

ITS Canada Annual Conference ... A barrel of success in Niagara!

With approximately 250 participants, ITS Canada's Annual Conference was an outstanding success. Held in Niagara Falls, Ontario, on April 29 to May 1, 2007, delegates benefited from a very full technical program with parallel sessions running both Monday and Tuesday, as well as a large exhibition hall where the "who's who" of the industry showcased their products, talents and expertise.



The Conference was opened with a welcome reception held on the exhibit floor on Sunday evening.

Delegates were treated to a delicious spread of food and were able to leisurely tour the exhibits while networking with other participants.

On Monday, the Honourable Donna Cansfield, Minister of Transportation, Ministry of Transportation of Ontario, gave an opening address to welcome delegates and then toured the exhibit hall.



The wide range of topics covered in technical sessions meant that there was something of interest for everyone. Sessions were very well attended.

The highlight of the social program was Monday evening's banquet, held at the Table Rock restaurant on the brink of the Horseshoe Falls. Dinner was preceded by a tour of the tunnels behind the Falls. After dinner, local historian Sherman Zavitz entertained the group with his tales of Niagara.



Inside This Issue

Articles

- Conference in Niagara ...page 1
- Edmonton Transit Moves Towards ITS ... p5
- Funding News ... p6

Features

- News bITS ... p6
- Members in the News ... p6
- Upcoming Events ... p7

ITS Canada Welcomes New Member

CORPORATE
City of Mississauga

Newsletter published by
ITS Canada.
Submissions or comments can
be e-mailed to
itscanada@itscanada.ca.



Visit ITS Canada's website at
www.itscanada.ca

ITS Canada Annual Conference

*With the theme **Intelligent Borders: ITS As A Gateway To Prosperity**, the Conference explored many aspects of border crossing technology. Below is a report that reviews one of the sessions.*

Intelligent Borders – The Way Forward

By Tom George, NITTEC

This session focused on ITS planning, architecture and systems for border crossing applications. A presentation on *Ontario's Action Plan for an Intelligent Border Crossing* provided an overview of the process, goals and identified opportunities for establishment of this ITS plan. The development of the action plan included significant involvement with stakeholders to identify project objectives. The identification of early win projects was based on delivering the right information at the right time for border crossings. The early win projects included both infrastructure and ITS to include information dissemination and exchange. The plan focuses on Windsor first, with the goal of monitoring conditions at all 14 crossings. The study concluded that the joint use of technology, data sharing and partnerships are the key to successfully addressing border crossing issues.

Deployment of ITS as detailed in the Ontario plan, requires a framework for successful deployment. A presentation on the *Border Information Flow Architecture (BIFA) – A Framework for Coordination at Canada – U.S. Borders*, discussed the development and use of the border-specific ITS architecture. The bi-national Transportation Border Working Group (TBWG) identified the need for a common language for systems and devices, which led to the establishment of a working group to create the framework. The BIFA identified the scope, stakeholders and inventory of needs. The scope included all border crossing systems with links to other systems for information exchange. Based on the need for systems to exchange data, a definition of required interconnects and standards is needed for integration. The final BIFA has been developed in database, web and hard copy format for use and dissemination. The use of the BIFA is appropriate for both planning and project implementation, and is available for ITS projects in the border crossing regions.

Measurement of travel time at the borders requires deployment and integration of systems. An evaluation of alternatives for measuring travel time at the border was included in the presentation entitled *Border Wait Time Measurement: A State-of-the-Art Review*. The challenges of determining the appropriate wait time data, user type and locations for dissemination were addressed, along with the various border crossing scenarios experienced by users (primary and secondary inspection, duty-free, tolls, etc.) Most of the border travel time being disseminated today is deficient because it is based on subjective data collection techniques. Different technologies for measurement and dissemination of travel times were presented, with advantages and disadvantages of each system identified. For the most accurate and timely data, no single solution is preferred. A combination of systems and technologies provides the best results. A key element to border travel time dissemination is the establishment of a common definition for what border travel time information represents and how to disseminate it.

When travel times at borders are significant, often dangerous queues on the freeway become a byproduct. *Implementation of the Queue Warning System (QWS) Along the Approaches to the Canada–U.S. Border* identified the need for a queue warning system because of safety concerns due to traffic conditions. The system presented is a stand-alone installation with remote reporting that consists of pavement loops and roadside message signs to warn oncoming traffic. The relationship of the loops and message sign deployments was identified for optimal detection and notification. Software challenges associated with this project were also identified. The success of the deployment required high reliability and five-second notification to motorists. Calibration of the system was critical based on real traffic conditions and freeway configuration. The system can be remotely monitored via a web-based service to ensure reliability and functionality, and can be used as a model in other similar condition areas.

