



Life in harmony,
into the future
COP10/MOP5
AICHI-NAGOYA
JAPAN 2010

Change for the future.
Change by Japan.



Environmentally Sustainable Transport Initiative in Japan

August 23, 2010

Japan:

Ministry of the Environment

Ministry of Land, Infrastructure, Transport and Tourism

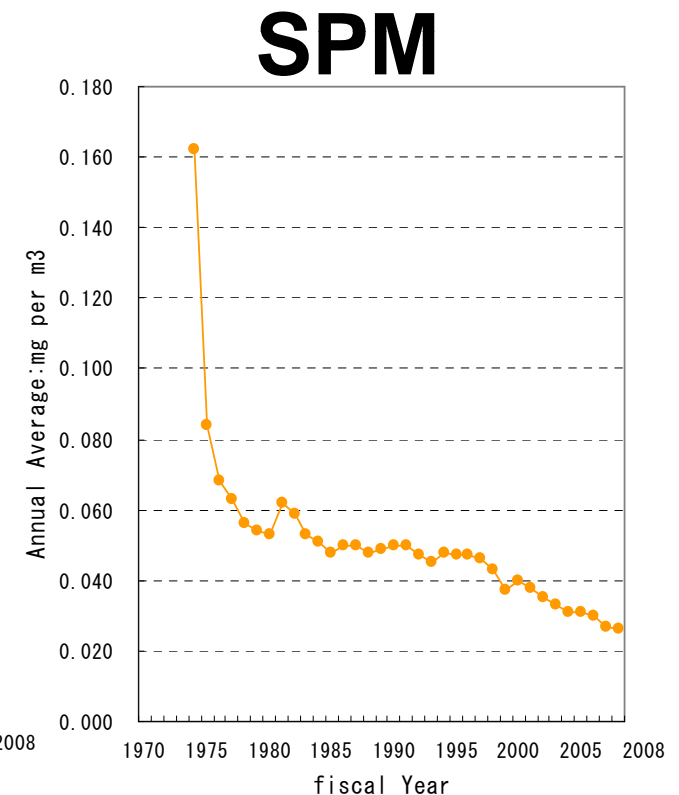
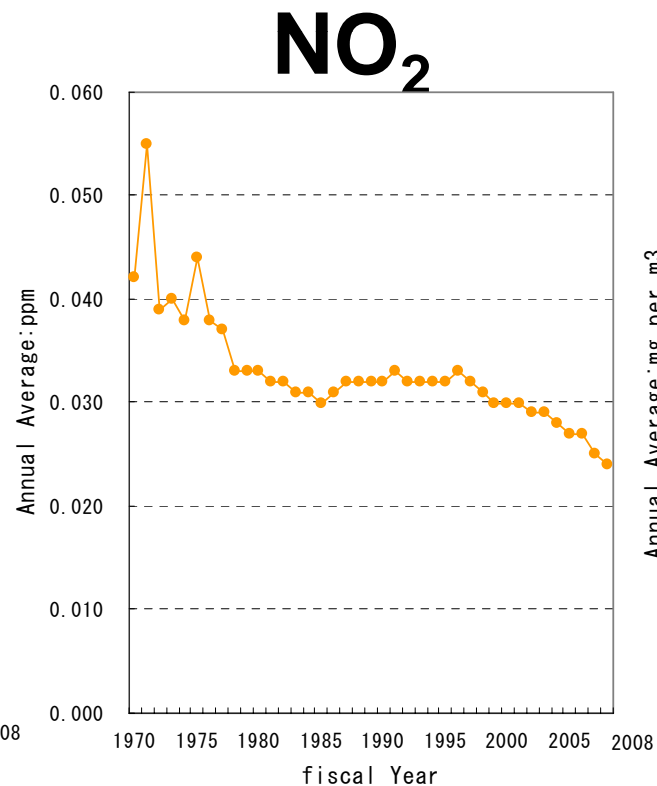
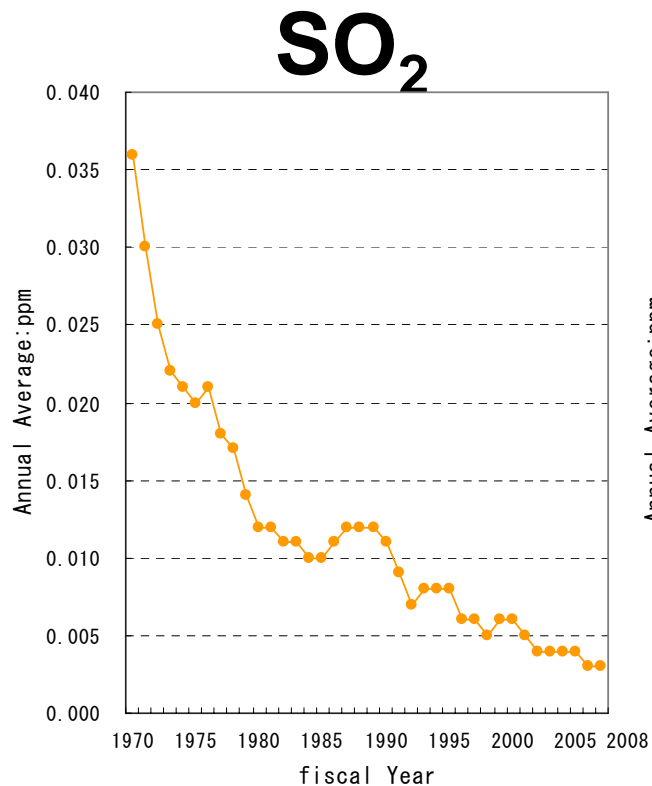
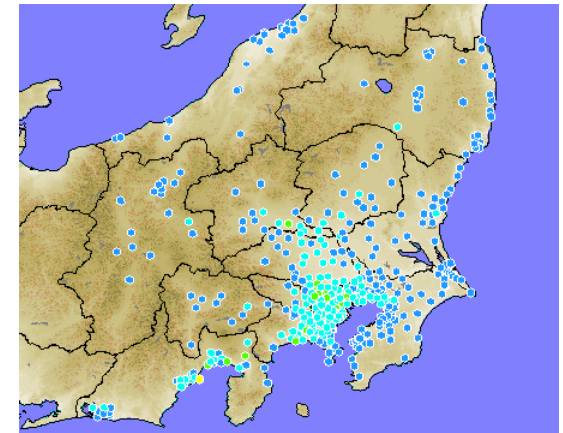
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7. Greenhouse Gas Emission Reduction

1. Air Pollution Measures

Air Quality in Japan

- In Japan, air pollution levels are constantly measured at the 1,987 nationwide monitoring stations managed by prefectures in accordance with the Air Pollution Control Law.
- Although air pollution levels have improved in most regions, some areas (mainly in the Tokyo metropolitan area) need further improvement.

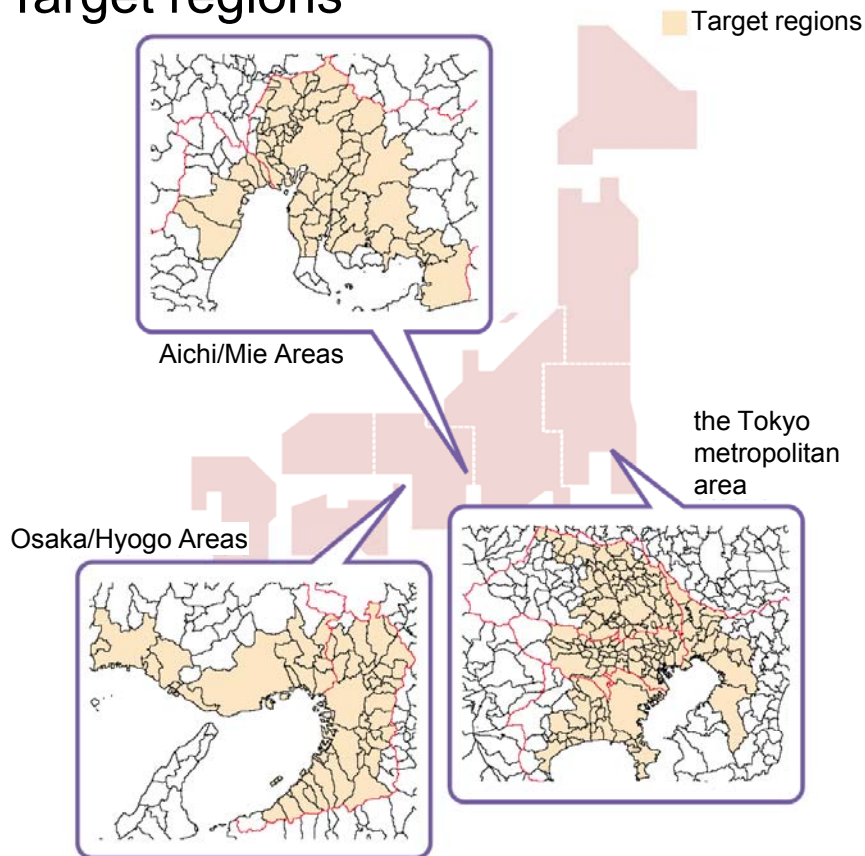


Automotive NOx and PM Law

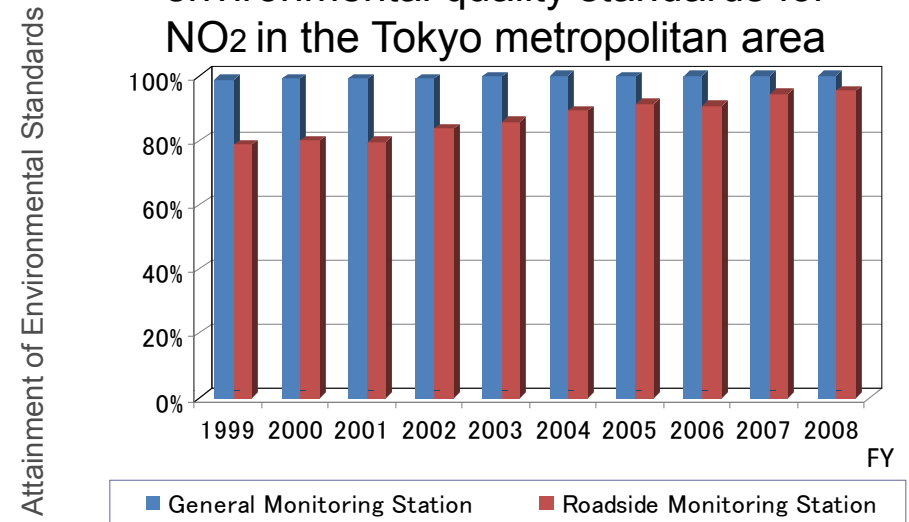
➤ Measures

- Formulation of each local government's master plan to reduce exhaust fumes
- Restriction of registration renewal of old model vehicles
- Formulation of each company's vehicle management plan.

