



ITS Canada News

511 for Travel and Weather Information Services

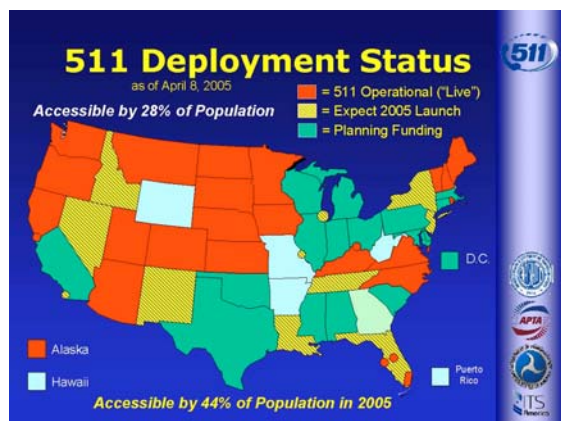
Following January's submission to the Canadian Radio-Television and Telecommunications Commission (CRTC) for the assignment of 511 to weather and traveller information services, Environment Canada has advised that cost recovery for weather information will no longer be required. As a result, an amended application was submitted to the CRTC in April. The CRTC Public Notice process is expected to begin in the near future, with a decision likely before the end of 2005. The application can be viewed at:

www.crtc.gc.ca/PartVII/eng/2005/8698/j44_200500240.htm.

ITS Canada has signed an agreement with the Council of Deputy Ministers Responsible for Transportation and Highway Safety for provincial and territorial funding to support the CRTC application process and it is expected that federal government funding support will be confirmed in the near future.

- The next meeting of the Canada 511 Consortium will take place in Quebec City, coinciding with ITS Canada's Annual Conference.
- ITS Canada is coordinating a panel discussion on 511 at TAC's upcoming conference in Calgary in September.
- The Canadian Urban Transit Association (CUTA) and ITS Canada are working together to host a round table discussion to highlight the benefits of 511 to transit agencies. The round table will be held at the CUTA Annual Conference, on May 29 in Gatineau, Quebec.

Deployment of 511 in the United States continues to progress well, with 1,291,760 total calls in February 2005 and over 30 million calls nationwide since inception. In February, 511 was available to over 81 million Americans, with call volume records being set as a result of weather conditions and incidents.



For more information about 511 in Canada, contact:

Paul Frigon, Co-ordinator
Canada 511 Consortium

Tel (613) 820-6019
E-mail pfrigon@psrgroup.on.ca

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Canadian Regional Updates

YUKON

By Wally Hiding, Government of Yukon

Yukon

Highways and Public Works

The Yukon Government has five projects in the planning or delivery stages:

1. Remote Data Gathering
 - transport of data obtained by field installations to Whitehorse using satellite technology
 - beta site installed July 2004 and successfully tested through winter 2004/2005
 - additional sites will be installed as stand-alone units or in combination with development of satellite communications to other department facilities throughout Yukon.
2. Road Weather Information System
 - three sites will be installed in 2005
 - all sites are near Whitehorse where traffic volumes are high enough to warrant installation, and electricity and telephone service is available.
3. Highway Condition Reporting System
 - continued participation in the 511 Consortium.
4. Broadband Communications to Remote Highway Maintenance Camps
 - satellite-enabled communications technology to provide high speed voice and data communication with remote maintenance camps
 - a demonstration project was successfully completed in 2004
 - equipment will be installed at six camps in 2005.
5. ITS Strategy for Yukon
 - development of a guidance document for future ITS work
 - most work by consultant resources
 - completion by late 2005.

NOVA SCOTIA

By Paul Richard,

Nova Scotia Department of Transportation

An integral part of Nova Scotia's ITS deployment strategy is the installation of Road Weather Information Systems (RWIS) stations to facilitate winter maintenance decision making. The Province has 31 RWIS stations in place, 27 of which are located on the National Highway System.

The three main elements of RWIS are:

- environmental sensor system technology to collect data at the roadside
- models and other advanced processing systems to develop forecasts and tailor the information into an easily understood format
- dissemination platforms on which to display the tailored information.

All of the Province's RWIS sites are equipped with cameras focused on the adjacent roadway. These cameras have proven extremely popular with the travelling public.

The real-time weather information displayed on the RWIS Internet site is important, although the greatest benefits are accrued through the use of tailored forecasts such as those aimed specifically at supporting maintenance operations.

The Department has installed the last 12 RWIS stations under two contribution agreements with Transport Canada's ITS Office. Under these agreements, the acquisition and installation of equipment are cost-shared with the Province on a 50-50 basis. A further six sites will be added under these agreements.

