



Transformation and Technology Plan 2011/12 – 2013/14







What does the **future** hold
for **transportation**?

Can you imagine...

...a car that drives you to work instead of you driving it.

...a highway that communicates to your vehicle about
congestion, crashes, road conditions and more.

...never, ever being lost.

...everything you need to know to get there...
in the palm of your hand.

...ships that talk to trucks that talk to trains
that talk to planes.

...travelling on a transportation system that
actually thinks, talks and listens.



A Message from the Deputy Minister



An innovative transportation system is the key driver of a strong economy and provides access to goods and services while allowing family and friends to connect locally and around the world. Whether we walk, cycle, drive, fly, or take transit, we rely on an effective transportation system to get us to our destination safely and as a means to enhance our quality of life.

Infrastructure has always been the backbone of solid transportation systems; however, in today's world we must look beyond simply providing infrastructure and focus on how technology can shape and improve our systems to ensure safety, promote livable cities and support green initiatives.

British Columbia's own technological transformation is leading the world. We have the world's only fleet of hydrogen fuel cell buses, the largest fully-automated rapid transit system on the planet, a world class traveller information program in DriveBC and state-of-the-art commercial vehicle Weigh-in-Motion green light technology.

Technology choices have also made our ministry much more effective in providing public services. Our remote weather stations have improved traveller information and forecasting for our maintenance contractors. Better Geographic Information Systems design and collision prediction modelling have allowed us to build safer, more effective highways, such as the Sea to Sky Highway. Our social media program is opening our doors to the public and providing them with the up-to-the-minute information they demand.

We are only just beginning.

For passengers, the ministry is working with other agencies and organizations on initiatives such as Smart Highways: systems that actively communicate with drivers and directly with vehicles, thereby improving safety and mobility. The ministry is also part of developing research into driverless vehicles, already being used in North America, and the new and exciting field of real-time traffic information that will be communicated directly to drivers through an Integrated Traffic Management Centre.

To support trade and shipping, the ministry will use new technologies to build on the successes of the Pacific Gateway by creating a more reliable and efficient transportation and logistics system. Ships, trains, and trucks will communicate as never before and transfers will be managed seamlessly, reducing travel time and cost. Technology will strengthen our competitiveness and secure our position as the Gateway of choice for North America.

This is the Ministry of Transportation and Infrastructure's Transformation and Technology plan: a three year plan to transform transportation services for British Columbians and the world. The ministry has always used new technologies and engineering advances to improve our transportation network. Over the next three years, we will focus on integrating two-way information systems and intelligent infrastructure to engage citizens and industry and provide the best service of any transportation authority in the world. It is our vision of the future of transportation and our plan to make it a reality for British Columbia.

Peter Milburn

Deputy Minister

Ministry of Transportation and Infrastructure



Chapter 1

Imagining the Future of Transportation in B.C.

Today's B.C. Transportation Network

British Columbia's transportation network connects all four corners of the Province, including island communities, and integrates highways, ports, airports, transit systems, buses and more.

From wagon trails to super highways, the Ministry of Transportation and Infrastructure has been serving the citizens of B.C. for 150 years.

As a matter of fact, many of our existing roads follow the same routes as the first wagon trails of the 1860's that connected California, Europe and Asia to the heart of the gold rush. **For 150 years we've been about moving people and goods provincially, nationally and internationally.**

Today it's hard to find any resemblance to those initial wagon trails because from the beginning, we have been imagining and realising new ways to ensure the safe, reliable and efficient movement of people and goods.