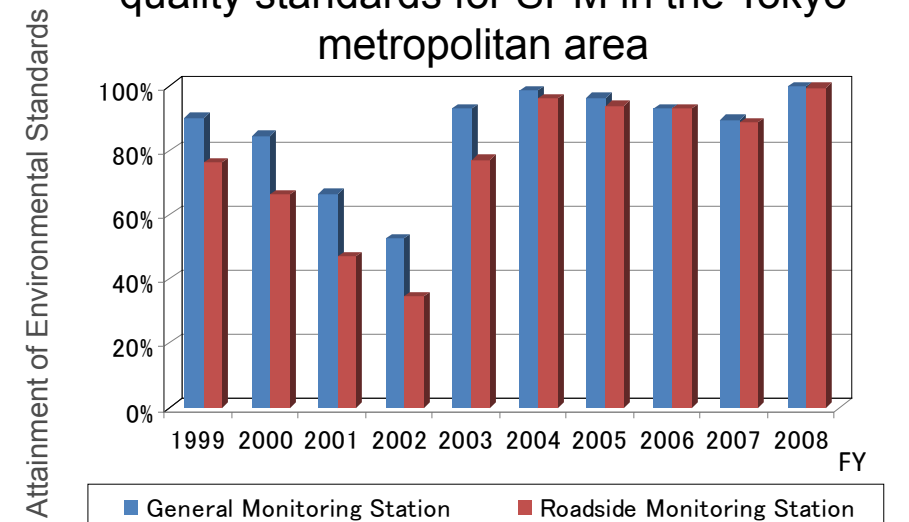
Target regions



The level of attainment of environmental quality standards for NO₂ in the Tokyo metropolitan area



The level of attainment of environmental quality standards for SPM in the Tokyo metropolitan area



Revision of Automotive NOx and PM Law

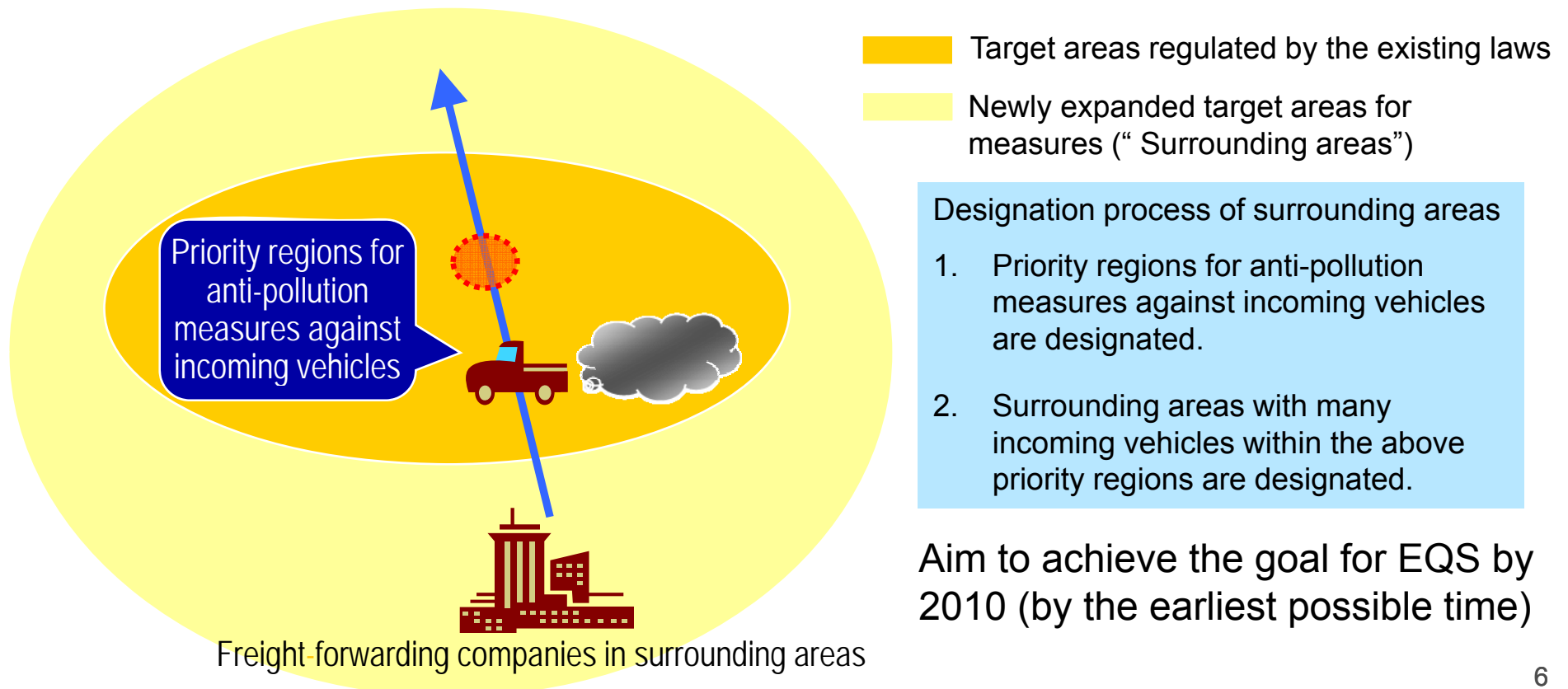
➤ New measures

(1) Municipal anti-pollution measures

- Designation of priority regions for anti-pollution measures by each prefectural governor
- Implementation of mandating measures against new construction of particular buildings.

(2) Measures against incoming vehicles

- Implementation of mandatory measures for freight-forwarding companies in surrounding areas
- Effort obligations by companies



Framework for Vehicle Exhaust Emission Standard

Air Pollution Control Law

Ministry of the
Environment

Permissible limit of vehicle exhaust emissions



Road Transport and Motor Vehicle Law

Ministry of Land,
Infrastructure,
Transport and
Tourism

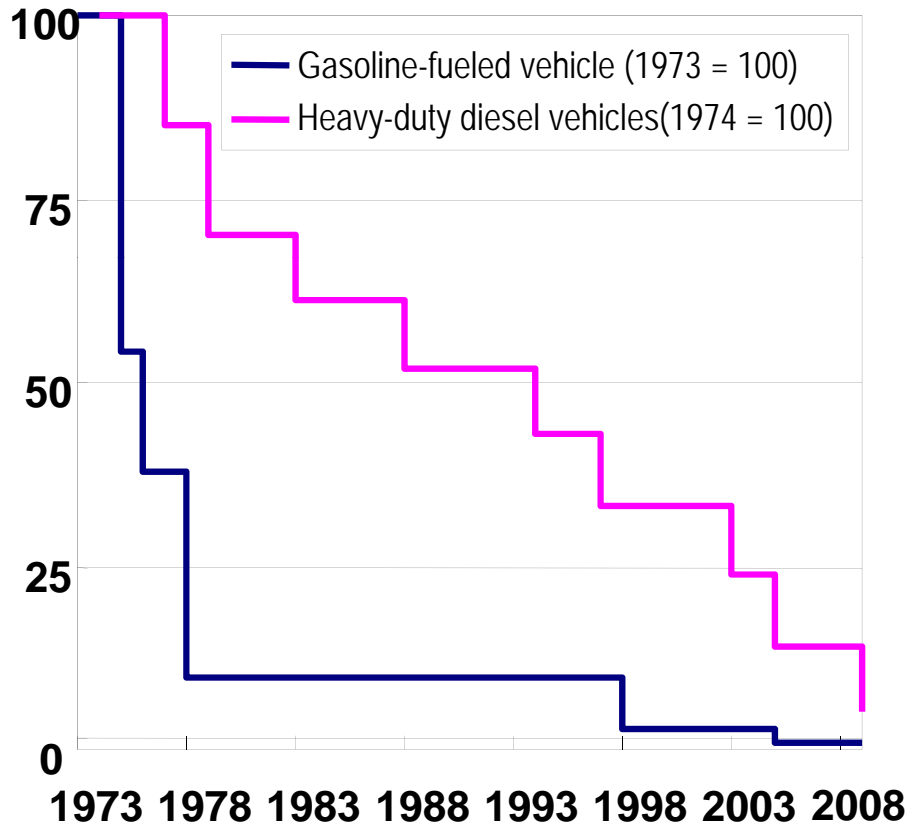
Establishment of exhaust emission standard based
on the vehicle safety standards



No vehicle can be newly registered unless the
standards are met.

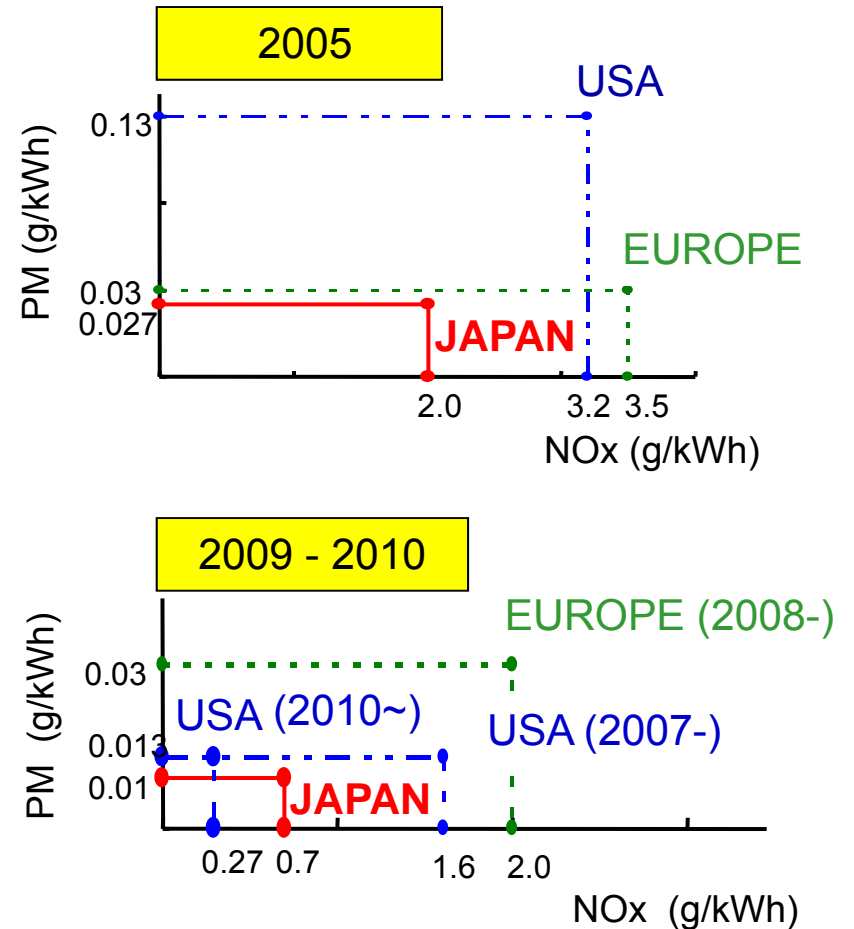
Vehicle Exhaust Emission Control

Changes in NOx emission control in Japan



The permissible limit of exhaust emission based on the Air Pollution Control Law applied after 2009 was renewed in December 2007.

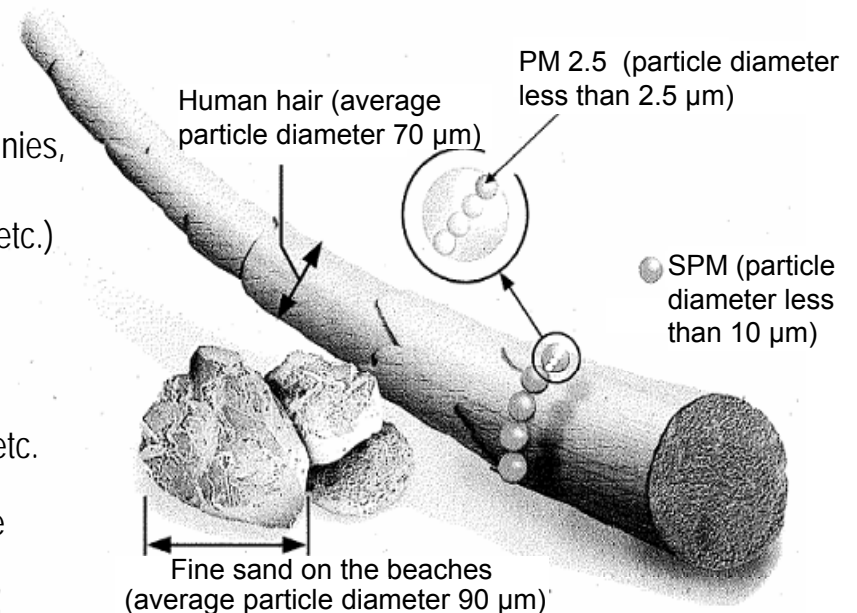
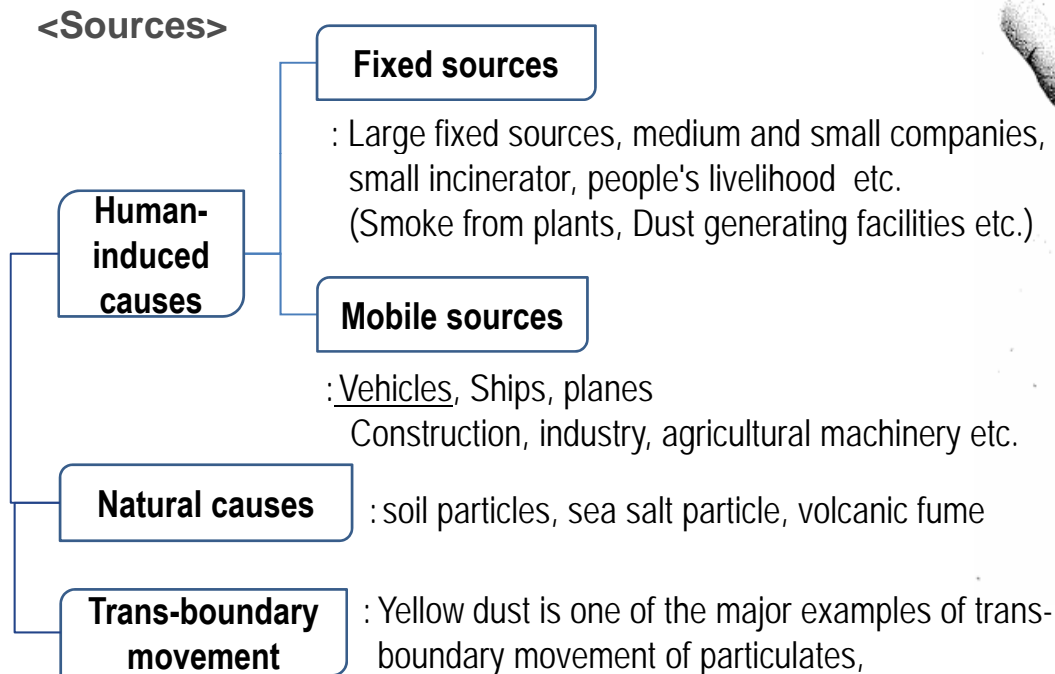
Comparison of emission controls among Japan, USA, and EU



Environmental Standards on PM_{2.5}

PM_{2.5}

PM_{2.5} refers to suspended particulates in the air that are smaller than 2.5µm. There are concerns about the health effects of PM_{2.5} due to the fact that it can be easily inhaled deeply into the respiratory system and that various harmful substances are absorbed into and attached to the surfaces of those particulates.



