SIP-adus Workshop 2017
on Connected and Automated Driving Systems

Connected Vehicles

Establishment of technology for providing vehicle/pedestrian detection information towards the realization of automated driving

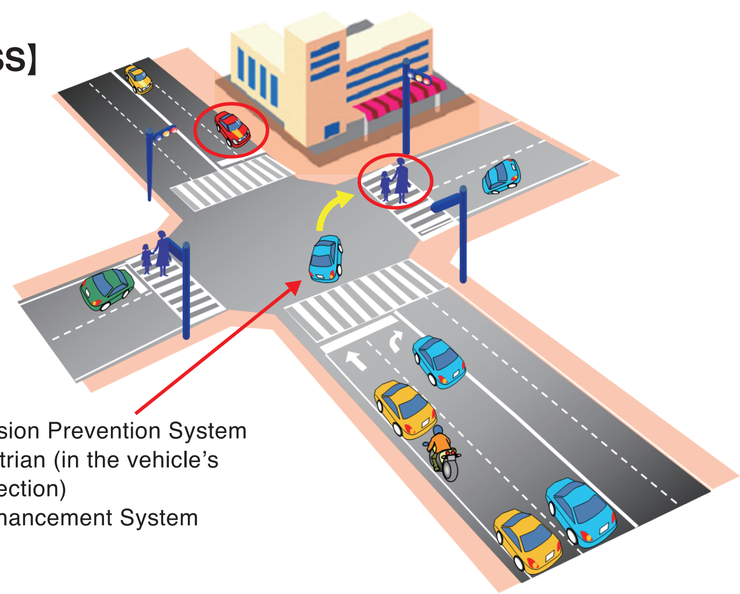
■ Object of the Project

In order to realize automated driving, it is essential to have a mechanism that allows a vehicle to recognize traffic information in real time such as the presence of vehicles, pedestrians, etc. not visible from the vehicle and performs control; therefore, the project will develop a roadside system that provides vehicles with information on detected vehicles, pedestrians, etc.

■ Project Summary

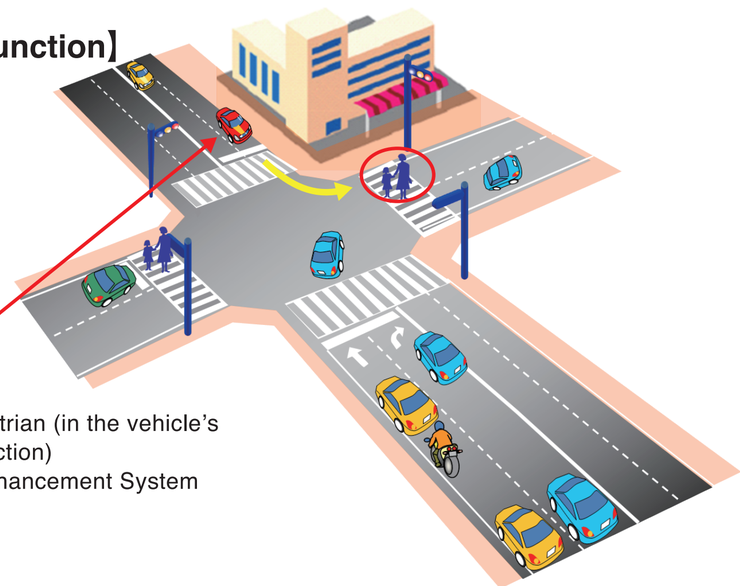
- **FY2016**
  Examination of the functions of roadside sensors From the results of the traffic accident occurrence analysis and from the results of the needs analysis of roadside sensors for Driving Safety Support Systems (DSSS), “the detection of a straight oncoming vehicle when the vehicle is turning right at an intersection” and “the detection of a crossing pedestrian when the vehicle is turning right or left at an intersection” were derived as most expected detection targets of roadside sensors. Also, moving objects to be detected, detection area, etc. were defined as functional requirements for road sensors based on each event.
- **FY2017**
  Based on research and studies conducted in fiscal 2016, we plan to establish two verification infrastructures.

【Current DSSS】



- Right Turn Collision Prevention System
- Crossing Pedestrian (in the vehicle’s right-turning direction) Recognition Enhancement System

【Additional function】



- Crossing Pedestrian (in the vehicle’s left-turning direction) Recognition Enhancement System

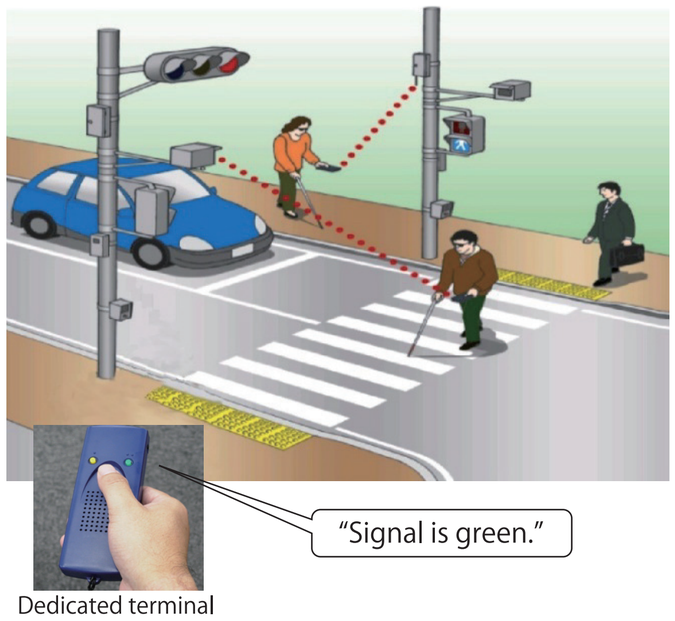
Development of movement support system for people with mobility constraints

■ Object of the Project

The project will develop sophisticated Pedestrian Information and Communication Systems (PICS) which allow people with mobility constraints to cross the road safely, securely and smoothly, with a view to putting them into operation for the 2020 Tokyo Olympic and Paralympic games and deploying them to other regions afterward.

■ Upgrading of PICS (Pedestrian Information and Communication Systems)

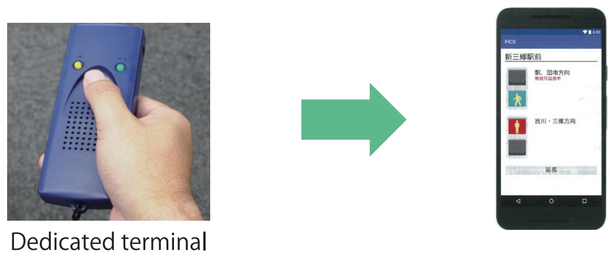
Current PICS



Dedicated terminal

PICS upgrading proposal

Use of a general-purpose mobile terminal



Dedicated terminal

Cell-phone

Screen display of intersection information

Displays an intersection name and signal information for each direction.

Signal control based on the pedestrian’s progress in crossing the street

Adjusts green time and flashing green time by detecting the pedestrian’s progress in crossing the street using an image sensor, etc.

■ Content of the project for fiscal year 2017

- Consider required function of PICS and construct the model system on a public road
- Verify the utility and effects of the system by field operational test
- Decide specifications of the system in order to put them into practical use

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