

# Summary of SIP-adus Project (FY2016)

<b>Name of the project</b>	Establishment of technology for providing vehicle/pedestrian detection information towards the realization of automated driving
<b>Responsible Organization</b>	UTMS Society of Japan

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## 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

- 1. 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.
- 2. Examination of the management functions of roadside equipment**  
Based on the evaluation results of the DSSS field operational test experiment which used the 700 MHz band radio communication, re-examination of the system design was implemented, from which items for functional improvement of roadside equipment specifications were derived, such as fail-safe functions including a self failure diagnosis function and a function to notify the traffic control center of malfunctions.  
Also, for the purpose of supporting the appropriate operation and management of the systems, examination of the operation and management of roadside equipment was implemented, including the examination of lifecycle security management for the roadside equipment such as new installation, relocation, disposal, etc. of the roadside equipment, and operational guidelines for each type of systems were developed.
- 3. Examination of the functions of the traffic control center**  
Content of information provided to vehicles from the systems at intersections where DSSS is installed and functional requirements for collecting information on vehicle conditions transmitted from vehicles supported by the systems were examined.  
Also, necessary measures including data compression, etc. were finalized based on functional requirements such as the scope of information content to be collected, collecting cycle, accumulation period, etc. and restrictions such as the bandwidth for communication between the roadside equipment and traffic control center and the log storage capacity of the roadside equipment.
- 4. Examination of a new system**  
“Crossing Pedestrian (in the vehicle’s left-turning direction) Recognition Enhancement System,” for which there are high needs, was derived in addition to “Right Turn Collision Prevention System” and “Crossing Pedestrian (in the vehicle’s right-turning direction) Recognition Enhancement System,” and functional specifications were examined towards the implementation of the filed operational test.

## Future plan

System specifications for the new “Crossing Pedestrian (in the vehicle’s left-turning direction) Recognition Enhancement System” will be established based on the field operational test and verification results.