

# **ITS Policy in Japan and Smartway**

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**November 2008**

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Government of Japan**

## ITS on-board units

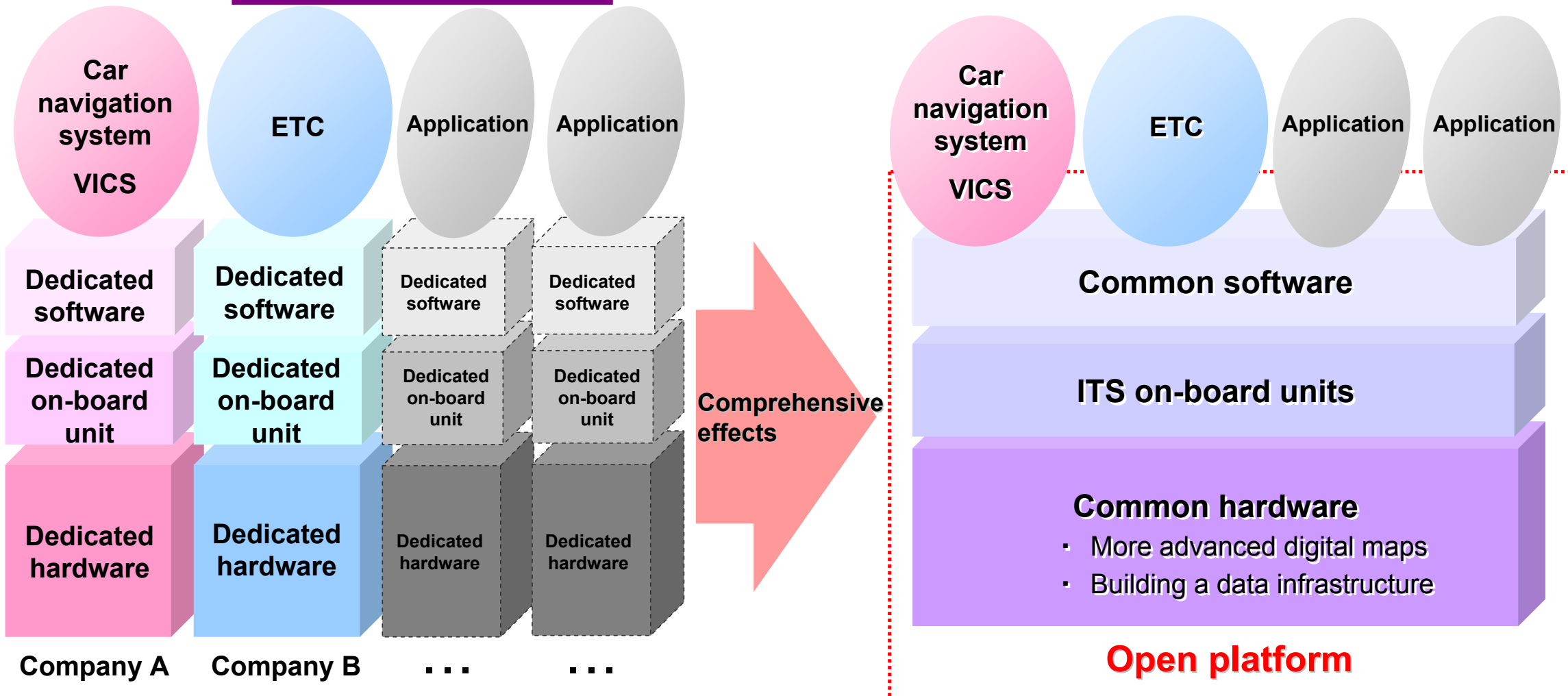


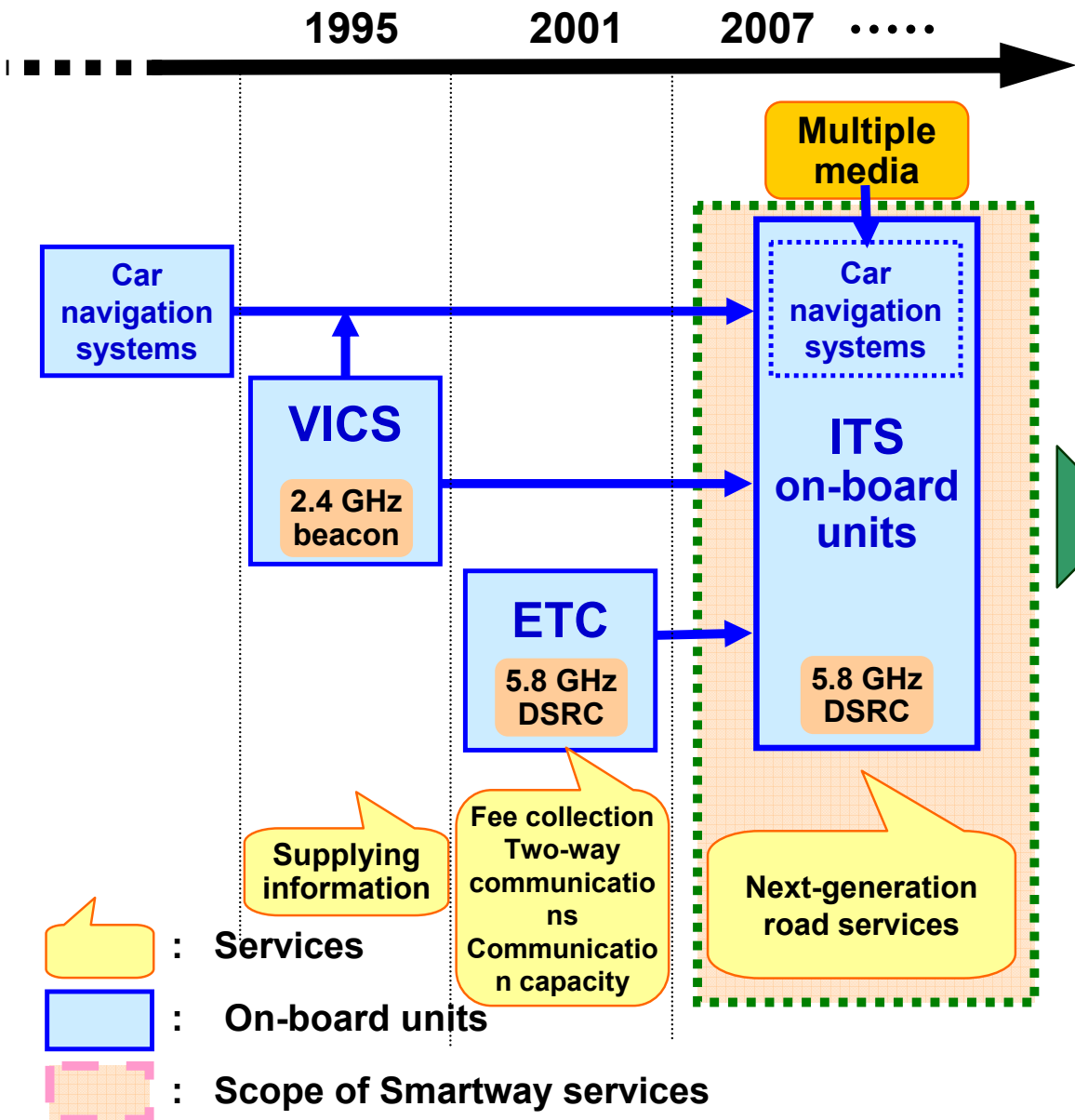
