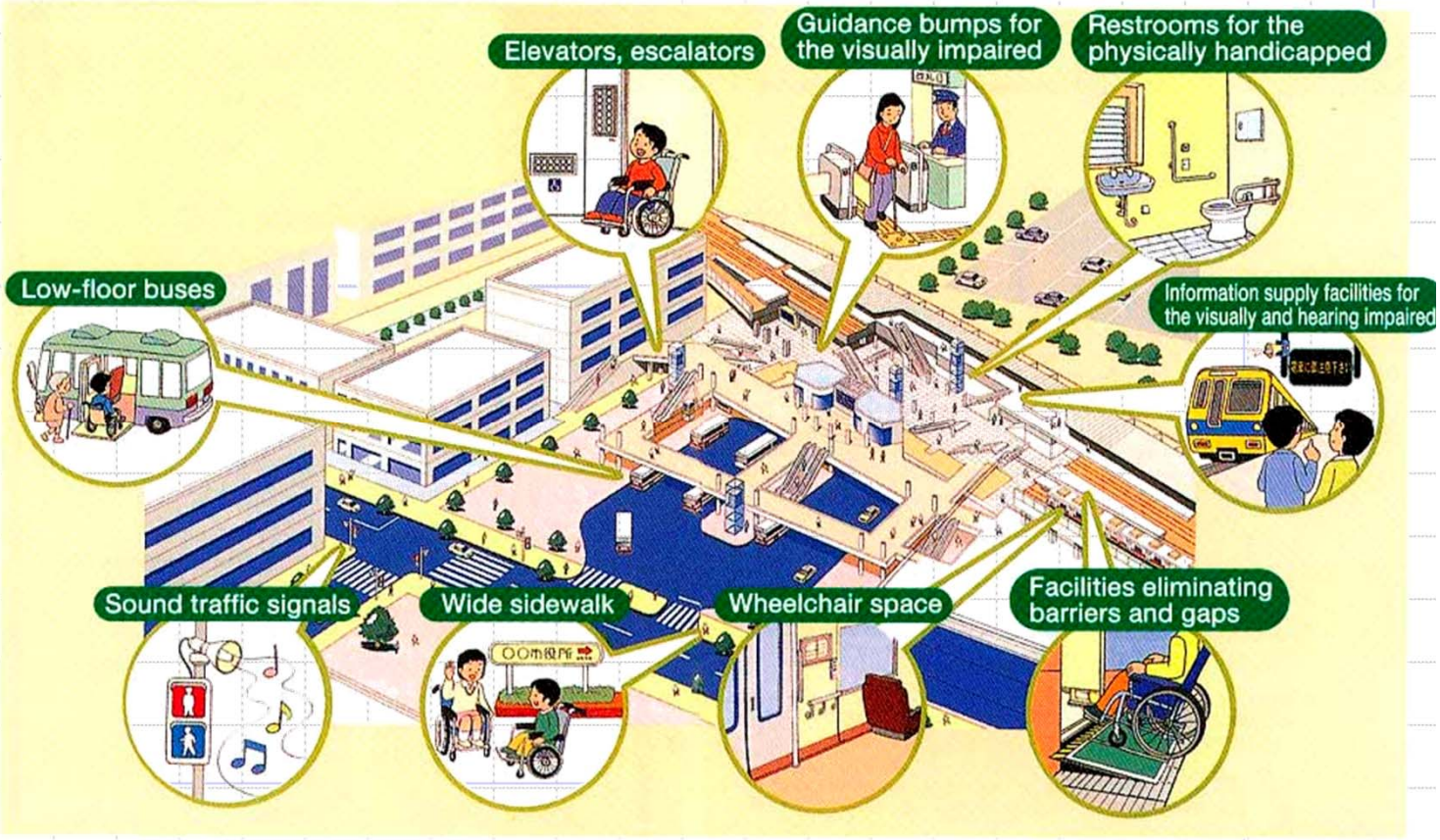
Promoting Barrier-free Facilities



Transportation Friendly to People as well as the Environment

Promoting Barrier-Free Facilities

Under the Accessible and Usable Transportation Law, upon new construction of stations and other passenger facilities, newly introducing buses or other types of vehicles or in other circumstances, compliance with barrier-free standards is required. Likewise, under the guidance of individual municipalities schemes are incorporated to achieve barrier-free facilities in stations, nearby roads, traffic signals and other infrastructure. This leads to advances in barrier-free status in stations, nearby roads and other amenities.

