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CANADA

ITS CANADA'S STRATEGIC PLAN 2015-2019

Smart Transportation for a Smart Nation, ***A Vision and Strategy for ITS in Canada***

Intelligent Transportation Systems Society of Canada

Société des systèmes de transport intelligents du Canada

ITS CANADA'S STRATEGIC PLAN 2015-2019

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Introduction

The future…it's coming, and it's coming very fast!

It's an exciting future, one that holds significant promise for transformative change to human society. Brought on, in part, by technological change that is occurring at an exponential rate[1]

Consider the following facts:

- Today, there are 2 billion people and 5 billion devices connected to the Internet. By **2020, there will be 5 billion people and more than 20 billion devices connected**.
- In 2010, for every two days, an equal amount of information was created as was created by all the people that ever lived from the dawn of civilization until 2003. **By 2020, the same amount of information will be generated every hour.**

Source: Yuri Milner

For land-based transport, there are advanced technology applications that are being deployed that are redefining how we move people and goods. The widespread (ubiquitous) adoption of technologies and devices that are in our vehicles, on our persons, in our offices and in our infrastructure means that the vast amount of data and information being generated by them will offer many new solutions to address the challenges facing today's world of transportation.

For example, positioning data derived from the thousands of GPS, Bluetooth, and RFID-enabled devices, as well as other data from sensors in our cars, trucks, buses, trains, pavements, bridges and traffic signals can be used to tell us such things as where traffic congestion is occurring, or assist emergency responders in reaching the scenes of collisions as quickly as possible. They can tell us when the next bus or subway car is coming or even direct us to the least congested border crossing. In the very near future, these technologies will even help us avoid traffic collisions altogether, or even permit us to get in a vehicle and let it drive us to wherever we want to go.

With the help of the next generation of transportation technologies, cities will be smarter, the environment will be cleaner, streets, highways and rail lines will be safer and traffic congestion will be substantially reduced. Through the use of automated vehicles and new mobility services, today's predominantly automobile-centric society will be gradually replaced by a myriad of integrated services that will let commuters, families and individuals get convenient and affordable 'access' to transportation without requiring 'ownership' of transportation.

This is heady stuff! The true challenge will be in seizing every opportunity to make sure that Canada and Canadians will reap the benefits that these technologies promise. This will take planning, commitment and collaboration on the part of many actors – governments at all levels, private enterprises (manufacturers, designers, integrators, service providers), universities and individuals.

ITS Canada is determined to be one of these actors and to ensure that our members play a leading role in developing the world-class technologies, services and products that will ensure that these benefits can be achieved. Our Society will be a key part of this transformation.

ITS Canada has undertaken a year-long exercise to reflect on its past, identify priorities of Canadian society and its own membership, and to set out a renewed vision for the future, as well as a clear mandate for the actions it will take to achieve its objectives. A key part of this process was defining what would be possible within the current limits of ITS Canada's resources, both in human and financial terms. An important challenge in going forward will, therefore, be to ensure financial and organizational sustainability. This will rely, in part, on recruiting new members and creating additional value in member services to ensure the retention of existing members.

And the 2017 ITS World Congress in Montreal will provide a platform for those members to showcase their unique talents to the world.

This document, entitled "*Smart Transportation for a Smart Nation*" sets out a vision for transportation in Canada and the role that ITS Canada will play in bringing this vision to fruition. It is ITS Canada's Strategic Plan.

Section I begins with a short context-setter – an examination of trends that are bound to have far-reaching impacts, both nationally and internationally.

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Section II reviews ITS Canada successes of the past, but concentrates on its needs for the future. Based on this review, a new Vision Statement is established to set broad directions going forward.

Using this new vision, Section III lays out three goals for ITS Canada that will shape the range of activities that the organization will engage in the 5-year life of this strategic plan. They are as follows:

1. To be the national organization recognized as the thought leader in transportation innovation, as well as being an important contributor to discussion of transportation issues in Canada;
2. To engage in activities that advance and promote member interests - creating exceptional value for members; and
3. To be well governed and financially sustainable.

The final section, Section IV, contains the plan of action, which details how ITS Canada will implement its strategy. The Action Plan provides a path to ensure that ITS Canada will achieve its objectives, including successfully hosting the ITS World Congress in Montreal in 2017. It will also establish those foundations and pathways that will be necessary to ensure long-term success well beyond 2017.

I. SETTING THE STAGE: THE FACE OF TOMORROW'S TRANSPORTATION

Drivers of Change

There are many events that are taking place around the world that have varying degrees of impact on transportation. Our strategy chooses to focus on five trends that we believe are causing significant change to today's transportation system and that will drive transformational change in the not-so-distant future. Four of these are global trends that are also having their own impact on the Canadian market. The fifth is a trend that may be unique to Canada, but that has nevertheless a significant impact on our ability to deploy advanced technology systems.

1. Population growth/urbanization

A hundred years ago just 20% of people on Earth lived in cities. Today more than half the world's population lives in cities, generating some 80% of global economic output. By the middle of this 21st century, 70% of the world's population are forecast to be urban dwellers[2], [3]. A major challenge these cities will pose for society will be the increasing strain on resources. As the urbanization trend accelerates, so too will issues of sustainability and infrastructure to support city dwellers.

For Canada, the level of urbanization is already high at 70% and is relatively stable as the population ages and the natural pattern of increase slows. Perhaps the most remarkable difference between Canada and the rest of the world is the level of density in populated areas. Historically, Canada has been characterized as having a few large cities surrounded by much smaller rural communities that are sprinkled throughout very large geographic regions. But as Canadians have migrated to the urban areas over time, decentralization of these major cities has occurred. It continues to take place at a swift rate as outer suburbs and the rural-urban fringe grow rapidly.[4] As urbanization advances, it is predicted that the demand for the household car will diminish due to the emerging availability of 'Mobility on Demand' options[5].

Even though there are differences between the trends in Canada and on the global level, there will still be the same pressures to find sustainable solutions to the pressures on the infrastructure that are needed to support those urban populations. Innovative new approaches will be required to ensure that people can get to their jobs, freight can be moved, and services delivered in ways that are safe, efficient and sustainable. This implies the need for better transit and logistics operations within cities, better connections to cities from the urban/rural fringes, and the implementation of smart corridor strategies that are designed for seamless intermodal connections for the efficient movement of freight, i.e. 'Smarter Cities'.

The Special Meaning of "Mobility" in the World of Transportation

The word "mobility" can have different meanings in different contexts. For the world of transportation, and particularly the world of intelligent transportation, "mobility" is all about the use of advanced computing power, sensing devices and advanced communications systems to ensure the most efficient, safe and environmentally-friendly movement of goods and people.

A very good example of the broad sweep of the concept of mobility in transportation is ERTICO's "Smart Mobility" program. Within this program, there are many initiatives. Two of these are: "MobiNet"- a service platform to simplify and stimulate the Europe-wide deployment of connected mobility services by creating an "Internet of Mobility" that will link travellers' and transport users' requests with data and services offered by providers; and an "Instant Mobility "vision, meaning that every journey and every transport movement is part of a self-optimising ecosystem, a "Transport and Mobility Internet" in which the various urban transport actors are interconnected and share a rich pool of instant information about the itinerary of each traveller, goods consignment and vehicle.

