

Kamijo LAB.

[Safety for Pedestrian and Vehicle]

Center for Information Fusion

<http://kmj.iis.u-tokyo.ac.jp/>

Applied Multimedia Information Processing

Information Science and Technology
Information and Communication Engineering

Sensor Technologies for Road Safety

Safety Assistance System using On-board Sensors

The traffic accidents still remain as a serious problem. We proposed the robust tracking algorithms and developed the sensors to detect the abnormal flow of vehicles or pedestrians imminent to collision. Our ultimate goal is to protect vulnerable road users and increase the road safety by implementing safety assistance system.

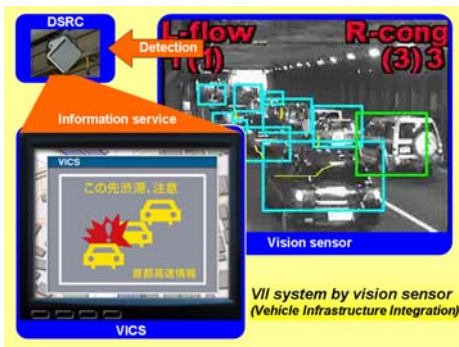
◆ Safety system by image sensor

Setting off sudden congestion alarm for following vehicle

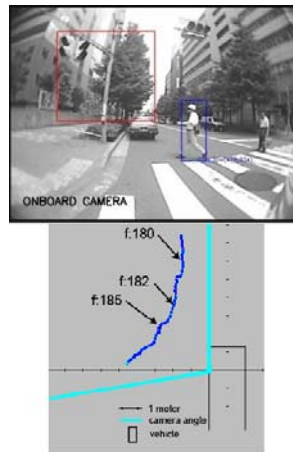
Pedestrian Detection and Tracking using Monocular Camera.

◆ Intersection safety by wireless sensor method

Evaluation and development of wireless sensor method using RSSI data



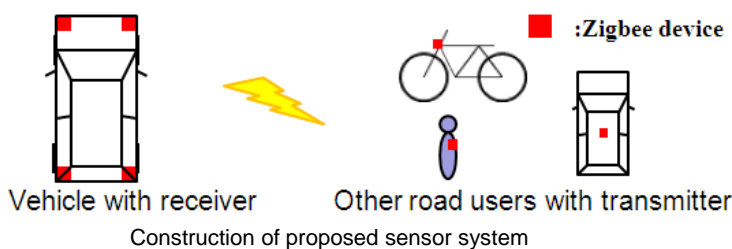
Infrastructure-Vehicle cooperative safety system



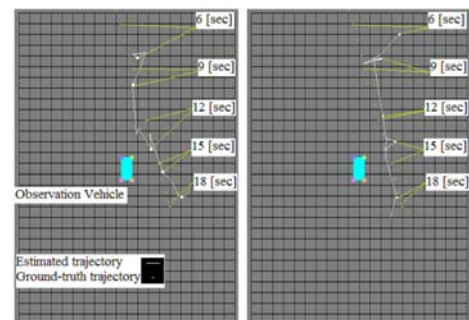
Pedestrian detection and trajectory estimation by monocular on-board camera

Type	On-board image	Motion Silhouette	HOG Hit-map
A Person			
Pedestrians			
Moving a suitcase			
Moving a baby-car			
Cyclist			

Classification of pedestrians



Construction of proposed sensor system



Estimated trajectories of approaching vehicle