

## Award Presentation

### *ITS Canada Scholarship 2007*



## Education and Training

In July 2007, ITS Canada's Education and Training Committee announced the recipient of ITS Canada's Michel Van Aerde Memorial Scholarship for 2007. **Mohamed Wahba** of the University of Toronto was the successful winner. The Review Committee made its selection based on his strong academic record, clearly stated goals, demonstrated understanding of ITS and strong letters of recommendation.

On September 13, 2007, ITS Canada's Chairman Joseph Lam presented the award to Mohamed at ITS Canada's Board of Directors meeting, held in Markham.



*ITS Canada Chairman Joseph Lam (left) presents to Mohamed Wahba*

The award of \$5,000 is made through a competitive process to a student registered full-time in a graduate studies program at a Canadian university related to intelligent transportation systems.

ITS Canada extends congratulations to Mohamed and wishes him every success in his graduate studies.

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## *How the GTTA will create a Regional Transportation Plan*

*By Rita Scagnetti,  
Greater Toronto Transportation Authority*

The vision of creating a transportation network that lets people and businesses move quickly and seamlessly between Oshawa and Hamilton is never far from Rob Maclsaac's mind. "Anyone who commutes any distance to work – whether by car, by bike or on transit – knows of the tremendous congestion on our roads and the crowding on public transit. This city region is one of the top five most congested cities on the continent," says Maclsaac.

What's he going to do about it? Maclsaac is the Chair of the Greater Toronto Transportation Authority, a Crown agency of the Province of Ontario. The GTTA's central mandate is to create a regional transportation plan that makes the seamless network possible.

That plan isn't going to be created in a fusty backroom by anonymous staff. "Building a regional transportation plan will be a collaborative effort," says Maclsaac. "Anyone and everyone who is interested in getting to work or school quicker and more efficiently will be invited to have a say."

### **Talk to the technical experts**

The business of collecting input will begin with the transportation experts. With ten transit systems in the area of the GTTA's mandate handling over 518 million annual passenger trips, and more than two million vehicles on GTA and Hamilton roads, there are plenty of those. Technical advisory committees made up of representatives from different levels of government, transportation providers and other experts will have their say as six "green papers" are prepared. The topics that will eventually be combined to form the regional transportation plan include:

- ❖ trends and outlooks
- ❖ mobility hubs
- ❖ transit
- ❖ walking, cycling and transportation demand management
- ❖ roads and highways, and
- ❖ goods and services movement.

### **Three main themes**

While those who follow transportation may be familiar with some or all of the topics, it's interesting to note that the plan itself will revolve around three central themes: people, the environment and the economy.

"Because the GTTA is the final piece in a three-part approach to prepare the Greater Toronto and Hamilton region for growth and sustained prosperity, I thought it was important to build the regional transportation plan along the same themes as the Greenbelt Plan and the Growth Plan," said Maclsaac. Maclsaac played a critical role in the first ever GTA Smart Growth Summit that brought together community leaders from across the GTA to begin thinking about new ways to manage growth.

### **Insights from opinion leaders**

The regional transportation plan will also seek insight and ideas from an advisory committee. A small committee of the GTTA board is busy recruiting members for the committee, people who will best represent the three central themes of the plan. They will review discussion papers and drafts of the regional transportation plan, and provide direct feedback and advice to the Board.

"And of course, the views and ideas of the general public will be actively sought and encouraged," said Maclsaac. The GTTA is building a new web portal that will make online consultations easy. Once all the various components of the plan are rolled up, there will be opportunities for town hall-style meetings. "Starting later this fall and culminating with the final report, members of the public will have many chances to have a say in the content of the plan," said Maclsaac. "I'm looking forward to hearing all the good ideas I'm sure they will contribute." All told, it's a tall order and the timelines are tight. The GTTA hopes to have a draft plan ready by late next spring. "I'm optimistic that we'll have a bold transportation plan that can be implemented quickly and make a real difference in people's lives," said Maclsaac.

