

ATLANTIC

A Thematic Long-term Approach to Networking for the
Itelematics and ITS Community

A Partnership of ITS Communities in Europe and
North America

PROPOSED CANADIAN PARTICIPATION

A Partnership of ITS Stakeholders in Canada

Prepared by

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*In collaboration with Participating Partners and
Transport Canada, Policy Group*

August 2001

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Forward

This document updates the document “ATLANTIC - Canadian Participation Proposal” dated August 2001. In the 15 months since the proposal was first circulated, a number of events have occurred that need to be incorporated in the document to bring it up-to-date. The most important of these events is the agreement-in-principle by three major sponsors to contribute funding to the project. In addition, the proponents have continued to work with their international partners throughout 2002 and the results need to be recorded as accomplishments. The proponents have also continued to elaborate on the work plans for the project including identifying participants for the work groups and topics for the discussion papers (based on the outcome of workshop discussions in Montreal, Quebec in March 2002), contributing to the electronic forum debates (see <http://www.atlan-tic.net/>) and coordinating proposed future activities with their international partners (at ATLANTIC workshops).

The section of the proposal “Overview of the ATLANTIC Project” remains essentially the same while the sections “Canadian Participation” and “Funding” are revised extensively. In particular, there are updated sections describing the project key outputs, milestones and participants, a more detailed statement of the proposed budget and project implementation work plans beginning January 2003 and extending for 12 months to December 2003 (see Annex C).

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EXECUTIVE SUMMARY

This is a proposal for Canadian participation in ATLANTIC (A Thematic Long-term Approach to Networking for the Telematics and ITS Community). The proponents invite all interested stakeholders who would benefit directly or indirectly from expanding the ITS knowledge base to consider participating as experts in this thematic network and/or contributing funds to establish the Canadian node under the leadership of the University of Toronto and the University of Montreal.

The Canadian ATLANTIC node will be an integral part of the international ATLANTIC network and therefore will have the same overall aim, focus and objective as well as have distinctly Canadian objectives. The intention is to create a platform for information and debate on key research and policy issues concerning intelligent transport systems (ITS), focussed on ITS applications in road transport including interconnections with rail, air and sea. The main objective is to benchmark the coverage, content and results of ITS research from Europe, the United States and Canada. In addition, the Canadian ATLANTIC project will have the unique aim to stimulate an active and self-sustaining ITS research and development community in Canada in cooperation with international partners. Phase 3 of the project will operate from January 2003 to December 2003. For more information about ATLANTIC, see www.atlan-tic.net.

ATLANTIC will address ITS-related topics through 8 working groups (see Annex A for list of topics). Each working group will have a leader, a rapporteur and several expert correspondents to conduct the research. There will also be a small core team of two technical directors, one from each lead university, and an administrative manager. The participants will communicate with each other and their international partners through an electronic forum and web site.

The key deliverables of ATLANTIC will be discussion papers on key ITS issues of interest to Canada. The results will be discussed and disseminated in planned meetings and workshops, postings on the internet and hard copy publications. In addition, the Canadian ATLANTIC node will convene a workshop in Canada on ITS research and development issues and opportunities, prepare a summary report on the status of Canadian ITS research and development and provide advice on opportunities for future Canadian ITS R&D both domestic and international.

The beneficiaries in Canada of the ATLANTIC Project will be ITS researchers who participate in the project and gain knowledge and expertise, government policy makers and private sector companies who participate in defining the topics and use the results in their decision making, and the wider ITS community that will ultimately gain from building the ITS knowledge base and thus enabling better informed decision making. While the direct outcomes of ATLANTIC will be in the public domain, in the long term, private firms will be able to achieve spin-off benefits to themselves in terms of better informed investment decisions.

Participation by the three international partners (i.e. Europe, United States, Canada) in the ATLANTIC Project is on a self financing basis. The budget required for implementation of the Canadian ATLANTIC Project with 8 working groups operating over 12 months is \$K plus the University overhead at 15%.

The overall strategy for funding the Canadian ATLANTIC node is to seek contributions from all interested stakeholders who have the potential to benefit either directly or indirectly from the results of the project. The model is that of a multi-client study where a core group of stakeholders commit to develop the project statement and champion its implementation so that other stakeholders may buy into the full project in proportion to their interest and ability. The core stakeholders who have prepared this proposal with the collaboration of Transport Canada, Policy Group are listed below.

Canadian participation in ATLANTIC has great potential to launch the ITS research and development community in Canada to a new and higher level of creative activity with spin-off benefits to the entire ITS community.

For further information or to discuss participation in the Canadian ATLANTIC project, please contact one of the following members of the core team:

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INTRODUCTION

The ATLANTIC Project is an opportunity for the ITS research and development community in Canada to build and expand its knowledge base and capacity for innovative research and for providing ITS advice to policy makers. The Project is a cooperative undertaking by partners in Europe, the United States and Canada under the Science and Technology Agreements between these national entities. The Project began operations in June 2001 with active Canadian participation beginning in July 2001.

The results of the ATLANTIC Project include: distillation of the lessons learned from experience of ITS research undertaken to provide input to decision making by policy-makers, practitioners and other stakeholders; identification of barriers to progress with ITS research; identification of subjects for trans-Atlantic cooperation on ITS research; and case studies and recommendations for business models for traffic and traveler information and freight transportation services. The Canadian node of the ATLANTIC Project will produce a summary report outlining the status of ITS research and development in Canada related to the 8 working group topics under study and proposing future high priority ITS research projects for Canada.

Canadian participation in ATLANTIC will contribute to a number of strategic priorities identified by Transport Canada in its ITS Plan for Canada (November 1999) and by ITS Canada in its Strategic Business Plan for 1999-2004 (August 1999). The international scope of ATLANTIC is a very important element as it will enable Canada to obtain early access to overall results and ensure that Canadian experience and input is recognized. The Project has plans to present the results at several international gatherings including the U.S. Transportation Research Board Annual Meeting and the 9th World Congress on ITS. This will lead to discussions to undertake future extensions of the ATLANTIC Project on a global basis.

This proposal for Canadian participation in the ATLANTIC Project invites all interested stakeholders who would benefit directly or indirectly from the undertaking to consider participating in the thematic network forum and to consider contributing funds to establish the Canadian node under the leadership of the University of Toronto and the University of Montreal.