The Province is also in the process of calling a tender for the installation of a weigh-in-motion station on Highway 104, near the Canso Causeway, also under a contribution agreement with Transport Canada.



Canadian Regional Updates

ONTARIO

By Raj Bissessar, City of Toronto

In late 2002, the City of Toronto contracted to undertake testing using the Series 2000 traffic signal system. The main requirement of the test was to show that controllers from three different suppliers could be integrated with Series 2000 using NTCIP. The test was successfully completed, and the contract was awarded in July 2003 to undertake a pilot project for the supply and installation of new central software and hardware, along with the migration of 16 intersections from the Main Traffic Signal System (MTSS), the current version of Toronto's pre-timed, time-of-day system that is a derivative of the first computer-controlled signal system introduced in the early 1960s. MTSS currently controls approximately 1,600 intersections in the city.

The pilot project was successfully completed in December 2004, demonstrating the ability to provide seamless on-street progression between interval-based controllers on MTSS and NEMA controllers on Series 2000. With the success of the pilot project, the City plans to migrate all MTSS signals to Series 2000 over the next several years. The integration of controllers and cabinets from three different suppliers will give the City the flexibility to source controllers and cabinets from at least three suppliers. Series 2000 provides the following advantages over MTSS:

- Traffic-responsive timing plan selection
- The ability to extend or shorten left turn phases to cater to cycle-to-cycle fluctuations in left turn volumes
- Direct data transfer to/from capacity analysis software
- Remotely storing and implementing timing plans during a communication failure, thereby still providing signal coordination and the same level of traffic signal operation
- Better monitoring of intersections to detect equipment problems and then provide an escalating alarm to alert staff of device failures
- Transit priority at the controller level with minimum disruption to signal coordination
- Real time graphics display of the traffic signal system provides better control and management, allowing for quicker response to on-street traffic problems
- Performance measures such as stops, delays, and travel time are available.

By Brian Lilly, Greater Toronto Airports Authority

The opening of the new Terminal One at Toronto Pearson International Airport required the Automatic Vehicle Identification (AVI) System to be expanded. The new phase of the AVI System builds on the existing Vehicle Monitoring and Control System (VMCS) currently deployed at the Airport. The enhanced system provides the following major functionality:

1. Monitors/tracks all transponder-equipped commercial vehicles at all terminal curbs and compounds
2. Schedules and dispatches airport-based commercial vehicles, including taxis, limousines, and airport ground transportation association (AGTA) vehicles
3. Exports usage information related to commercial vehicle operations within the Airport to the billing/accounting system for terminal curb usage fees.

The benefits of the AVI System include revenue recovery and equity, facility usage information, automatic taxi/limo/AGTA vehicle dispatch and curb management, and enforcement.

By Doug MacKay, Durham Region

The Region of Durham recently commissioned their new Traffic Operations Centre (see photo next page). The Traffic Engineering and Operations Division of the Works Department recently amalgamated the field services group with the engineering staff into one facility in Whitby. This new location will provide increased service response to communication and/or signal-related problems throughout the Region. The TOC is home to approximately 60 staff members working in a variety of areas related to Traffic Engineering.

The new TOC will play host to the most advanced ITS program between Toronto and Ottawa in Ontario. In addition to the TOC, real-time video will soon be operational using both wireless technologies and fibre cable, as the Region continues building its communication network.

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Canadian Regional Updates

ONTARIO ... continued from previous page

Development of the Region's ITS Strategic Plan is now in progress. On April 5th, over 40 stakeholders attended the first workshop to develop the needs assessment. An active consultation program has been ongoing, and the project will be completed in the fall of 2005. For more information, please visit our website:

www.region.durham.on.ca/itsstrategicplan



Region of Durham's new Traffic Operations Centre

SASKATCHEWAN

By Ted Stobbs,

Saskatchewan Highways and Transportation

The **City of Regina** is continuing work on a multi-year traffic signal upgrade. The upgrade work includes the replacement of old traffic controllers and cabinets with NEMA TS2 Type 1 NTCIP compliant units. Additionally, the City is replacing an old central software system with a new central server, including software and hardware. The new controllers, cabinets, and software will increase the reliability of the system and afford the City the opportunity to re-time the entire signal corridor to be more reflective of current traffic trends. To complement the new system, the City is also upgrading the communications system to the traffic controllers to a user-owned system.



The City is using existing City-owned copper cabling in the downtown core area, and is investigating the use of wireless devices for the remainder of the traffic controllers. Stage II of the overall upgrade is the installation of significant numbers of non-intrusive detection devices to aid in making the traffic system more responsive and more efficient. Approximately 85 percent of the City's intersections will make use of either video or microwave detection.