## DSRC roadside unit



5.8 GHz short-range communications







**VICS (wide-area, detailed road traffic information)**

Shinjuku-Dori Ave. near Yotsuya-Mitsuke: Congested for 0.5 km

**Fee payment at parking facilities, et cetera**

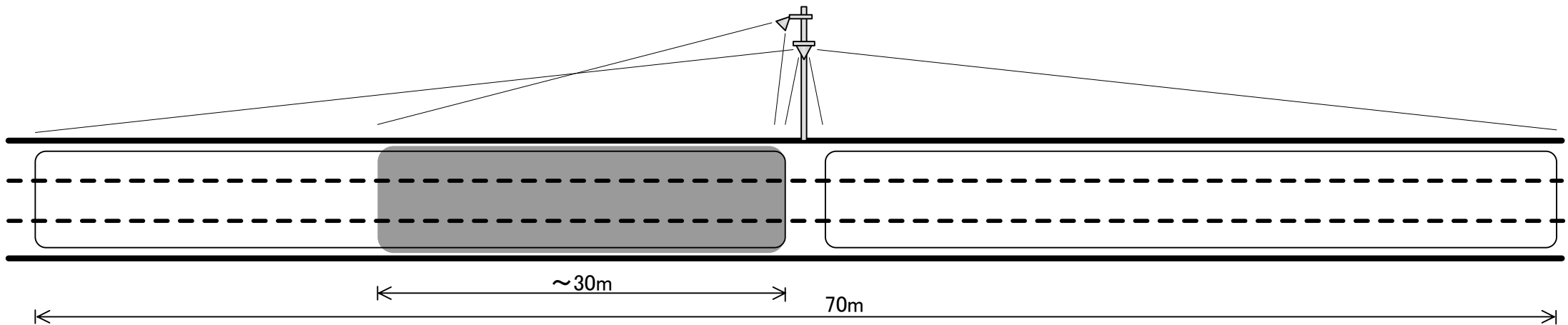
**Tourist information and route selection**