2. Climate change

It is a well-documented fact that transportation is a significant emitter of noxious gases. Scientists argue that these are key contributors to the changes that we are now experiencing in global climate conditions. Respected statistical agencies report that the road transport sector is responsible for 74% of global CO2 emissions, while aviation, shipping and railways account for 12%, 10%, and 4% of transportation emissions respectively.[6]

According to Environment Canada, in 2007 transportation in Canada was responsible for 27% of the total greenhouse gas (GHG) emissions. Road transportation was the principal contributor, accounting for 69% of the sector's GHG emissions.[7]

These statistics point very clearly to a significant challenge facing the transportation sector at large. We cannot continue on our present course. New ways will need to be found to reduce these emissions – either through changes in energy sources or, more relevant to this strategy, through the use of innovative mobility choices and related technologies that will ensure more efficient, safer and more sustainable operation of our transportation system.

3. Threats to the Transport System

It is a reality of today's society that we must come to grips with a rising number of threats to our safety and security. These come in many different forms including: terrorism, cyber-attacks, pandemic disease, and extreme weather. Each of these can have significant disruptive effects on transportation operations.

That is why we are now hearing the word "Resilience" more and more as a key consideration in transportation planning. A resilient transportation system is one that can respond and adapt to a wide range of disruptive situations. This is not simple to achieve. It requires concerted planning among a range of agencies, many of which do not have transportation as their primary mandates. For example, protecting significant transportation assets such as international bridges and border crossings could involve customs agencies from both sides of the Canada/US border, provincial and state transportation authorities, local municipalities, as well as Canadian and US federal policing agencies. All of this highlights an increasing need for collaboration among traditional and non-traditional players in the transportation system.

The real key will be in establishing multi-agency collaborative efforts to find ways to permit vacationers, business travellers and commercial drivers to get to their destinations safely and securely without imposing cumbersome screening procedures that reduce or even block efficient movement of legitimate trade and commerce.

4. Exponential Rate of Technological Innovation

Six Disruptive Technologies now Affecting Transport

1. *Mobile Internet* - Increasingly inexpensive and capable mobile computing devices with Internet connectivity. Component technologies – wireless communication, small, low-cost computing and storage devices; advanced display technology; natural user interfaces; advanced, low-cost batteries.

2. *Automation of Knowledge Work (Big Data)* - intelligent software systems that can perform knowledge-work tasks. Component technologies - artificial intelligence, machine-learning; natural user interfaces, big data technologies.

3. *The Internet of Things*- networks of low-cost sensors and actuators for data collection, monitoring, decision-making and process optimization. Component technologies: advanced low-cost sensors; wireless and near-field communications devices e.g. RFID.

4. *The Cloud*- use of computer hardware and software resources to deliver services over the Internet or a network. Component technologies: cloud-management software e.g., virtualization, metering; data-center hardware; high-speed networks; software/platform as a service (SaaS/PaaS)

5. *Advanced Robotics*- increasingly capable robots with enhanced sensors, dexterity, and intelligence; used to automate many tasks. Component technologies: artificial intelligence/computer vision; advanced robotic dexterity, sensors; distributed robotics, robotic exoskeletons

6. *Automated Vehicles*- vehicles that can navigate and operate autonomously or semi-autonomously. Component technologies: artificial intelligence, computer vision; advanced sensors e.g. Lidar, radar, GPS; V2V, V2I, V2X communication.

Source: McKinsey Global Institute

As mentioned in the opening section of this Strategy, it is a documented trend that technological advances are taking place at break-neck speed. Increasingly, the world of advanced communications, sensors, and computing are combining to create higher orders of knowledge, understanding and awareness of our environment.[8]

In the Congress Report for the 2014 ITS European Congress held in Helsinki, this whole trend was captured as follows:

> "…Users [of the transport system] had bigger, more complex, problems and they needed bigger, integrated, solutions which began to appear as a result of a number of small but vital trends:
>
> - Everything started to become instrumented and digital;
> - Everything and everyone started to be interconnected;
> - Open data began transforming transport markets;
> - The huge increase in smartphone/tablet ownership has meant permanently connected travellers; and consequently
> - Everything is becoming intelligent."

In many ways, the actual technical integration and connection of multiple devices and systems is the easy part. The bigger challenge lies in getting the "owners" of each of these systems and components to work together in a collaborative manner. The transition to this more complex world of an increasingly integrated and connected environment necessitates the bringing together of a wide number of system operators (e.g., federal, provincial, municipal governments; transportation agencies; domestic systems with connections across international boundaries). Questions arise as to who will take responsibility for and coordinate the integration of services across jurisdictional boundaries. These issues will all need to be worked out before we have a truly seamless, connected world that will function efficiently and, most importantly, safely.

The main point, however, is that the benefits to greater integration and connectivity far outweigh the institutional issues that may arise. New efficiencies of operating transportation services and networks are already being experienced elsewhere in the world.[9] These kinds of operational efficiencies need to be brought to the Canadian transport system for it to remain competitive on a global scale.

5. The "mainstreaming" of ITS

One of the earliest ITS successes in Canada was the development of a national ITS Architecture. This framework set out all of the various components of the transport system (travellers, wayside technologies, management centres, back office, and vehicles). It also set out the various forms of communication that can be used to connect them – effectively a road map of information flows. It has become recognized as an essential part of any ITS deployment project because it encourages a process by which all the relevant players affected by a potential ITS project are brought together. Roles and responsibilities are set out and inventories of current technology systems and planned deployments are established. The national Architecture, and its regional derivatives, expose synergies between and among the various actors and has, thus, been an effective tool to plan well-conceived ITS deployments.

We are now at a stage however where some public agencies look at the Architecture as a sort of "benchmark" and thus have declared that ITS in Canada has been "mainstreamed", because ITS is now included as just one more item in the toolkit of any big infrastructure project (e.g., highways and bridges).

But the technological advances of the sort noted in point 4 above demonstrate that there is a whole 'new wave of investment' that is required in advanced technologies for transportation. We need to revisit the ITS Architecture and move on to a new way of thinking that starts to integrate the new mobility components and connect the various components of Canada's evolving 'cooperative' transportation system, especially in the areas related to connected/automated vehicles. These kinds of investments are being made everywhere else in the world – Canada needs to innovate its transportation systems or risk being at significant economic disadvantage to more efficient operations elsewhere.

II. A NEW VISION AND ROLE FOR ITS CANADA

We have taken time over the last year to reflect on our past, identify transportation priorities of Canadian society and to consult our own membership. After almost 20 years of work, we reflect proudly on the many advancements that have taken place in the Canadian ITS sector and in the deployment of these systems across the country. But has Canada kept pace with the rest of the world in deployment of advanced transportation technologies to achieve the goals of safety, security, efficiency and sustainability? As we look to the future, particularly in light of the trends outlined in Section I, we believe there is a real need for ITS Canada to present a new vision for ITS in Canada and to take on a significant new role in advancing this vision.