Size of particles (Comparison to human hair and fine sand on the beaches)
(Outline drawing)

Japanese environmental standards for PM_{2.5}

Annual average : Less than 15 µg/m³

Daily average: Less than 35 µg/m³

2. Road Traffic Safety

Changes in Traffic Accident Statistics in Japan

- The number of traffic-related fatalities in 2009 was 4,914 falling below 5,000 for the first time in 57 years, and the number decreased for nine consecutive years.
- Aim to achieve further reductions in traffic-related fatalities to become the country with the safest roads in the world.
- The number of traffic accidents and casualties remains high.

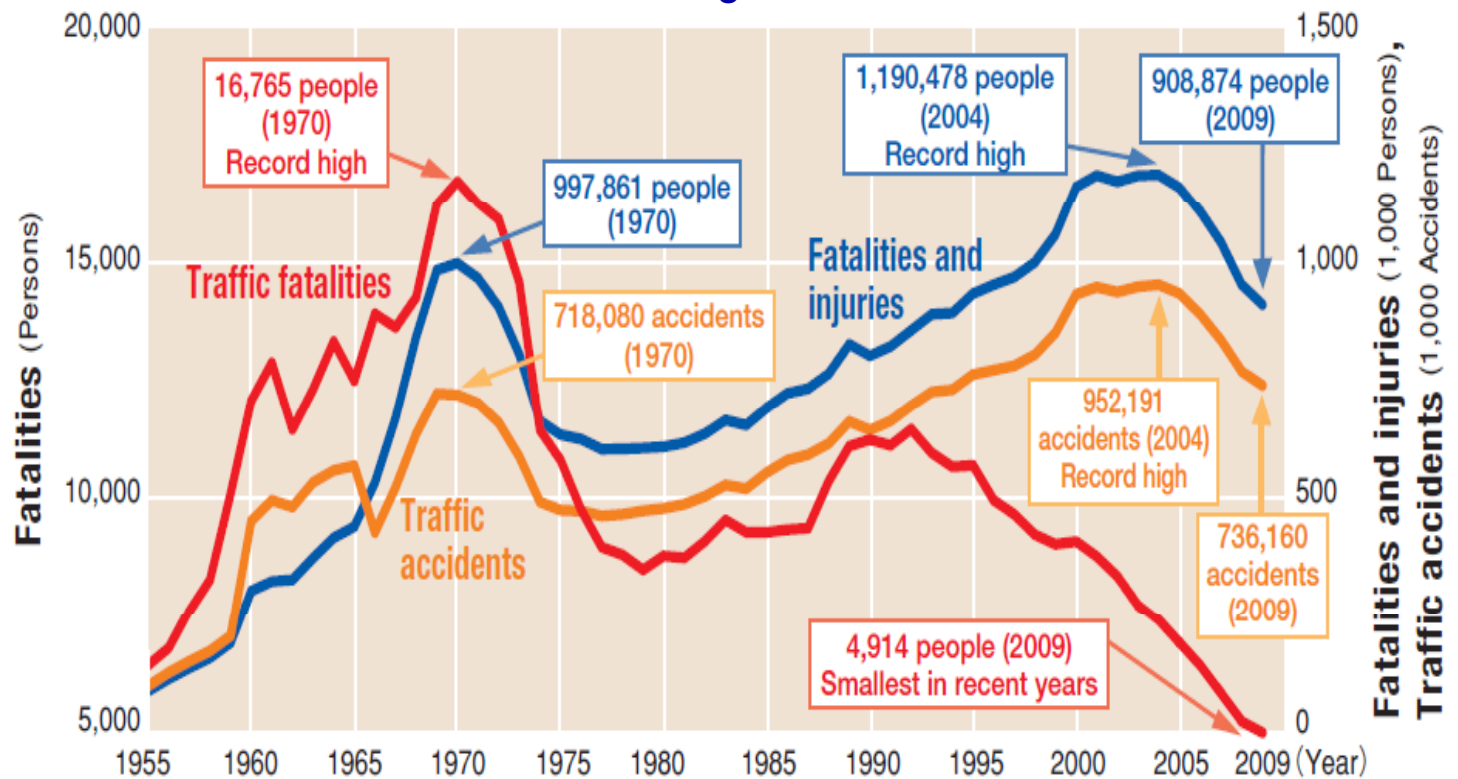
Fasten Seatbelts

Eradication of drinking and driving

Promotion of eco driving (Green driving)

Road improvements

**Other measures
Roads and vehicles**

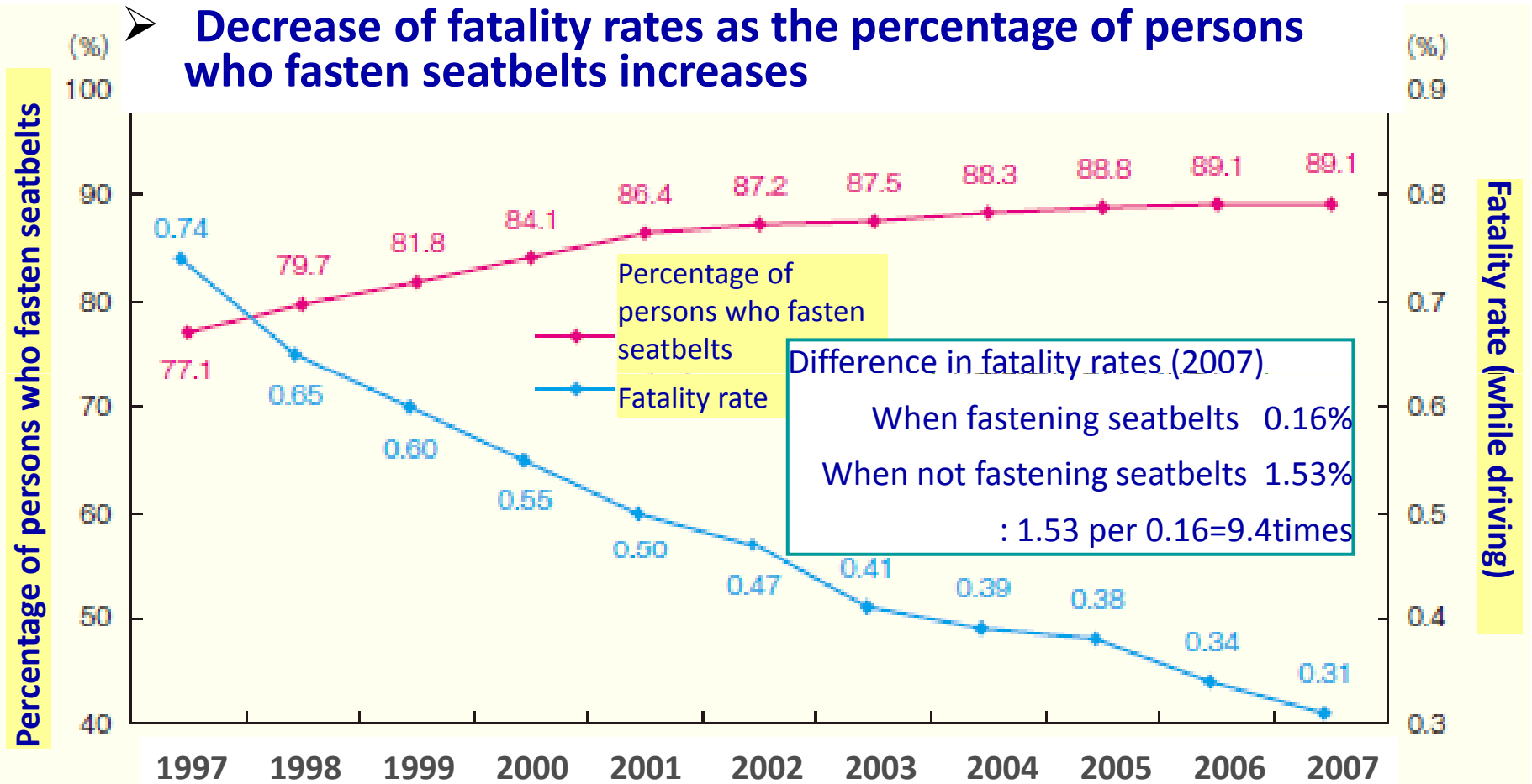


* 1 Up until 1959, accidents causing minor injuries (injuries treatable in less than eight days and property damage less than 20,000 yen) were not included.
 * 2 In and after 1966, the number of accidents does not include property damage.
 * 3 In and before 1971, Okinawa Prefecture is not included in the numbers of accidents, fatalities and injuries.

Source: Data from the National Police Agency

Decrease of fatality rates by fasten seatbelt

Decrease of fatality rates as the percentage of persons who fasten seatbelts increases



1. Source of information: the National Police Agency
2. Percentage of persons who fasten seatbelts = Number of persons killed/injured when fastening seatbelts (while driving) / Number of persons killed/injured (while driving) x 100
3. Fatality rate (while driving) = Number of persons killed (while driving) / Number of persons killed/injured (while driving) x 100

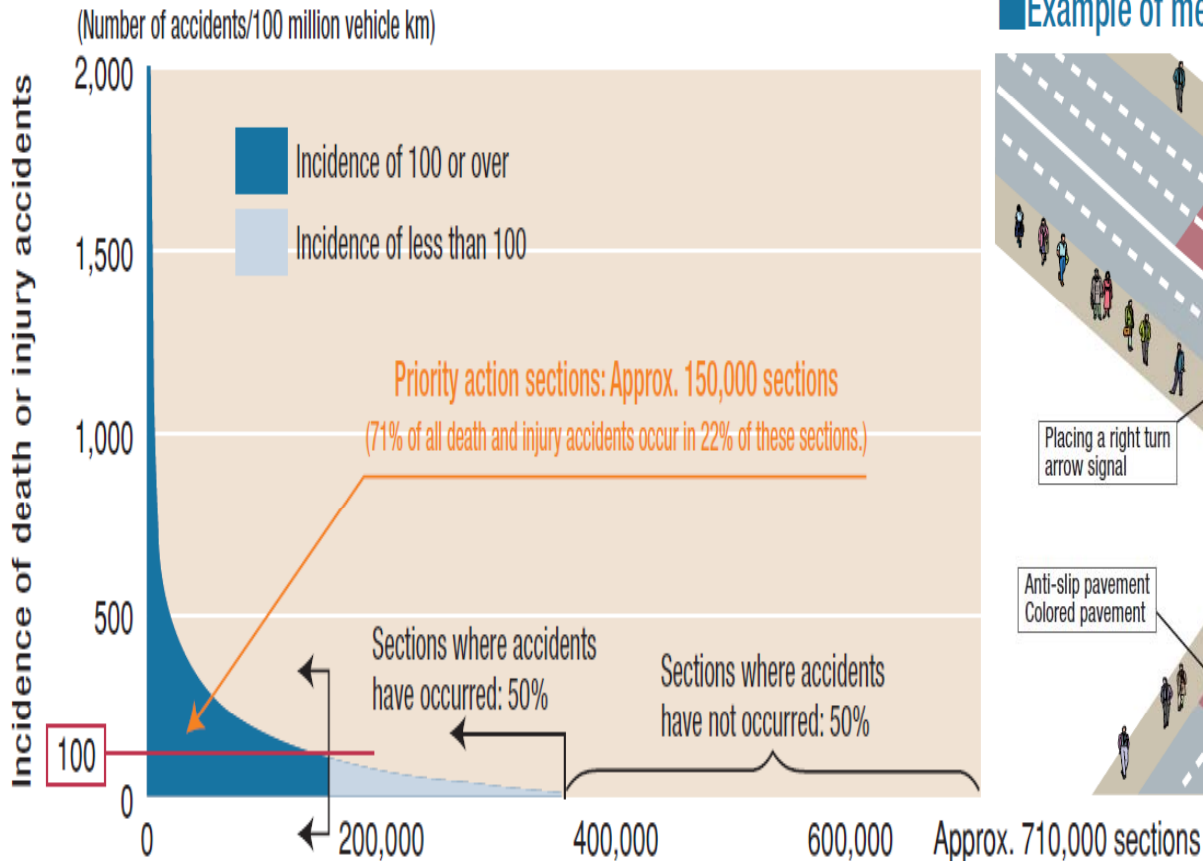
[Source] White paper on traffic safety 2008, National Police Agency

