

Improving Road Safety using Intelligent Transport Systems (ITS) in the People's Republic of China

YUJI ONO
Transport Specialist

ADB

Road Fatalities in the PRC

- Over 73,000 people were killed and over 0.3 million people were injured in road accidents in the PRC in 2008.
- Fatality rate per vehicle in the PRC: 9 times of that in UK; 5 times of that in US.
- Major causes of accidents: aggressive driving, exceeding speed limit, illegal driving.

Three factors which may be related to traffic accidents



Human behavior

- (i) Recognition
- (ii) Judgment
- (iii) Maneuver

Road

Motor vehicles



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Accident preventive system

- Paradigm shift from enforcement to accident preventive systems
- Everyone makes mistakes since drivers are human beings, though drivers intend to keep traffic rules.
- Need to establish a support system that a single mistake will not bring a disastrous result.

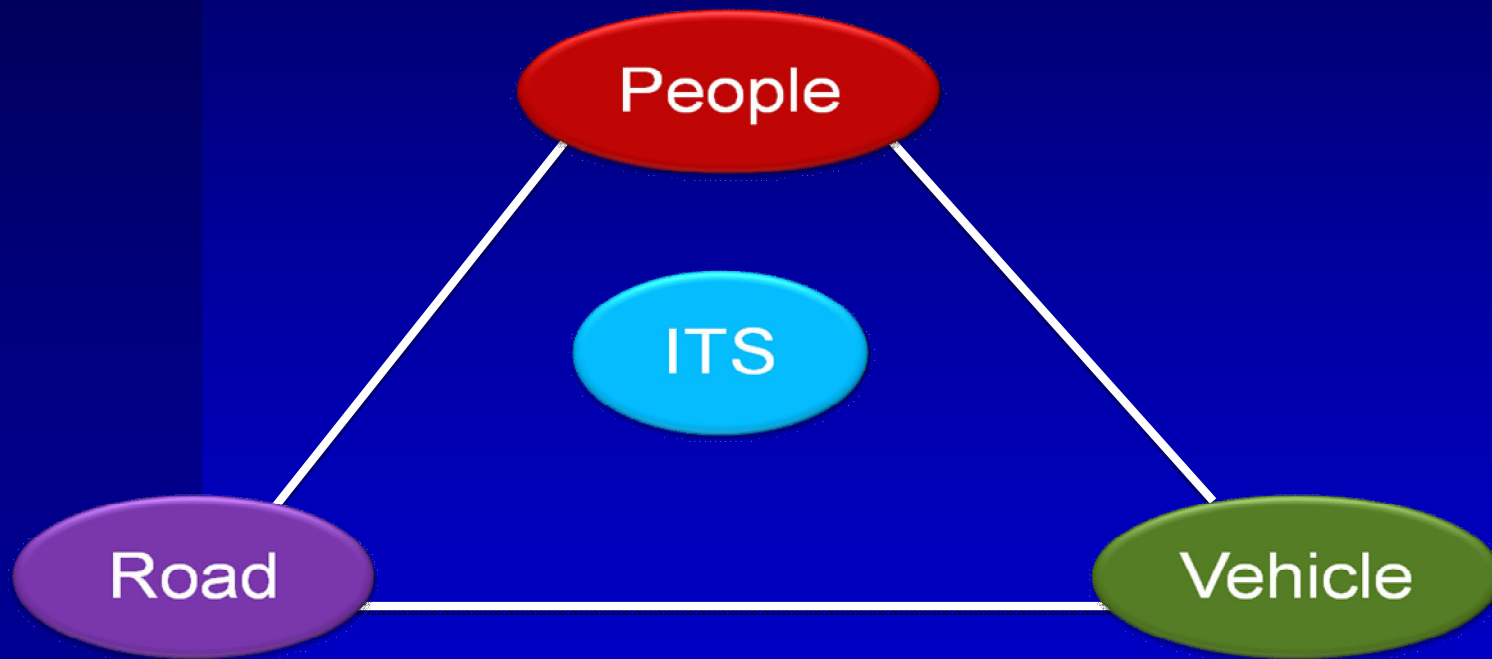
Application of ITS to Road Safety

- ITS has great potential for reducing accidents by
 - Monitoring driving behavior
 - Giving warnings to drivers to change their behavior
 - Providing information for safe driving
 - Controlling vehicles