From the implementation of one of North America's first traveller information website, www.driveb.ca, to cantilevered highways that make four-laning mountain passes possible where it was once impossible. From the development of the world's largest driverless rapid transit system to the use of transponders and intelligent systems that move goods

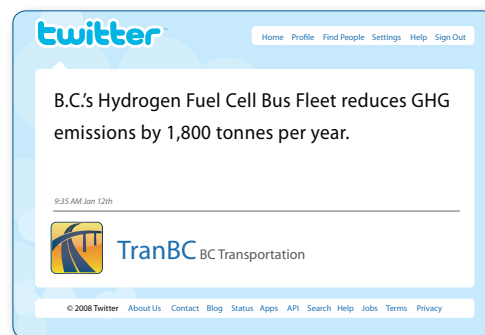
to and from market faster than ever. From the cutting edge safety engineering that has reduced collisions by 40% to a world leader in reducing carbon emissions by investing in recycling asphalt technologies, the Ministry of Transportation and Infrastructure and its partners have been transforming transportation.

Imagining has made B.C. a leader in supporting green transportation technology with the only hydrogen fuel cell bus fleet in the world, reducing greenhouse gas (GHG) emissions by 1,800 tonnes per year. **Imagining**

drove transit improvements, resulting in 20 million new trips per year on B.C.'s transit system. **Imagining created the Pacific Gateway Strategy**, reducing international shipping time from Asia to North America by 58 hours through the Port of Prince Rupert. **Imagining is allowing us to weigh commercial trucks at highway speeds** and is building partnerships such as

the New West Partnership, which is transforming B.C.'s role in the world market.

These are just some of the things we imagined yesterday, that are realities today.





Transportation for Tomorrow

Underlying all that transportation is, does and will do is our commitment to provide an integrated transportation network that ensures the safe, reliable and efficient movement of people and goods within B.C., and between markets and destinations beyond. The strategies and actions included within this plan build on this foundation.

British Columbia, like the rest of the world, is changing at a rapid pace and so must the transportation network critical to its success.

Innovations in information systems and access, such as social media, safety engineering and intelligent infrastructure are combining with the realities of an aging demographic. "Mobile" citizens and an interconnected world economy means, more than ever, that people want to know what is happening, when it is happening and where it is happening. This is critical in order to make day-to-day decisions that improve quality of

life and marketplace competitiveness. Given that transportation is the government service that citizens interact with the most, **the Ministry of Transportation and Infrastructure must be a model of citizen engagement and service innovation in the BC Public Service. British Columbians will accept no less; nor should they.**

The Ministry of Transportation and Infrastructure continually looks for opportunities to improve service delivery. Over the last 10 years, we have undertaken a deliberate assessment of our business practices, both embracing new tools that improve customer service and implementing procedures that realize efficiencies throughout the organization. This focus on process and technology has become part of the culture of the ministry and will continue to be a priority for us into the future (our complimentary workforce plan will assist in these efforts as well).

We recognize that the men and women that make up our ministry are critical to our success today and tomorrow.

Since 2005, the ministry has aggressively recruited and developed over 150 technicians



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Improvements in safety engineering have reduced collisions by 40% since 2001.

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and engineers through the Technician Entry-Level Program and Engineer in Training Program. The ministry is committed to continuing to maintain our work force through this progressive strategy.

Currently the ministry has more than 200 employees under the age of 35 with another 40 to be added this year. **These employees at the early stages of their careers, combined with an established professional and experienced workforce, is the perfect combination of field expertise and new ideas necessary for transforming B.C.'s transportation sector.**

The ministry will continue to lead technology development in the engineering and construction of the physical transportation network; to build partnerships with key stakeholders both within and outside B.C.; to ensure legislation creates a business environment that supports growth and investment while protecting safety and the environment; and to engage citizens and industry in the services provided. But, we will do this as never before by integrating two-way information systems and intelligent technologies into the day to day business of transportation. **Not only will we provide information important for day-to-day transportation decisions in new and improved ways but we will also provide citizens and industry open access to data that will enable them to participate in the creation of the future.** Information like traffic counts, collision information, network design and



construction plans, historical weather data and highway images, infrastructure dimensions, photo logs and construction videos, trip timings, and more will be readily available to the public through open data rooms in partnership with the Ministry of Citizens' Services.