Canadian Transportation Priorities

> *"Canada's transportation system will have to be globally competitive: efficient, reliable, innovative, responsive to change, and resilient to disruptions."*[10]

This statement captures very succinctly what the requirements for transportation in Canada will be in the future. We would also add that the transport system of the future needs to be "interconnected", meaning that advances in communications technology should be employed to ensure that there is seamless integration between and among: the modes of transport; the operating agencies of each mode; and the external operations that are linked to transport. Achieving this improved mobility outcome will certainly need to involve players from all modes of transport, as well as from other sectors and from the users of the system itself. Based on our own review however, we now know that it must also certainly include input from experts knowledgeable about the transformative changes taking place in technology, as well as groundbreaking technological applications that can bring benefits to transportation.

ITS Canada possesses that expertise and we commit to actively promote the benefits of using advanced technologies to the betterment of transportation in Canada. For this reason, ITS Canada will structure its entire advocacy agenda around the importance of making these kinds of views known.

Our Vision

We see a new Canadian transportation landscape, ***brought about by the use of innovative technologies,*** that:

- Dramatically decreases the number of traffic collisions on our roadways and that, as a result, save lives and prevent injuries;
- Reduces congestion, through better real-time traffic management and better public transport;
- Connects all facets of our transport system to ensure the most efficient movement and mobility of people and goods; and
- Ensures Canada's transportation networks remain globally competitive by keeping pace with dramatic transformations taking place in the transportation systems of the rest of the world.

Our Mission

ITS Canada will be a national ***thought leader*** on advanced technologies and their application to the Canadian transport system. It will actively support the use of these technologies by advocating their benefits, by showcasing and demonstrating the expertise of its members, as well as their products and services, and by providing the necessary tools, platforms and fora for networking, learning and collaboration. ITS Canada will become the '*go-to*' organization that governments, agencies, media, academia and the public should turn to for insights and advice on how advanced technologies can improve Canada's transportation system. And, finally, ITS Canada will ensure that its own internal governance structures and financial operations will sustain the organization into the long-term.

What We Provide

ITS Canada provides a range of services that meet the diverse needs of our members, industry stakeholders and the public at large, We strive to:

- Promote the application of innovative ITS technologies in order to enhance the accessibility, safety, security, efficiency, effectiveness and sustainability of the Canadian Transportation System.
- Provide an authoritative voice for the exchange of ITS-related information and ideas among Canada's transportation industry participants.
- Promote economic activities related to intelligent transportation systems and facilitate marketing and alliance opportunities for our members.
- Organize conferences, workshops, webinars and education regarding ITS for the benefit of our members and the industry.
- Facilitate the compatibility of ITS applications through the development and adoption of appropriate national and international standards and architectures within the industry.
- Develop and maintain partnerships with other transportation organizations and societies around the world.

III. THE STRATEGY

There is no doubt that this new vision and mandate is ambitious. But success can be achieved by following a simple plan of action designed around key strategic goals and objectives. We are setting 3 main goals to frame and guide our activities over the life of this strategy, and we are establishing a number of measurable objectives within each of these goals that will give a clear picture of what success will look like.

Goals, Objectives and Actions

Goal 1 - To be the national organization recognized as the thought leader in ITS, as well as being an important contributor to discussion and resolution of transportation issues in Canada

Being a thought leader means being recognized as having a wealth of knowledge, expertise, experience, and vision in a particular subject matter. It also means that this expertise, experience and vision can be tapped and communicated effectively to influence the thinking of the public, business and government decision makers.

As stated in Sections I and II, the transportation system in Canada is in need of a voice that will convey the importance of seizing the potential of advanced technologies and systems to bring transformative benefits that will dramatically reduce collisions, increase mobility, provide more efficient movement of people and goods, and ensure that transportation's contribution to GHG reduction is significant.

ITS Canada intends to be that voice. Here are our objectives and commitments to ensure that these key messages are communicated:

Objectives for Goal 1:

a) Be current with global and national developments in technological systems and their application to the transportation system

To be credible on the national stage, it will be essential for ITS Canada to remain up-to-date with the fast-breaking global and national developments in technological systems and their application to the transportation system. To do so, we will lever the world-class knowledge, experiences and expertise of ITS Canada's members.

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Action

We will expand on the strategic mandates of our very successful Technical Committees and create new ones as the needs arise. Currently, these include: Advanced Traffic Management, Advanced Traveller Information, Connected and Automated Vehicles, Advanced Public Transit, and Non-transit Revenue Systems. New committees might address Integrated Mobility and Connected Transportation: Smart Cities, Smart Corridors. These Committees will be charged, among other things, with developing policy positions and providing regular reports on developments in Canada and in the international sphere.

b) Development of position statements on critical transportation issues of the day

On June 25, 2014, the Honourable Lisa Raitt, the Minister of Transport, launched the Review of the *Canada Transportation Act* (CTA). The objective of the Review is to provide an independent assessment of Canada's National Transportation Policy. As mandated by the legislation, the Review will be completed before the end of 2015 and a report submitted to the Minister for tabling in Parliament. The Review Panel will solicit views from a broad range of stakeholders. The Review will also examine the global developments and pressures that may create challenges and innovation opportunities for Canada's transportation system, and identify the best practices of other countries facing similar changes.[11]

This presents a major opportunity for ITS Canada and for ITS ***in*** Canada. Not only is there a chance for our organization to contribute to this important initiative on the national stage, it is an opportunity that can't be missed to advocate on behalf of greater deployment of advanced technology systems to address the very issues the Panel is reviewing. ITS Canada will, therefore, need to marshal its resources to prepare key messages and advice for a submission to the Review Panel.

Types of policy issues that could be considered are: What is the role for advanced technologies in Canada's transportation system? How do advanced technology applications save lives, time and money? How do we protect privacy in an increasingly connected environment? Can the security of advanced technologies be protected against cyber-attacks? Is Canada a leader (or laggard) in the adoption of ITS and other advanced technologies? What do public agencies need to do to be prepared for automated vehicles? Who will be responsible/liable for automated vehicles that crash?

Action

We will establish a new Policy Committee that will draw from all parts of our membership (government, academia, business), which will be responsible for compiling position papers for recommendation to the Board. This material can then be used as the basis for submissions to the CTA Review Panel on behalf of the industry and our members.

In addition, Board-approved statements will be made public on our website, and released to media outlets, as well as made available for use by researchers and public policy makers.

c) Be a national advocate for the application of advanced technologies and systems to the Canadian transportation network.

For all the reasons outlined in Sections I and II, ITS Canada must expand on its previous role as a partner with public agencies, engaged in promoting awareness of these advanced technologies, into a new era of actively advocating the next wave of ITS and advanced technology systems that are emerging. This will need to include how these technology-based systems work, their benefits, and where and how to deploy these systems.

Effective advocacy can serve multiple purposes. Through their membership in ITS Canada, organizations and individuals can both contribute to the future of safe, sustainable and effective transportation in Canada as well as promoting their own interests in ITS by easing their entry into the ITS marketplace, evaluating potential partners, finding technology solutions and presenting their products or services to the world.