Tourist destination driving guide

Toyota Municipal Museum of Art, Toyota Stadium

**In-car Internet access**

国土交通省 Ministry of Land, Infrastructure and Transport Japan

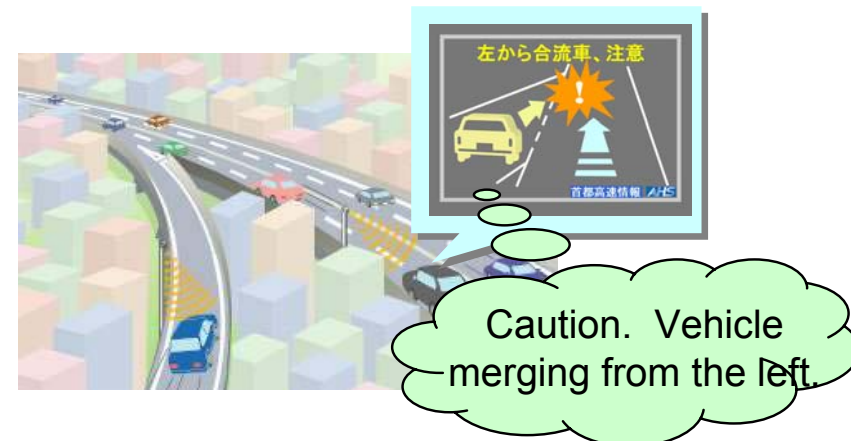


## Advanced Cruise Assist Highway Systems (AHS)

Providing information on obstacles in the road ahead



Providing merging assistance information



**Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society (IT Strategic Headquarters; founded in January 2001 under the IT Basic Law)**

IT Strategic Headquarters, the government's decision-making institution regarding IT policy, is directed by the Prime Minister and consists of related ministers and experts.

**New IT Reform Strategy (adopted by IT Strategic Headquarters in January 2006): Excerpt**

**Goal:**

**The world's safest road traffic environment**  
—Reducing traffic fatalities to 5,000 or below—

**Policies toward realization:**

**Formation of a public-private joint committee  
(April 2006)**

**Large-scale proving tests, verification, and evaluation  
(2008)**

**Nationwide deployment, primarily at locations of  
frequent traffic accidents (2010)**

**● Service to provide information on obstacles ahead**

Caution. Congestion ahead.

**● Merging assistance service**

Caution. Vehicle merging from the left.

**● Map-linked service**

Caution. Many accidents occur at a sharp curve ahead.

Caution. Many rear-end collisions occur 200 meters ahead.

**● Service to provide information on conditions ahead**

Current conditions before Gaien Entrance about 1 kilometer ahead.

This is an announcement of conditions on Metropolitan Expressway Route 4 in the Tokyo direction.

The required travel time is ...

Traffic congestion is ...

**● Providing location information (electronic signs)**

首都高速 高井戸入口	
SHUTO EXPWY	
銀座	19 Km
Ginza	
箱崎	19 Km
Hakozaki	
羽田	31 Km
Haneda	

Central Loop Shinjuku Line

Route 5 (Ikebukuro Line)

Route 4 (Shinjuku Line)

**● IP data link services**

EMV payment processing services (at Kajibashi Parking Area)

**IP information link services (at Daikoku Parking Area)**

## Scale of testing

Participating companies:

11 carmakers

18 manufacturers of on-board units and appliances

6 experts

40 vehicles used in testing

Testing began: May 14, 2007

Total number of trips: 2,522 as of December 10, 2007

## Matters verified

- [1] System functions
- [2] System efficacy based on vehicle behavior
- [3] System efficacy based on driver responses to questionnaires

## Results of testing

○With safety-related services (providing information on obstacles ahead, merging assistance, and map-linked service), we confirmed through the analysis of vehicle operation data that vehicle behavior became safer.

○In a questionnaire survey by general monitors, most respondents found the services to be effective; and there were no negative reactions, confirming the safety of the services.

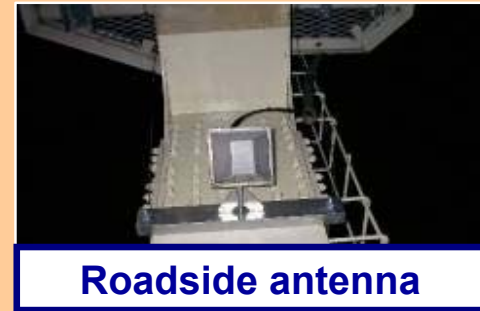
## Equipment and devices used in testing