ITS Canada Annual Conference

*With the theme **Intelligent Borders: ITS As A Gateway To Prosperity**, the Conference explored many aspects of border crossing technology. Below is a report that reviews one of the sessions.*

Safety, Congestion and Future U.S. Federal Programs

By William Johnson, TRENDS Consulting

Jeff Paniati of the U.S. Department of Transportation's Federal Highways Administration department is at the focal point of U.S. DOT efforts to implement and deploy advanced technology applications in the U.S. national highway system and at international border crossings. He is able to inform Canadians knowledgeably and authoritatively about the ITS policies and programs of the U.S. Department of Transportation (DOT) and the Federal Highway Administration (FHWA). Jeff outlined his presentation as covering the three key DOT issues – safety, congestion, and future federal programs – with a focus on ITS initiatives, the FHWA role in border crossing issues, and national border activities.

The major federal ITS initiatives now focus on a small number of large impact projects grouped into three clusters:

- **Safety** includes integrated vehicle-based safety systems, cooperative intersection collision avoidance systems, and next generation 911.
- **Mobility** includes integrated corridor management systems, mobility services for all Americans, and Clarus – road-weather services.
- **Global connectivity** involves developing electronic tools for managing the end-to-end mobility and security of intermodal freight movements. To demonstrate this capability, a trial is now underway involving an air and highway intermodal service from China to the U.S.

In addition to these three clusters, there are projects that fall under the category of cross-cutting: for example, the vehicle-infrastructure integration initiative.

Given the theme of the conference, Jeff outlined the key border issues that his department has identified: lack of information sharing; capacity constraints; infrastructure; limited number of crossings; an increased focus on security; and jurisdictional complexity.

These issues have an impact on “competitiveness” and therefore are getting the attention of federal decision-makers. The nature of vehicle traffic on the Niagara River crossings is changing: personal vehicle traffic in 2005 is down by 19 percent from 1994 and truck traffic is up by 29 percent over the same period. The same trends are occurring at other U.S.-Canada border crossings, reflecting the impact of NAFTA-driven growth in trade.

The federal role in meeting these challenges involves three core themes: enhance public safety; reduce congestion and improve traffic flow; and advocate for state agencies with federal agencies such as Homeland Security. He gave examples of specific initiatives undertaken with federal participation:

- **Border information flow architecture (BIFA)** is a mechanism to identify technologies and users of technologies, identify priorities, promote interoperability, reduce investment costs and enhance information exchange.
- **Using technology to measure performance at the Canadian border** involves using trucks as probes on 25 major interstate highways and 5 Canadian border crossings in order to quantify delay so that causes of delay can be explored. This research is carried out in partnership with motor carriers using satellite technologies.
- **Data collection at the Ambassador Bridge** is one of several border crossings that are being analyzed for travel time by time of day, time of year and location along the approach roads to the crossing; this enables analysis of changes in the border crossing environment, such as changes in threat levels, facility upgrades, etc.
- **Investment in infrastructure at border crossings** - the Coordinated Border Infrastructure Program has funds to improve the safe movement of vehicles at border crossings; the program has \$833 million over six years that is distributed by formula to border states based on criteria such as numbers of vehicles at crossings, weight of incoming cargo, and number of crossings.

Continued ... next page

ITS Canada Annual Conference

Continued from previous page ...

- **Working committees at the border** - the mission of the U.S.-Canada Transportation Border Working Group (TBWG) is to facilitate safe, secure, efficient and environmentally responsible movement of goods and persons at the border. It undertakes projects including truck roadside surveys, inventories of facilities, and the Border Information Flow Architecture, and includes all federal, state and provincial partners.

Jeff closed his presentation with these observations:

- **Safe, secure and efficient** border operations are vital to the economic growth of both the United States and Canada.
- **Balancing** competing goals, agency missions and national interests is challenging. U.S. DOT is working at many levels to improve movement at the border.
- **Technology** is a key enabler for monitoring performance and improving operations.

International Perspectives on ITS

By Elizabeth Birriel, Florida DOT

This session provided an interesting view of ITS deployment issues from four totally different areas, each at different deployment levels:

Ton van Oijen of Imtech from the Netherlands spoke about the need for standardization within the ITS industry.

Jenny Martin with ITS UK spoke about changing attitudes towards surveillance. Surveillance was more accepted in the past; now, as surveillance starts to aid speed enforcement and traffic enforcement in general, the public's attitude is hardening.