Action

ITS Canada will launch new efforts into advocating advanced technologies and systems for the transportation system in Canada. It will do so on two fronts: in the domestic arena, and internationally.

On the domestic level, ITS Canada will:

- Promote ITS by exploiting opportunities available to individual members and Technical Committees

- Engage in formal advocacy/marketing of advanced technologies, integrated systems and connected transportation to government representatives at all levels
- Establish links with other national professional bodies such as those already existing with the Canadian Urban Transit Association and the Transportation Association of Canada
- Establish better links with Universities & Research Centres to ensure that new innovations are well understood and promoted, that students understand the contributions ITS makes to society and the need for innovative thinkers to become part of the ITS sector
- Continue to offer ITS scholarships and bursaries
- Promote the 2017 Montreal ITS World Congress at every opportunity

International advocacy efforts will include:

- Providing opportunities to showcase Canadian technologies and services to the world through active participation in foreign trade missions and conferences
- Maintaining strong relationships and fostering formal agreements with other international ITS societies such as those existing with ITS America, ERTICO, ITS Asia Pacific, ITS Netherlands, ITS Singapore, ITS Finland and ITS Australia. Additional agreements will be fostered with international bodies such as the International Road Federation, and active participation in organizations such as the ITS Benefits & Evaluation Committee (IBEC)
- Promoting the 2017 ITS World Congress at every Trade Mission and International Conference attended by ITS Canada representatives and individual members.

d) Active connection and collaboration with other national and international transportation and societal organizations

There are many players that have a role in today's transportation system. These include operators of the airports, ports, road and rail networks, and public transit. They include commercial and private vehicle owners. In an increasingly interconnected and integrated world, there are also many players outside the transport sector that are affected by how it operates and, therefore, have important opinions and views regarding how it must adapt to or support their circumstances.

As an opinion leader, ITS Canada will need to have an understanding of this multiplicity of views. Understanding can lead to important new solutions to difficult questions. It also means that reasoned opinions can be developed that will resonate with multiple audiences. Who better than the national and international organizations that represent these varied viewpoints to have at a common table to discuss shared interests and to identify opportunities for collaboration.

Action

ITS Canada will undertake a new initiative to bring together representatives from sister transportation organizations, as well as from organizations representing other societal interests.

ITS Canada will collaborate with identified organizations in developing common public positions that can be presented as one powerful voice to public policy makers.

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e) Communication of ideas, views and policy statements to media, conferences, public advisory committees, etc.

At annual ITS World Congresses, it is often observed that the language of ITS is unintentionally exclusive – it does not "speak" to the average person and often comes across as complicated. Busy public policy makers and businessmen alike find it difficult to understand this ITS lingo and do not have the time to translate it into usable information.

If ITS Canada is to be successful as a thought-leader, we will need to find ways to simplify our messaging - to convey insights in a manner that uses plain language that can be digested quickly and easily. It will also be essential that we convey messages that are consistent and that, where appropriate, align with the views of other transportation organizations. ITS Canada therefore should serve as the translator to simplify the message while simultaneously conveying a sense of urgency to the relevant stakeholders

Action

ITS Canada will modernize its approach to communications and marketing. This means revitalizing key assets such as the ITS Canada website and incorporating new tools to take full advantage of social media and webinars.

A Communications & Advocacy Committee of the Board will be responsible for developing key messages for public consumption, drawing from the materials created by both the Technical Committees and Policy Committee.

Official spokespersons will be designated that will convey consistent messages on behalf of ITS Canada to the public, the media, domestic and international conferences, in meetings with political decision-makers, and during visits to universities, colleges and research institutes.

Goal 2 - To engage in activities that advance and promote member interests – thereby creating value for members

ITS Canada is a member-based society and providing direct and visible service benefits to its members is a large part of its core business. Examples of these service benefits are:

- Providing opportunity for private companies, academics and government representatives to obtain profile for their work issues and achievements.
- Promoting and encouraging discussion, dissemination of information, marketing, networking, partnering and cooperation among members.
- Representing the common interests of members engaged in the development and deployment of ITS.
- Facilitating the compatibility of ITS applications by identifying and assisting in the development and adoption of appropriate national and international standards and architectures within the industry.
- Collecting, administering and expending funds to promote and support the development of ITS within the Canadian transportation industry.
- Conducting research on behalf of public and private agencies, by using the broad experience base of our members.
- Promoting and supporting the development of legislation and regulation relating to the effective use of ITS in Canada.
- Establishing links and providing a forum for exchange of information with other organizations, agencies and bodies within Canada and in other countries.

Objectives for Goal 2

a) Provide platforms for discussion, networking and collaboration, as well as opportunities for Product/Service demonstration/showcase. Incorporate learning opportunities with annual events and workshops.

The ITS Canada Annual Conference and General Meeting is one of the most successful activities that the Society stages. It is recognized both by ITS Canada members and by international invitees as a winning format that offers opportunity to showcase member products and services; its conference technical program challenges participants to think about emerging issues and also to learn of developments across the nation and around the world; and its networking opportunities give every participant a chance to make connections and explore opportunities for collaboration.

ITS Canada has also had a positive record in running Regional Workshops, webinars and receptions. These activities help make connection across the country, can incorporate international participants and can offer ways to focus discussion on particular issues that arise in today's complex, and interconnected transportation system. They also provide an excellent means to provide learning opportunities for interested participants in target audiences – all levels of government, academia and the corporate world.

Action

ITS Canada will continue to hold an Annual Conference and will consider new themes and subjects for discussion in more targeted regional workshops and webinars.

The Annual Conference, workshops and webinars will also be used to promote themes that will provide the genesis for the program at the ITS World Congress in 2017.

Regional Workshops will be scheduled at least once per year in each region that will present the 'ITS advancements' to local members, to give local SMEs an opportunity to showcase their developments, and to enlist new regional members by demonstrating membership value.

b) Provide On-line Resources

Given the broad expanse of our nation, the costs of travel to various organizational events can be a significant barrier for many of the people that ITS Canada would like to reach – for example small to medium-sized municipalities. For these situations, and to be a recognized repository of ITS-related tools and information, ITS Canada will make more use of the Internet and other on-line resources.

ITS Canada intends to become the repository for much of the technical, best practice and management information pertaining to ITS in Canada. Using wiki-like technologies, ITS Canada will undertake the development of the ITS Body of Knowledge (ITS-BOK) that, over time, will evolve to become the definitive ITS reference library for Canada.

Action

ITS Canada will expand the use of its website to permit its use by the Technical and Policy Committees as discussion fora.

The website could also act as the host for web-based components of the Canadian ITS Architecture. As well as other ITS-BOK elements as they evolve.

c) Actively communicate industry news & information to members

One of the most frequent comments we received during our consultations with our members was the need for better and more frequent communication of industry news and other related developments. We will, therefore, step up our efforts to provide more regular contact using a number of different means.

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Action

ITS Canada will reinstitute its Monthly newsletter to provide regular communication from the Board and its Secretariat. Members will be encouraged to submit articles and case studies for publication. Both the newsletter and the website will be used to provide reports of conferences attended by members and to post news releases of calls for proposals, announcements by member companies and other relevant information.