ITS on-board units linked to car navigation systems



Stand-alone ITS on-board unit

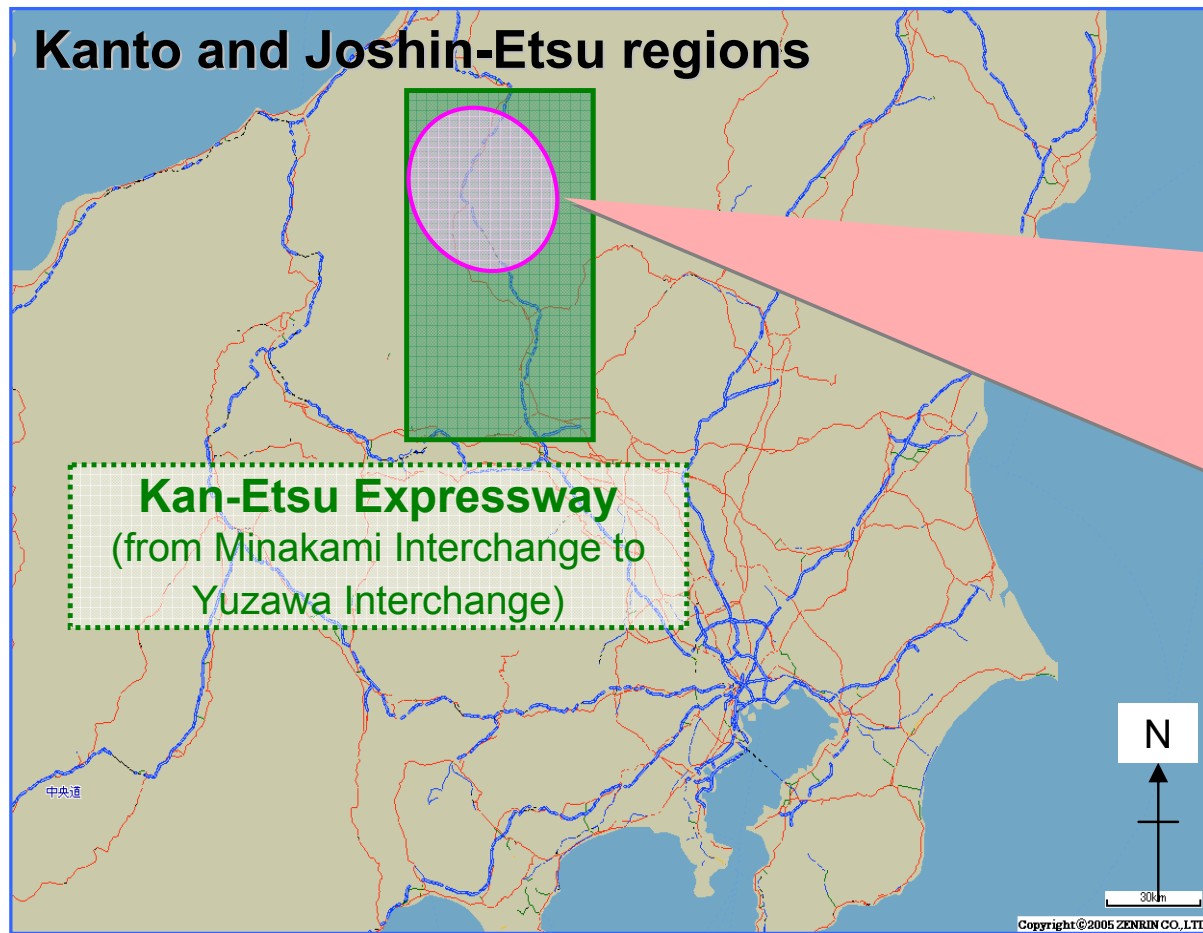


Roadside antenna