BACKGROUND

European Initiative

The European Commission as part of its Fifth Framework for Research and Development initiated a call for proposals for thematic networks related to transport topics. The European consortia invited to submit proposals were required to find partners in North America to participate in their networks. This trans-Atlantic cooperation was instituted under the terms of the Science and Technology Cooperation Agreement between the European Union and Canada whereby each partner is self-funded. A similar agreement exists between the European Union and the United States. To alert Canada to the possibility of cooperative research under this program, a senior official from the European Commission met with Transport Canada (including Transportation Development Centre) officials in Ottawa in the spring of 2000.

Responding to this call for proposals, a consortium of European partners submitted a proposal to the European Commission to fund a thematic network for telematics and intelligent transport systems (ITS). They entitled their proposal ATLANTIC - A Thematic Long-term Approach to Networking for the Telematics and ITS Communities. The consortium invited partners in Canada and the United States to join the thematic network as self-supporting participants with their own focal points (or nodes). Two Canadian universities, University of Toronto and University of Montreal, accepted the challenge to establish, jointly, a Canadian node and to organize a contributing network of researchers. The European Commission under DG 13, the Information Society Technologies Programme (IST) agreed to fund the European partners (May 2001). Therefore, the Canadian partners are able to proceed to firm up their plans and to seek funding support for their participation in the ATLANTIC thematic network.

Canadian Response

The Canadian participation in the ATLANTIC Project has proceeded as follows:

- Phase 1 - Preliminary discussions with European and U.S. partners between September and December 2000 led to agreement in principle to cooperate embodied in letters of intent from the Canadian partners to the European partners and from Transport Canada to the European Commission and a preliminary approach was made to potential funding and research partners.
- Phase 2 - Development of an ATLANTIC Canadian node project proposal and action plan as a basis for formally approaching potential funding partners and research participants to solicit their support. This activity with the support and backing of Transport Canada resulted in a proposal document for a fully functional Canadian ATLANTIC project dated August 2001.
- Phase 3 - Implementation of the ATLANTIC Canadian node project work program will deliver the following results: benchmarking studies of selected ITS and

telematics topics; a Canadian workshop; participation in major sponsored conferences; identification of research opportunities for follow up proposals to funding agencies; and, in general, a cooperative environment for ITS research and development in Canada. On an informal and limited basis, Canadian involvement in selected elements of these activities began in October 2001. Full implementation is expected to begin on a formal, funded basis in early 2003.

This document is the project proposal and action plan for the ATLANTIC Canadian node referred to in Phase 2 above.

OVERVIEW OF ATLANTIC

This project overview comes from the European Partners (see the ATLANTIC web site at www.atlan-tic.net for further information). The additional Canadian aims, objectives and activities are given in the next section.

Project Aims

- The ATLANTIC project is a 'thematic network', the main aim of which is to bring together recognised experts working in Transport Telematics and Intelligent Transport Systems (ITS) in Europe (including Central and Eastern Europe and the Baltic States), the United States and Canada.
- The main trans-Atlantic activity will be to review the coverage, content and results of European, American and Canadian ITS research and development programs as a benchmarking exercise.
- To facilitate this, the project will operate an "ITS Forum" based on e-mail groups. International meetings and workshops with participants will also be arranged to coincide with the ITS World Congresses (Sydney in October 2001, Chicago in 2002, Madrid in 2003), Transportation Research Board Annual Meetings (Washington D.C. in January 2002, 2003 and 2004).
- The current project runs for 20 months, from May 2001 to December 2002 with the possibility of extensions and continued operation under different formats.

Project Objectives

- To stimulate an active debate amongst experts on research taking place on Transport Telematics and ITS for surface transport.
- To distil the lessons of experience of ITS research to inform decision-making among policy-makers, practitioners and other stakeholders concerned.

- To identify barriers to progress with ITS research and make recommendations on the level at which it is most appropriate to address them.
- To identify subjects where trans-Atlantic co-operation on ITS research would bring added value.
- To make available to principal players and stakeholders the results of these discussions.
- Within Europe, to support the e-Europe Transport 2002 Initiative by the development of best practice and policy on Telematics-based information and services for cities and regions.

Project Funding

- The European Commission, Directorate General for Information Society Technologies, funds the European consortium.
- American and Canadian network members will be self-funded and have approached their respective Federal Governments (U.S. Federal Highways Administration and Transport Canada) and other partners for assistance.

Who is Involved?

- Individuals, organisations and groups of stakeholders by invitation. They are from the public, private and academic research sectors – and from all three regions. Some are forum correspondents and others are expert members. All are known to have a close interest in ITS research and deployment issues.
- Forum correspondents are invited to join on the basis of their recognised interests or expertise. They will be entitled to take part in the ITS Forum discussions and will have full access to all ATLANTIC working documents. The target number of correspondents is 250 individuals.
- Expert members will be nominated to participate in international meetings or focus groups and some may also be commissioned to make written contributions on selected topics where they have particular expertise.
- To date, committed organisations include:
 - Europe (Partners): ARTTIC (Brussels); Ankerbold International Ltd (UK); Ian Catling Consultancy (UK); ISIS (France); POLIS Cities and Regions Network (pan-European); Rupprecht Consult (Germany).
 - Europe (Other participants): Aspen Enterprises (UK); Austin Analytics (UK); Babtie (Prague); Carte Blanche (France); City of Rome (Italy); City of Rotterdam (Netherlands); City of Cologne (Germany); National Assembly for Wales (UK); Paris

Metropolitan Region Public Transport Authority (STP); Transver (Germany); Stuttgart Public Transit Authority (Germany); TRL (UK); UITP European (Brussels); University of Athens (Greece); University of Southampton (UK).

USA: University of Michigan and Georgia Tech (Regional coordinator).

Canada: University of Toronto; University of Montreal (Regional coordinators).

How Does ATLANTIC Operate?

- The ATLANTIC ITS Forum will be organised and coordinated via 3 geographically based Network Coordinators, one for each of Europe, the USA and Canada.
- The ITS Forum will consist of virtual meetings and workshops – an “Electronic Forum”. The Forum is open to registered ATLANTIC Correspondents only. In addition, the project has a website, with universal access.
- Forum Working Groups (8 initially) will be set up around the 3 main ATLANTIC themes. Each Working Group will address a programme of topics in its own specialist field:
 - Integrated Transport (3 Working Groups):
 - Telematics-based Traffic and Travel Information Services
 - Network Monitoring and Traffic Management and Control
 - Intermodal Collective Transport Information
 - Technologies and Services (3 Working Groups):
 - Intermodal Freight Information Pre-clearance & Logistics (logistic chains)
 - Intelligent Vehicles and Intelligent Vehicle Highway Systems
 - Electronic Road User Charging and Integration with Other Payment Systems
 - Assessment and Evaluation of ITS (2 Working Groups):
 - ITS User Acceptance and Impact Assessment
 - Human Machine Interface/User Friendly ITS
- Through the use of an electronic forum discussion, the project will provide information exchange and will arrange a series of virtual meetings and workshops on selected topics, running to a fixed agenda.
- The project’s Policy Advisory Group will review output from the Working Groups and help provide strategic direction.
- Contributions to the Electronic Forum will be summarised and the resulting documents will be available to all interested parties via the website.