The newsletter will be updated to a more modern format using specialized tools to selectively broadcast information to members, non-members and other stakeholders.

d) Acting on the Unique Opportunity of the 2017 ITS World Congress in Montreal

The City of Montreal will host the 2017 World Congress on Intelligent Transportation Systems from October 29 to November 2, 2017. The ITS World Congress is a major international event, attracting 7,000-10,000 participants, which features a comprehensive conference program, exhibition, demonstrations and showcases, technical tours and networking events.

The World Congress presents significant financial and strategic opportunities and benefits for ITS Canada as an organization and for its members. It has the potential to achieve visibility for the Society both nationally and internationally. It also offers a means to lever ITS Canada's objectives (1) for ITS to achieve public appreciation and recognition as a key dimension of the Canadian transportation sector; (2) for ITS Canada to achieve growth as a Society; and (3) to add value to membership in ITS Canada, as many opportunities will be emerge for Canadian ITS stakeholders to exploit this event as an international platform for professional development, to exploit their products and services and as a forum to develop export opportunities.

One only has to look back at the 1999 ITS World Congress held in Toronto to appreciate the huge and sustained impact that holding a World Congress in Canada can have on creating public support, enriching member services and increasing national and international visibility.

Action

ITS Canada will make the 2017 World Congress a resounding success through the following steps:

- By working in close partnership with ITS America to actively develop Congress themes, exhibitions, showcases and demonstrations.
- By recruiting new members – those companies and agencies that want to gain the visibility noted above; government officials that want to meet with their international peers to share experiences in policy-making; and academia that also want to present their world class achievements and share experiences with the international research and development community.
- By recruiting sponsors and volunteers to meet performance targets.
- And by levering the strengths of the Technical and Policy Committees to participate in the preparation and staging of the World Congress.

Goal 3 - To be well governed and financially sustainable.

Governance

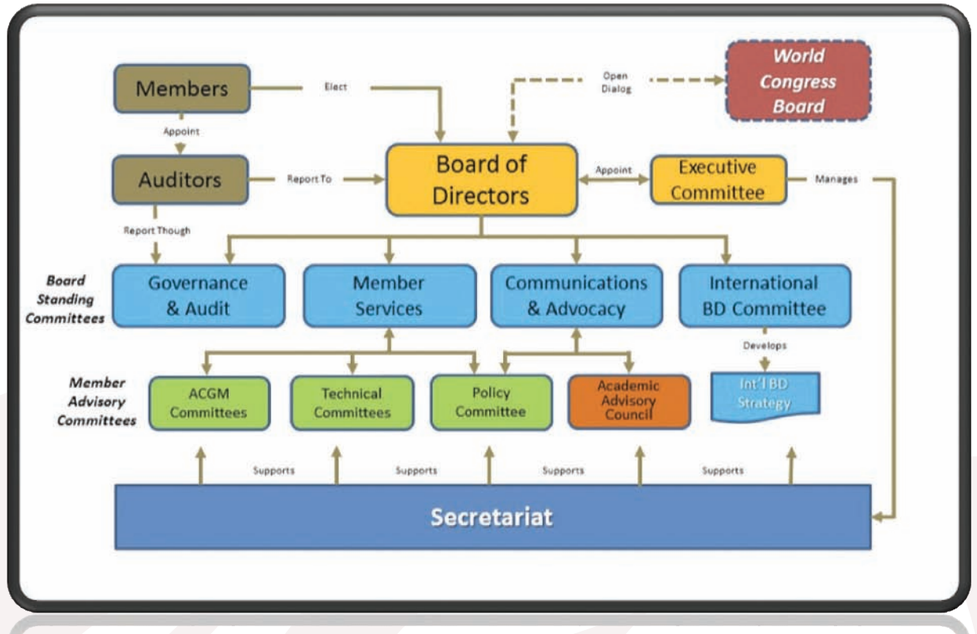
A critical part of any Strategic Plan is the consideration of whether the organization is itself properly set up to be able to deliver on its goals, objectives and commitments. In the case of ITS Canada, little change has been introduced to the basic governance structure since the inception of the organization. One of the key goals at that time was to ensure inclusiveness in Society activities and a large Board consisting of sixteen members. But ITS Canada is now transitioning from its previous role as a neutral party in the transportation discussion, to one that will actively promote the interests of its members and advocate on behalf of investments in the new wave of advanced technologies.

To achieve the goals of this strategy, then, the governance structure of ITS Canada will be substantially reconfigured to ensure that Board members are assigned to committees that can most benefit from their unique skillsets. The following changes are contemplated:

- The Audit Committee will be re-cast as a 'Governance and Audit Committee' that will have primary responsibility for establishing the governance structures required to sustain the Society through the years leading up to the 2017 World Congress and to ensure its long-term success, both financially and in terms of increasing member value. It will also be assigned responsibility of working with

Auditors on the annual Audit Report in conjunction with Executive Committee. This is sound governance practice and will assure members that the financial resources of the organization are also sound.

- A Nominations Committee will be struck in 2014 to manage the elections of new Board members at the upcoming ACGM in the National Capital Region. This committee will be comprised of two representatives from the ITS Canada Board and one Canadian member from the 2017 World Congress Board. A similar Nominations Committee will be struck each two years thereafter.
- The existing Export Committee will be re-cast as the International Business Development Committee with a broader mandate to identify strategic export markets that offer opportunity to commercial entities, research institutes, and public agencies.
- The existing Member Services Committee will be reconstituted to ensure that members' needs are well served and that the focus on the 2017 World Congress does not detract from the critically important goals of increasing member value, member retention and membership growth.
- A new Board committee will be formed as the Communications & Advocacy Committee that will be responsible for developing key messages for public consumption, drawing from the materials created by both the Technical Committees and Policy Committee and for dissemination of ITS Canada positions to media and public agencies. Again, this type of new approach reflects the maturation of ITS Canada as strong advocate for the application of advanced technologies to the transport system. It also recognizes the need for consistent messaging in its communication activities and products.
- The Technical Committees will be given greater prominence as the thought-leaders for the key technical disciplines within ITS. They will be encouraged to develop webinars and fora to disseminate information to members and colleague organizations. Each Technical Committee will be assigned a Board Sponsor to assist the TC Chair in developing their mandate and to garner Board support for planned initiatives.
- An Academic Advisory Council will be formed, from among those leading universities in Canada who offer ITS-related degrees, to provide counsel to ITS Canada regarding Canadian research and innovation leading to ITS technology commercialization.
- ITS Canada will also have some of its Board members participating on the World Congress Board to ensure close cooperation and coordination between the World Congress Organizing Committee and ITS Canada. The Managing Director will also participate in the World Congress Board ex officio and as the Co-Chair of the WC 2017 Finance Sub-Committee with ITS America.



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The following chart illustrates the new governance model for ITS Canada:

Financial Sustainability

Financial sustainability is a second, but no less important, component to ensure that the organization is able to deliver on its goals, objectives and commitments.

Although Canada was not hit as hard as many other countries by the global economic downturn that began in 2008, limited public sector funding and changes to procurement practices have meant a significant reduction in the support that traditional public sector agencies have been able to provide to ITS Canada.