For more details about the GTTA, its board and its priorities, visit their interim web site at [gta.com](http://gta.com).

## *ITS Standards for International Interoperability*

### Part 1: Worldwide Report on ITS Standards

*By William Johnson, Chair CAC for ISO/TC204*

Based on a paper presented at ITS Canada's Annual Conference 2007

The ISO Technical Committee 204 for ITS develops international standards for transportation "information and control" functions. The domain of application broadly includes all systems that communicate from vehicle to roadside and from vehicle to vehicle (in-vehicle systems are the domain of ISO/TC22).

International standards are important because the automobile industry is a global industry and successful deployment of new vehicle-based systems often requires compatible infrastructure-based systems. For example, tolling systems and probe vehicle applications require compatible communications between vehicles and roadside systems. In future, these applications will become more common.

APEC and WRITSS: The Asia Pacific Economic Cooperation (APEC) Transportation Working Group (TPT) fosters economic development by member countries on the Pacific Rim. Under the TPT, the Intermodal/ITS Experts Group has focused on encouraging the adoption of ITS standards by APEC countries. To this end, the Experts Group formed a liaison with ISO/TC204 and, in 2005, initiated a project to survey ITS standards development and user experience in all APEC and ISO/TC204 countries. The project, known as the World Report on ITS Standards (WRITSS), was organized and conducted by the Korean Standards Association under the direction of the Korean Agency for Technology and Standards (KATS) over the period 2005-2006. The results were presented and discussed at a workshop in Busan, Korea, on April 24, 2006. APEC and ISO will publish WRITSS in 2007.

WRITSS includes a complete inventory of all the ITS standards development activities underway worldwide, including those by international organizations (ISO, ISO/IEC, ITU), regional organizations (CEN, ETSI, IEEE) and national organizations (12 countries).

In all, 662 standards and standardization activities were documented by WRITSS, including formal standards developed by standards development organizations (SDOs) such as ISO and IEEE, and less formal descriptions of "essential characteristics" of products, services and systems developed by user groups. The Canadian contributions to the WRITSS survey generally fall into the latter category. (For more information, see the article that follows). This represents a significant amount of worldwide effort and suggests there may be benefits in cooperative development strategies.

The WRITSS report contains fact sheets on 89 ITS standards, describing their scope and conformance features. It also contains a list of 100 ITS standards that are deployed into use worldwide, and documentation of 20 lessons learned from development or deployment experience of ITS standards.

Adoption Policies: The survey also revealed that adoption of international standards as national standards has been slow, possibly because of the need to adapt them to local conditions and also because of different policies with regard to adoption of standards. For example, the European countries develop ITS standards collectively through CEN and then automatically adopt them as national standards. The APEC and non-European countries, on the other hand, develop ITS standards nationally and then adopt them selectively. For example, in North America, ITS and other standards are not formally adopted as national standards; adoption decisions are left to the market place.

In Figure 1 (next page), these two main approaches result in two main clusters of countries representing, respectively, the APEC and European countries.

Recommendations: The report has recommendations to guide future ITS standards development:

- SDOs are encouraged to develop standards in a more user oriented manner.
- Regional bodies like APEC are encouraged to sponsor outreach activities.

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## ITS Standards for International Interoperability

### Part 2: Canadian Input to WRITSS Survey

By William Johnson, Chair CAC for ISO/TC204

Based on a paper presented at ITS Canada's Annual Conference 2007

The previous article (Part 1) described the World Report on ITS Standards (WRITSS) that was initiated by the APEC Transportation, Intermodal/ITS Experts Group, in cooperation with the ISO Technical Committee 204 for ITS standards. The report conducted a survey of all APEC and ISO/TC204 countries to document ITS standards development activities and the experience gained using ITS standards. Canada responded to the WRITSS survey as both a member of APEC and of ISO/TC204. This article briefly summarizes the results of the Canada-wide survey.