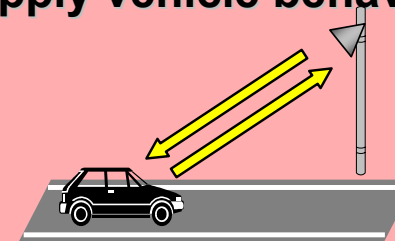


Camera



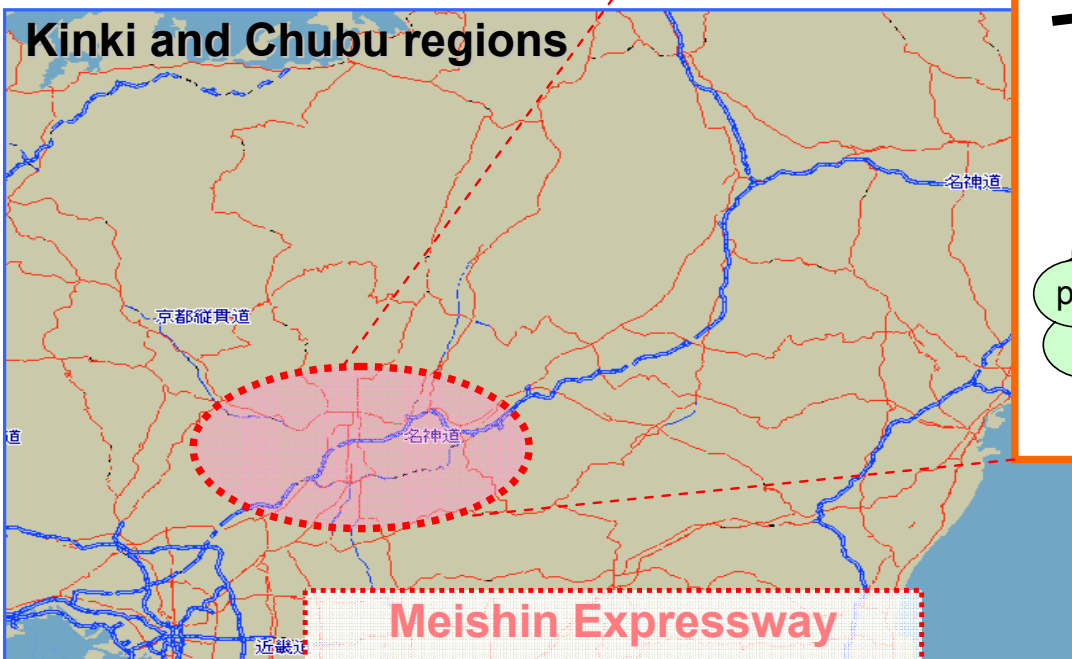
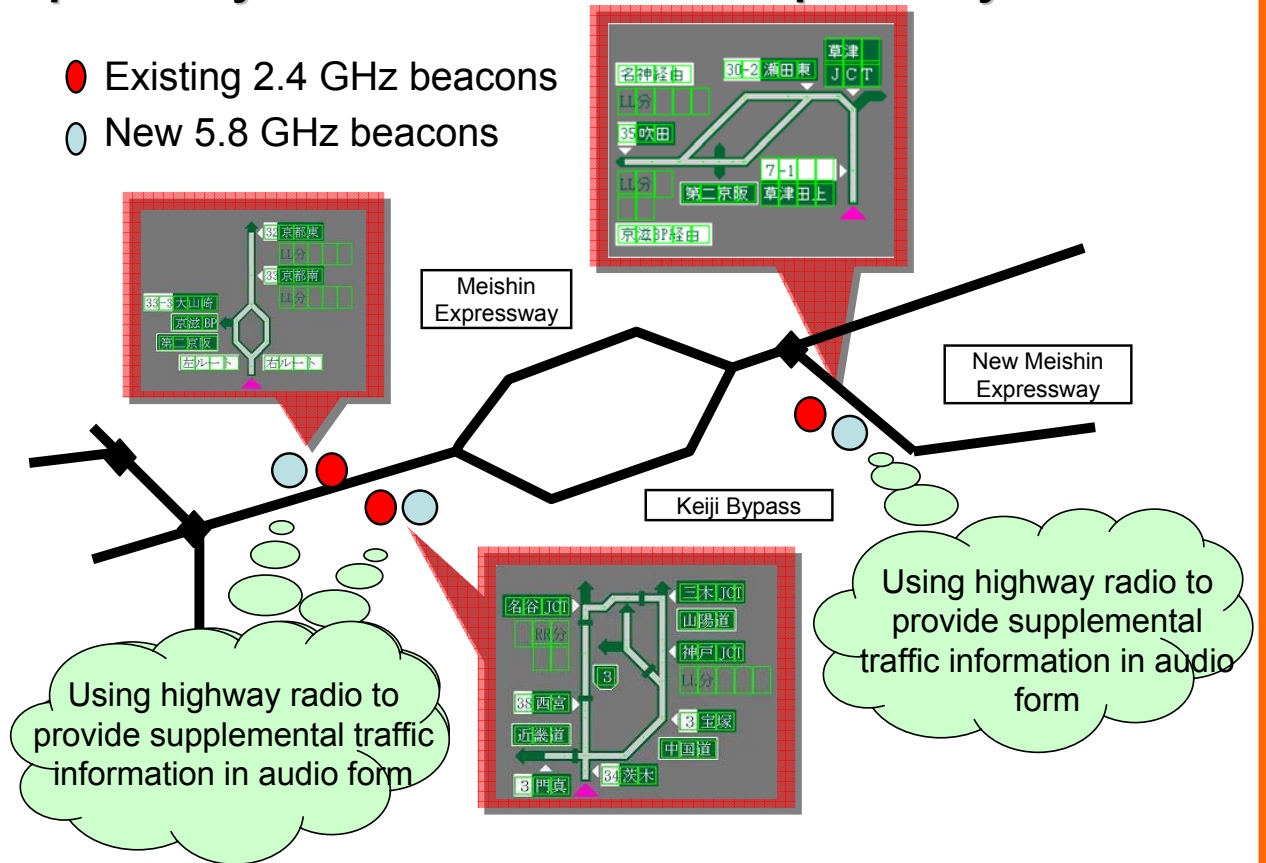


