

# ITS Project in India

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## 1. The traffic situation in an emerging country (India)

In recent years, traffic congestion problems have become increasingly severe not only in Japan but also in Asian countries that are continuing to undergo significant development. This is especially so in India, which has an economic growth rate of 5–7% and the world’s second largest population, and where the economic losses caused by traffic congestion amount to approximately \$6 billion per year.\* Traffic congestion not only causes lost working hours but also leads to large economic losses through unnecessary fuel consumption, as well as air pollution and its implications for public health. (Figure 1) The root causes of congestion are increasing vehicle transportation coupled with delays to the improvement of the road infrastructure, which is a common issue in emerging countries where development must be promoted without standing in the way of economic growth.

Figure 1: Traffic in India

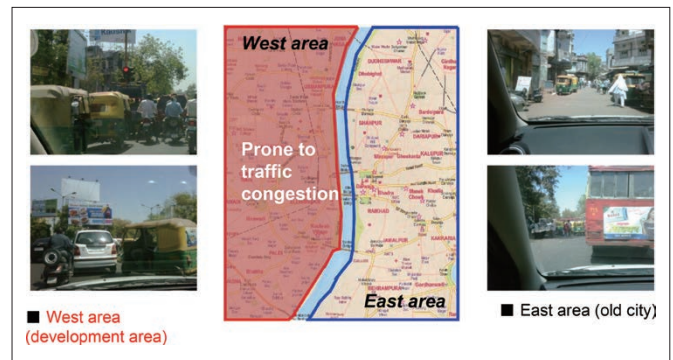


## 2. Japanese technology and Indian cooperation

With the aim of improving the traffic conditions in India, a special purpose company (SPC) has been established by Nagoya Electric Works (a long-established manufacturer of electronic signboards installed alongside roads) and Zero-Sum (a venture capital business with experience in electronic map software and system software for working with traffic congestion information aggregated from traffic information). This SPC started up a project in October 2014 to test the alleviation of congestion by displaying detour route information on a display panel as a way of providing traffic information to the public. The project was targeted at the city of Ahmedabad in Gujarat, which is one of India’s fastest developing cities, and was particularly aimed at

alleviating congestion in the severely congested new town to the west of the river that flows through the city. (Figure 2) In the new town, half the traffic jams are caused by cars headed for the city center during the rush hour, but since there is no way of providing drivers with information such as which streets are passable or what detours are available, it has not been easy to take remedial action and so the traffic jams have continued to be a chronic problem.

Figure 2: Where the system is installed



## 3. ITS system configuration

In this project, our aim was to alleviate these traffic jams by using Japanese ICT (information communication technology). In other words, we aimed to construct a system that allows information to flow in real time by ascertaining the state of traffic congestion from roadside cameras and taxi service information (probe data) and predicting the flow of traffic. The system includes 14 cameras to monitor the traffic conditions, and four electronic signboards to display traffic information. (Figure 3) This project was implemented with the support of the Japan International Cooperation Agency’s (JICA) program of assistance for overseas deployment of SMEs. A unique point of this project is that it employs a public/private partnership (PPP) model whereby half the display area of the traffic information signboards is used to carry regular advertising to provide revenue for the maintenance and operation of the system. This is a sustainable model that allows the business to grow in financially impoverished regions. (Figure 4) The system also uses Internet-based cloud services so that it can ascertain and manage the situation in any location without providing the sort of traffic control centers that we have in Japan, allowing costs to be reduced to approximately one quarter. The police are also provided with tablet terminals so that they can check the traffic conditions and, if necessary, supply the system with traffic information from their current location or even alter the

Figure 3: ITS System Configuration

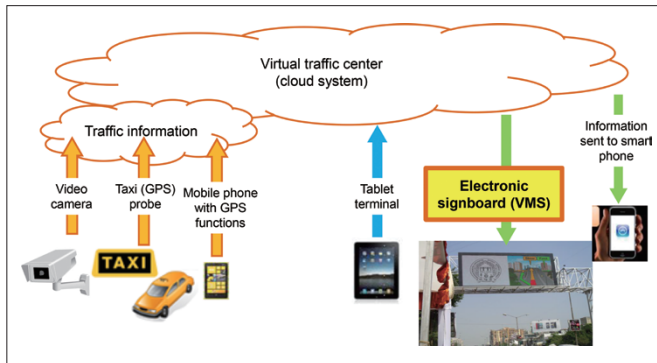


Figure 4: PPP model signboard displays



displays on the electronic signboards, thereby allowing the system to adapt to the local situation.

#### 4. ITS system operation

The system introduced in this project represents a significant breakthrough, combining Japanese hardware technology with an operation system tailored to the local situation. For example, congestion is often caused by festivals, which are not uncommon in India. To cope with these occurrences, the system is provided with a menu that allows information to be displayed by tablet terminals on the electronic signboard by performing simple operations, allowing it to be operated in close harmony with the local situation. As an introduction to this system, a grand opening ceremony was held in Ahmedabad in October last year, attended by over a hundred people including local mayors, commissioners, police chiefs, the director of JICA India and government ministers. (Figure 5) These activities are also supported by the Japan-India ICT Working Group, which is led by Japan's Ministry of Internal Affairs and Communications, and were reported at a workshop held in Delhi last December. (Figure 6)

#### 5. Building smart cities in India

India has launched a project aimed at building a hundred "smart cities" centered on its existing major cities, including smart mobility measures aimed at implementing a road infrastructure that reduces traffic congestion. The Intelligent Transport Systems (ITS) project deployed in Ahmedabad has also attracted attention as a possible model for smart cities. It has been visited by observers from every state in India, and has been widely reported

in the newspapers, on TV and in other media, reflecting the high expectations of this technology. (Figure 7) By promoting cooperation between Japan and India, these activities will not only help to solve the problems facing India's major cities, but will also lead to initiatives aimed at resolving environmental issues on a global scale, so the potential benefits and importance of this project are enormous. We are proud to do whatever we can to ensure that these benefits are realized.

Figure 5: Project Opening Ceremony (October 2015)



Figure 6: Japan-India ICT Working Group, December 2014



Figure 7: One of the electronic signboards



\* Businessweek.com: "The Trouble with India", <http://www.bloomberg.com/bw/stories/2007-03-18/the-trouble-with-india>