

Summary of SIP-adus project (FY2015)

Name of the project

Research for advanced Traffic Signal Prediction Systems

Responsible Organization

UTMS Society of Japan

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Object of the Project

For the realization of safe driving support and automated driving systems, it is crucial to have a system that allows the vehicle to recognize traffic signal information in real time. Therefore, we will examine the following toward advancement of the roadside system which provides traffic signal information to vehicles.

- a) Combination of the communication using the infrared beacon and the communication that does not use the infrared beacon.
- b) Optimum installation locations for the roadside system.
- c) Reduction of cost for the maintenance and operation of the roadside system.
- d) Draft experiment specifications.

Project Summary

- a) **Combination of the communication using the infrared beacon and the communication that does not use the infrared beacon:** We examined Wi-Fi, DSRC, Bluetooth, FM Multiplex and the 700MHz band with focus on communication performance and the amount of time for detecting communication, and concluded that the 700MHz band is most promising.
- b) **Optimal installation locations for the roadside system:** We examined the conditions that restrict the installation location of roadside systems and the conditions that require the combined use of the 700 MHz band communication in the situation where driving support using traffic signal information is provided from the infrared beacon.
- c) **Reduction of maintenance and operation cost of roadside systems:** We examined the configuration of the roadside system that takes into consideration the maintenance cost, simplification of setup work, etc.
- d) **Draft experiment specifications:** We developed specifications for a model system required for a FOT(Field Operational Test).

Future plan

A comparison, etc. of the accuracy of the traffic signal information that can be obtained by vehicles will be made between the case when traffic signal information is provided by infrared beacons alone and the case when the 700MHz band is used in combination with the infrared beacon, and examination on the configuration of the roadside system will be promoted toward the realization of automated driving and safe driving support systems.