Over the last 3-4 years, this has required ITS Canada to reduce its costs and/or increase its revenues in order to sustain the organization financially into the longer-term. The amount of available resources will also have significant positive or negative effects on whether the organization will succeed.

As we move forward under this Strategic Plan, we will need to be more resourceful in identifying funding sources and potential sponsors for our activities. Our approach, therefore, will be one that focuses on two categories of growth: organic and non-organic.

If World Congress performance targets are met, additional revenues will flow to the Society that should help support its activities beyond 2017. These targets include:

1. Strong financial performance for the 2015 and 2016 ACGMs to ensure that the subsidy received from the 2017 World Congress is fully achieved;
2. Sponsorship revenues from Canadian corporations and public agencies in the amount of $500,000;
3. Exhibition revenues from Canadian Corporations and SMEs that represent 30% of the total of North American exhibitors attending; and
4. Achieve Canadian attendance of 450 full delegate registrations.

Members' involvement and that of other Canadian transportation industry participants will be essential to the financial success of the 2017 World Congress.

Accelerate Organic Growth:

In this case, it is fair to say that ITS Canada needs to improve its performance. Again, with a new wave of technologies and systems coming our way, there are new non-traditional players that are already touching on the world of transportation and that will soon become part of the transportation ecosystem (e.g., Google, telecommunications companies, and Uber come to mind). Under this new Strategy, it will be incumbent on all members to be alert to new opportunities to introduce technology companies to the goals and objectives of ITS Canada and to encourage them to join in – bringing new expertise and fresh viewpoints.

We have also noted earlier that there are likely to be opportunities for interaction with other transportation stakeholders through the Review of the Canadian Transportation Act. This has the potential to reveal a whole new range of potential partners, new member categories, and new industry sectors for ITS.

But Organic Growth is not just about recruitment. It is of equal or greater importance that we work aggressively to retain the members we have – to curtail the attrition that has occurred over the last few years. Naturally, this will depend strongly on member satisfaction – that is why this Strategy is designed to create new opportunities for discussion, networking, and business development.

It has been suggested that ITS Canada should be more judicious in its international activities to preserve operational funds. This, of course, must be balanced against the needs of our International Business Development (IBD) Strategy and our 2017 World Congress promotional efforts.

The details of the organic growth strategy are provided in the following Action Plan in Section IV.

Non-Organic Growth:

It would be unwise however to rely solely on organic growth. In this regard, we see a significant potential on the horizon to strengthen our fundamental financial position through the one-time inflow of profits derived from the ITS World Congress in 2017. This could go a long way to sustaining ITS Canada well beyond 2017 and we are aiming to make this happen.

Another opportunity for non-organic growth will be to reflect on the findings of ITS Canada's Strategic Renewal Task Force. In this case, and in view of the increasingly connected world, it may make sense to explore collaborative and/or joint-venture opportunities with like-minded, non-competing organizations.

To that end, ITS Canada's Board of Directors has, and will continue to reach out to several non-competing associations and other not-for-profit organizations to assess whether potential joint venture opportunities may exist.

IV. ACTION PLAN – IMPLEMENTATION OF THE STRATEGY

The broad strategy statements in the previous section set out the range of activities that ITS Canada will undertake to meet its goals. This section provides the roadmap on how we will implement the strategy.

We have two broad timelines in mind: first, doing all that's necessary to ensure we are ready for the Montreal ITS World Congress in 2017; and second, to establish our national reputation, as well as the links, ties, platforms and other means that will ensure ITS Canada will continue to be a leader on advanced technology issues well beyond 2017.

The following table establishes, at a glance, our Goals, Objectives, and Actions. It also sets out an indication of the Priority assigned to each Action, and the Timelines that will be required to achieve the desired outcome. All of this will be used to guide annual business planning, including the assignment of human and financial resources.

	Goals	Objectives	Commitment	Actions	Priority	Timelines
1.	***To be the national organization recognized as the thought-leader in ITS, as well as being an important contributor to discussion of transportation issues in Canada***	*a) Be current with global and national developments in technological systems and their application to the transportation system*	*Continue and strengthen the mandates of our Technical Committees Currently, these include: Advanced Traffic Management, Advanced Traveler Information, Connected/Automated Vehicles, Advanced Public Transit, and Non-Transit Revenue Systems.*	Committees will:		
			Create new technical committees as the needs arise.	1. Offer discussion platforms for interested members	High	Ongoing
				2. Monitor standards and architecture development processes of international standards agencies to assess their impact on Canadian Transportation network.	Medium	Ongoing
				3. Undertake projects, webinars etc., to enable members and non-members of the Committees to understand the evolving technical directions of the transportation industry	High	Ongoing
				4. Provide white papers on developments in technology both in Canada and in the international sphere.	Medium	Annual (ACGM)

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Goals	Objectives	Commitment	Actions	Priority	Timelines
	b) Development of policy statements on critical transportation issues of the day	*Establish a new Policy Committee that will draw from all parts of our membership (government, academia, business)*	1. Compile position papers for recommendation to the Board's Communications and Advocacy Committee.	High	Ongoing
			2. Use this material as input for any advocacy initiative, including as the basis for a submission to the Canadian Transportation Act (CTA) Review Panel.	High	Ongoing
	c) Be a national advocate for the application of advanced technologies and systems to the Canadian transportation network.	*At the domestic level, ITS Canada will promote ITS by:*			
		Exploiting opportunities available to individual members and Technical Committees	1. Identify key conferences and other meetings that members attend & use these at every feasible opportunity to advance ITS Canada's messages	High	Ongoing
		Engaging in formal advocacy initiatives for advanced technologies, integrated systems and connected transportation to government representatives at all levels	2. Identify key players in relevant public agencies to meet and discuss ITS	Medium	Ongoing
		Establishing links with other national professional bodies such as those already existing with the Canadian Urban Transit Association and the Transportation Association of Canada	3. Consider linking with APMA, iCanada, IRF, IBTTA, AASHTO, etc.	High	Next 4-6 months
		Establishing better links with Universities & Research Centres to ensure students understand the contributions ITS makes to society and the need for innovative thinkers to become part of the ITS sector	4. Work with members from academia to identify opportunities for work-shops, networking and demonstrations	Medium	Next 2-3 years
		Continuing to award ITS scholarships and bursaries	5. Encourage academic community to take a role on the ITS Canada Board	Medium	Next 2-3 years
			6. Establish Academic Advisory Council to provide input regarding member programming and common initiatives	Medium	Next 2-3 years
		ITS Canada will promote international advocacy efforts including:			
		Providing opportunities to showcase Canadian technologies and services to the world through active participation in foreign trade missions and conferences	1. Identify priority markets with input from members and incorporate into the International Business Development Strategy	High	Annually
			2. Work with public departments and ministries to seek funding opportunities to support trade missions	High	Ongoing
			3. Facilitate the matching of members with potential partners in priority markets	High	Ongoing
			4. Collaborate on key initiatives including the full cycle of ITS World Congresses	Medium	Ongoing

