

Improving Efficiency through Intelligent Transportation Systems

Another challenge to sustainable transportation is to develop and promote the use of new and innovative technologies that reduce the environmental impacts of transportation while meeting the service needs of passengers and shippers. Technology holds the promise of providing Canadians with transportation options that are safe, efficient, and environmentally friendly. In addition, new technology will reduce the costs of meeting environmental objectives and provide a basis for improvements in productivity and new markets for Canadian products and services. Transport policy initiatives, regulatory responsibilities, and operations are all affected by technological developments. Important technology already exists; properly adapted and promoted, it can be very effective in helping achieve sustainable transportation.

Technology is also proving to be an effective tool in improving the sustainability of Canada's transportation systems (for example, incident management systems and road weather information systems). Some of the first developments in intelligent transportation systems (ITS) occurred in Canada, including the world's first computer-controlled traffic signal system in Toronto. ITS includes the application of advanced technologies, including information processing, communications, sensing and control, and management strategies, in an integrated manner to improve the functioning of the transportation system. By bringing together system users, vehicles, and infrastructure into one integrated system, ITS enables information exchange for better management and use of available resources. ITS is helping to smooth the flow of traffic and improve mobility on congested corridors while making them safer. It is improving intermodal transfers and speeding the processing of travelers and goods across international borders.

One such example is Toronto's Highway 407 Express Toll Route, the world's first all-electronic toll highway. Electronic sensors there can identify and recognize vehicles entering and leaving the expressway. In other applications, there have been groundbreaking advances in global positioning and transponder technology, and a pilot project has demonstrated the feasibility of allowing specially equipped and pre-cleared trucks to cross the Canada-U.S. border with minimal delay.

In September 2000, the federal government committed approximately \$3 million to nineteen cost-shared projects under Transport Canada's Intelligent Transportation Systems (ITS) Deployment and Integration Plan.

ITS Projects

Some of the projects selected for funding under the Intelligent Transportation Systems (ITS) Deployment and Integration Plan include the following:

- *TransLink in Vancouver, British Columbia, will receive \$75 000 to conduct an evaluation of ITS to be used in a twenty-kilometre bus rapid transit system.*
- *The Transportation Commission in St. John's, Newfoundland, will receive \$250 000 for the design and implementation of an automatic vehicle location system for the city's transit system based on a global positioning system.*
- *The Alternative Transportation Options Association of Toronto will receive \$250 000 for Integrated Mobility Systems, which is a multi-modal, multi-application, smart-card initiative.*
- *The Société de transport de l'Outaouais will receive \$250 000 for the development of a strategic ITS plan and pilot deployment of dynamic message signs at bus stops in the Outaouais region of Quebec.*

For a complete list of the projects, see http://www.tc.gc.ca/releases/nat/00_h067e.htm.