The request to participate in the WRITSS survey came from the Korean Standards Association (KSA) and was directed to ITS Canada as the designated representative on the APEC/TPT at the time, under the auspices of Transport Canada, and to the Standards Council of Canada as the sponsor of Canadian participation in ISO/TC204. The Canadian Advisory Committee for ISO/TC204, under the direction of Chair Bill Johnson, volunteered to organize and prepare the Canadian response.

**Methodology:** The survey methodology consisted of compiling a list of contacts in each province and territory, sending letters requesting input related to the survey questionnaire, and compiling the responses from seven provinces into a single response from Canada. The results were reviewed by the two sponsor agencies (i.e., Transport Canada and Standards Council) and then returned to KSA for inclusion in WRITSS.

**Results in Brief:** The Canadian survey results were as follows: five national ITS standards activities were identified; seven provinces reported a total of 34 ITS deployments that use ITS standards; four lessons learned were described to share with others; one international ITS standard was identified as initiated and led by Canada in ISO/TC204.

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#### Continued from Page 3

- Stakeholders should identify business case or cost-benefit for implementation or interoperability issues.
- SDOs and regional bodies are encouraged to strive for efficient cooperation and networking to avoid duplication and secure harmonization by sponsoring implementation guidelines and conformance requirements; holding joint meetings and using teleconferencing; and developing procedures to determine compliance with a standard.

For further information, refer to *ISO Focus*, The Intelligent Car, March 2007, the ISO home page [www.iso.org](http://www.iso.org), or the APEC home page [www.apec.org](http://www.apec.org)

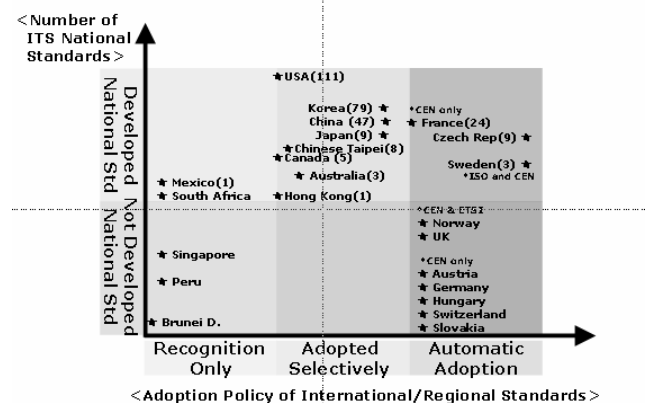


Figure 1: Adoption Policy of ITS Standards

## *ITS Standards for International Interoperability*

### Part 2: Canadian Input to WRITSS Survey

#### **Continued from Page 4**

**Results in Detail:** The five national ITS standards activities that fit the WRITSS definition (SDO developed or guidelines/technical reports) are as follows:

1. Canadian ITS Architecture
2. Guidelines to Implement '511'
3. Road Weather Information System (RWIS) Technical Guidelines
4. CVO Network Cost-Benefit and Feasibility Studies
5. Guidelines for Integrating Environmental Impact Evaluation in ITS Deployments.

The 34 ITS deployments that were reported as using ITS standards makes too long a list to include in this article. Instead, one from each province is selected to illustrate the main applications:

1. Nova Scotia – MacPass toll tag (RFID Amtech)
2. New Brunswick – RWIS (NTCIP and Canadian technical guidelines)
3. Quebec – Autoroute Dynamic Message Signs (NTCIP)
4. Ontario – AVION CVO Bypass (ASTM DSRC)
5. Saskatchewan – Virtual Weigh-in-Motion (ASTM, Canadian ITS Architecture)
6. Alberta – Automated Traffic Recorder (NTCIP, NEMA, Canadian ITS Architecture)
7. British Columbia – 98 B-Line Bus Rapid Transit (Vehicle location and schedule, Signal priority, Dynamic message signs).