Understanding and implementing technologies that will create a new type of two-way communication and open data sharing with the citizens of B.C. will necessarily result in a change in how we interact with them. Communication will have more immediacy both in how we receive it and in how we respond to it. This will affect business processes within the ministry, and as we progress through our transformational process, we will be better able to understand and adjust to changes required.

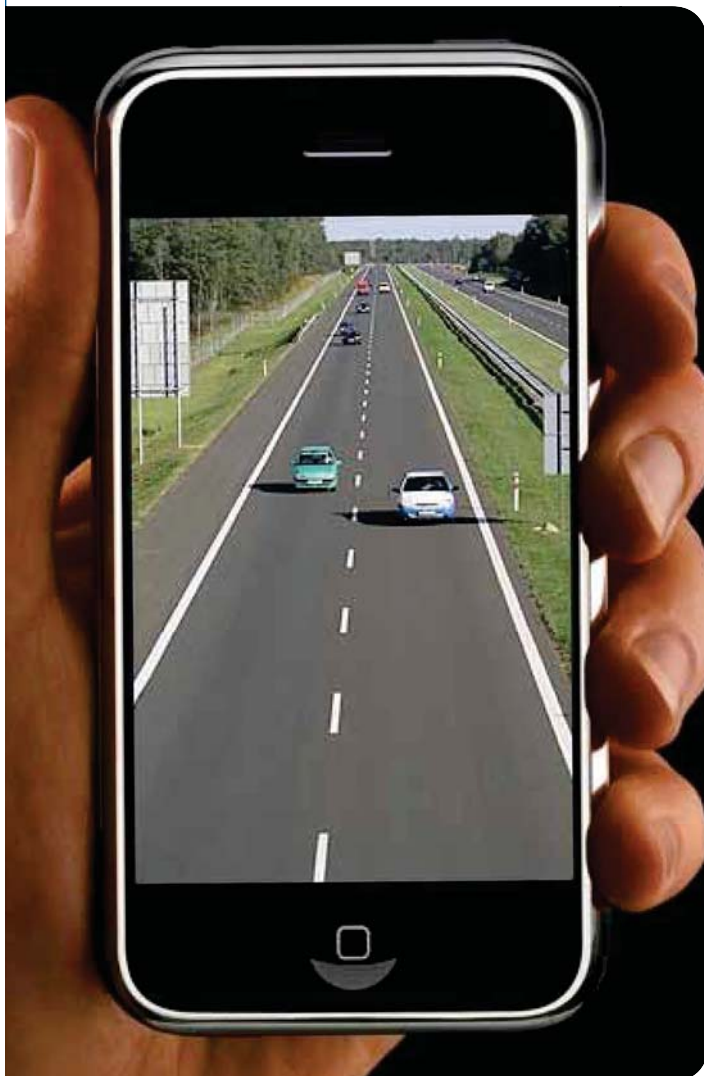


The ministry developed three building blocks that describe the themes that will move us forward. Our strategies and actions were developed using the three principles outlined in Gov 2.0; empowering citizens to create value from open government data, saving citizens' time and making it easier to access services, and encouraging collaboration within the public service.

The building blocks of tomorrow's transportation transformation are:

1. **Engaging citizens in two-way, real-time dialogue and open data sharing.**
2. **Becoming world leaders in goods movement and tracking.**
3. Integrating **smart highways technologies** into the network.

Chapter 2: Transforming Our Tomorrow outlines the specific strategies and actions associated with each of these building blocks.





Chapter 2

Transforming Our Tomorrow

Chapter 2: Transforming Our Tomorrow identifies the strategies and actions required to achieve the three building blocks, identified in Chapter 1. Not only will these strategies and actions transform the services we provide to citizens and industry, they will transform how we deliver them.

In transforming our tomorrow, the ministry will engage other ministries, like the Ministry of Tourism, Trade and Investment, the Ministry of Education, the Ministry of Citizens' Service and more, to find innovative synergies.

By utilizing cellular signals, global position systems (GPS) and other remote communication technologies, we will expedite access to critical transportation network traveller information and minimize physical data collection requirements.