Road Traffic Safety Measures

- 71% of fatal and injury accidents are concentrated in the 22% of the sections of arterial roads
- Implement countermeasures from higher priority areas depending on traffic accident rate

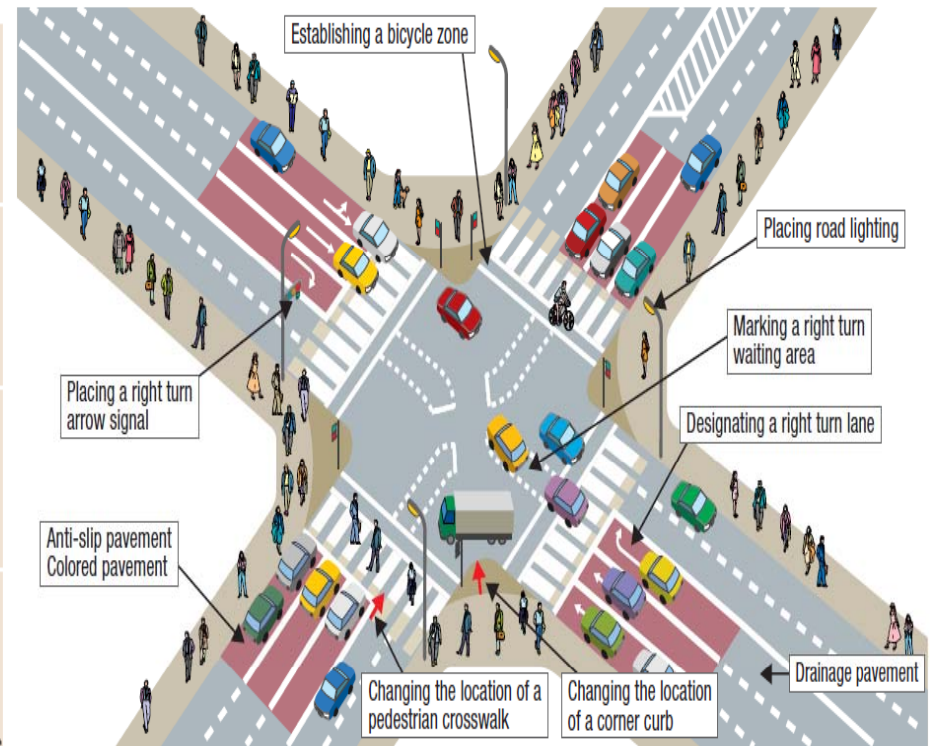
● Accident occurrence on arterial roads

Nationwide incidence of death or injury accidents (on arterial roads)



* Created from data on averages of accidents that occurred during four years (2003-2006) on approximately 180,000 km of national and prefectural roads throughout Japan.

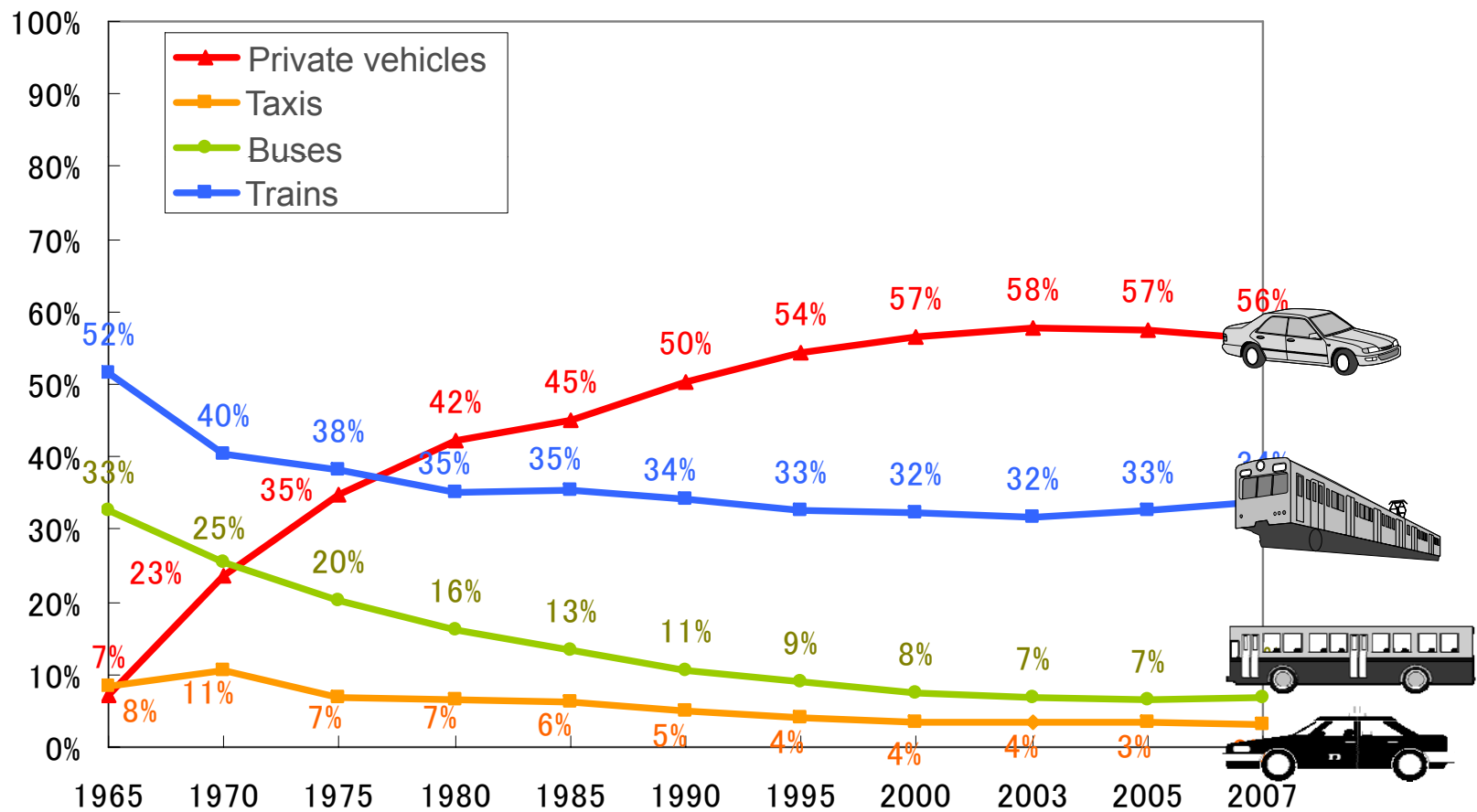
■ Example of measures in high accident section



3. Promotion of utilization of public transport

Changes in Public Transport Users

- The number of public transport users are declining due to an increase in the rate of use of private vehicles with the progress in motorization. However, the tendency has been recovering in recent years.
- In particular, as the number of bus users has been significantly decreasing, the future of local public transport is endangered.



Act on Promotion and Restoration of Regional Public Transport

Necessities for Promotion and Restoration of Regional Public Transport

Maintenance of the transport

Promotion of Sightseeing

Environmental Problems

Basic Guidelines

Formulation and Implementation of Coordinative Plan

Statutory Committee

Municipality

Public Transport business operator

Inhabitant

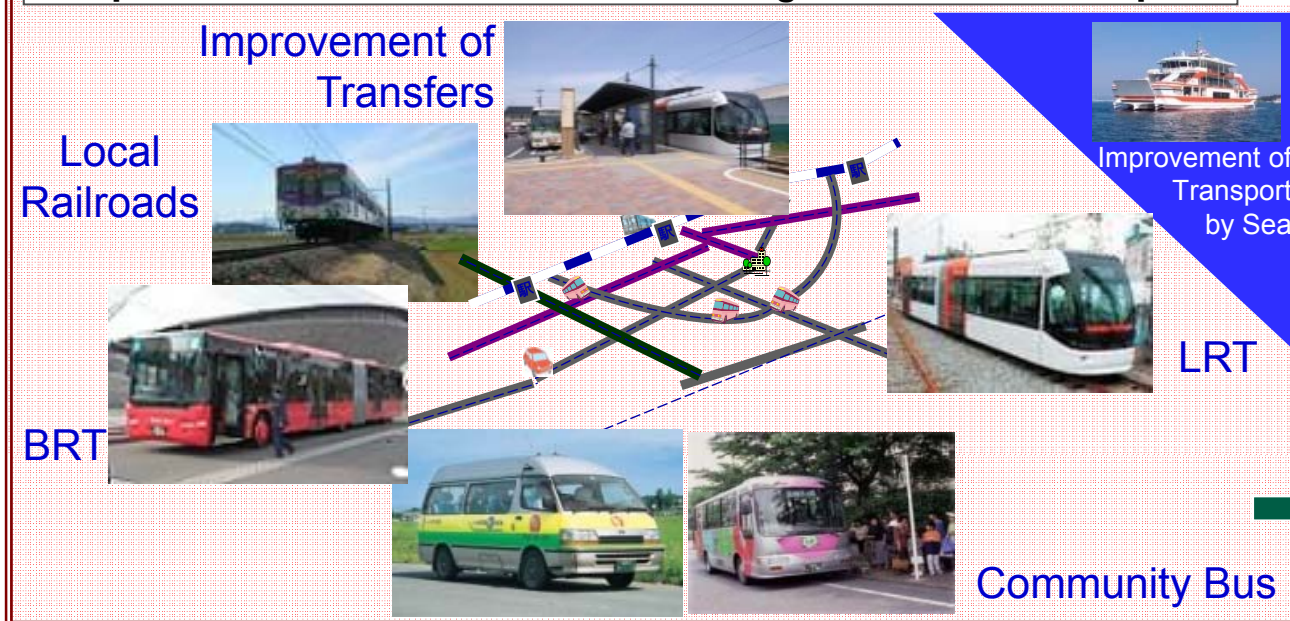
Administrator of Roads and Ports

Public Safety Commission

etc.

- Duty of the consent for the request of the participation to the committee
- Public comments
- Suggested system
- Obligation of the respect of the discussion result

Comprehensive Coordinative Plan of Regional Public Transport



Support by the Government

Budget

Legal Measures

Comprehensive Subsidiary System for Infrastructure Improvement

- Provision of comprehensive and integrated support for core infrastructure improvement projects and related infrastructure improvement and content-focused projects(so-called “soft projects”).
- Introduction of a comprehensive subsidiary system that is highly flexible for local governments so that they can take advantage of their own creative approaches .

Illustrations of the urban development project as a core project

Core projects

Improvement of various mutually cooperated urban transportation facilities



Improvement of connection points of various means of transport



Introduction of Bicycle Sharing System



Improvement of bus stops etc.



Improvement of walkways

Projects to promote efficacy

Enhancing the attractiveness of public transport



Introduction of LRT trains



Pilot Program of a transit mall

* Picture shown for illustration purposes only

Realizing “a city where convenience of walking is effectively utilized” by properly dividing the roles of various transportation methods including walking, bicycles, vehicles, and public transport.