Key Milestones and Results in 2002

- A roundtable meeting of the project partners will take place at the Transportation Research Board Annual Meeting in Washington in January 2002.
- Discussion Papers on the results of the Electronic Forum debates, comparing the European, US and Canadian ITS research will be available starting in Spring 2002.
- An International Workshop on ITS benefits, evaluation and costs is planned, for the ITS World Congress, Chicago in October 2002 (following a similar workshop at the ITS World Congress, Sydney in October 2001).
- Forum events will be held including one on the development of TTI services in Europe in the Autumn 2002.
- Internet and hard copy publications on good practice on ITS-based travel and traffic information services will be released in late 2002.

Measures of Success

The project output can be judged against the following four key criteria:

- Delivery of in-depth comparisons of ITS research in Europe, the United States and Canada.
- Generation of opportunities for trans-Atlantic research collaboration.
- Reaching agreed conclusions on best research methodologies.
- Development of operational skills to enable sustainability of the network.

CANADIAN PARTICIPATION IN ATLANTIC

Canadian Project Aims

The Canadian ATLANTIC Project will be an integral part of ATLANTIC and therefore will have the same overall aims as set out in the Overview section, that is, a thematic network to review ITS research and development in Europe and North America through the operation of an electronic ITS Forum. In addition, it will have the following unique aim:

- To stimulate an active and self-sustaining ITS research and development community in Canada in cooperation with international partners.

Canadian Project Objectives

The Canadian ATLANTIC Project will contribute to the objectives of ATLANTIC including active debate among experts, distilling the lessons of ITS experience, identifying barriers to progress, identifying subjects for international R&D cooperation and sharing results. In addition, it will have the following unique objectives:

- To foster cooperative research and development in the ITS community in Canada among academics, government policy makers and private industry;
- To contribute useful advice to Canadian policy makers in government and the private sector;
- To identify ITS research and development opportunities for follow up submissions to funding agencies;
- To raise the profile of ITS research and development and ITS researchers in Canada.

Beneficiaries of Project Results

The beneficiaries in Canada of the ATLANTIC Project will be:

- *ITS research and development participants* who will be able to initiate leading-edge research on issues of current interest and then build self-sustaining R&D programs based on the opportunities that arise from project results;
- *Those government and private sector policy makers* who participate in defining the topics and issues and use the results to guide their decision making; and,
- *The wider ITS community* that will ultimately gain from building the ITS knowledge base and enabling better informed decision making.

Operations in Canada

a) Organization

The Canadian node of ATLANTIC will be under the direction of a core team consisting of two Technical Managers, one from each of the two lead universities, Professor Baher Abdulhai, University of Toronto and Professor Teodor Gabriel Crainic, Université de Montréal, and one Administrative Manager, William Johnson, Consultant. The proposed organization chart is shown in Figure 1.

The project will have a Steering Committee, a Program Management Committee and 8 Working Groups:

- Steering Committee – will have membership representing the lead Universities and the funding partners and sponsors. This committee will provide a mechanism to communicate progress and results to funding partners and receive feedback and advice. It will meet at the beginning of the project to review the project work plans and then as required to review and comment on progress. The chair will rotate between the two Technical Managers. The Administrative Manager will provide secretariat support services.
- Program Management Committee – will consist of the core team members being the two Technical Managers and the Administrative Manager. This committee will be responsible for communicating with domestic and international partners, setting the technical direction of the overall work program and the working groups, organizing workshops and meetings, approving travel and reimbursements, ensuring the quality of the project deliverables and constructing and operating the Canadian ATLANTIC web site.
- Working Groups – there will be 8 working groups in 3 main theme areas:
 - Integrated Transport (3 Working Groups):
 - Telematics-based Traffic and Travel Information Services
 - Network Monitoring and Traffic Management and Control
 - Intermodal Collective Transport Information
 - Technologies and Services (3 Working Groups):
 - Intermodal Freight Information Pre-clearance & Logistics (logistic chains)
 - Intelligent Vehicles and Intelligent Vehicle Highway Systems
 - Electronic Road User Charging and Integration with Other Payment Systems
 - Assessment and Evaluation of ITS (2 Working Groups):
 - ITS User Acceptance and Impact Assessment
 - Human Machine Interface/User Friendly ITS

b) Working Groups

Each working group will have a Canadian leader (or moderator) who is an expert in the work area. He/she will act as the focal point for Canada's participation in that activity and will be responsible (in cooperation with the Technical Managers) for setting the work objectives, communicating with working group members and external partners in the same work area, exerting quality control on the work outputs and transmitting (in collaboration with the Technical Managers) Canadian work outputs to the ATLANTIC thematic network.

There will also be one or more rapporteurs in each working group who will be responsible for specific work items (or discussion papers), documenting Canadian working group outputs, participating in the international forum debates and contributing materials for posting on the ATLANTIC web site.

Other working group members will be invited to join based on their recognized expertise and expressed interest relative to the three main ATLANTIC themes and 8 working group topics. Their role will be to contribute to the international forum debates and to the discussion papers under development by the working group leader and rapporteurs.

Working groups will conduct most of their business via the Canadian edition of the electronic forum. Where appropriate and authorized, working group members may attend workshops convened by the ATLANTIC network to present Canadian results and views. The confirmed working group members are presented in Annex A – Key Participants in Working Groups.

c) Information Dissemination and Web Site

A Canadian edition of the ATLANTIC web site is planned to provide a focal point for the Canadian ATLANTIC activities and to disseminate Canadian ATLANTIC outputs and results. The Canadian web site will have a home page to provide project overview information and uniquely Canadian news and information in both official languages. It will also be the entry point to the international electronic forum for Canadian members of the working groups where they can communicate together before inputs are sent to the international partners. The web site will be developed and managed under the direction of the Administrative Manager and the two partner universities. The International ATLANTIC website will also make a special section available for the exclusive use of Canadian work group members.