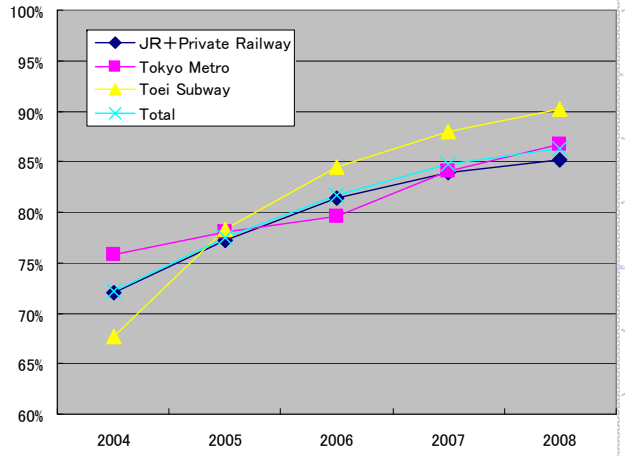


Source : “Land , Infrastructure and Transportation 2001 White Paper”

Current Conditions of Urban Transportation in Tokyo

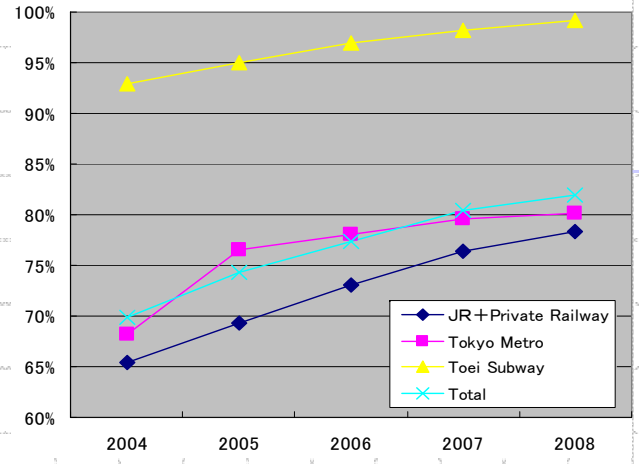
"Barrier-Free" Improvements

Installations of elevators and escalators in the Tokyo railway stations



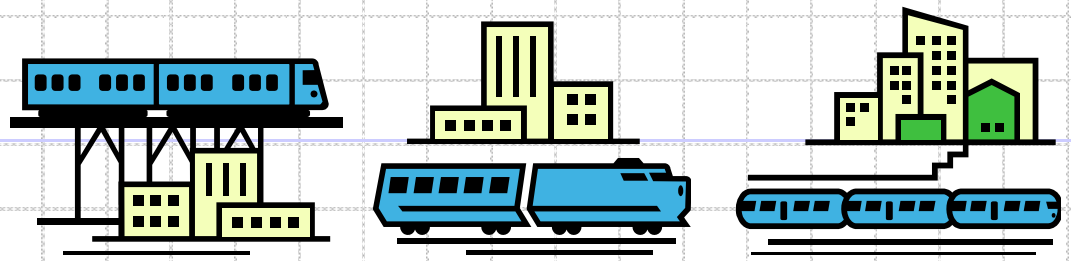
E V ・ E S	2004	2005	2006	2007	2008
J R + Private Railway	72.0%	77.1%	81.4%	83.9%	85.1%
Tokyo Metro	75.8%	78.0%	79.5%	84.1%	86.8%
Toei Subway	67.7%	78.3%	84.5%	88.0%	90.1%
Total	72.1%	77.5%	81.6%	84.7%	86.3%