Lessons learned were reported as follows:

- For faster implementation – use related systems already in service nearby (e.g., MacPass)
- High data quality – employ independent monitoring agent to check quality of data collected and use this information to authorize payments (e.g., Automated traffic recorder)
- Proprietary systems – they work best where there are no interfaces to external systems in other jurisdictions (e.g., 98 B-Line)
- Use standards – it allows the agency to be in control of the procurement process.

There are no examples of ITS standards developed by Canadian-based SDOs. However, many Canadians have participated as volunteers in U.S.-based SDOs working on ITS standards projects. Also, Canada led one international ITS standard project through to completion in the CAC for ISO/TC204. This is an international standard for Electronic Monitoring and Tracking of Dangerous Goods using DSRC technology, developed in cooperation with six other countries and published in December 2006. This was done in Working Group 7 (Fleet Management and Freight Operations) for which Canada sponsors the international convener, Dr. Lewis Sabounghi.

**Conclusions:** The WRITSS survey shows that the scope and scale of ITS standards development and deployment experience in Canada is modest compared to other countries and to the overall international effort (i.e., 6 out of 662 or ~1%). However, the survey has shown that there is much work underway across Canada using ITS standards and the experience being gained is invaluable as stepping stones to the future when there will certainly be a greater requirement for interoperability of ITS services and systems.

For further information, contact Bill Johnson, chair, CAC for ISO/TC204 at [johnswf@attglobal.net](mailto:johnswf@attglobal.net).

### *ITS Canada Welcomes New Members*

#### **CORPORATE**

Global Traffic Technologies Canada Inc.

GarrettCom Inc.

## *Future Direction for XML Activities*



ITS Canada has formed an XML Working Group, Co-Chaired by **Phil Masters** of the Ministry of Transportation of Ontario along with **Bruce Zvaniga** of the City of Toronto, that intends to convene (primarily via teleconference) a team of knowledgeable individuals from across the country who will brainstorm to determine the information involved and then, through a subset of technical participants, begin crafting XML pages, one for the incident information (planned/unplanned) and one for traffic condition information (e.g., travel times).

The results will be circulated to the working group and, once finalized, the information will be shared with distributors for their comments.

The intent is to take the TMDD and build the XML paragraph with that dictionary and, if there are things that don't fit, request that TMDD modify it.

The Co-Chairs are working to determine whether travel support can be provided for public sector participants involved, to enable one face-to-face meeting that is anticipated.

Anyone interested in participating in this working group is asked to contact:

Phil Masters  
Ministry of Transportation of Ontario  
Email [phil.masters@ontario.ca](mailto:phil.masters@ontario.ca)

## *ITS Opportunities in the Middle East*

An efficient transport infrastructure system is a critical element in facilitating balanced sustainable development. Recognising this, Middle Eastern governments have integrated planned transport decisions into long-term strategic plans. Multi-billion dollar transport and infrastructure investments have been allocated to reform the region's mass transport system, creating endless opportunities for those operating in the transport industry.

Integral to Dubai's Strategic Plan 2015 is the construction of a new interchange on the eighth intersection of the city's Sheikh Zayed Road. The contract, worth US\$175 million, will consist of ten bridges and be completed within 24 months. A recent addition to Dubai's extensive infrastructural expansion program includes the installation of 12 state-of-the-art pedestrian crossings across the city, at a cost of US\$15.8 million. The Road and Transport Authority (RTA) recently announced plans to increase the number of buses from the existing 525 currently on the road to 1,000 by the end of next year.

The Abu Dhabi Executive Council disclosed, in the City's Policy Agenda 2007-2008, plans to significantly increase infrastructure investment over the coming years. Transport developments will be strategically integrated into the Emirates broader economic plans, ensuring current and future demands on transport infrastructure are met. In line with these developments, a ten-lane highway with six bridges at a cost of US\$550 million will be completed by September 2009.