No longer will you physically need to count vehicles to know traffic volumes on many routes. Providing two-way commuter and industry mobile apps and transportation network data in open data rooms will shift employee resource requirements away from typical phone, office, email and mail interactions to more mobile and web-based interactions requiring associated training and skills development. **Open data access will allow citizens to use our data to create products not thought of yet.** Using intelligent infrastructure within the transportation network will require the transportation

service and supply sector to be more creative in product development. This will be necessary to ensure power supply and remote connectivity over a large, geographically dispersed province with extreme weather and topography. It will also require the engineering sector to design infrastructure differently in the future.

Connecting ports, airports, ships, trains, trucks and cars with web-based tools will require the ministry to form closer industry bonds within B.C. and beyond.

Building a transportation network that speaks to vehicles will require close attention to vehicle manufacturer research and development around the world and employees that understand the engineering implications to our transportation network.

The future of transportation will continue to require the core expertise so critical to what we do, planning, engineering, construction and maintenance, citizen service and the many roles that support these functions.





But exactly how this expertise is applied will transform along with our transportation network. In order to ensure the ministry is resourced for the future, we have also prepared a complementary and comprehensive Strategic Workforce Plan.

Each building block integrates the three fundamental shifts identified in Gov 2.0; Citizen Participation (CP), Self-Service (SS) and Business Innovation (BI) with linkages to each strategy identified. These building blocks are:

1. Citizen Engagement – A Two-way Dialogue and Open Data Sharing

Saving citizens time and money by engaging in two-way real-time dialogue using mobile apps, utilizing smart highway signage with **real-time messaging, providing social media tools, and creating value using transportation open data rooms to encourage business innovation and participation.**

2. World Leaders in Goods Movement and Tracking

Connecting the goods movement supply chain with technology tools to share up-to-the-minute information about ships, planes, trains and trucks. Providing real-time information on goods arrival times will increase efficiency and reliability, and maximize competitiveness in the industry.

3. Smart Highways Technologies

Integrating smart highways technologies into the transportation system to **improve safety and efficiency by connecting the physical network with emerging information technologies. This includes cellular data modelling, crash prediction modelling, intelligent vehicle development, and real-time, local information on weather, schedules, conditions or other network impacts, which will completely transform not only the service on the network but how we do business.**



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In the future, cars and highways will talk to each other, making driving safer and less congested.

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Chapter 2 details 14 strategies that chart the course for accomplishing transportation transformation over the next three years. These strategies are:

BUILDING BLOCKS	STRATEGIES	LINKAGE TO 3 SHIFTS
Citizen Engagement – A Two-way Dialogue and Open Data Sharing	1. Continue to participate with Ministry of Citizens' Services and others in providing open data access to all transportation network related data – such as traffic counts, webcam images, collision information, network design details, weather data, photo logs and more.	CP, SS, BI
	2. Engage private sector, citizens and industry in the development of road and transit user mobile apps that inform and engage the individual commuter.	CP, SS
	3. Enhance the DriveBC website utilizing cutting-edge map interface, adding in layers such as weather and congestion information, integrating social media tools and reducing manual data entries.	CP, SS, BI
	4. Continue to develop a full suite of social media tools and build a social media work unit that connects with, and builds on, resources across ministries	CP, SS
	5. Expand the webcam program to add an additional 30 webcams per year over the next three years. Introduce user controlled webcams and multipurpose data collection cams to reduce manual data collection.	BI, SS
World Leaders in Goods Movement	6. Continue to engage industry and key partners in the development of web-based, multi-modal goods tracking system that connect with existing industry and sector tracking tools and is accessible anywhere and any time.	CP, SS
	7. Expand the Weigh2GoBC program by doubling the number of transponders in the marketplace each year over the next three years. This technology will keep truckers moving, saving them time and reducing fuel consumption. It will also provide staff real-time access to safety records.	CP, SS
	8. Develop mobile apps tailored for the commercial transport industry that enables on-line remote permitting, oversized load route planning and load restriction information. This will provide industry with 24/7 access to services and make more efficient use of staff resources.	CP, SS, BI