Efforts for Winning Back Public Transport Users (Toyama City)

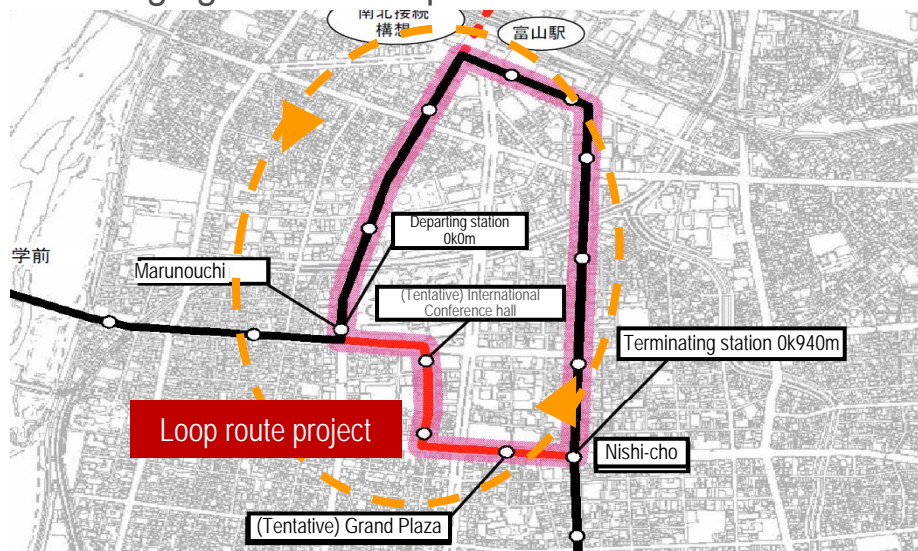
- Implemented efforts to improve dead tram tracks and created Japan's first full scale LRT.
- Facilitated the connection between LRT and buses to improve the overall convenience of public transportation.
- The number of users increased 2.1 times for weekdays and 3.8 times for weekends compared to before the operations started.

■ Improvement of operation services

Schedule:	Every 30 to 60 minutes	➔	every 10 to 15 minutes
Operation Time	From 5 AM to 10 PM	➔	From 5 AM to 11 PM
Number of stations:	9 stations	➔	13 stations
Train vehicle:	Rolling stock	➔	all low floor trams

Fixed fare system: 200 yen

■ Enhancement of migration in an urban area by arranging tracks in loop route.



Route map: Reference from the Ministry of Land, Infrastructure, Transport and Tourism
 Images: Taken from Toyama Press release

■ Introduction of low floor trams and barrier free stations



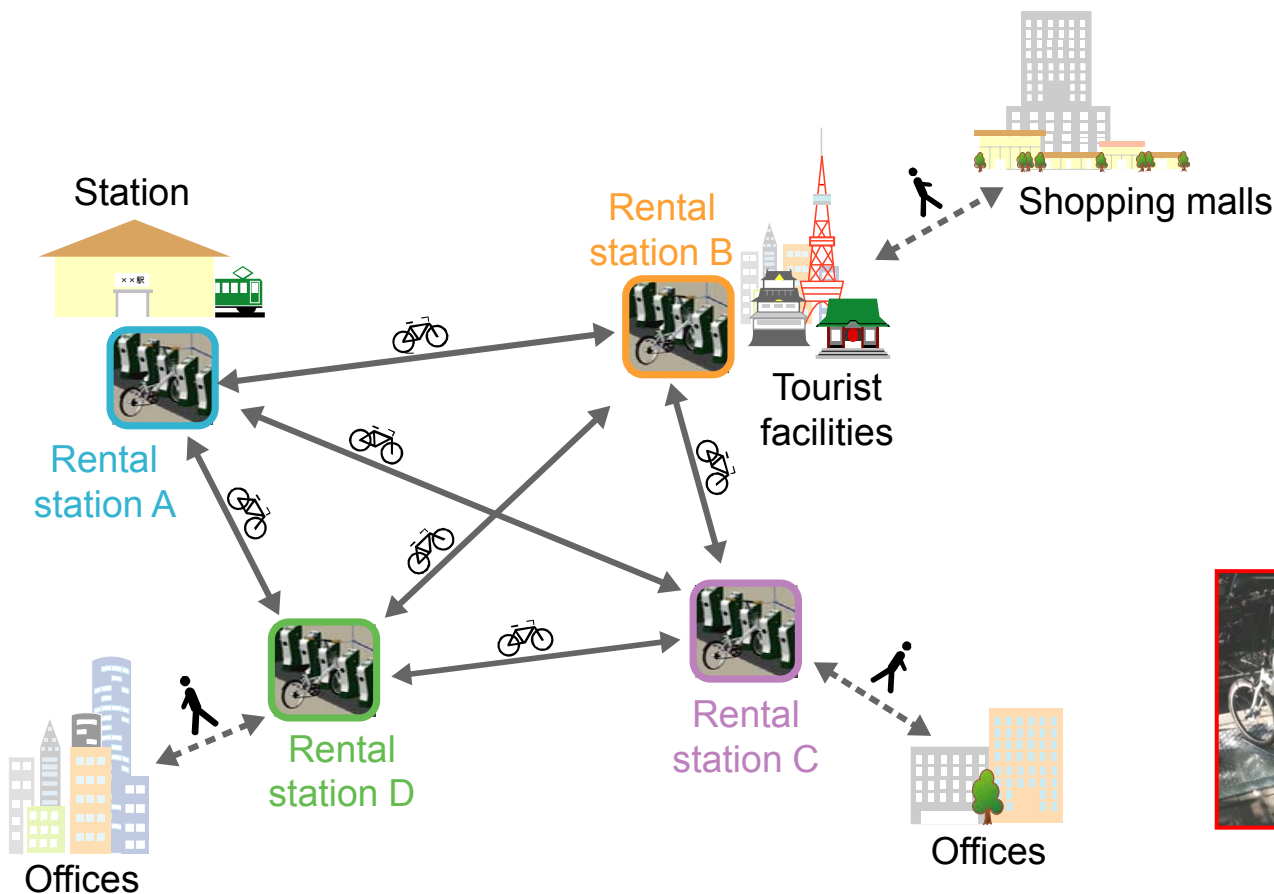
■ Smooth connection between bus and LRT



4. Cycle Sharing System

What is Cycle Sharing System?

- Bicycles can be rented from and returned to any designated rental station.
- Bicycles can be returned to a station different from where they are rented.
- Multiple designated rental stations tend to be closely located to each other.
- Establish a station as an unattended, 24/7 system by utilizing IC cards(Smart cards) etc.



Outline drawing of Bicycle Sharing System



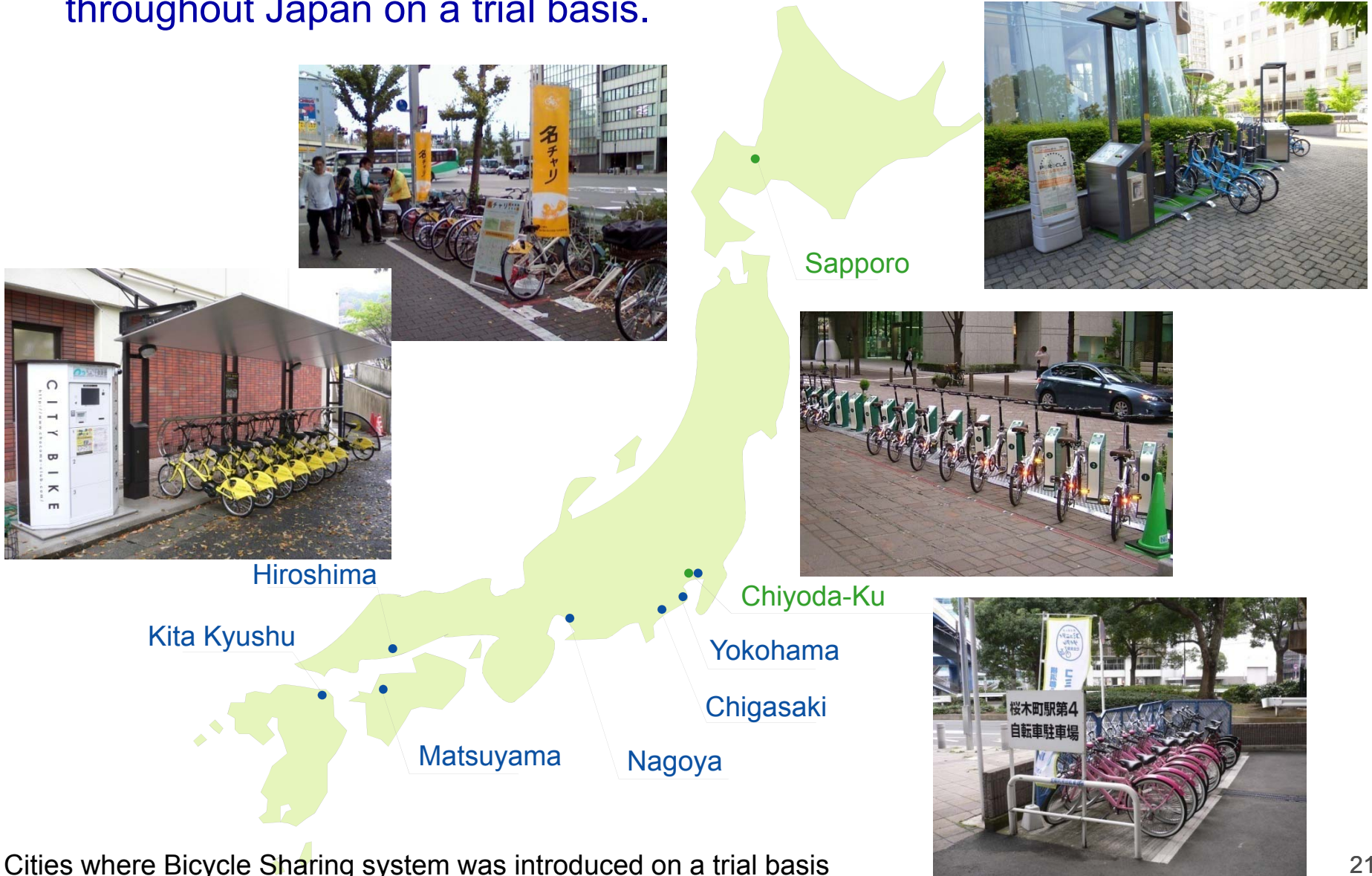
Bicycle Sharing trial project in Sapporo



Bicycle Sharing trial project in Tokyo

Status of Cycle Sharing Pilot Programs

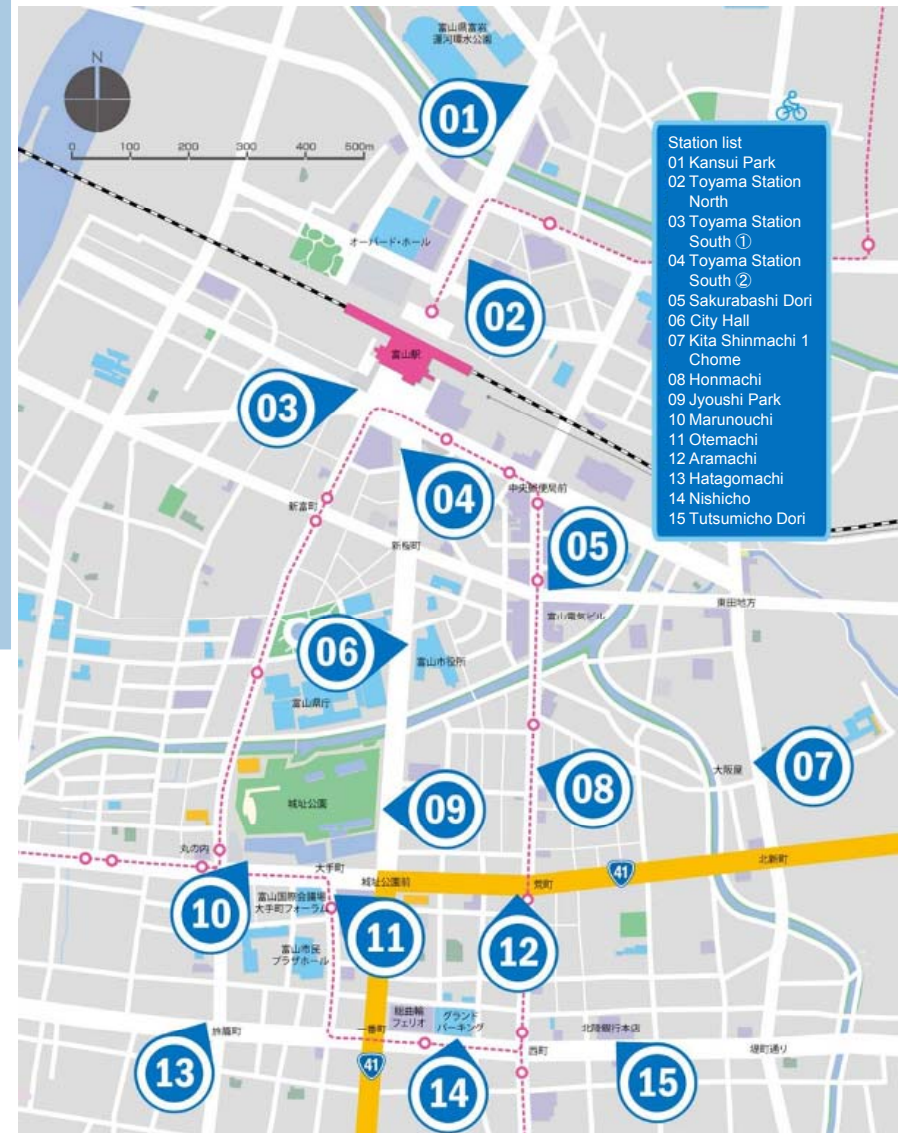
- Bicycle Sharing system has been introduced in various places throughout Japan on a trial basis.