Elizabeth Birriel spoke about the Florida Department of Transportation's ITS Program and their current and future initiatives.

Susana Asencio spoke about progress with deployments in the City of Guatemala, despite a limited budget.



ITS Canada Chairman **Joseph Lam**, right, thanks **Heather McClintock**, Co-Chair of the Conference Organizing Committee, for her efforts in organizing ITS Canada's Annual Conference. Co-Chair **Les Kelman**, who also contributed greatly to the success of the event, was unable to attend.



From left to right, **Susan Spencer** and **Helena Borges** of Transport Canada, with **Nancy McNiven** of the Dept. of Foreign Affairs and International Trade, reviewed Transport Canada's initiatives and future vision for ITS

Edmonton Transit Moves Toward ITS

Like most large cities, Edmonton, Alberta, faces significant transportation problems: growing population, suburban sprawl and road congestion. The Edmonton Transit System (ETS) recently took a major step into the ITS future.

The ETS serves a capital region population of about 1,000,000 and, as in other cities, most people still drive to work – one person to a vehicle. Although bus ridership has increased recently, actually outstripping the rate of population growth, it is still only a small portion of daily commuters.

To promote greater use of public transit, the City of Edmonton recently commissioned the installation of the TransPOD™ (Transit Priority On Demand) system along one of its busy commuter corridors. TransPOD™ is an ITS application developed specifically to take advantage of the movement towards municipal wireless networks.

One key feature is that the system gives authorized managers detailed, real-time views of how the system and buses are operating, including maps that update bus locations second by second. It also provides the capability to remotely reconfigure the system and modify certain operating parameters on the fly.

As currently installed in Edmonton, TransPOD consists of:

- 40 WiFi units (Priority Request Generators, or PRGs) installed on city buses
- 9 WiFi units (Priority Request Servers, or PRSs) located at priority intersections along the nine kilometer route
- Tropos mesh network.

The PRG and PRS units communicate through the Tropos WiFi network, which also relays logs and other real time information from the units through three gateway clusters to the city's Traffic Management Centre.



ETS bus showing PRG mounted on top.

Through WiFi, TransPOD™ also opens the door to a variety of enhanced services, some of which have the potential to become new revenue sources. Those enhanced services include:

- accurate next bus arrival information (displayable at bus shelters and transit centres)
- high speed mobile Internet connectivity for passengers
- updatable and customizable infotainment services (news, ads, TV shows and more)
- VOIP services for passengers and operators
- destination information for each neighbourhood the bus passes through.

Edmonton's TransPOD™ system has been in operation since late last year. Rigorous testing and analysis utilizing the unique operational data that the system provides will be used this summer to measure how TransPOD™ reduces delays and to provide insights for optimizing scheduling and system operation.

The City is currently enhancing TransPOD™ to collect black box data for each bus, as well as directional and time-of-day conditional priority. It also plans to expand TSP to other transit corridors. For more information, please contact: Novax Industries at general@novax.com, or via telephone at (604) 525-5644.



ITS Canada News

Funding News

Funding Announcement

Asia-Pacific Gateway and Corridor Initiative

On May 11, 2007, \$491.7 million in funding was announced for 10 strategic infrastructure projects for the Asia-Pacific Gateway and Corridor Initiative. Canada's new government has committed over \$1 billion to the Asia-Pacific Gateway and Corridor Initiative, with \$800 million going to projects in British Columbia.

Of the 10 projects announced, six will be in British Columbia, in recognition of its strategic geographical location as the entry and exit point for trade traffic between Asia and North America. Projects include road/rail separations, and highway and intersection improvements. Four other projects in Alberta, Saskatchewan and Manitoba will also receive funding. Details on these projects will be announced at a later date. For full details, visit:

<http://www.tc.gc.ca/mediaroom/releases/nat/2007/07-gc016e.htm>

Canada and Ontario Invest In New Technology To Keep Border Traffic Moving Smoothly

On May 7, 2007, the Governments of Canada and Ontario announced the introduction of new Intelligent Transportation Systems technology at the Blue Water Bridge border crossing along Highway 402 to enhance safety and help improve the flow of traffic. Both governments are contributing a total of \$4.4 million for this technology, including:

- Pavement sensors that monitor vehicle speeds and, within 30 seconds, send traffic information to queue-end warning signs and to the Ontario Ministry of Transportation's Southwestern Regional Communications Centre. The warning signs will provide motorists with information on traffic conditions ahead.
- Nine closed-circuit television cameras that will assist Ontario Ministry staff to detect incidents and dispatch emergency services sooner. As a result, road emergencies and related traffic congestion will be resolved more efficiently.