Canadian Workshop

A workshop to bring together all the participants in the Canadian ATLANTIC Project and the wider Canadian ITS community is (tentatively) planned for the autumn of 2003. This will be in addition to Canadian participation in the international roundtable meetings and workshops convened by the other partners in the ATLANTIC network.

FIGURE 1
Organization Chart
Canadian ATLANTIC Project

Steering Committee

*Chair - Technical Managers in rotation
Secretariat support - Admin Manager
Members representing funding partners
Role - two-way communications
with domestic funding partners*



Program Management Committee

*Ad hoc committee to guide project
Members: Two Technical Managers
(Baher Abdulhai & Teodor Crainic)
Plus Administrative Manager (William Johnson)
Role - communicate with International Partners,
Coordinate work of working groups, and
manage info dissemination and web site*



Working Groups (8)

*Leader/Moderator
Rapporteur(s)
Experts and correspondents
Role – develop discussion papers, and
contribute to international forum debates*

(links to PMC & WGs)



International Partners

(link to PMC)



University Administrations

*Manage contractual arrangements
With funding partners and sub-contractors*

The purpose will be to present and discuss the results of the Canadian working groups to better identify ITS research and development opportunities that could be exploited in submissions to funding agencies. The workshop will be a showcase for Canadian and selected international results and will be open to academic, government and private sector delegates. By holding the workshop in the autumn of 2003, it is hoped to be able to influence research proposals for the 2004-05 academic year.

Key Outputs

The Canadian ATLANTIC Project will contribute to the key results outlined in the Overview section including the roundtable meetings, the discussion papers initiated by Europeans and U.S. partners and international workshops. These discussion papers include:

- ATIS Practices in Europe and North America - A Report on Comparative Analysis, author Kan Chen, U.S. project leader for ATLANTIC
- ATLANTIC e-Europe Report on Traffic and Travel Information Services
- Benefit-Cost Evaluation Workshop Papers for 9th ITS World Congress

In addition, the following unique key Canadian outputs will be provided:

- Discussion papers benchmarking ITS issues of importance to Canada, such as (examples only, actual list will be developed by Working Groups):
 - Pricing policies and practices for bundled road condition and traffic data for travellers
 - Traffic Monitoring, Control and Management: state of the art and state of the practice in Canada
 - Using ITS to influence travellers to move to public transit
 - Urban freight logistics planning methodologies and tools
 - ITS for management of ports and border facilities, security issues
 - Accident avoidance strategies using improved human-machine interfaces;
- Workshop on Canadian ITS research and development issues and opportunities;
- Summary report on the status of Canadian ITS research and development related to the 8 working group topics;
- Advice on opportunities identified for future Canadian ITS research and development both domestically and in cooperation with international partners;
- Cohesive and progressive Canadian ITS research and development community.

A more complete discussion of key project outputs and deliverables of the Canadian ATLANTIC network can be found in Annex B based on the discussions at the planning workshop in Montreal in March 2002.

Key Milestones (Canadian and International)

The following milestones are now complete:

- ❖ Canadian ATLANTIC Project Phase 2 begins July 2001 (*major milestone*);
- ❖ Canadian ATLANTIC draft proposal prepared by August 15, 2001 (*major milestone*);
- ATLANTIC Project kick-off and international coordination meeting, Brussels, September 9-10, 2001;
- ATLANTIC Project coordination meeting at 8th ITS World Congress, Sydney, September 30, 2001;
- ATLANTIC Project roundtable meeting at TRB Annual Meeting, Washington, DC, January 2002;
- U.S. and European Discussion Papers posted to the electronic forum spring 2002;
- ❖ Canadian ATLANTIC planning workshop in Montreal, March 2001 (*major milestone*);
- U.S. and European ATLANTIC reports published, autumn 2002;
- ATLANTIC Project presentations in international sessions at 9th World Congress, Chicago, USA, October 2002 and European TTI Workshop, November 2002;
- ❖ ATLANTIC summary report on ITS research and development in late autumn 2002 (*major milestone*);
- U.S. and European ATLANTIC activities (Phase 1) wrap-up in December 2002; U.S. thematic networking will continue as part of the ITS America Special Interest Group on International Research and Learning; and, European thematic network (Phase 1) is extended to May 2003.

The future milestones for the Canadian ATLANTIC Project over the time frame from January 2003 to December 2003 are presented in Annex C.

FUNDING CANADIAN ATLANTIC PROJECT

Proposed Budget Elements

The following budget elements are the types of expenses that will be incurred. The budget required for implementation of Phase 3 of the Canadian ATLANTIC Project is \$K plus the University overhead. The estimated expenditures are presented by milestone and deliverable in Annex C.

- Honourariums will be paid to the participants in recognition of the level of effort they will be expected to contribute:
 - Technical Managers – 2 @ 1/8 time each over 15 months
 - Admin Manager – 1 @ 1/4 time over 15 months
 - Work Group Leaders – 8 contributing time over 12 months
 - WG Rapporteurs – 8+ contributing time over 12 months
 - Forum correspondents – (self financed)
 - Steering Committee – (self financed)

Subtotal for honourariums.

- Travel expenses for the Project Management Committee members to attend ATLANTIC Project coordination meetings in Europe, the U.S. and elsewhere will be reimbursed; travel expenses for Canadian experts authorized to attend ATLANTIC Project roundtables and workshops will be reimbursed; the total numbers of trips are estimated as up to 12 international trips and 10 domestic trips.

Subtotal for travel expenses (not including Canadian workshop).

- Information dissemination includes setting up and operating an electronic forum via an internet world wide web site and producing reports and publications; the cost elements are as follows:
 - Construct the web site – 1 month
 - Maintain the web site – 2 days per month over 15 months
 - Translation services – 2 days per month over 15 months
 - Publication and printing expenses

Subtotal for information dissemination expenses.

- Workshop in Canada in autumn 2003 will involve expenses for:
 - Convening and organizing – 1 day event
 - Travel expenses for select invitees – Canadian ATLANTIC Project participants

Subtotal for Canadian Workshop.

- Overhead for University contracting services are estimated at 15% depending on the terms and conditions of the funding arrangements (for example, the overhead is less

for projects where the universities retain Intellectual Property (IP) rights or there is no IP is in the present case).