Cities where Bicycle Sharing system was introduced on a trial basis

Cycle Sharing System in Toyama City

- First attempt in Japan as a standing facility
- Started operation in the City of Toyama in March, 2010
- 15 rental stations distributed
- 150 bicycles provided
- Basic Rate: JPY 500 per month
- For every rental:
 - No fee required for up to 30 minutes of use
 - JPY 200 for use between 30 and 60 minutes
 - JPY 500 for 60 minutes and longer



(Picture, Reference) Citizens' Bicycle Shared Use System Project , March 2010, Toyama municipal environmental policy division

5. Mobility Management

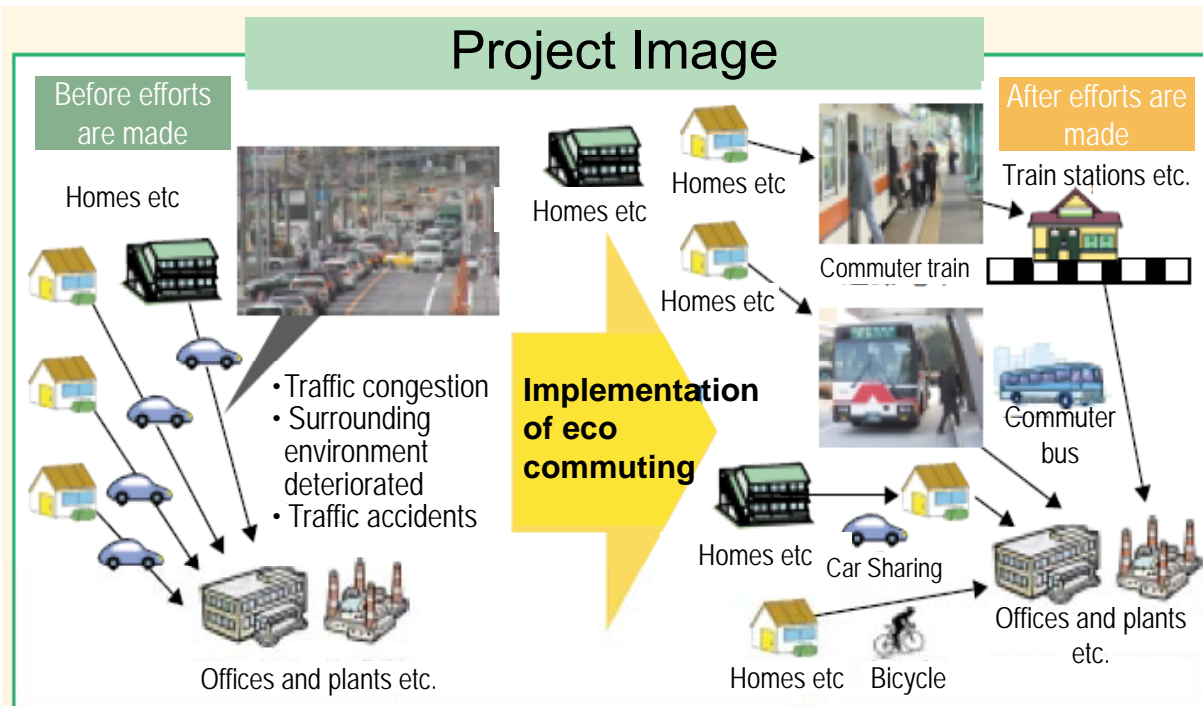
Mobility Management

➤ What is Mobility Management?

- Mobility management is a communication-oriented transport policy to create a favorable transport environment for both society and individuals by promoting voluntary changes in mobility (attitude and behavior) such as facilitating the moderate use of public transport and bicycles to avoid excessive use of vehicles.

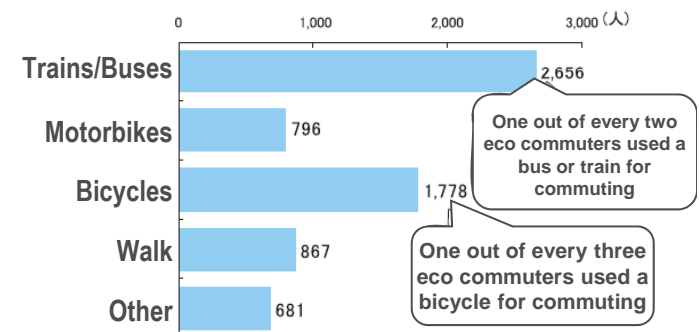
➤ Eco Commuting

- One form of mobility management and an effort to promote changes in the means of transportation from private vehicles to public transport and bicycles.
- Appoint a person from each office in charge of considering the ideal means of transport for commuting and provide timetables and route maps for busses and trains and review commuting allowances.



In 2008, 840 companies nationwide implemented Eco Commuting projects. As a result, CO₂ emission was reduced by 11%

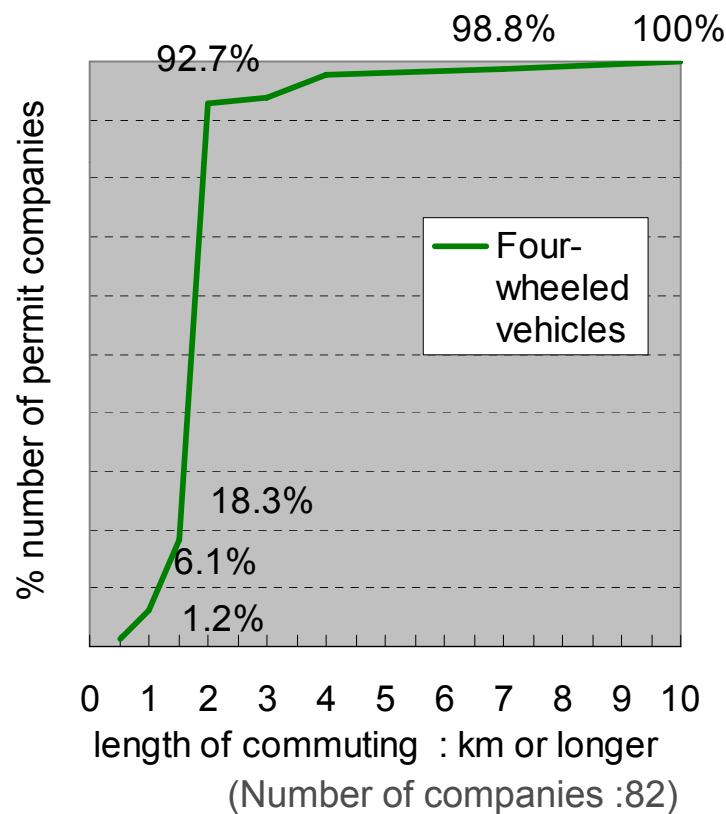
Means of transport used instead of vehicles



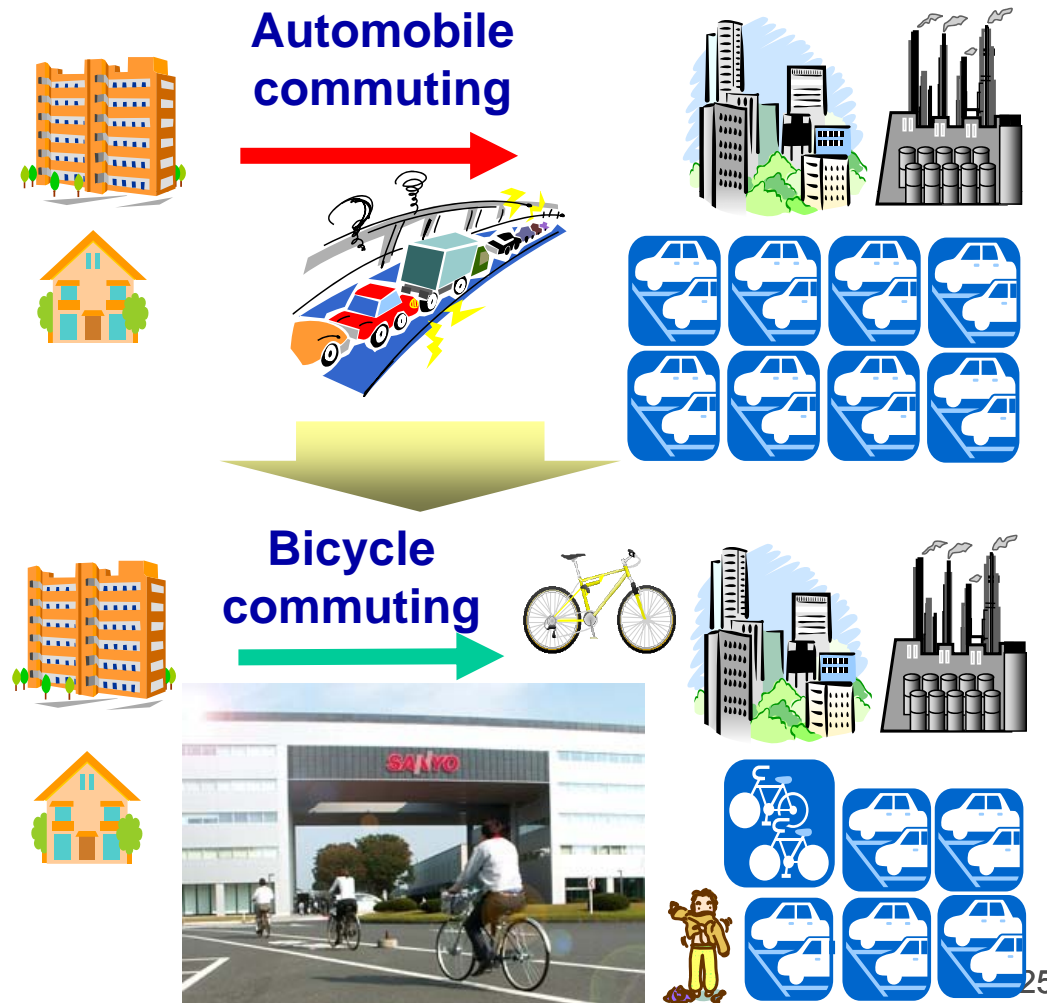
* The above figures are taken from a survey of 5,188 eco commuters who answered "yes" when asked if they used a means of transportation other than vehicles as a part of eco commuting.

Trend Towards Bicycle Commuting

- In Japan, many companies permit employees to commute by private vehicles despite a short commute distance.
- On the other hand, environmentally-aware private companies promote their employees to switch from private vehicles to bicycles in commuting.