Provisions of barrier-free restrooms in the Tokyo railway stations



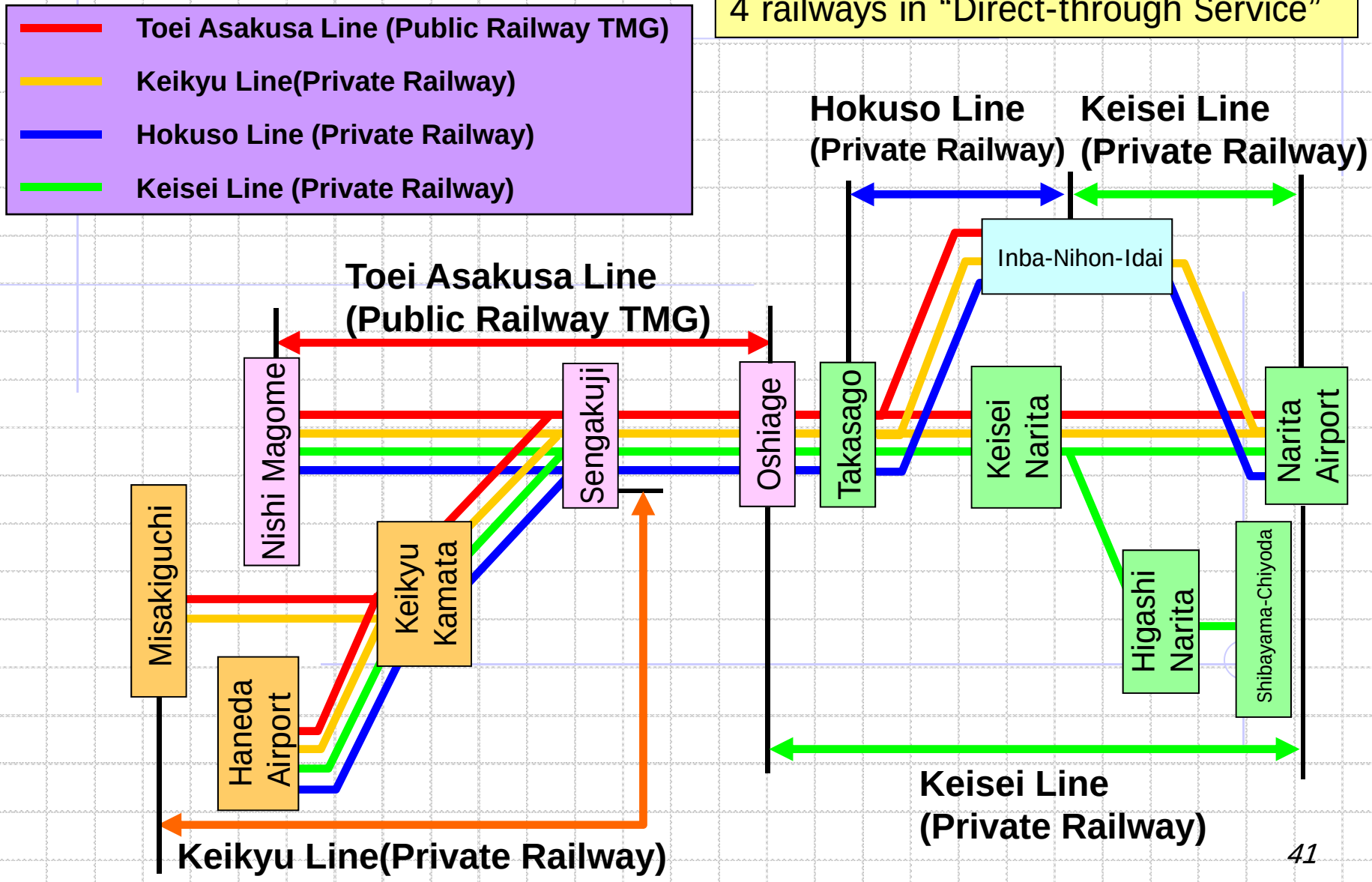
Stations with barrier-free restrooms	2004	2005	2006	2007	2008
J R + Private Railway	65.4%	69.4%	73.1%	76.5%	78.4%
Tokyo Metro	68.2%	76.5%	78.0%	79.5%	80.1%
Toei Subway	92.9%	94.9%	97.0%	98.2%	99.1%
Total	69.8%	74.3%	77.4%	80.4%	81.9%

