

## Intelligent Transport Systems: Overview of Study

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### Abstract

Intelligent Transport Systems are used in India under certain conditions. Though wide application to be developed according to Indian Context is still a dream to come true. In this paper, the types of ITS are listed and some of them are discussed in brief and its impact on Indian driving conditions.

### 1 Introduction

Intelligent Transport Systems (ITS) comprised many forms or types. Some of them are

1. Advance Traveller Information System (ATIS)
2. Electronic Toll Collection (ETC)
3. Advanced Traffic Management System (ATMS)
4. Advanced Vehicle Control Systems (AVCS)
5. Commercial Vehicle Operations (CVO)
6. Advanced Public Transport Systems (APTS)
7. Advanced vehicle safety Control Systems (AVSCS)

Some of them are discussed below.

### 2 Electronic Toll Collection

Vehicles with RFID tag can be used effectively in Electronic Toll Collection Systems where delay in waiting for payment is considerably minimized. In another definition, ETC enables road users to pay highway tolls electronically without stopping at the toll plazas. ETC is shown in figures 1. It is operational in Delhi-Mumbai Highway Stretch. ETC will be placed at many places in India within short duration.



Fig 1 Electronic Toll Collection

### 3 Advanced traveller information System

Advanced Traveler Information System (ATIS) provide to users of transportation systems, travel-related information to assist decision making on route choices, estimate travel times, and avoid congestion<sup>1</sup>. It enables users to plan accordingly their route for safe and faster drive along the corridor. ATIS is shown as in figure 2.



Fig 2 . Advanced Traveller Information System

The figure displayed is Variable Message sign which could be useful while planning for next route without any information within the vehicle. This display also comes under advanced traveller information Systems, though it relies on effective display of messages to be clearly visible while driving en route. Passengers waiting at the bus stop can use this type of information system.

### 4 Advanced vehicle safety Control Systems

A set of technologies designed to enhance driver control and vehicle safety. This ranges up to Automated Highway Systems (AHS), where the driver cedes all control to the system. The figure is



Fig 3 Advanced vehicle safety control systems

displayed for Advanced Vehicle Safety Control Systems, where sensors are used to control over the distance between the front vehicles, and a warning system would be displayed or alarmed to inform driver to control over the vehicle. Hitachi is pioneer in developing such technologies and is currently working on the same for greater efficiency. Thus it greatly reduces pressure for driver concerning safety and comfort.

### 5 Conclusions

The above discussed are some of the types of ITS which could be employed in Indian Cities to greater effect for enhancing safety and comfort of the passengers. Though some of the architecture should be modified to work under Indian Conditions.

### References

- 1 ITS Synthesis , IIT Madras , A Report On Intelligent Transport Systems
- 2 Hitachi Reviw, Vol 63 (2014), No. 2, Advance Vehicle Safety Control Systems