Subtotal for university overheads

Total budget requirement for the Canadian ATLANTIC Project

Funding Strategy

The overall strategy for funding the Canadian ATLANTIC Project is to seek contributions from all interested stakeholders who have the potential to benefit either directly or indirectly from the results of the project. The model is similar to that of a multi-client study where a core group of stakeholders commit to develop the project statement and champion its implementation and other stakeholders buy into the full study in proportion to their interest and ability.

The core stakeholders in this case are the University of Toronto and the University of Montreal who have prepared this proposal with the collaboration of Transport Canada.

The core team of the Canadian ATLANTIC Project will canvas stakeholders using the proposal to inform potential contributors and solicit support and contributions. As of December 2002, this activity has resulted in agreement-in-principle with three key stakeholders to sponsor the project and contribute funding for Phase 3 in 2003.

ACTION PLAN

Phase 2 (July 2001 to December 2002):

- Draft proposal by August 15, 2001;
- Canvas potential contributors;
- Attend ATLANTIC international kick-off and coordination meeting, Brussels, September 9-10, 2001;
- Attend ATLANTIC Project workshops and meetings at 8th World Congress on ITS in Sydney, September 30, 2001, TRB Annual Meeting, Washington, January 2002 and 9th World Congress on ITS in Chicago, October 2002;
- Organize Canadian ITS R&D Workshop in Montreal in March 2002 to develop the project and to discuss opportunities for discussion papers;
- Begin operation of ATLANTIC international discussion forum in Spring 2002;

Phase 3 (to proceed with funding commitments starting January 2003):

- Construct Canadian ATLANTIC web site (may use Canadian section of ATLANTIC website as interim measure);
- Initiate work on discussion papers and collect information through Canadian electronic forum working group discussions over the period January 2003 to May 2003 and input to international partners, continuing as required to September 2003;
- Document results of the Canadian electronic forum and contribute inputs to international partners over the period June 2003 to October 2003;
- Organize Canadian ITS R&D Workshop in Toronto/Montreal/Ottawa in fall 2003 to showcase the results of the project and to discuss opportunities for future ITS R&D in Canada;
- Prepare and present papers based on the results of the Canadian ATLANTIC Project at various domestic and international fora (e.g. Canadian ITS workshop, TAC Annual Congress, 10th ITS World Congress, ITS Canada Annual Conference, AQTR Congrès annuel).
- Document and report on the status of ITS research and development in Canada as advice to policy makers in government and the private sector by December 2003.

SUMMARY AND CONCLUSIONS

Canadian participation in the ATLANTIC Project has great potential to launch the ITS research and development community in Canada to a new higher level of creative activity and achievement with spin-off benefits to the entire ITS community. It will make substantial contributions to four of the five pillars of Transport Canada's ITS Plan for Canada:

- Partnership for Knowledge – *multi-client with academics, government and industry*
- Multimodal ITS R&D – *identify opportunities for cooperative R&D*
- Deployment and Integration of ITS Across Canada – *better informed decisions*
- Strengthening Canada's ITS Industry – *stimulate innovation*

The Canadian ATLANTIC Project will involve all elements of the ITS community to:

- Build greater awareness of Canadian accomplishments both domestically and internationally,
- Build knowledge and capabilities in Canada;
- Facilitate future ITS deployments based on better informed decision making;
- Contribute to product and service innovations in the private sector for both Canada and key export markets.

Based on the response received to December 2002, the Core Team is proceeding to launch Phase 3 of the Canadian ATLANTIC network in January 2003.

For further information or to discuss participation in the Canadian ATLANTIC Project, please contact one of the following members of the core team:

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References

- (1) ATLANTIC Project Web Site www.atlan-tic.net.
- (2) An ITS Plan for Canada: Enroute to Intelligent Mobility, Transport Canada, 1999.
- (3) ITS Canada Strategic Business Plan (1999-2004), ITS Canada, August 1999.

ANNEX A

Key Participants in Working Groups

(tba – to be announced)

Working Group	Participants
<p><i>Working Group 1.1</i> Title: <i>Telematics-based Traffic & Travel Information</i> Scope: <i>strategies for TTI service deployment</i> <i>legal and institutional issues</i> <i>contributions of TTI to sustainable transport</i> Leader: Rapporteur: Experts/Correspondents:</p>	<p>A. Khan Carleton U P. Frigon (see list below)</p>
<p><i>Working Group 1.2</i> Title: <i>Network Monitoring & Traffic Management & Control</i> Scope: <i>system architecture issues</i> <i>integrated information and control strategies</i> <i>techniques for network monitoring</i> <i>emergency service systems</i> Leader: Rapporteur: Experts/correspondents:</p>	<p>B. Abdulhai U of Toronto L. Kattan U of Toronto (see list below)</p>
<p><i>Working Group 1.3</i> Title: <i>Intermodal Collective Transport Information</i> Scope: <i>travel & intermodal info in wireless info society</i> <i>Public transport operations</i> <i>Tourism & travel info services</i> Leader: Rapporteur: Experts/correspondents:</p>	<p>A. Shalaby U of Toronto B. Hemily (see list below)</p>
<p><i>Working Group 2.1</i> Title: <i>Intermodal Freight Info, Pre-clearance & Logistics</i> Scope: <i>contribution of ITS to logistics & freight</i> <i>city logistics, e-commerce transactions & impacts</i> <i>freight & fleet management, tracking, tracing</i> <i>freight intermodality</i> <i>ITS for freight transfer at ports, airports, rail terms</i> Leader: Rapporteur: Experts/correspondents:</p>	<p>T. Crainic, UQAM & Udm L. Sabounghi, S & Assoc (see list below)</p>

ANNEX A

Key Participants in Working Groups

Working Group	Participants
<p><i>Working Group 2.2</i></p> <p>Title: <i>Intelligent Vehicles & Vehicle Highway-Systems</i></p> <p>Scope: <i>adaptive cruise control active & passive safety vehicle & driver assistance & service integrated incident management</i></p> <p>Leader:</p> <p>Rapporteur:</p> <p>Experts/Correspondents:</p>	<p>D. Gingras U de Sher W. Johnson (interim) (see list below)</p>
<p><i>Working Group 2.3</i></p> <p>Title: <i>Electronic Road User Charging & Payment Integration</i></p> <p>Scope: <i>smart cards, payment systems, e-fee collection ITS infrastructure for road user charging</i></p> <p>Leader:</p> <p>Rapporteur:</p> <p>Experts/correspondents:</p>	<p>M. Mustafa, IBI Group (tba) (see list below)</p>
<p><i>Working Group 3.1</i></p> <p>Title: <i>ITS User Acceptance & Impact Assessment</i></p> <p>Scope: <i>assess results of user acceptance & impacts traveller acceptance, behaviour, mode choice sensitivity models of transport supply & demand methods of assessing user acceptance & impacts</i></p> <p>Leader:</p> <p>Rapporteur:</p> <p>Experts/correspondents:</p>	<p>I. Kaysi, U of Toronto W. Johnson (interim) (see list below)</p>
<p><i>Working Group 3.2</i></p> <p>Title: <i>Human Machine Interface & User Friendly ITS</i></p> <p>Scope: <i>progressing HMI measuring techniques & criteria Behavioural & safety impacts of driver support Universal design, comprehension & use of mobile devices, fixed terminals & roadside info</i></p> <p>Leader:</p> <p>Rapporteur:</p> <p>Experts/correspondents:</p>	<p>J. Caird, U of Calgary Ms. L. Suen (see list below)</p>