Promoting Seamless Transportation

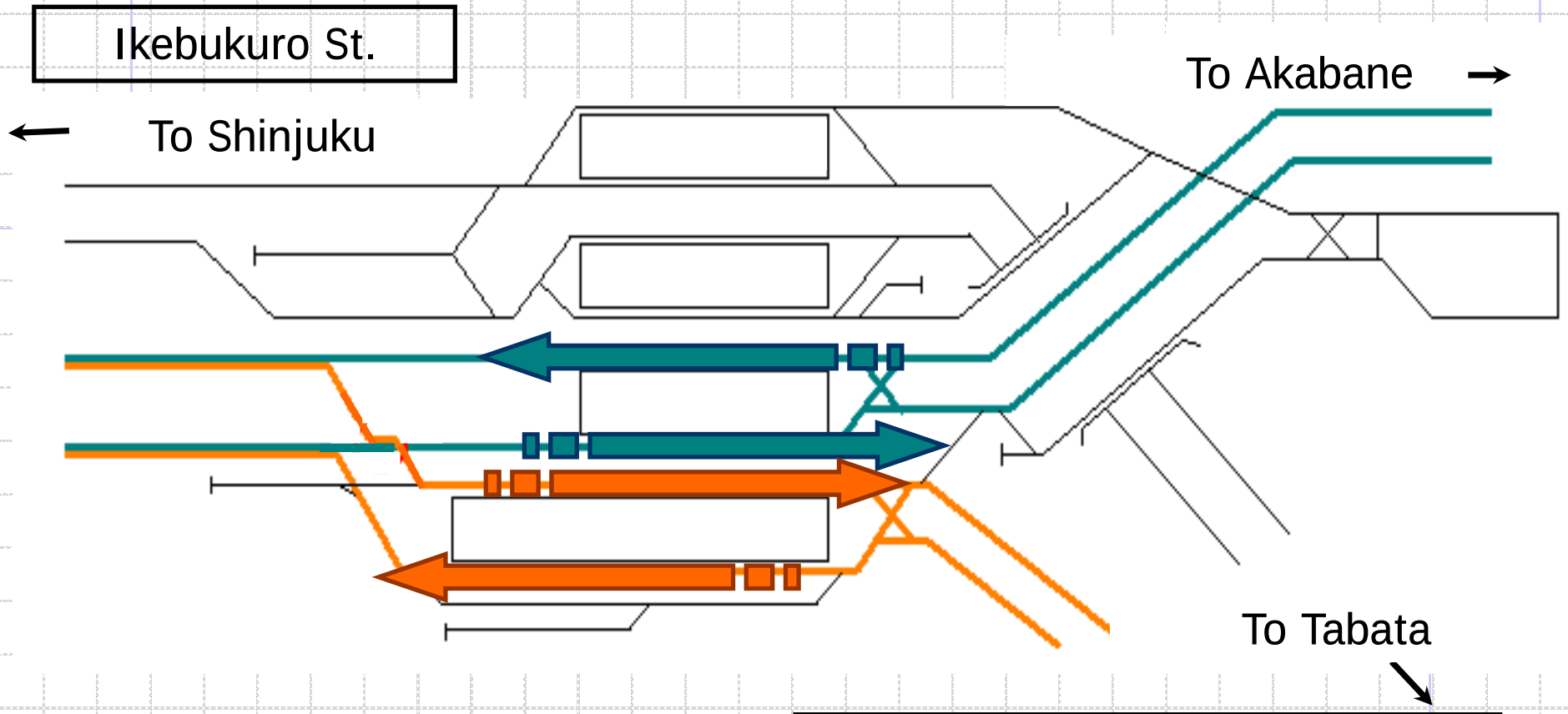


Promoting Seamless Transportation

—System of "through routes"—



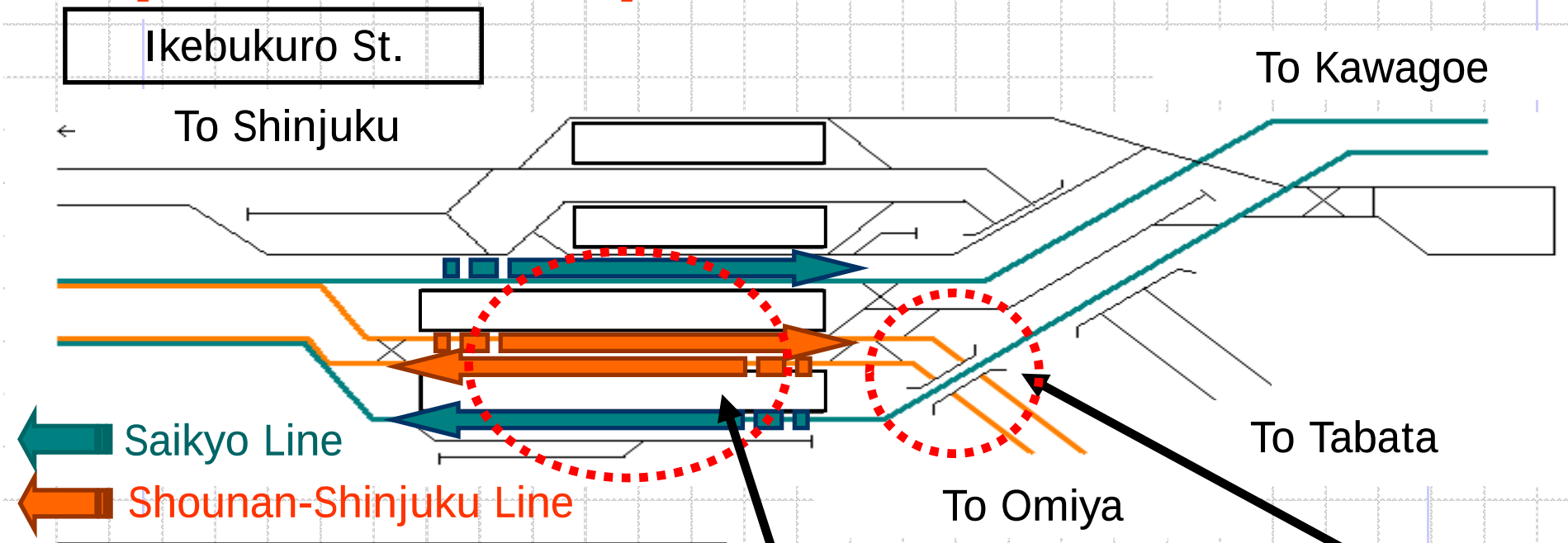
— Improvement of Transport Convenience —



（Previous Plan）

Platforms were arranged by Line.

Improved Transport Convenience



（Improved Plan）

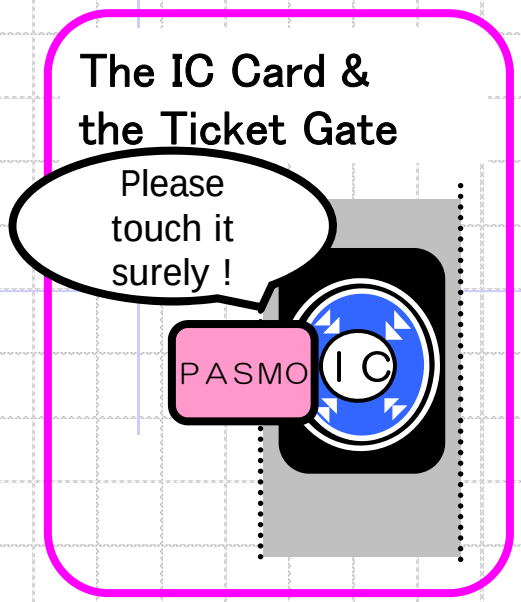
Platforms were arranged by Direction of Trains

Transportation Friendly to People and the Environment

Promoting Seamless Transportation

— Improved Transport Convenience —

The IC Card Ticketing System in urban area



JR East & the others
(6 Sectors)

Mutual Use with Each
Transportation Company
(2007～)

Private Railways &
Subways (26 Sectors)

Buses
(74 Sectors)

Tokyo Metropolitan Government

Thank you very much!