Due to the installation of vehicle detection, the City is also adding pedestrian push buttons at the majority of intersections to provide pedestrians with a way to let the controller know they are there. With the use of detection, the City anticipates a more adaptive system that will allow more flexibility than in a fixed-time system. The final piece of the overall system upgrade is the addition of optical fire pre-emption devices along many of the key corridors throughout the City. Fire pre-emption is a welcome addition, and more convenient to add because of the new control equipment. The bulk of the work is anticipated to be complete by the end of the year.

The **City of Saskatoon**, in partnership with International Road Dynamics (IRD) and the University of Saskatchewan, has been awarded cost-shared funding from Transport Canada under the ITS Research and Development Plan, part of the Strategic Highway Infrastructure Program (SHIP). The contribution agreement will allow the City of Saskatoon to install two Virtual Weigh-in-Motion (WIM) Systems in the City and enable IRD and the University of Saskatchewan to conduct further research and development on the application and use of the systems.

ABOUT THE TECHNOLOGY

A Virtual WIM System is a tool to monitor vehicle weights and dimensions at full highway speeds. The system captures an image of those vehicles that are overweight for further inspection, allowing compliant vehicles to proceed uninterrupted. The data collected from the system can be incorporated into asset management and truck route optimization programs to protect investment in the city's road infrastructure.

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Canadian Regional Updates

SASKATCHEWAN ... continued from previous page

The new systems will enable IRD to further enhance the video technology to include license plate readers and create customized reporting. The project will also allow the University of Saskatchewan to continue their research by evaluating the relationship between enforcement strategy, effort, and effectiveness in an urban environment. These systems are a unique approach to monitoring commercial vehicle weights in an urban environment, and Saskatoon is becoming a showcase for such technology.

The total cost of the project is \$452,000. Transport Canada's share is \$226,000.



Saskatchewan Highways and Transportation has implemented a network of thermistors to assist in decisions on when spring weight restrictions should be placed on the thin membrane highway network. There are 16 thermistor sites located strategically in different geographic and climatic areas across the province. The thermistors are placed under the surface to a depth of 2 m. The sensors are placed at various increments, from 60 cm apart at the bottom to 5 cm apart near the surface.

As the temperature profile changes in the spring and frost leaves the grade, decision makers will implement spring weight restrictions to reduce the thaw-related damage to non-structural roads, with consideration for minimizing the cost and inconvenience to industry.



MANITOBA

By Luis Escobar, City of Winnipeg

The City of Winnipeg is in the process of implementing a new traffic signal management system (TSMS). The system has been operating on a limited basis on a number of traffic control signals. Together with this new system, the City is beginning to experiment with wireless technology to establish communication within traffic signals, and between those traffic signals and the TSMS. When complete, the new TSMS will operate up to 1,000 traffic signals, and much of the communication requirements will be done through wireless equipment.

The Traffic Signal Dispatch centre has now been expanded to include the use of Blackberries. Phone calls from the public are triaged by the Police Department, then transferred to a call centre (if the call is not of an emergency nature). Pertinent information is gathered and sent directly to technical staff via Blackberries so that they can respond more efficiently.

Traffic signals assets and information (e.g., traffic signal timing plans, controller type, maintenance schedule, etc.) are now being converted to an information management system based on a GIS-T platform. Once completed, this data will be linked and analyzed, together with other traffic-related data such as collisions, and traffic volumes.

ALBERTA

By Ryan Vanderputten, City of Calgary

The City of Calgary has been extremely busy in the implementation of their ITS Strategic Plan. Approved by Council in July 2003, the strategic plan provides direction for the investment in ITS infrastructure over the next few years. Many ITS projects identified within the plan are currently underway.

C.A.R.S. Pilot Test - The Regional Traveller Information website for Alberta was launched in January 2005. The pilot test is scheduled to end in September, and the City is looking to implement a permanent traveller information system shortly thereafter.

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Canadian Regional Updates

ALBERTA ... continued from previous page

The pilot test is being undertaken by Morrison Hershfield Limited, in partnership with Alberta Transportation, the City of Edmonton, and the Alberta Motor Association, with 50 percent funding assistance from Transport Canada under the SHIP ITS R&D Plan. See <http://www.travelinfotest.ab.ca/>.

Traffic Management Centre

The City of Calgary recently opened its new Traffic Management Centre. The new 24/7 facility houses not only the traffic management operators, but also the Roads Maintenance operators. Eight large video screens display real-time images from the City's CCTV camera system, and allow staff to monitor roadway conditions.

Some of the major initiatives to be undertaken in 2005 are described below.