For full details, visit:

<http://www.tc.gc.ca/mediaroom/releases/nat/2007/07-h080e.htm>

News bITS

Latest IBEC Newsletter Now Available

The May IBEC Newsletter is now ready to download from the IBEC website, providing a review of recent IBEC activities and details of future events that IBEC will be involved in, including plans for this year's ITS World Congress in October. Visit:

www.ibec-its.org - click on news

ITS Slovenia Formed

In February 2007, it was announced that ITS Slovenia has been formed, joining the ERTICO-hosted Network of National ITS Associations. Currently with 20 members from SMEs, universities and other key Slovenian ITS players, its President is Dr. Tomaz Maher of the University of Ljubljana, Faculty of Civil and Geodetic Engineering, Traffic Technical Institute. Its website is currently under development.

Members in the News

In early May, **Applanix Corporation** introduced its most advanced medium format airborne directly georeferenced imaging solution, the Digital Sensor System (DSS) 439. Designed for flexible deployment and a wide range of mapping applications, the new system offers remote sensing and Geographic Information System (GIS) specialists a powerful and complete airborne digital imaging system with exceptional data processing capabilities. For all the details, visit: www.applanix.com.

NAVTEQ has been chosen by the Ford Motor Company to provide map data for its next generation IAM2.1 navigation platform, which will be used for both Ford of Europe and Premier Automotive Group navigation systems. For further details, visit: www.navteq.com. Also, a research study has shown significant benefits for integrated navigation solutions, including a 40 percent reduction in communications costs, a 15 percent reduction in fuel costs and an 18 percent reduction in driver hours, among many other benefits. For full details, contact Benoit Vaillat at benoit.vaillat@navteq.com.



Upcoming Events

International Conference on Gateways and Corridors

May 2 to 4, 2007 – Vancouver, B.C.
www.gateway-corridor.com

CITE 2007 Conference

May 6 to 9, 2007 – Toronto, Ontario
www.itetoronto.ca

15th International Symposium on Electronics in Traffic (ISEP 2007)

May 9 to 11, 2007 – Ljubljana, Slovenia
www.ezs-zveza.si/isep2007/foreword/

Intertraffic Istanbul

May 9 to 11, 2007 – Istanbul, Turkey
www.intertraffic.com

Africa Roads 2007

May 21 to 24, 2007 – Johannesburg, South Africa
www.terrapinn.com/2007/roadza

XVII Canadian Multidisciplinary Road Safety Conference

June 3 to 6, 2007 – Montreal, Quebec
www.cmrcs.polymtl.ca

ITS America 2007 Annual Meeting & Exposition

June 4 to 6, 2007 – Palm Springs, California
www.itsa.org/annualmeeting.html

7th International Conference on ITS Telecommunications (ITST 2007)

June 6 to 8, 2007 – Sophia Antipolis, France
www.itst2007.eurecom.fr

ITS New York Annual Meeting and Technology Exhibition

June 7 and 8, 2007 – Saratoga Springs, New York
DottyD@aol.com

CUTA Annual Conference

June 9 to 13, 2007 – Halifax, NS
www.cutacta.ca

IBTTA Spring Technology Workshop

June 10 to 12, 2007 – Berlin, Germany
www.ibtta.org/Events

2nd Ibero-American Congress/7th ITS Argentina Congress

June 12 to 14, 2007 – Buenos Aires, Argentina
www.congresoits.com.ar

6th European ITS Congress and Exhibition

June 18 to 20, 2007 – Aalborg, Denmark
www.itsineurope.com/congress/index.cfm

Asia Traffic

July 9 to 12, 2007 – Singapore
www.asia-traffic.com

23rd World Road Congress

September 17 to 21, 2007 – Paris, France
www.paris2007-route.fr

75th IBTTA Annual Meeting and Exposition

October 6 to 10, 2007 – Vienna, Austria
www.ibtta.org

National Rural ITS Conference

October 7 to 10, 2007 – Traverse City, MI
www.nritsconference.org

14th World Congress on ITS

October 9 to 13, 2007 – Beijing, China
www.itsa.org

Intertraffic North America

October 10 to 12, 2007 – Fort Lauderdale, Florida
www.intertraffic.com

TAC Annual Conference and Exhibition

October 14 to 17, 2007 – Saskatoon, SK
www.tac-atc.ca

Gulf Traffic Exhibition and Conference

December 10 to 12, 2007 – Dubai, UAE
www.gulftraffic.com

15th World Congress on ITS/ITS America's 2008 Annual Meeting & Exposition

November 17-20, 2008 – New York, NY
www.itsa.org/worldcongress.html