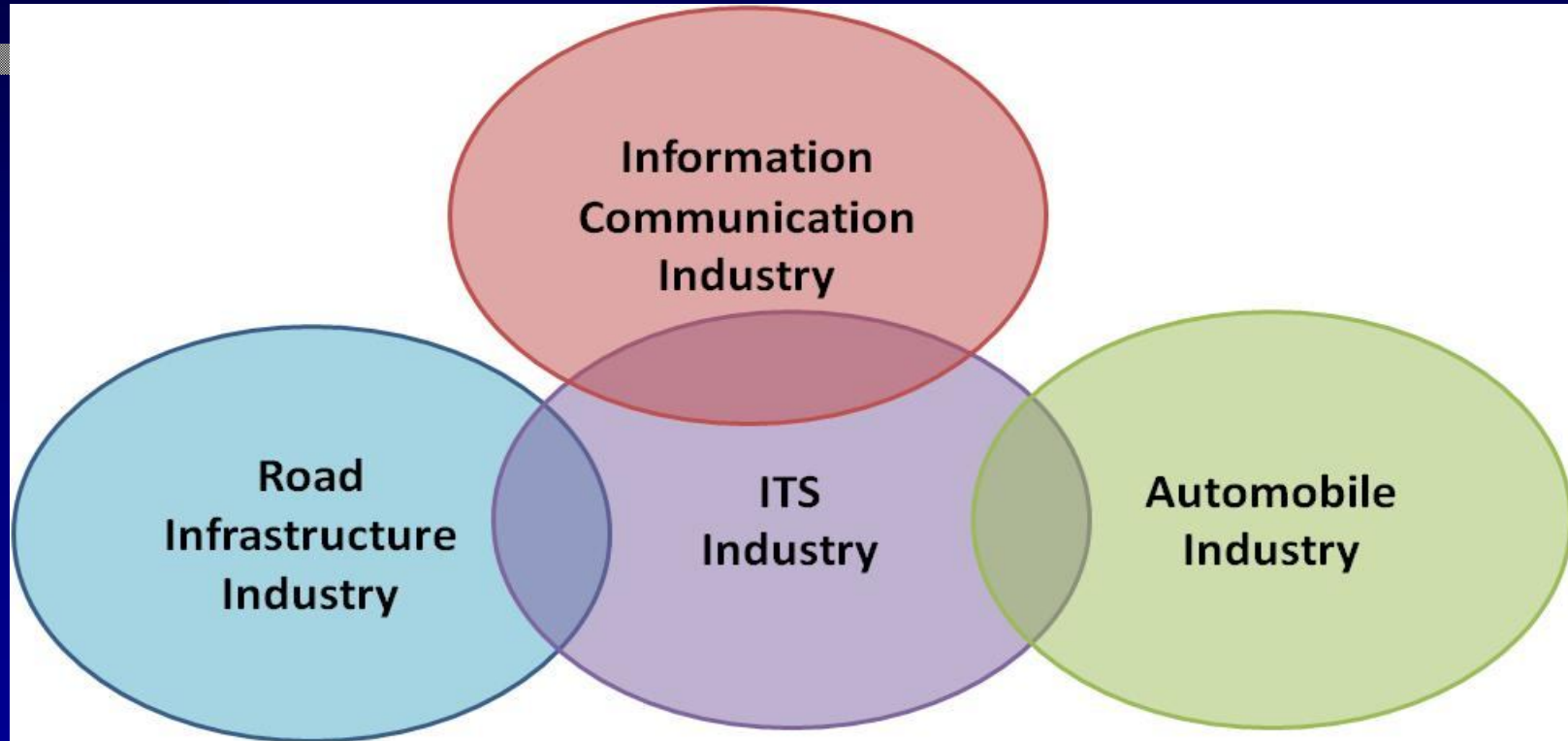
Definitions of ITS

- The application of computers, communications and sensor technology to surface transportation.
- It is an integrated system of people, roads and vehicles, designed to significantly contribute to improving road transport safety, efficiency and comfort, as well as environmental conservation.