ANNEX A

Key Participants in Working Groups

List of Participating Experts (as of March 2002)

Core Team Members

Baher Abdulhai, U of Toronto
Teodor Crainic, UQAM & U of Montreal
William Johnson, Consultant

Participants (at all levels of participation: leaders, rapporteurs, experts, observers)

Michael Mahut, INRO Consultants
Amer Shalaby, U of Toronto
Mireille Broucke, U of Toronto
Muhammad Mustafa, IBI Group
Milt Harmelink, Harmelink Consulting
Eric Miller, U of Toronto
Andrew MacIver, U of Calgary
Michel Gendreau, U of Montreal
Lewis Sabounghi, Sabounghi & Associates
Ling Suen, Consultant
Paul Frigon, PSR Group
Robert Bruce, EIS
Terry Bergan, IRD
Michael Florian, INRO Consultants
Curtis Berthelot, U of Saskatchewan
Tarek Sayed, UBC
Jeff Caird, U of Calgary
Jim White, TC
Joanne Harbluk, TC
Sesto Vespa, TC/TDC
Jackson Wang, E-Radio
Brendon Hemily, Consultant
Ata Khan, Carleton U
David Kamnitzer, IBI Group
Barrie Kirk, GLOBIS
U of Waterloo (tbc)

Sponsor and Potential Sponsor Representatives

Brian Plant, Transport Canada
Brian Marshall, Transport Canada/TDC
Luc Lefebvre, MTQ
Ataur Bacchus, MTO

ANNEX B

Key Project Outputs and Deliverables

(Based on Discussion at Planning Workshop in March 2002)

Key Outputs and Deliverables

The Canadian ATLANTIC Project will contribute to the overall key results of the ATLANTIC thematic network as outlined in the Overview section including:

- Participation in the international debates using the electronic forum on issues of current interest to the international community;
- Discussion papers based on Canadian issues for debate in the international electronic forum;
- Participation in the planned international meetings and workshops to report on Canadian results; and
- Production of internet-based and hard copy publications.

The Canadian ATLANTIC Project will have the following uniquely Canadian key outputs and deliverables:

- Workshop on Canadian ITS research and development issues and opportunities based on an inventory and analysis of Canadian ITS research and development;
- Summary report on the status of Canadian ITS research and development related to the 8 working group topics with recommendations based on the opportunities identified in the analysis and the workshop for future Canadian ITS research and development;
- Proposals for submission to funding agencies for follow-up ITS research and development projects to be undertaken both domestically and in cooperation with international partners based on the outcomes of the ATLANTIC Project; and
- Cohesive and progressive Canadian ITS research and development community.

Proposed Topics for Discussion papers

The planning workshop in Montreal, Quebec on March 6, 2002 reviewed the topics suggested for each working group by the Europeans and Americans for the ATLANTIC electronic forum and identified additional issues and topics of interest to Canada. This augmented list is presented here as a starting point to identify priority topics for the Canadian discussion papers.

The aim is to select one or at most two topics within each working group domain on which to concentrate effort. The key criteria for selecting the topics are relevance to Canadian issues and problems (and in particular to the needs of the funding partners), existence of knowledgeable experts to examine the topic, and significance of the results to the ITS community in Canada.

(continued)

ANNEX B

Key Project Outputs and Deliverables

The following is a summary by working group of the points made during a systematic review of each of the 8 working group topics proposed for the ATLANTIC thematic network. The original proposed sub-themes are included in italics for reference purposes.

WG 1.1 Telematics-based Traffic & Traveller Information

Scope: strategies for TTI service deployment
- U.S. project “Business Models for ATIS
- Europe project “Preparing ATIS for 3rd Generation Cellular” (new)
legal and institutional issues
contributions of TTI to sustainable transport

- U.S. and E.U. have accessibility requirements for presentation of transport text and graphical information in multimodal and multimedia communications that Canada could consider adopting;
- Ontario Ministry of Transportation needs pricing policies for bundled ATIS data;
- Driver distraction is an important issue;
- Canadian researchers must decide whether to focus their efforts on hardware technology (i.e. delivery) or on software technology (i.e. intelligence) or both.

WG 1.2 Network Monitoring & Traffic Management & Control

Scope: system architecture issues
integrated information and control strategies
techniques for network monitoring
emergency service systems

- Incident detection belongs in this working group;
- Road weather detection and information dissemination systems;
- Network operating flexibility is important.

WG 1.3 Intermodal Collective Transport Information

Scope: travel & intermodal information in wireless information society
Public transport operations
Tourism & travel information services

- This issue should be approached from the perspective of “problems” (i.e. how to influence mode split) rather than of technology options;
- The challenge is how to move travellers to public transport modes;
- Transit service is a strategic transport service solution for Canada.

(continued)

ANNEX B

Key Project Outputs and Deliverables

WG 2.1 Intermodal Freight Information, Pre-clearance & Logistics

*Scope: contribution of ITS to logistics & freight
city logistics, e-commerce transactions & impacts
freight & fleet management, tracking, tracing
freight intermodality
ITS for freight transfer at ports, airports, rail terms*

- Technology in this context should mean hardware and software;
- How to complement U.S. initiatives at border crossings for pre-clearance and security surveillance;
- Integration of freight and passenger operations;
- City and urban logistics;
- E-commerce integration with transport operations;
- Transport of dangerous goods/hazardous materials;
- Regulatory compliance enforcement for safety/security of commercial vehicle operations.

WG 2.2 Intelligent Vehicles & Vehicle Highway Systems

*Scope: adaptive cruise control
active & passive safety
vehicle & driver assistance & service
integrated incident management*

- (This topic was left to a future discussion.)