Governments across the region have allocated millions of dollars to develop a smooth, efficient and safe mass transport system. Supported by the RTA, Gulf Traffic takes place on December 10 to 12, 2007, at Dubai International Exhibition Centre and Roadex-Railx takes place on November 23 to 25, 2008, at Abu Dhabi National Exhibition Centre. Both exhibitions enable local and international companies to showcase their products and services to key regional decision-makers who are actively seeking solutions to facilitate the current economic boom.



# ITS Canada News

## *Bridge Safety Enhanced Through ITS*

*By Rod Klashinsky, IRD*

A number of significant events related to bridges have had a high profile in the news recently, but transportation specialists know that constant monitoring of bridge infrastructure is critical. Accurate traffic volume and vehicle load information are essential for authorities to optimize their maintenance programs for bridge infrastructure. Once a bridge is deemed to be in distress, valuable steps can be implemented using intelligent transportation systems to ensure that overloads do not occur, thereby reducing the potential for additional stress caused by heavily loaded vehicles.

WIM (Weigh-In-Motion) technology can play a vital role in this respect by monitoring bridge loading. WIM has been an accepted instrument for traffic data collection and load monitoring for truck enforcement screening for more than 25 years. As a first step, the system can collect data on the traffic that is traveling across the bridge. From this data, authorities can determine the loadings on the bridge and take the appropriate counter-measures to protect the bridge structure.

A further step is for bridge weight monitoring systems to be deployed. As vehicles approach the bridge, the WIM system automatically determines the size and weight classification of the vehicle and compares this information with the allowable loads for the upcoming bridge. If the vehicle exceeds the allowable weight limits, an advisory sign will be illuminated advising the driver that the vehicle should not travel across the bridge. The truck operator can then stop the vehicle and exit prior to crossing the bridge.

The WIM can be integrated with a video tracking and monitoring system to ensure that vehicles obey the signals and warnings. In the event a driver does not obey the message, an image of the vehicle, with the corresponding size and weight information, is generated and stored and/or communicated to a central office location for further action. The compliance and enforcement aspect of the system will deter drivers from purposely driving overloaded vehicles on a load-sensitive bridge structure. Over-height vehicle detection can also be incorporated into this warning system.

## *News from Transport Canada*

### **Anti-theft Devices**

On September 6, 2007, the Minister of Transport, Infrastructure and Communities announced a regulation that requires all new cars, vans, light trucks and SUVs to come equipped with electronic, anti-theft immobilizers. This amendment to the Motor Vehicle Safety Regulations came into effect on September 1, 2007. Immobilizers make it difficult for vehicle engines to be started without the proper disabling device. When armed, the immobilizer prevents the activation of a vehicle by blocking out one of the vehicle's control units. To start the vehicle, the appropriate combination code or electronic signal from the vehicle key must be sent to the control unit.

For details:

[www.tc.gc.ca/mediaroom/releases/nat/2007/07-h167e.htm](http://www.tc.gc.ca/mediaroom/releases/nat/2007/07-h167e.htm)



### **Canada Pavilion - 23rd World Road Congress**

On September 17, 2007, Brian Jean, Parliamentary Secretary to the Honourable Lawrence Cannon, Minister of Transport, Infrastructure and Communities, inaugurated the Canada Pavilion as part of the Canadian Trade Mission to the 23<sup>rd</sup> World Road Congress, which will be held from September 17 to 21, 2007, in Paris, France. The Canada Pavilion, one of the biggest national pavilions at the Congress, will showcase the products and services of 46 Canadian organizations. This exhibition brings together experts, professionals, and leaders in the international road community.