**Using cooperative vehicle-  
infrastructure ITS  
technologies to collect and  
supply vehicle behavior data**



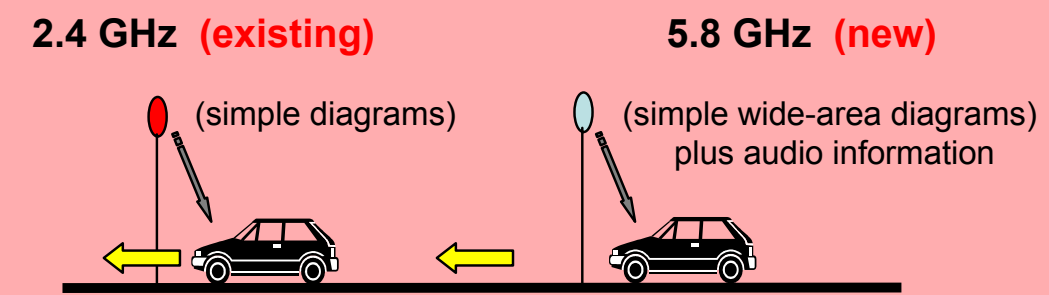
## Supporting appropriate route selection on the Meishin Expressway and the New Meishin Expressway

- Existing 2.4 GHz beacons
- New 5.8 GHz beacons



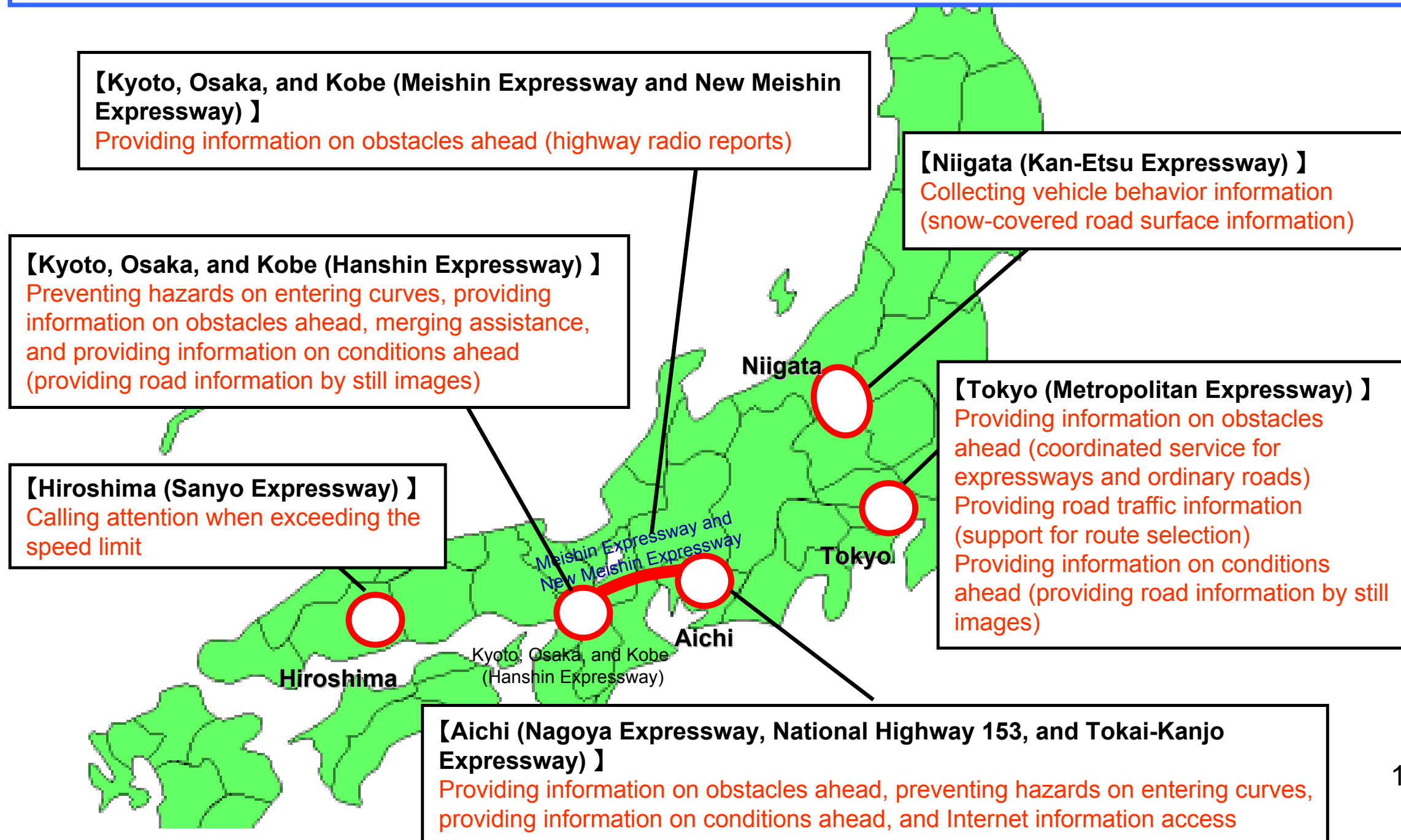
**Meishin Expressway**  
**New Meishin Expressway**