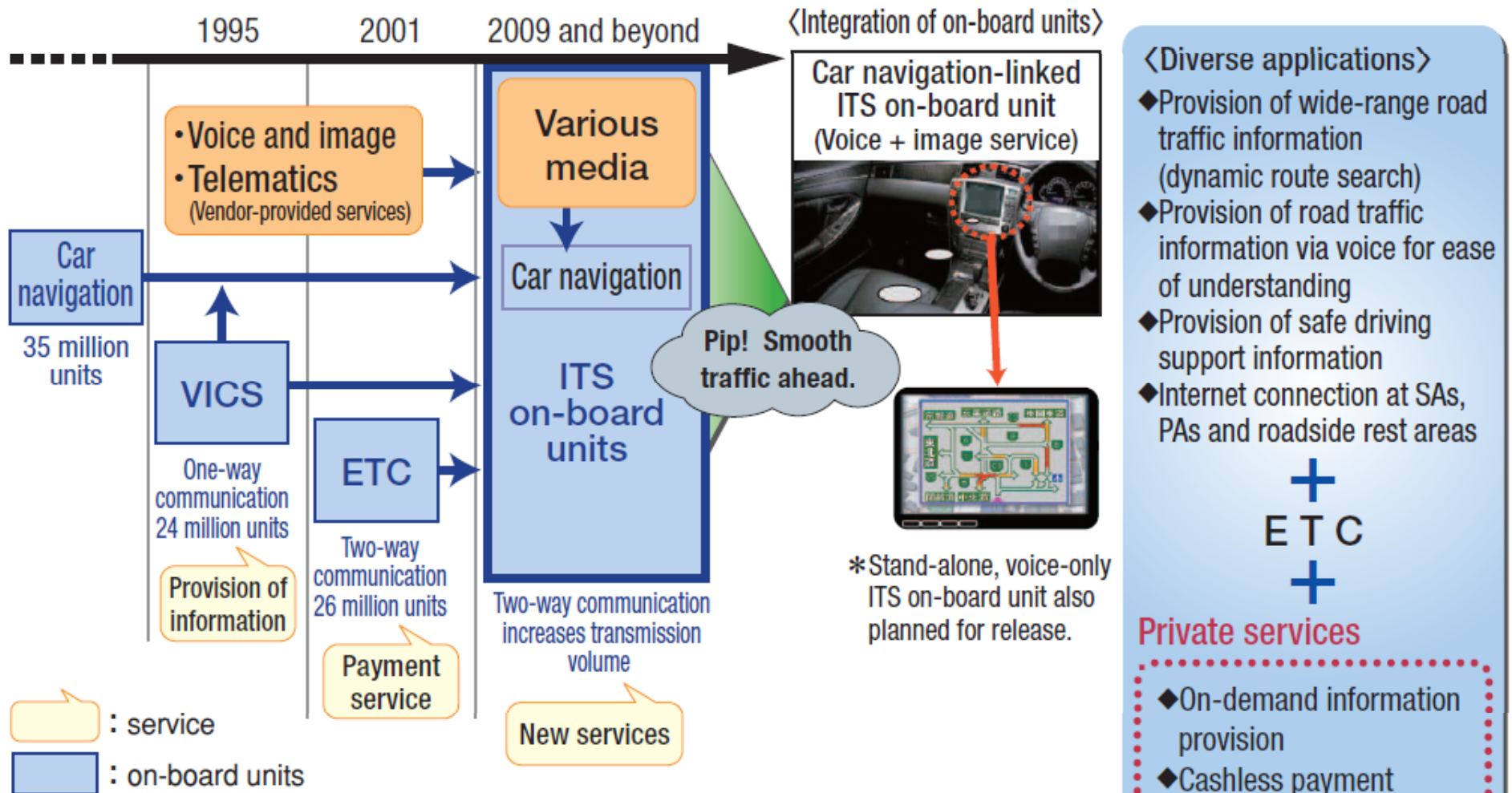
[Source] "Status of automobile management for commuting and work" (Labour Relations Report No. 3698)



6. ITS(Intelligent Transport System)

ITS (“Smart way” Service)

- Integrated on-board system of car navigation system, VICS and ETC called “ITS” offers road-to-vehicle two-way communication




ITS (“Smart way” Service)

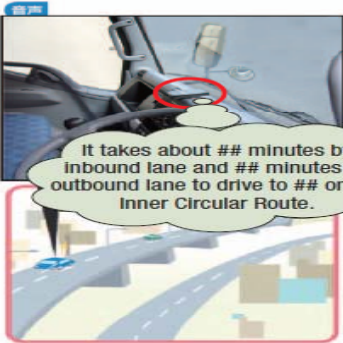
- ITS provides drivers behind the wheel with information on traffic congestion and blockages to improve safety and driving efficiency.
- Field experiment testing started in 2007 and the service started in 2009.

■ Dedicated Short Range Communication service (DSRC service)


Provision of wide-range road traffic information



Comprehensible road traffic information by voice




Safe driving support information



* Example: Providing information on obstacles ahead


Internet connection for obtaining information at SAs, PAs, or roadside rest areas



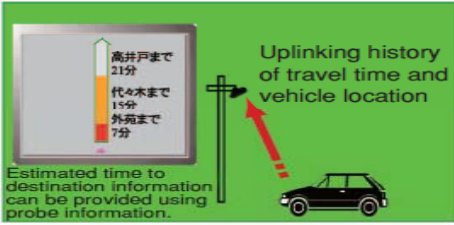
← Nation-wide deployment under way →

- Demonstrations in progress at SAs, PAs and roadside rest areas, among others.
- Standards, etc., have been already formulated.

Payment at parking lots, etc.



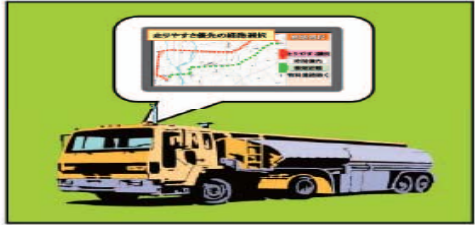
Uplink



Uplinking history of travel time and vehicle location

Estimated time to destination information can be provided using probe information.

Supporting efficient logistics operations



← * Demonstrations in progress using multiple-application platform →

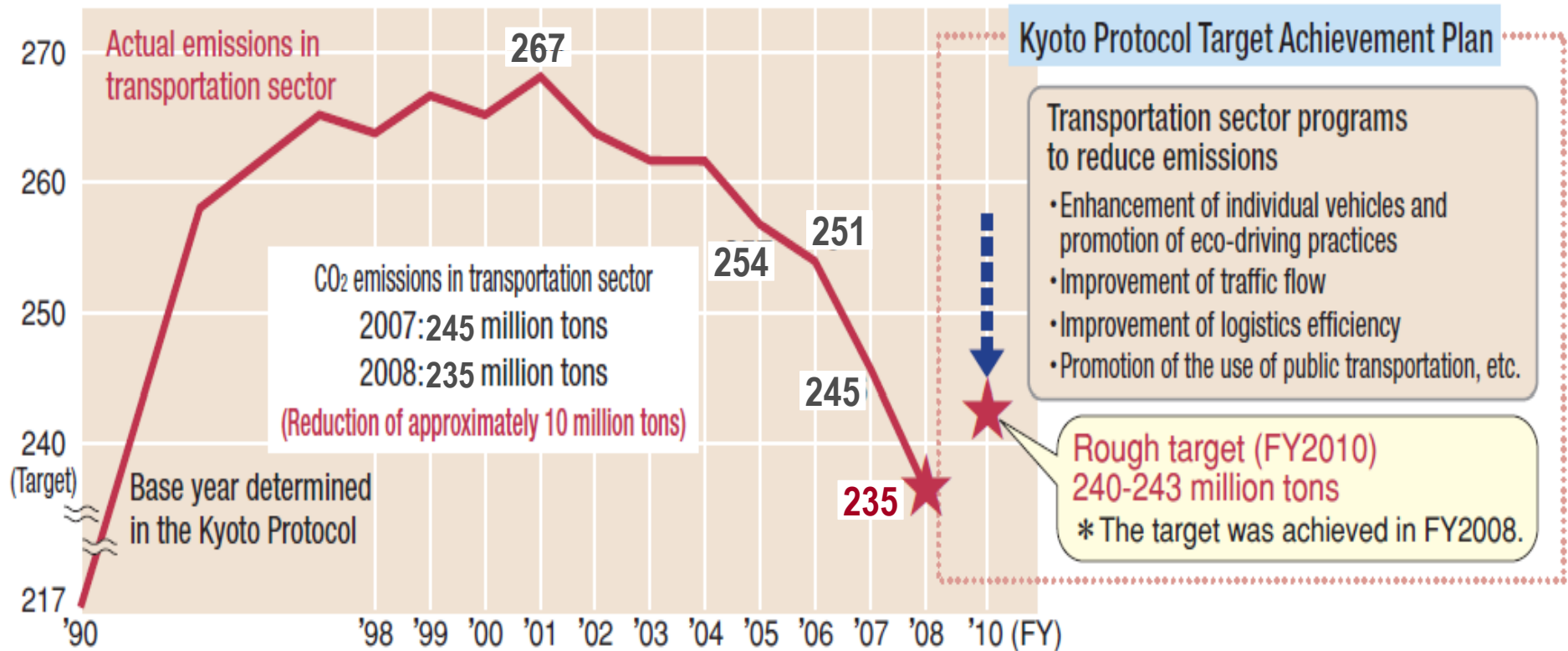
7. Greenhouse Gas Emission Reduction

Changes in CO₂ Emissions In the Transportation Sector

- CO₂ emissions in transportation sector have been continuously reduced after peaking in 2001

Changes in CO₂ emissions in transportation sector

Energy-origin CO₂ emissions
(million tons)



Popularization of Environmentally Friendly Vehicles

- Low-pollution and fuel-efficient vehicles, mainly the hybrid vehicles, have been rapidly disseminated.



Electric vehicle



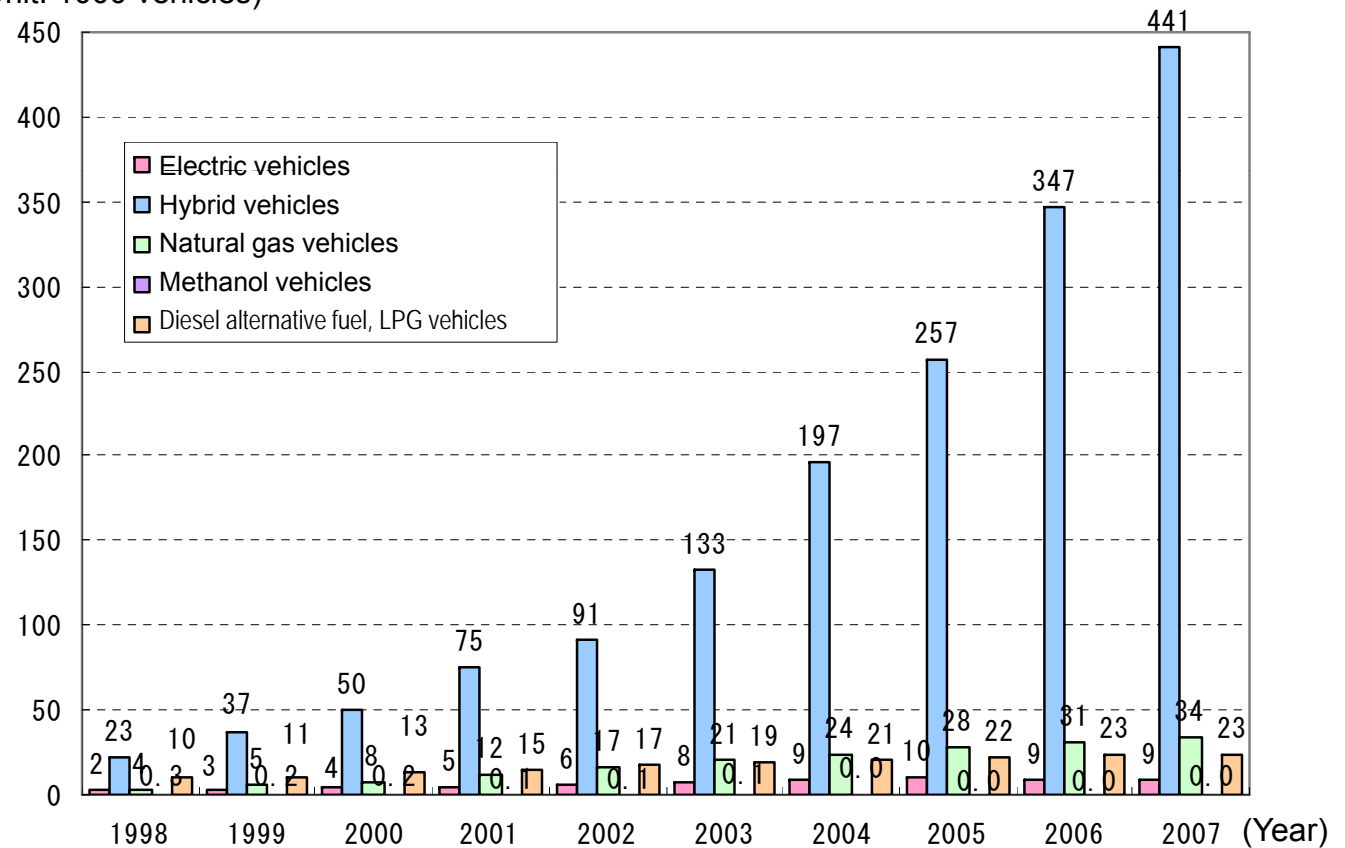
Hybrid vehicle



Natural gas vehicle

Changes in the number of environmentally-friendly vehicles

(Unit: 1000 vehicles)







(Reference) Japan Automobile Research Institute, The Japan Gas Association, Automobile Inspection & Registration Information Association, Organization for the promotion of low emission vehicles

Promotion of Environmentally Friendly Vehicles

- In order to realize a low carbon society while stimulating demand for replacing and purchasing vehicles, taxes for environmentally efficient vehicles are exempted or reduced for a limited time; in addition, a subsidiary system has been introduced for purchasing environmentally friendly vehicles.