WG 2.3 Electronic Road User Charging and Payment

*Scope: smart cards, payment systems, e-fee collection
ITS infrastructure for road user charging*

- Muhammad Mustafa gave a brief presentation at this point related to electronic fee collection (EFC) touching on the history of ITS studies leading to the inclusion of this topic in ATLANTIC, EFC projects in Canada, road pricing and demand management and smart cards (see Annex G);
- There is up to date work in Canada related to EFC including Highway 407, Coquitlam Highway, Confederation Bridge, Blue Water Bridge and smart card development;
- The European experience with EFC and related architectures is considerable (note that ITS architecture is a separate stream of study in Canada).

(continued)

ANNEX B

Key Project Outputs and Deliverables

WG 3.1 ITS User Acceptance & Impact Assessment

*Scope: assess results of user acceptance & impacts
traveller acceptance, behaviour, mode choice
sensitivity models of transport supply & demand
methods of assessing user acceptance & impacts*

- Toronto City is developing an interest in this topic;
- The scope should include behavioural modellers;
- Dynamic transit assignment in response to real time information.

WG 3.2 Human Machine Interface & User Friendly ITS

*Scope: progressing HMI measuring techniques & criteria
Behavioural & safety impacts of driver support
Universal design, comprehension & use of mobile
devices, fixed terminals & roadside information*

- It was noted that ITS for railway-highway crossings must be based on a thorough understanding of the human factors involved;
- It was noted that Canada has capability related to HMI and the topic is important in the study of accident avoidance strategies.

ANNEX C

Key Project Milestones, Deliverables and Expenses January – December 2003

INTRODUCTION

The purpose of this Annex C is to provide an overall guide for the Canadian ATLANTIC Project - Phase 3 for the period January to December 2003. It presents information concerning the project as a timeline of milestones with the outputs to be delivered at each milestone and the estimated expenditures incurred up to key milestones. This information is intended to assist sponsoring agencies to assess progress and set payment milestones. The expenditures are based on the budget elements in the section "Proposed Budget Elements" but are presented here by timeline instead of element. Further details of expenditures are available on request. Also note that due to the different funding timelines followed by the international partners, the Canadian ATLANTIC Project will operate in a leadership role in 2003 in several work areas.

ACTION TIMELINE with MILESTONES - Phase 2 from July 2001 to December 2002

- ❖ *Note – These milestone markers indicate a Key Canadian Milestone*
- ❖ Canadian ATLANTIC Project Phase 2 begins July 2001;
- ❖ Canadian ATLANTIC draft proposal prepared by August 31, 2001 and search for funding sponsors initiated;
- ATLANTIC kick-off and international coordination meeting, Brussels, September 9-10, 2001;
- ATLANTIC coordination meeting at 8th ITS World Congress, Sydney, September 30, 2001;
- ATLANTIC roundtable meeting re: ATIS in conjunction with TRB Annual Meeting in Washington, DC, January 17, 2002;
- ❖ Canadian ATLANTIC planning workshop, Montreal, March 6, 2002;
- ATLANTIC Network dialogue initiated internationally for ATIS and other discussion topics beginning spring 2002;
- ATLANTIC sponsored sessions and workshops to present results including:
 - session on ATIS at 9th ITS World Congress, Chicago, October 2002;
 - sessions on Benefits, Evaluation & Costs at 9th ITS World Congress, October 2002;
 - European TTI Workshop, November 2002;
- ATLANTIC reports published on completed topics including ATIS, TTI, BEC fall 2002.
- Canadian ATLANTIC Phase 3 funding approvals-in-principle - June/Oct/Dec 2002

< Work Completed

Work Beginning > *Next Page*

ANNEX C

Key Project Milestones, Deliverables and Expenses January – December 2003 (subject to review and confirmation)

ACTION TIMELINE with MILESTONES - Phase 3

<u>Actions /Deliverables /Expenses</u>	<u>Dates</u>
❖ Canadian ATLANTIC agreements negotiated and confirmed with sponsors:	
- Ministry of Transportation Ontario (letter agreement)	Jan 2003
- Ministère des Transports du Québec (contribution agreement)	Jan 2003
- Transport Canada, Surface Policy (contribution agreement)	Jan 2003
• Core Team meets to finalize work plans for January to December 2003	10 Jan 2003
- Final draft of work plans, timelines, budgets & financial operations	
- Final role & responsibility statements for Core Team, WG leaders, experts	
- Finalize plans for network communications & information release (website, internet)	
• Mobilize key participants in the Canadian ATLANTIC work groups	10 Jan 2003
- Inform Work Group leaders & rapporteurs of their roles & responsibilities and introduce to international partners	
- Initiate planning of discussion papers by work group leaders	
- Inform network of participating experts of their roles & functions	
• Announce launch of Canadian ATLANTIC Phase 3	10 Jan 2003
- Article in ITS Canada newsletter	
- Press release to other agencies	
❖ Progress Report #1 summarizing accomplishments to date in Phase 2 in 2002 for submission to sponsors and for posting on website	13 Jan 2003
- Revised proposal dated January 2003 (this document)	
- Note on status of Canadian ATLANTIC sponsorship	
- Notes on coordination activities with international partners in 2002 and plans for cooperation in 2003 (e.g. U.S. Special Interest Group, Workshop in conjunction with Smart Moving Conference, U.K., ITS R&D Plan for Canada, "international R&D gateway" for ITS Canada)	
- Note on accomplishments of WG 1.1 ATIS including Canada & international	
- Notes on accomplishments of other WG's including WG 1.2 Networks, WG 1.3 Transit, WG 2.1 Freight, WG 2.3 EFC, WG 3.1 B/C	
- Note on Canadian ATLANTIC plans for 2003 and beyond	
- Copy of U.S. report on ATIS and Workshop	
- Copy of European workshop report on TTI	
- Copy of ITS BEC workshop report at 9 th ITS World Congress in Chicago in October (organized in cooperation with ATLANTIC)	
- Copy (advance version) of TRB Info-Structure Workshop in August	

Estimated expenses incurred to this date since July 2002 = ~4%.