## Supplying wide-area route selection information with highway radio (audio).



# List of Smartway test locations (FY 2008-)

Beginning in fiscal year 2008, testing is being expanded to various other areas besides the main focus of Tokyo. Services based on the characteristics of each region will be tested.



## 1. Development of speech-only on-board units

### On-board units for the realization of Smartway services

#### ITS on-board units linked to car navigation systems



Beep. Congestion ahead. Take care to avoid a rear-end collision.



#### Speech-only ITS on-board units



Beep. Congestion ahead. Take care to avoid a rear-end collision.

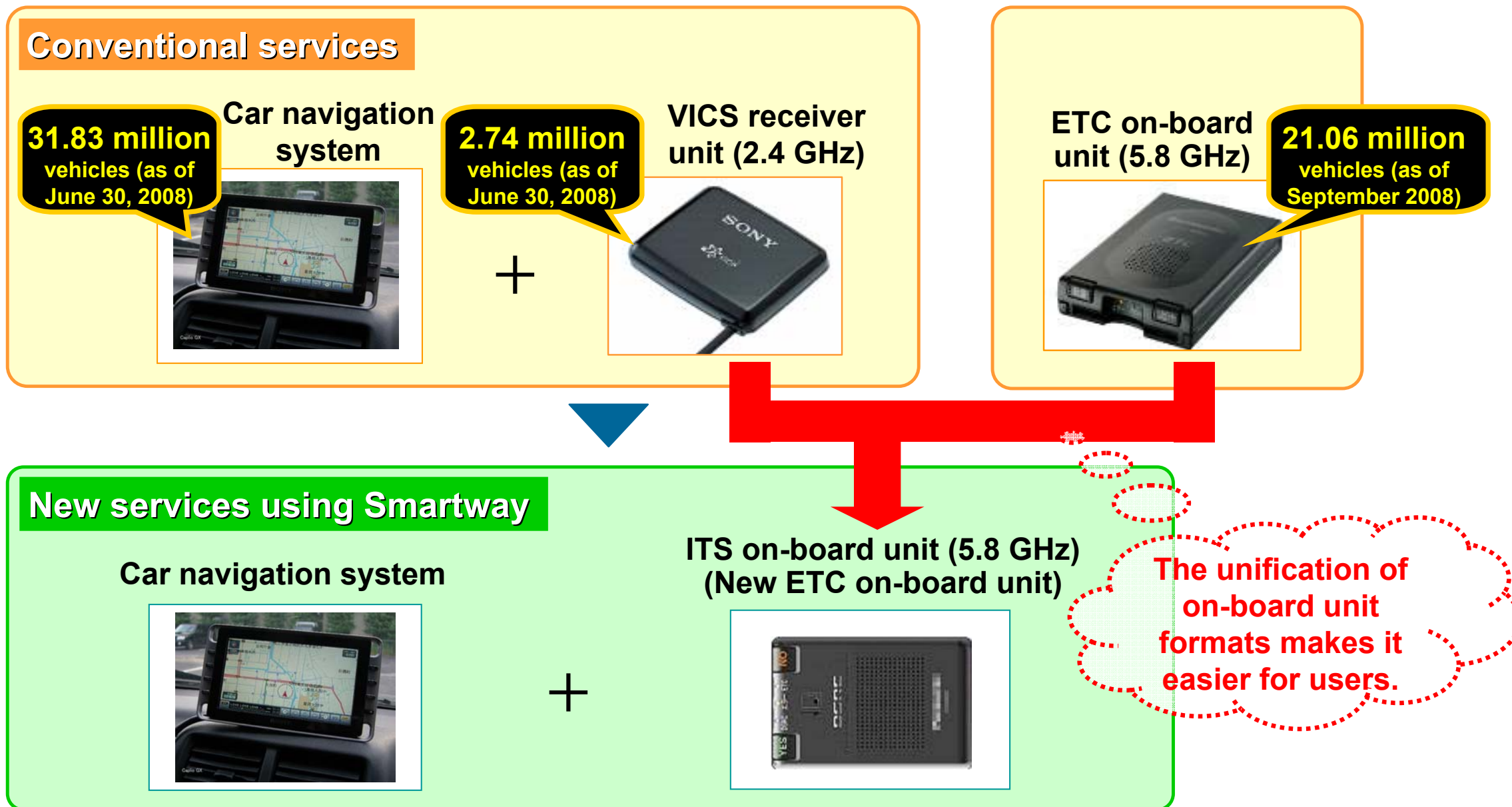


#### New type of ETC on-board unit with speech capability

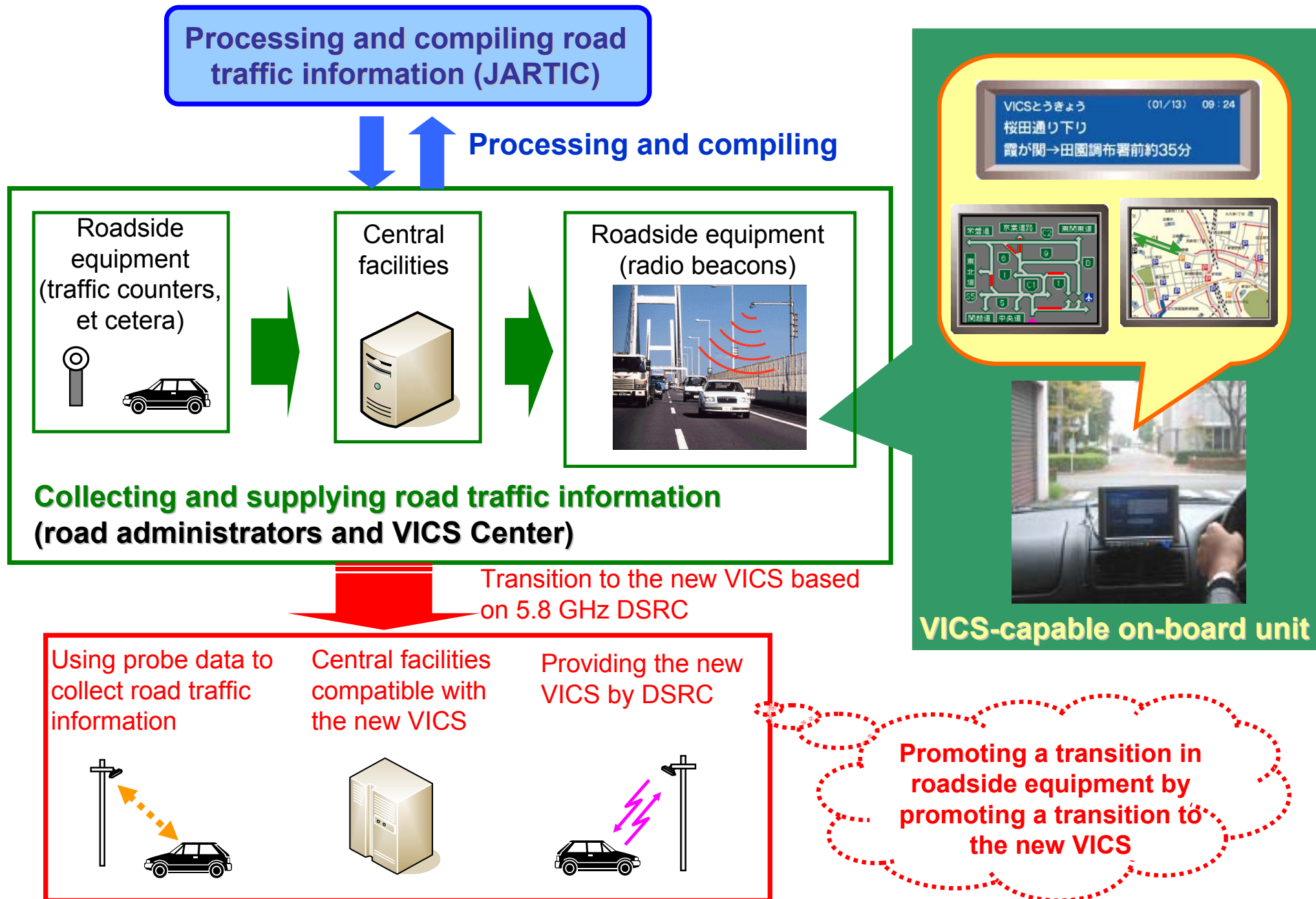


Both its functionality and price are only incrementally higher than existing ETC on-board units, making it easier for users to buy as a replacement.

## 2. Unification of on-board unit formats



## 3. Advancement of VICS



# Thank you

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