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Goals	Objectives	Commitment	Actions	Priority	Timelines
		Maintaining strong relationships with international bodies such as ITS America, ERTICO, ITS Asia Pacific, IRF, and ITS Benefits & Evaluation Committee (IBEC)	1. Identify key conferences and other meetings that members attend & use these as opportunities to advance ITS Canada messages	High	Ongoing
	d) Active connection and collaboration with other national and international transportation and societal organizations	*ITS Canada will bring together representatives from sister transportation organizations, as well as from organizations representing other societal interests*	1. ITS Canada will collaborate with identified organizations in developing common public positions that can be presented as one powerful voice to public policy makers.	Medium	Periodic
	e) Communication of ideas, views and policy statements to media, conferences, public advisory committees	*ITS Canada will modernize its approach to communications and marketing.*	1. Institute a Communications & Advocacy Committee of the Board	High	Immediate
			2. Revitalization of key assets such as the ITS Canada website and incorporating new tools to take full advantage of social media	High	Ongoing
			3. Develop key messages for public consumption, drawing from the materials created by both the Technical and Policy Committees.	Medium	Ongoing
			4. Designate official spokespersons that will convey consistent messages on behalf of ITS Canada and provide suitable media training	Medium	Immediate
			5. Actively seek opportunities to be cited in print and electronic media on matters related to technology in the transportation industry	Medium	Ongoing

	Goals	Objectives	Commitment	Actions	Priority	Timelines
2.	***To engage in activities that advance and promote member interests - creating value for members***	*a) Provide platforms for discussion, networking and collaboration, as well as opportunities for Product/ Service demonstration/showcase. Incorporate learning opportunities with annual events and workshops.*	*ITS Canada will build on success of the Annual Conference to further enhance its value to members and to grow the organization*	1. The Annual Conference, workshops and webinars will be used to promote the national transportation interest, the themes of interest of the members and that will provide the genesis for the program at the ITS World Congress in 2017	High	Annual
			Convene more targeted regional workshops and webinars	1. Conduct Quarterly Webinars nationally	High	Ongoing
				2. Conduct Regional Workshops	High	Ongoing
				3. Form regional advisory councils	Medium	Ongoing
		b) Provide Online Resources	*ITS Canada will expand the use of its Virtual Boardroom to support committees*	1. The Communications & Advocacy Committee, Policy Committee and World Congress Sub-Committees will use VB as a discussion fora	High	Ongoing
		c) Actively communicate industry news & information to members	*ITS Canada will provide regular communication to members*	1. Reinstitute the monthly Monthly newsletter	High	Ongoing
			Members will be encouraged to submit articles and case studies for publication.	2. Actively solicit member input for newsletters, website and newsbriefs	High	Ongoing
			News items also to be gathered from other electronic media sources	3. Develop editorial team for review of trade press for gathering articles of general interest	High	Ongoing

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Goals	Objectives	Commitment	Actions	Priority	Timelines
		Both the newsletter and the website will be used to provide reports of conferences attended by members and to post news releases of calls for proposals, announcements by member companies and other relevant information	4. Solicit conference and event reports from members	High	Ongoing
	d) The Unique Opportunity of the 2017 ITS World Congress in Montreal	*Working in close partnership with ITS America, ITS Canada will make the 2017 World Congress a resounding success through the following steps:*			
		Working in close partnership with ITS America to actively develop Congress themes, exhibitions, showcases and demonstrations.	1. Staff the relevant sub-Committees of the Organizing Committee	High	Immediate
			2. Develop the Business Plan and Budgets for the 2017 World Congress in conjunction with our ITS America partners to meet specific performance requirements.	High	Immediate
			3. Execute the World Congress Business Plan	Medium	Ongoing
		Board members and all members will be encouraged to actively recruit sponsors, exhibitors and delegates.	1. Each Board member will recruit at least 5 corporate sponsors.	Medium	Ongoing
			2. Ensure World Congress Participants understand the benefits of ITS Canada membership and submit all contacts for inclusion in non-member database.	Medium	Ongoing
			3. Convert sponsors exhibitors and delegates to new members	Medium	Ongoing

Goals	Objectives	Commitment	Actions	Priority	Timelines
		Use the Technical and Policy Committees to participate in the development of the World Congress programs.	1. Make specific proposals to the International Program Committee	Medium	Ongoing
3.	***To be well governed and financially sustainable.***	*a) Restructuring of the governance model*	*Recast Audit Committee into Governance & Audit Committee*	1. Conduct Board Skills Assessment to determine board capabilities required for effective governance of ITS Canada, carry out the mission, goals and objectives of the Strategic Plan, and to influence outcome of 2017 World Congress.	High	Immediate
				2. Review Bylaws and make recommendations for changes at ACGMs.	High	By 2015 ACGM
				4. Review annual budgets and Auditor's Report and advise Treasurer of recommended changes to investment strategy, accounting practices or financial controls.	Medium	By 2015 ACGM
				3. Conduct evaluation function on achievement of performance metrics as developed by Executive Committee against this Action Plan.	Medium	By 2016 ACGM
			Convene a Nominations Committee	1. Recruit members for 2015 nominations committee, including one member from the 2017 WC Board, and develop Board recruitment strategy against Board Skills Assessment matrix.	High	Immediate
			Recast Export Committee to International Business Development Committee	1. Update International Business Development Strategy and identify potential GOA partnering opportunities.	High	Immediate
				2. The newly renamed IBD Committee will lead the development of the strategy and also assist in developing funding applications (GOA, etc.)	High	Immediate

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Goals	Objectives	Commitment	Actions	Priority	Timelines
			3. Approach provincial Economic Development ministries to ensure that they are aware of our International Business Development Strategy (IBDS) is well marketed across the country.	Medium	Ongoing
		Create new Communications and Advocacy Committee	1. Develop committee charter and recruit Board members with strong transportation policy, communications and advocacy experience.	Medium	To coincide with formation of Policy Committee
			2. Develop Communications and Advocacy Strategy and execute		
		Give greater prominence to the Technical Committees and the Policy Committee as the thought-leaders for the organization.	1. They will be encouraged to develop webinars and forums to disseminate information to members and colleague organizations.	High	Ongoing
			2. Each Technical Committee and the Policy Committee will be assigned a Board Sponsor to assist the Chair in developing their mandate and to garner Board support for planned initiatives.	High	Ongoing
		An Academic Advisory Council will be formed, from among those leading universities in Canada who offer ITS-related programs.	To provide counsel to ITS Canada regarding Canadian research and innovation leading to ITS technology commercialization.	Medium	Ongoing
		Participation in World Congress Board of the Americas	1. ITS Canada will also have two of its Board members participating on the World Congress Board to ensure close cooperation and coordination between the World Congress Organizing Committee and ITS Canada.	High	Immediate
			Managing Director will also participate in the World Congress Board ex officio and as the Co-Chair of the WC 2017 Finance Sub-Committee with ITS America.	High	Immediate