Basic Concept of ITS



Three Industrial Sectors of ITS



ITS standards deal with interfaces of systems in other three sectors

Areas of ITS Application

- Car navigation systems
- Electronic toll collection
- Assistance for safe driving
- Traffic management
- Road management
- Public transportation
- Commercial vehicle operations
- Support for pedestrians
- Emergency vehicle operations

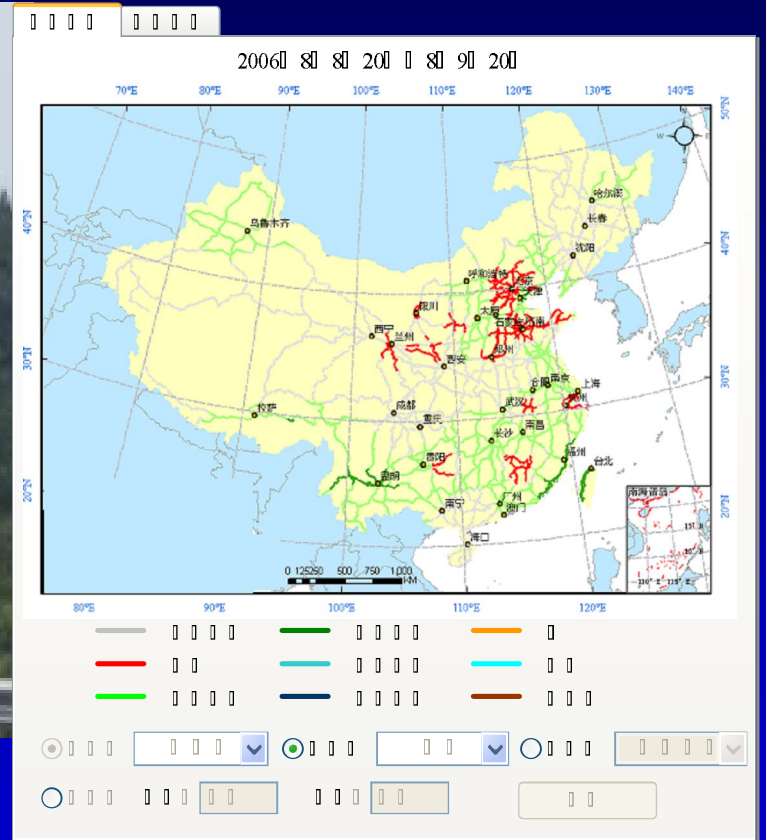
Application of ITS to Road Safety

- Provision of information from infrastructure
 - Excessive speed warning
 - Black spot warning
 - Weather information
- Driver warning from vehicle equipped ITS
 - Seat belt warning systems
 - Outside temperature display
- Driver education assistance
 - Driving recorders
- Vehicle controlled ITS
 - Electronic stability control
 - Automatic speed control and stop