ITS Data Network

A key component of the ITS Strategic Plan is the design and implementation of an "ITS Communication Data Network" that would be entirely devoted to ITS applications, and be logically and physically isolated from other City networks. The proposed network will utilize the City's limited fibre backbone and be complemented with a Wide Area Wireless Network. It is anticipated that all City Business Units and related agencies that undertake ITS projects could utilize this network including, but not limited to, Calgary Police, Calgary Parking Authority, Roads, Calgary Transit, Transportation Planning, Calgary Fire/EMS, and Fleet Management. This project is co-funded by Transport Canada under the ITS Deployment and Integration Plan.

CCTV Installation

Transportation Planning undertook a study in 2004 to prioritize locations for CCTV camera deployment city-wide. Overall, approximately 60 locations were recommended for installation over the next six years. The City of Calgary has received funding from Transport Canada and Alberta Transportation for eight CCTV sites, including Citilog Incident Detection systems. Five of these cameras will be on Deerfoot Trail, in accordance with Alberta Transportation's ITS plans for Highway 2. We are currently in the process of determining the highest priority locations for implementation during 2005.

Intelligent Workzone Deployment

The City of Calgary is embarking on a significant corridor improvement project along Glenmore Trail, a heavily used east-west corridor through the City. This project will include two interchanges, widening the causeway over the Glenmore Reservoir, and widening the remaining portion of the corridor to six lanes. Construction is expected to last almost three years. In order to address the issue of increased congestion due to the construction, the City is looking to deploy an Intelligent Workzone System. Potential technologies could include portable road sensors, variable message signs, congestion information on the web, and highway advisory radio (HAR).



By Allan Lo, Alberta Infrastructure and Transportation

Alberta Infrastructure and Transportation has successfully closed the competition for the Road Weather Information System (RWIS) Request for Proposal (RFP), and has awarded a ten-year contract to provide the province's RWIS service, starting with designing and installing 30 stations by this year end, and completing the 75-station network by 2007/08. The contract includes the design, installation, operations, maintenance, and data and forecast services over the contract period. It will be an exciting time for winter maintenance and traveller information in Alberta! The acquisition and installation of the first 19 stations will be co-funded by Transport Canada under the federal RWIS initiative.

Another federally-funded project was recently approved under the bilateral ITS research and development (R&D) agreement. This project will explore the applicability of a video-based incident detection system under extreme weather conditions in a Canadian environment. In addition to the federal and provincial contributions, a number of partners are providing cash and/or in-kind contributions for the project, including the Cities of Calgary and Edmonton, University of Calgary, Citilog, and Fortran Traffic Systems. This partnership of governments, industry, and academia will foster road safety R&D initiatives in Alberta.

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ITS Canada News

ITS Canada Committee Reports

Traffic Operations Management and Safety Committee

By Milt Harmelink, Committee Chair

This report covers activities of ITS Canada's Traffic Operations Management and Safety Committee since September 2004.

I represent ITS Canada on two committees of TAC: the Traffic Operations and Management Standing Committee (TAC TOMSC) and the Road Safety Standing Committee (RSSC).

TAC TOMSC

At the 2004 spring meeting of TOMSC, the proposal for the joint ITSC-TAC project to develop an *ITS Design Guide for Traffic Management* was approved. The proposed base budget was \$200,000, plus TAC administration costs and translation costs. Terms of reference for the project were prepared and reviewed and approved by TOMSC in September 2004, in anticipation of the project being put out for consultant proposals.

TAC and ITS Canada have each polled their members to determine potential levels of funding contribution. To date, TAC has secured about \$107,000 of funding commitment. Polling of ITS Canada members for funding contributions is continuing. Funding offers so far are significantly below the anticipated budget requirements.

The project committee has explored the possibility of drawing on relevant information from other, related source documents without compromising project integrity, and this appears promising. This may help reduce the overall budget requirements by not "reinventing the wheel." However, even with this approach, if more funding commitments are not obtained, it may mean a change to the scope of the project.

Within the context of TAC's project structure this is a funded project, where the Project Steering Committee (PSC) is comprised of representatives of the funding agencies/parties. The PSC members select their own Chair, and may also choose to revise the project terms of reference to reflect their collective interests and priorities.

As ITS Canada's representative on TOMSC, I have recommended that TOMSC/TAC now set up the PSC and develop the project. If ITS Canada is not itself a funding agency for this project, it will not have its own member on the PSC; this is unlikely to be a problem, as several of the representatives of funding agencies are members of ITS Canada who could also represent ITS Canada on the PSC.