ANNEX C

Key Project Milestones, Deliverables and Expenses January – December 2003 (subject to review and confirmation)

ACTION TIMELINE with MILESTONES - Phase 3 (continued)

<u>Actions /Deliverables /Expenses</u>	<u>Dates</u>
<ul style="list-style-type: none"> • Initiate work on Canadian ATLANTIC website <ul style="list-style-type: none"> - Work plan for construction of Canadian website and/or use of atlant-tic site - Assignment of responsibilities for implementation, operation & maintenance - Assignment of design & development activity to a competent agent 	Jan 2003
<ul style="list-style-type: none"> • Initiate work on discussion papers <ul style="list-style-type: none"> - Confirm topics by work group - Finalize draft template for discussion papers - Begin work on discussion papers and continue until formal review in May - Dialogue with international partners using atlan-tic forum and internet 	Jan 2003
<ul style="list-style-type: none"> ❖ Canadian ATLANTIC Steering Committee meeting <ul style="list-style-type: none"> - Presentation on overall project timeline, milestones and deliverables - Review & comment on overall project timeline, milestones and deliverables - Presentations on proposed topics for discussion papers by 8 Work Groups (what, why, who, how) - Review & comment on proposed topics for discussion papers by work group - Confirm funding profile and payment schedule 	Feb 2003

Estimated expenses incurred to this date (end of February) = ~25%.

<ul style="list-style-type: none"> • Canadian ATLANTIC website launched to highlight activities in Canada <ul style="list-style-type: none"> - Circulate notice of the existence of the website to attract interest 	Mar 2003
<ul style="list-style-type: none"> ❖ Progress Report #2 summarizing accomplishments to date in 2003 for submission to sponsors and for posting on website <ul style="list-style-type: none"> - Note on overall status and progress of Canadian ATLANTIC project - Notes on coordination activities with Canadian partners in the public, private and non-profit sectors (e.g. ITS Canada, TAC, AQTR, WESTAC) - Notes on coordination activities with international partners in 2003 and new plans for cooperative activities in 2003 (e.g. with U.S. Special Interest Group at ITS America Annual Meeting, update on Workshop at Smart Moving Conference in U.K., 10th ITS World Congress in Madrid in November, other possible venues) - Notes on status & accomplishments of 8 Work Groups including WG 1.1 ATIS, WG 1.2 Networks, WG 1.3 Transit, WG 2.1 Freight, WG 2.3 EFC, WG 3.1 User B/C, WG 3.2 Human Factors and WG 2.2 Intelligent Vehicles - Copies of reports produced by ATLANTIC and others of interest to sponsors 	31 Mar 2003

Estimated expenses incurred to this date (end of March) = ~40% + Apr-May = ~66%.

ANNEX C

Key Project Milestones, Deliverables and Expenses

January – December 2003

(subject to review and confirmation)

ACTION TIMELINE with MILESTONES - Phase 3 (continued)

- ATLANTIC Workshop in conjunction with Smart Moving Conference 17 Apr 2003
(Birmingham U.K. international event)
 - Presentation of the Canadian ATLANTIC project & ITS strategic planning
 - Presentations on European Regional ITS projects & TTI results
 - Opportunity to review progress of Canadian discussion papers with European partners
 - Coordination with European & potential international partners
- Canadian ATLANTIC activities in Canada to raise awareness & solicit input Apr 2003
 - Presentation to ITS Canada Annual Meeting (Fredericton NB)
 - Presentation to AQTR Annual Meeting (Sherbrooke QC)
- ❖ Drafts of Canadian discussion papers May 2003
 - Draft discussion paper for each of the (8) work groups to Program Management Committee for review, comment and revision
 - Informal meetings of work group teams in person or via web-conferencing to enhance research product, identify related issues for further research and plan further interaction with international partners
 - Release revised drafts to sponsors for review and comment
 - Each discussion paper will follow the template devised in January by Program Management Committee
- Initiate research to summarize ITS R&D underway in Canada May 2003
 - Role of Core Team with assistance of work group leaders & experts
 - Work to continue over the period May to August
- Begin planning for follow-up R&D submissions to Granting Councils Jun 2003
 - Based on results of discussion papers and interactions with public sector, private sector and international partners
 - Work to continue over the period June to August
 - Will include consideration of mechanisms for on-going collaboration
- ❖ Progress Report #3 summarizing accomplishments to date in 2003 for submission to sponsors and for posting on website 30 Jun 2003
 - Note on overall status and progress of Canadian ATLANTIC project
 - Notes on coordination activities with Canadian partners in the public, private and non-profit sectors (e.g. ITS Canada, TAC, AQTR, WESTAC)
 - Notes on coordination activities with international partners and new plans
 - Notes on status & accomplishments of 8 Work Groups including research results
 - Copies of discussion papers produced by Canadian ATLANTIC project

Estimated expenses incurred to this date (end of June) = ~70%.

ANNEX C

Key Project Milestones, Deliverables and Expenses January – December 2003 (subject to review and confirmation)

ACTION TIMELINE with MILESTONES - Phase 3 (continued)

- Project work over summer period Jul-Aug 2003
 - Complete discussion papers
 - Complete the report on ITS R&D in Canada
 - Complete proposals for submission to Granting Councils
 - Develop detailed plans for framework to support continued inter-university cooperation in Canada on ITS R&D initiatives in cooperation with international networks such as ATLANTIC, SIGIRL, STELLA
- ❖ Convene Canadian ATLANTIC Workshop (place & date to be determined) Fall 2003
 - The Canadian ATLANTIC Workshop will bring together the Canadian ATLANTIC work group members and selected international partners
 - Presentations will share research results from Canadian and ATLANTIC sources
 - Workshop discussions will focus on opportunities for ITS R&D cooperation including institutional arrangements and project initiatives
 - The deliverables will be specific proposals for ITS cooperative R&D projects involving one or more academic institutions and partners from the public and private sectors for submission to Granting Councils and funding agencies
- ❖ Canadian ATLANTIC Steering Committee meeting Fall 2003
 - Held in conjunction with Canadian ATLANTIC Workshop
 - Review of accomplishments
 - Review of plans for sustaining the Canadian ITS R&D network

Estimated expenses to this date are = ~90%.

- Canadian ATLANTIC participation at international forums Nov 2003
 - Presentations
 - Leadership roles in one or more Sessions
 - 10th ITS World Congress, Madrid, November
 - TRB Annual Meeting in Washington DC in January 2004 (anticipated follow up)
- Canadian ATLANTIC Project wrap-up Dec 2003
 - Discussion papers are published
 - Summary report on current Canadian ITS R&D activities & participants in academic, public and private sectors
 - Proposals for further ITS R&D for submission to funding agencies
 - A Canadian Network of ITS researchers in universities continues to operate with partners in the public and private sectors and with international links to U.S., Europe and other countries

Estimated expenses to this date (December 2003) = 100%