Exemption and reduction of vehicle weight tax and vehicle acquisition tax (2009 -2012)

Electric vehicles (including fuel cell powered vehicles), plug-in hybrid vehicles, clean diesel vehicles, natural gas vehicles, hybrid vehicles		Exemption
Vehicles with a four-star rating in emission standard and vehicles with fuel efficiency 25% above the standard Vehicles that complies with new long term regulations and vehicles achieving fuel efficiency standard for heavy-duty vehicles	 	75% Reduction
Vehicles with a four-star rating in emission standard and vehicles achieving fuel efficiency 15% above the standard Heavy-duty vehicles with a one-star rating in emission standard and vehicles achieving the fuel efficiency standard for heavy-duty vehicles	 	50% Reduction

Subsidies for replacing and purchasing environmentally friendly vehicles (2009 -2010)

Requirements	Registered vehicles	Light -duty vehicles
Subsidies provided for purchasing new vehicles including discarding old vehicles. (When replacing vehicles of 13 years and older with vehicles achieving 2010 fuel efficiency standard.)	25 0,000 yen	125,000 yen
Subsidies provided for purchasing new vehicles without discarding old vehicles (Vehicles with a four-star rating emission standard and a fuel efficiency 15% above the 2010 fuel efficiency standard)	100,000 yen	50,000 yen

Requirements	Small sized vehicles (3.5 ton ranges)	Medium sized vehicles (8 ton ranges)	Large sized vehicles (12 tons ranges)
Subsidies provided for purchasing new vehicles including discarding old vehicles. (When replacing vehicles 13 years old and older with vehicles achieving the new long term standard.)	400,000 yen	800,000 yen	1,800,000 yen
Subsidies provided for purchasing new vehicles without discarding old vehicles. (vehicles achieving 2015 fuel efficiency standard and heavy vehicles with a one-star rating in emission standard)	200,000 yen	400,000 yen	900,000 yen

Promotion of Eco Driving(Green Driving)

Action Plan for the Diffusion and Promotion of Eco Drive Eco Drive Diffusion Network June 2006

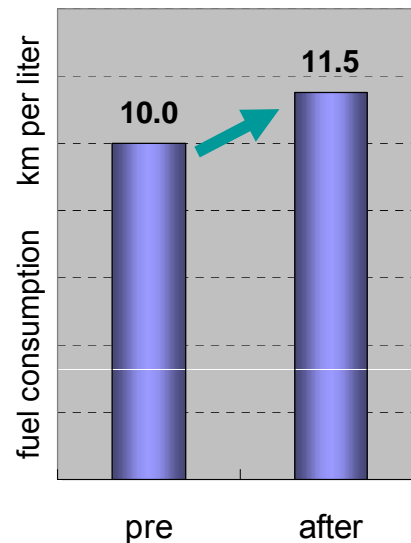
The project covers things that the government, local governments, private organizations and drivers must work on with the aim of sufficient diffusion and implementation of Eco Drive

- Position November as “Eco Drive Promotion Month” and aggressively work to diffuse and promote Eco Driving.
- Formulate a new “10 Eco Driving Tips” and use it commonly for the diffusion and promotion of Eco Driving.

1. Softly depress the accelerator “e Start”
2. Drive with less acceleration and deceleration
3. Release the accelerator early
4. Use the air conditioner moderately
5. Stop idling
6. Properly perform warm-up.
7. Utilize traffic information—
8. Frequently check the air pressure of the tires
9. Leave unnecessary items
10. Don't park the car illegally

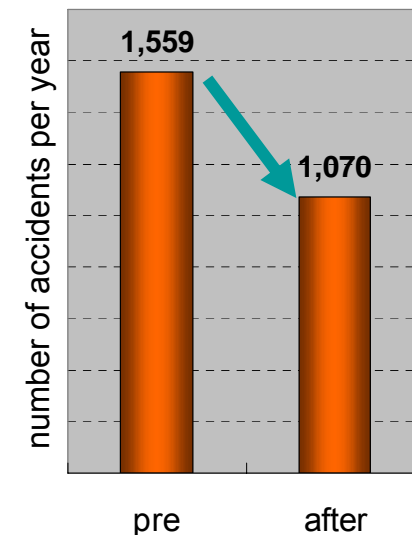
Case example 1

Fuel consumption improved by approx. + 15%



Case example 2

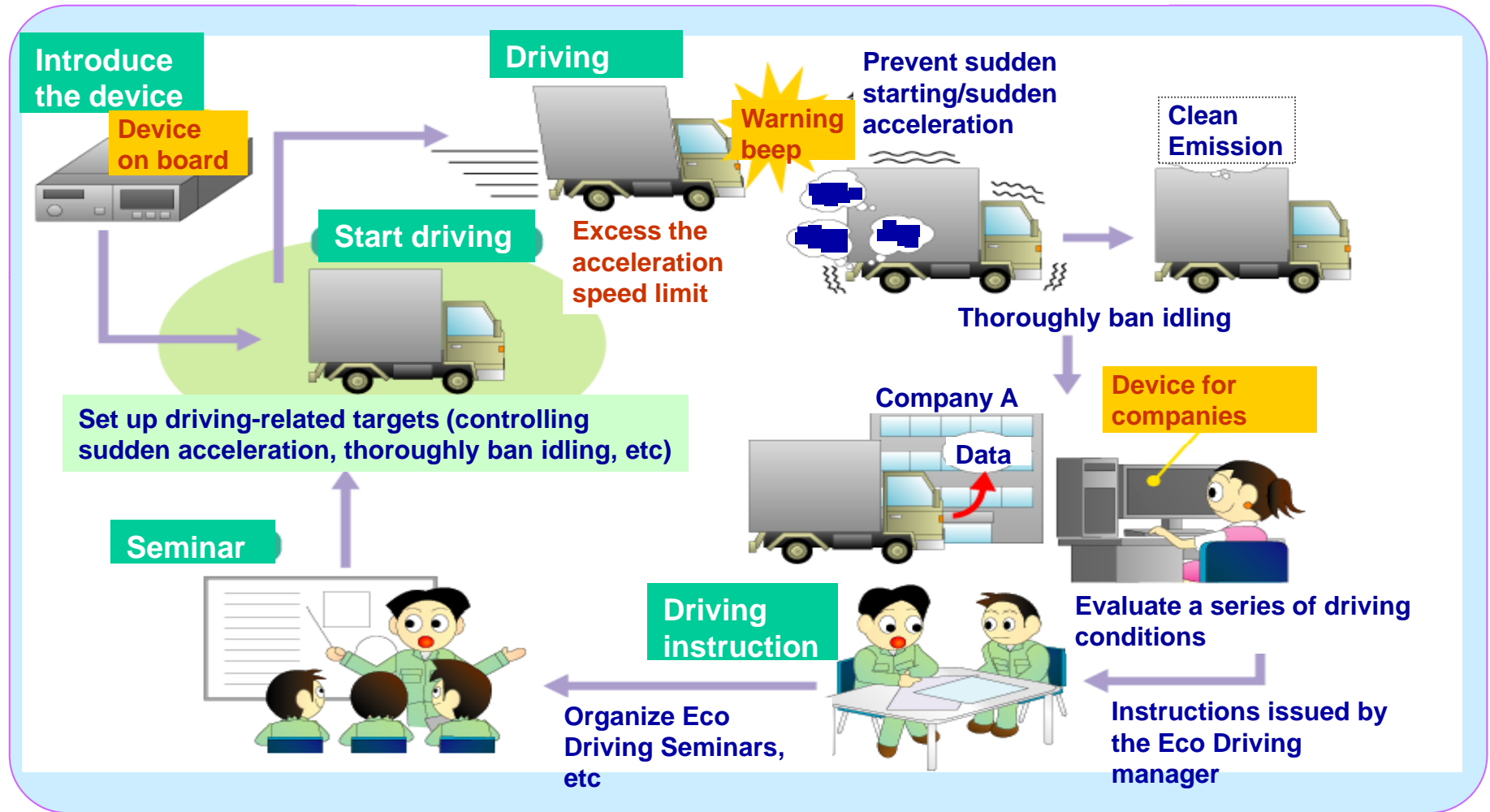
Reduce Accidents -31% per year



[Source] “Eco Driving contest in Japan”

Case Example Of Eco Driving (Green Driving) Measures

Outline of Eco Driving (EMS)

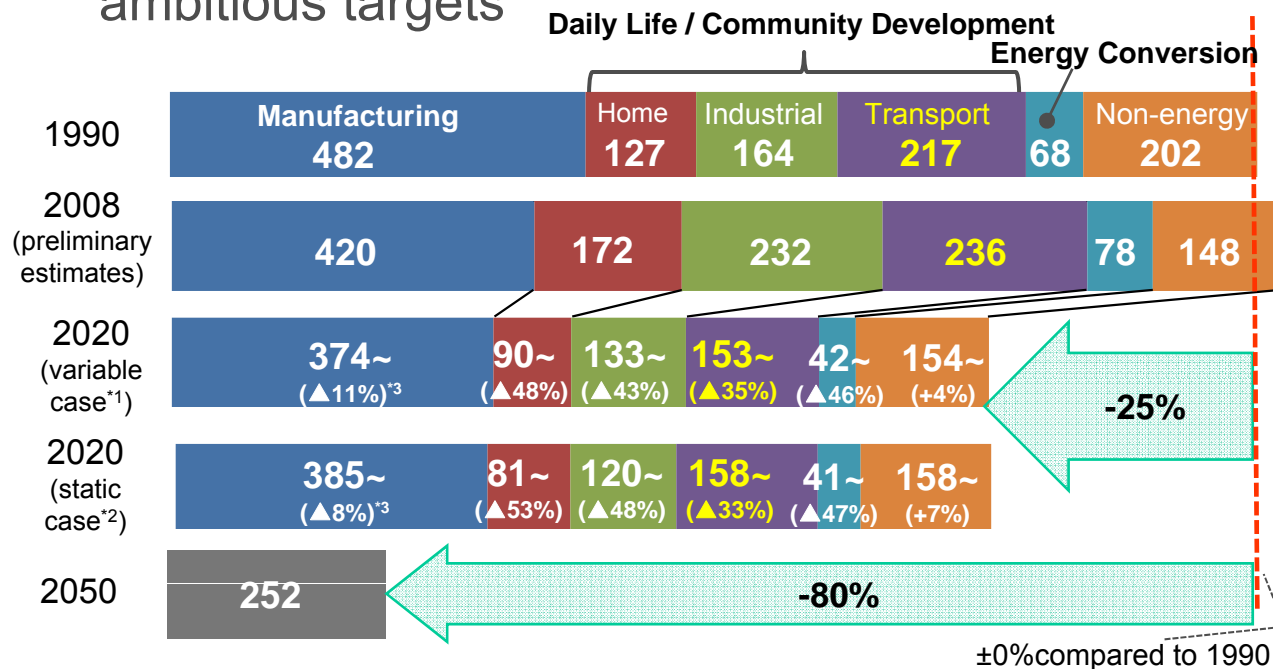


Challenge 25

Speech by former P.M. Yukio Hatoyama
UN Summit on Climate Change

- Mitigation -

“Emission reduction by **25% by 2020** compared to the 1990 level **premised** on establishment of a fair and effective international framework in which **all major economies participate and** agreement of ambitious targets”



*1: An “All-sector Variable Macro-frame Case” premised on a set price for carbon.

*2: An “Static Industrial Macro-frame Case” where the operation levels in the industrial sector are static.

*3: Emission reduction levels compared to 2008.

Challenge 25 Campaign → The 6 Challenges

-  Choose an environmentally-friendly lifestyle
-  Choose energy-saving products
-  Choose natural energies
-  Choose environmentally-friendly buildings and houses
-  Support activities and products that lead to the reduction of CO₂ emissions
-  Participate in community activities to prevent global warming

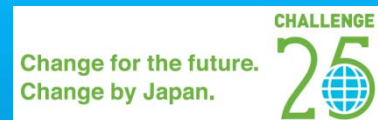
Thank you for your kind attention!

Please visit the following websites for further details.



Ministry of the Environment

<http://www.env.go.jp/en/>



Ministry of Land, Infrastructure, Transport and Tourism

<http://www.mlit.go.jp/english/index.html>