For details:

[www.tc.gc.ca/mediaroom/releases/nat/2007/07-h175e.htm](http://www.tc.gc.ca/mediaroom/releases/nat/2007/07-h175e.htm)



## Upcoming Events

### 2007

#### Telematics Europe 2007

September 4 to 5, 2007 – Berlin, Germany  
[www.telematicsupdate.com/europe2007](http://www.telematicsupdate.com/europe2007)

#### 23<sup>rd</sup> World Road Congress (PIARC)

September 17 to 21, 2007 – Paris, France  
[www.paris2007-route.fr](http://www.paris2007-route.fr)

#### 2007 Electronic Payment Systems Summit

September 18 to 19, 2007 – Boston, MA  
<http://www.i95coalition.org/calendar.html>

#### VII Congreso Espanol ITS

September 18 to 20, 2007 – Valencia, Spain  
[www.itsspain.com](http://www.itsspain.com)

#### ITS-NY Vehicle Infrastructure Integration (VII) Workshop

September 20, 2007 – Troy, NY  
[DottyD@aol.com](mailto:DottyD@aol.com)

#### 6<sup>th</sup> Chilean ITS Congress

September 26 to 28, 2007 – Santiago, Chile  
[www.itschile.cl](http://www.itschile.cl)

#### Trafic 2007 (IFEMA)

October 2 to 5, 2007 – Madrid, Spain  
[www.trafic.ifema.es/ferias/trafic/default\\_i.html](http://www.trafic.ifema.es/ferias/trafic/default_i.html)

#### 75<sup>th</sup> IBTTA Annual Meeting and Exposition

October 6 to 10, 2007 – Vienna, Austria  
[www.ibtta.org](http://www.ibtta.org)

#### National Rural ITS Conference

October 7 to 10, 2007 – Traverse City, MI  
[www.nritsconference.org](http://www.nritsconference.org)

#### 14th World Congress on ITS

October 9 to 13, 2007 – Beijing, China  
[www.itsworldcongress.cn](http://www.itsworldcongress.cn)

#### Road Weather Information System (RWIS) Equipment and Operations Workshop

October 10, 2007  
[www.nritsconference.org/RWIS.html](http://www.nritsconference.org/RWIS.html)

#### Intertraffic North America

October 10 to 12, 2007 – Fort Lauderdale, Florida  
[www.intertraffic.com](http://www.intertraffic.com)

#### TAC Annual Conference and Exhibition

October 14 to 17, 2007 – Saskatoon, SK  
[www.tac-atc.ca](http://www.tac-atc.ca)

#### Sudan Transport 2007

Oct. 31 to Nov. 4, 2007 – Khartoum, Sudan  
[nafees@orangeairs.com](mailto:nafees@orangeairs.com)

#### CUTA Fall Conference and Trans-Expo 2007

November 10 to 14, 2007 – Québec, QC  
[www.cutaactu.ca](http://www.cutaactu.ca)

#### Gulf Traffic Exhibition and Conference

December 10 to 12, 2007 – Dubai, UAE  
[www.gulftraffic.com](http://www.gulftraffic.com)


### 2008

#### Intertraffic Amsterdam

April 1 to 4, 2008 – Amsterdam, The Netherlands  
[www.intertraffic.com](http://www.intertraffic.com)

#### Intertraffic China

April 24 to 26, 2008 – Beijing, China  
[www.intertraffic.com](http://www.intertraffic.com)

	<p><b>ITS CANADA ANNUAL CONFERENCE AND GENERAL MEETING 2008</b> June 1 to 4, 2008 Montreal ~ Quebec ~ Canada <a href="http://www.itscanada.ca/montreal2008">www.itscanada.ca/montreal2008</a></p>
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#### 9th Intelligent Transport Systems Asia-Pacific Forum and Exhibition

July 14 to 16, 2008 – Singapore  
[www.itsasiapacific2008.com](http://www.itsasiapacific2008.com)

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

November 17 to 20, 2008 – New York, NY  
[www.itsa.org/worldcongress.html](http://www.itsa.org/worldcongress.html)