Warning Systems in the PRC

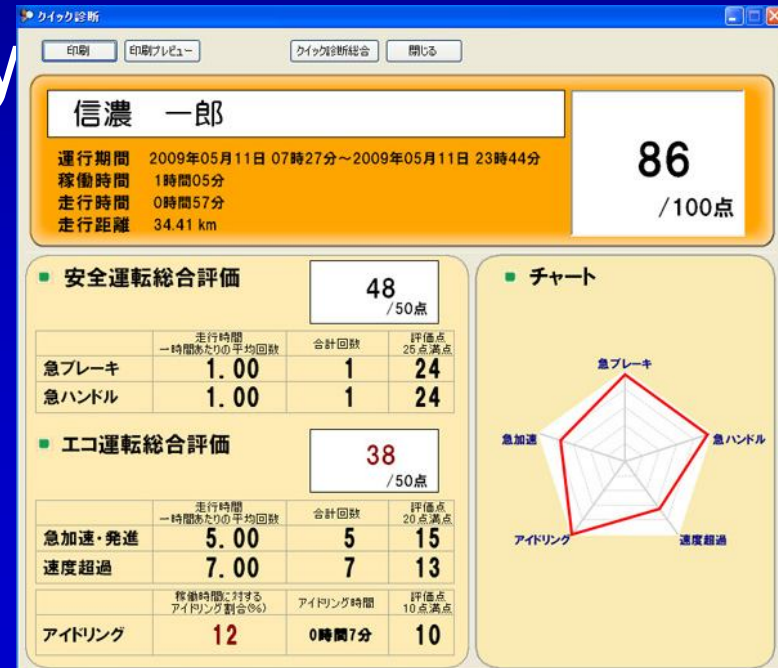
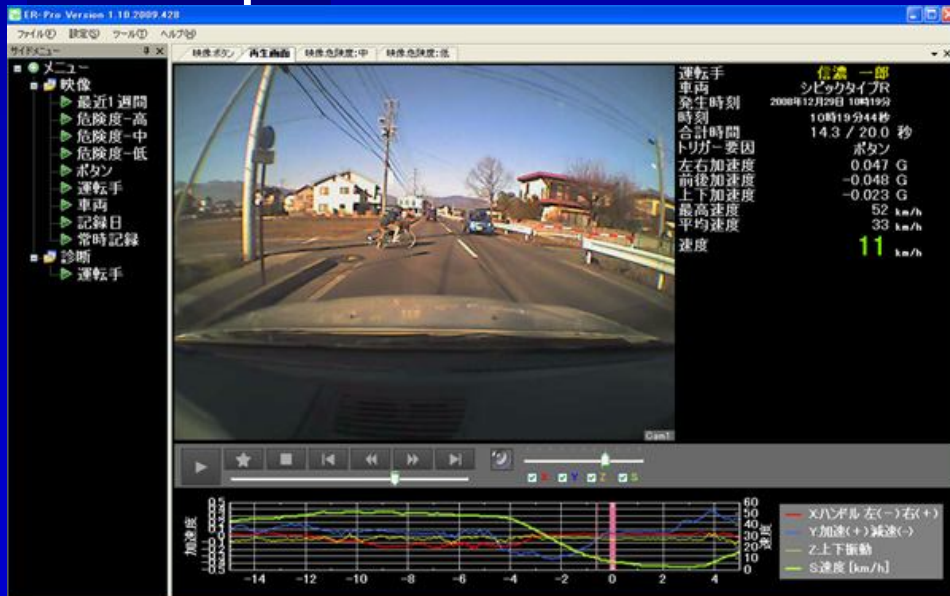


Road Weather Information in the PRC



Event Data Recorders in Japan

- Affecting driving behaviors
- Driving education
- Accident analysis
- Decrease suit costs
- Improve fuel efficiency



Technical Assistance (TA) –PRC: Improving Road Safety through the Application of ITS

- Policy Advisory TA for \$500,000
- To improve road safety by using ITS.
- Provide policy recommendations for the application of ITS.
- Executing agency is the Ministry of Transport
- Adopt a case study approach.
- The project started in January 2010.
- The inception report was discussed in February 2010.
- The final report will be submitted in March 2011.

Case Study Approach

- Select case study provinces in the PRC.
 - 5 provinces from the east, the central, and the west.
- Select case study topics.
 - Overall accident data analysis to identify major causes of fatality accidents.
 - Select case study topics which ITS could be potentially applicable will be selected.
- Select case study ITS technology.
 - In-depth accident analysis to identify the potential causes of accidents.
 - All possible options with and without ITS to improve road safety should be assessed.

Summary

- Application of ITS to road safety is a new approach.
- ITS has great potential for reducing accidents.
- Spreading in developed countries and some examples in developing countries
- The TA study is ongoing in the PRC.

Thank You

Yuji Ono
E-mail: yono@adb.org

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