TAC Road Safety Standing Committee

No specific ITS-related proposals have as yet been proposed by ITS Canada to the RSSC. Suggestions from members are welcome.

For more information on any of these initiatives, please contact Milt Harmelink at:

mdharmel@pathcom.com.

Education and Training Committee

By William Johnson, Committee Chair

The Education and Training Committee includes within its mandate raising general awareness about ITS, ITS architecture training, as well as overseeing scholarship awards and travel subsidies for such events as World Congresses. The scope of this committee includes representing ITS Canada at the TAC Education Council meetings. Committee contacts from the Board of Directors are William Johnson and Ahmad Radmanesh.

The call for applications for ITS Canada's 2005 Michel Van Aerde Memorial Scholarship was posted in February and closed on April 30, 2005. The review committee is now processing the applications received, and an announcement is expected at the end of June. In September 2004, ITS Canada's Board of Directors confirmed that this Scholarship is to continue to be awarded annually.

The Chair of the Education and Training Committee represented ITS Canada at meetings of the TAC Education Council in 2004-2005. The Council's work priorities are addressing student needs and developing a Succession Planning Primer for transportation agencies.

For more information, contact William Johnson at:

johnswf@attglobal.net



ITS Canada News

ITS Canada Committee Reports

Export Committee

By Rob Bruce, Committee Chair

Despite a typhoon that prompted a closure for one full day, the **11th World Congress on ITS**, held in Nagoya, Japan, in October, was a successful event that included four days of technical sessions along with an exhibition that was open to the public. ITS Canada was represented by Chairman Joseph Lam, who spoke at the opening plenary. ITS Canada and Transport Canada hosted a reception and dinner for 70 members and invited guests. The event was the highlight of the social program at the World Congress for the Canadian contingent, and provided an excellent opportunity to network with colleagues and potential partners from Europe, the United States, South America, and Asia. Chairman Joe Lam, Director William Johnson, and Madeleine Betts, on behalf of Transport Canada, warmly welcomed the guests, and set the tone for a very enjoyable and productive evening. In his official remarks, Joe Lam recognized the support of ITS Canada members and of Transport Canada in making the event possible. Transport Canada sponsored the ITS Canada dinner.

ITS Canada Export Development Activities Planned for 2005

ITS Canada is once again planning a number of export development initiatives aimed at helping members to market ITS technologies around the world. Following are the various missions being considered. Additional information is available through ITS Canada via e-mail at:

itscanada@itscanada.ca.

5th European Congress and Exhibition on ITS
June 1-3, 2005 / Hannover, Germany

15th IRF World Meeting
June 14-18, 2005 / Bangkok, Thailand

7th ITS Asia-Pacific Conference and Exhibition
August 9-11, 2005 / New Delhi, India

1st Pan American ITS Congress & Exhibition
October 18-21, 2005 / Rio de Janeiro, Brazil

12th World Congress on ITS
November 6-10, 2005 / San Francisco, California

Gulf Traffic
December 12-14, 2005 / Dubai, UAE

Canadian Regional Updates

ALBERTA ... continued from Page 6

By Craig Walbaum, City of Edmonton

The following project status summarizes ITS implementation progress for key City of Edmonton initiatives.

Video Traffic Management and Traveller Information Project

This project is now complete, with 13 traffic monitoring cameras operational at busy locations throughout the City of Edmonton that are being monitored from the Traffic Management Centre. Public access to the camera images is also being provided on a local community television channel. The City of Edmonton is also testing streaming these video images through their internal network website. By the end of 2005 or early 2006, the City will be providing public access to these streaming video images through the Internet.

Transit Signal Priority Pilot Corridor Study

The City of Edmonton is cost sharing a pilot project with Transport Canada's ITS Office to assess the improvements in travel time and reliability of transit service on a key corridor identified for high-speed transit, in the southeast area of the City. This project will include up to 13 traffic signals and 50 transit vehicles that will be upgraded with sensor and traffic controller systems to allow signal changes to provide priority for transit vehicles on this corridor. This project is expected to be completed early in 2006.

River Crossing Corridor ITS Integration Project

The City of Edmonton is cost sharing an implementation project with Transport Canada's ITS Office to upgrade existing DMS and variable speed signs, as well as adding an RWIS station and vehicle speeds sensors surrounding a busy river crossing on a key part of the City's inner ring loop system. This field equipment will all communicate and be operated through a central traffic management system, also being developed for the City of Edmonton as part of this project. Before-and-after studies are planned to assess the effectiveness of the variable speed signs and DMS, in combination with having better real-time traffic and weather data. In the longer term, before-and-after collision patterns will also be assessed. This project is expected to be completed early in 2006.