Abstract

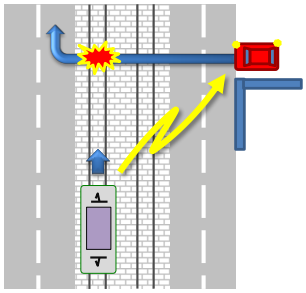
TITLE: Innovative ASV Demonstration in Hiroshima - Tram and Automobile Cooperation –
Speaker: Mazda Motor Corporation

To improve the safety of vehicles and trams on their shared roads, an innovative safe driving support systems were developed, which combine onboard sensors with the vehicle-to-tram radiocommunication. Mazda Atenza ASV-5 (Advanced Safety Vehicle - Phase 5) was developed to verify the system as the “world’s first vehicle-to-tram cooperative ASV”, which was tested on public roads in Hiroshima and demonstrated in the post congress tour of the 20th ITS (Intelligent Transport Systems) World Congress Tokyo 2013.

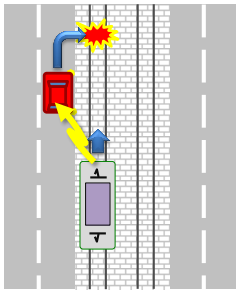
Mazda Atenza ASV-5 and Test Tram

Five driving support functions were installed to the Mazda Atenza ASV-5, including an approaching tram information provision system, an oncoming vehicle information provision system, etc., to verify the intuitive Human Machine Interface (HMI) and the linkage function between the Vehicle-to-Vehicle (V2V) communication system and the onboard sensing systems. This presentation describes the overview of the ASV-5 systems, the concept of the linkage between the communication system and the onboard sensing systems, realizing methods of the intuitive HMI, and the safe driving support functions.

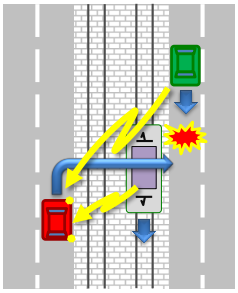
①Provision of information on tram approaching out of the corner (V2T)



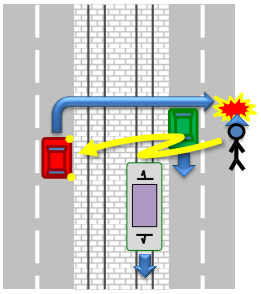
②Provision of information on approaching tram in right turn (V2T and Onboard sensors)



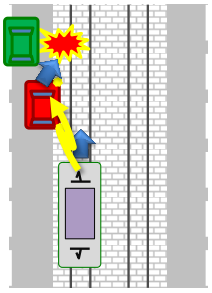
③Provision of information on oncoming vehicle in right turn (V2V and Onboard sensors)



④Provision of information on pedestrian in right turn (V2P and Onboard sensors)



⑤Provision of information on approaching tram in overtaking (V2T and Onboard sensors)



V2V: Vehicle-to-Vehicle communication
V2T: Vehicle-to-tram communication
V2P: Vehicle-to-Pedestrian Communication

Driving Support Applications for Car Driver