Goals	Objectives	Commitment	Actions	Priority	Timelines
	b) Organic Growth for Financial Sustainability	*Active recruitment across multiple transportation-related business sectors to:*	1. Identify new market segments that should be aware of ITS Canada and develop targeted marketing materials and engagement plans for each segment.	High	Immediate
		a) Identify new membership sectors	2. Develop focused membership recruitment marketing materials in conjunction with ACGM planning and marketing phases.	High	Immediate
		b) Increase member growth	3. Develop quarterly webinar series to attract new members and inform existing members.	High	Immediate
		c) Ensure member retention	4. Conduct focused marketing campaigns to identified transportation market segments	Medium	As budgeted
			5. Develop focused approach to Technical Committees' membership growth to embrace a majority of transportation-industry participants across Canada	High	Immediate
			6. Expand Technical Committees as new business sectors are identified and topical subject areas are revealed	Medium	As required
			7. Initiate Policy Committee across multiple regional jurisdictions. Expand to include input from Regional Advisory Councils to ensure broad representation across Canada.	Medium	12-18 months
			8. Creation of new ITSC Policy Committee should become the engine for new directions for ITS Canada to begin to formulate position papers and policy directions.	High	Ongoing

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Goals	Objectives	Commitment	Actions	Priority	Timelines
			9. Engage all members to be alert to new opportunities to introduce technology companies to the goals and objectives of ITS Canada and to encourage them to join in – bringing new expertise and fresh viewpoints.	High	Ongoing
			10. Include a feedback loop to ensure that initiatives respond to Member needs/requests	High	Ongoing
			11. Tap into existing ITS academic networks, eg.: DIVA Strategic Network (http://nsercdiva.com/), Active Aurora Test Bed, Green ITS initiative at UWaterloo and encourage them to provide us with updates on their progress at our ACGMs.	Medium	6-12 months
		Work aggressively to retain and grow existing member base through demonstrating increased member value	1. Identify member needs by category of membership and industry sectors through surveys and regional workshop consultations.	High	Ongoing
			2. Ensure that annual meeting programs, technical committees' focus, communications and educational offerings (webinars, training, etc) are well tuned to identified member needs.	High	Ongoing
			3. Member services expanded to include insurance coverage for professional liability (errors & omissions) and own-occupation disability and critical illness coverage for professionals.	High	Ongoing
			4. Expand member communications to include monthly newsletters (ITS Canada CONNECTS), frequent web site updates, advocacy updates, conference attendee summaries, etc.	Medium	12-18 mos
			5. Increase social media presence through discussion groups, young professionals' outreach, targeted media events, etc.	High	Immediate
			6. Continue to assist member companies interested in export marketing opportunities and/or research and development funding to connect with appropriate federal and provincial incentive programs.	High	6-12 mos
			7. Annually engage IBD Committee in development of IBD Strategy.	High	Ongoing
			8. Conduct annual member satisfaction surveys against needs of specific market segments.	High	6-12 mos
			9. Build on 2017 World Congress sponsor and exhibitor recruitment efforts to enlist new members and encourage their participation on ITSC Board and committees.	Medium	6-12 mos
			10. Organize regional meetings with regional ITSC champions in five regions: BC, Prairies ON, QC and Maritimes. Incorporate all five Technical Committees at each session to encourage membership	Medium	Ongoing
		Seek new revenue streams and opportunities	1. Expand ITS Course offerings to allied organizations such as IMSA and AQTR. Encourage additional course offerings to generate additional royalty earnings.	High	Ongoing
			2. Aggressively pursue outsourcing arrangement with Transport Canada to see ITS Canada host the ITS Architecture for Canada and the cornerstone of the ITS-BOK strategy.	Medium	Ongoing

Goals	Objectives	Commitment	Actions	Priority	Timelines
			3. Expand web site to include active solicitation of employee recruitment and service procurement advertising for member companies and agencies.	Medium	Ongoing
			4. Offer additional programs like the Connected and Autonomous Vehicle summits in other parts of Canada (esp. as pertains to the various test bed centres of activity), eg. BC, Alberta, Quebec.	High	2nd Half 2015
			5. Conduct Vendor Showcase sessions with potential to run similar showcases in other parts of Canada.	High	Immediate
			6. Organize small-scale technology demonstrations at ACGM 2015, ACGM 2015/16 to get the automotive industry involved, as lead-ups to the Technology Showcase at the Montreal ITS WC 2017.	High	Coincident w 2015 ACGM
			7. Explore similar Technology "Showcase on the Hill" session for government in Ottawa, concurrent with 2015 ACGM, to engage parliamentarians.	High	Immediate
			8. Expand membership to other transportation industry sectors, such as automotive, freight commercial vehicle operations (CVO), aerospace, etc.	Medium	Target new segments for ACGM promotions
			9. Leverage involvement in Review of Canadian Transportation Act and 2017 World Congress promotion to expose other transportation industry segments to ITS Canada.	High	Ongoing
			10. Outreach to other associations at Executive Director level to establish solid working relationships	Medium	Ongoing

END NOTES

1 Moore's Law contends that computer processing speeds double every 18 months, one manifestation of the wider trend that all technological change occurs at an exponential rate

2 "Hot Spots 2025: Benchmarking the Future Competitiveness of Cities", a report prepared by the Economist Intelligence Unit for Citibank.

3 The urban population in 2014 accounted for 54% of the total global population, up from 34% in 1960, and continues to grow. The global urban population is expected to grow approximately 1.84% per year between 2015 and 2020, 1.63% per year between 2020 and 2025, and 1.44% per year between 2025 and 2030. That means by 2030, more than 70% of the world's population will live in cities. From the World Health Organization, Global Health Observatory

4 The Canadian Encyclopedia, http://www.thecanadianencyclopedia.ca/en/article/urbanization/

5 KPMG LLP, "Me, My Car, My Life . . . in the ultraconnected age", 2014, kpmg.com/automotive.

6 Rodrigues, J.; Domingos, T.; Giljum, S.; Schneider, F. (2006). "Designing an indicator of environmental responsibility". *Ecological Economics* **59** (3). doi:10.1016/j.ecolecon.2005.10.002.

7 Greenhouse Gas Emissions from Private Vehicles in Canada, 1990-2007, Environment Accounts and Statistics Analytical and Technical Paper Series (16-001-M, no. 12); Statistics Canada, 2012.

8 Tiffany Dovey Fishman, "Digital-Age Transportation: The Future of Urban Mobility", Deloitte University Press, 2012. More information may be obtained by contacting:
William D. Eggers, Director, Public Sector Research, Deloitte Services IPhone: +1 202-246-9684Email: weggers@deloitte.com

9 There are many initiatives around the world that are implementing highly integrated, connected systems and that are demonstrating documented efficiency, safety and environmental gains.

See, for example, the Integrated Corridor Management Program of the US Department of Transportation, or the paper by Loh Chow Kuang, "Singapore's Approach to Developing a Sustainable, Integrated Transport System" at http://siteresources.worldbank.org/INTURBANTRANSPORT/Resources/340136-1170259767877/kuang.pdf

10 "Discussion Paper: Canada Transportation Act Review", Government of Canada, September 18, 2014. See http://www.tc.gc.ca/eng/ctareview2014/discussion-paper.html#global

11 Ibid.