BUILDING BLOCKS	STRATEGIES	LINKAGE TO 3 SHIFTS
Smart Highways Technologies	9. Continue to utilize collision prediction modelling on all expansion projects valued at >\$20 million in addition to collision history.	BI
	10. Install intelligent highway signs at key decision locations throughout the province that provide congestion, road condition, travel advisories, and weather and routing information to motorists.	CP, SS
	11. Implement transit Smart Cards that streamline commuter flow, allow for strategic route planning for congestions, and provide the citizens an electronic billing processes.	BI, SS
	12. Utilize cellular data and GPS tracking information to provide citizens with real-time access to traffic congestion monitoring for trip planning, both for transit users and vehicle drivers, and to identify traffic patterns and speed profiles to support transportation planning.	BI
	13. Continue to establish a multi-agency, state-of-the-art traffic management command centre in Metro Vancouver, built on the model used during the Olympics, to centrally manage all intelligent traffic infrastructure under one roof and provide a coordinated response to traffic incidents.	BI
	14. Engage the automobile industry to identify infrastructure and system requirements that will support the advancement of driverless vehicles.	CP, BI



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2,500 members registered to the Weigh2Go Program since fall of 2010.

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Building Block 1: Citizen Engagement – A Two-way Dialogue and Open Data Sharing

B.C.'s mountains, lakes, rivers, valleys, plateaus and oceans definitely make it The Best Place on Earth. Mother Nature has blessed our province, but she can also make travel a challenge. From the issues of congestion in urban areas, to extreme winter weather, to natural events like rock slides, floods and forest fires, the best laid travel plans can sometimes be interrupted. As such, **the more we connect citizens with the transportation network, the better their travel experience will be.**

Cellular phone usage is rapidly expanding along with the power and function of the cellular technology. As British Columbians adapt to the possibilities a growing cellular market provides, so does their expectation for on-line services and instant information. And when do citizens rely on mobile phone the most? When they are travelling! **This obvious connection between mobile phones and transportation provides a world of possibilities for the Ministry of Transportation and Infrastructure.**

Mobile apps will be part of our future, from apps that build on the success of www.drivebc.ca and



allow citizens to route plan with ease to apps that show webcams and provide real-time tracking of buses, trains, planes and ships. We will not only provide information but will encourage the sharing of information. Imagine getting a DriveBC "tweet" and webcam shot to your phone that warns you about a winter storm on the highway you're about to drive. What if, at the same time, a citizen travelling that highway responded with up to the minute conditions and a photo? **Imagine how informed and connected travellers would be if the entire population of B.C. became a source of real-time information about their travel experience.**

By providing information for citizens to access, the ministry recognizes and respects that different data sets will provide different benefits. By engaging people in a dialogue to understand the data that is important to them and the ways in which they want to use it, we can provide opportunities for creativity and innovation. This will empower individual decision making, saving citizens time and adding value to their lives.





Over the next three years we will:

Building Block 1: Citizen Engagement – A Two-way Dialogue and Open Data Sharing

STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
1	Continue to participate with Ministry of Citizens' Services and others in providing open data access to all network related data – such as traffic counts, webcam images, collision information, network design details, photo logs, weather data, survey and registered plan info, closure and delay info and more.	Continue to participate on the Data BC project. Identify the data sources within TRAN and our partners (ie: B.C. Transit, TransLink, and B.C. Ferries) and compile the data. Establish a work plan in conjunction with partner ministries that identifies which data set can be made available, how and by when.	Implement the work plan in partnership with other ministries.	Continue to expand Open Data.
2	Engage citizens and industry in the development of road and transit user mobile apps that inform and engage the individual commuter.	Further develop and implement a project plan and continue to engage citizens and industry. Develop webcam app, and high mountain pass weather app. (citizens have already identified these as priorities).	Facilitate the development of "Next Bus" Transit apps, Ferry Tracker apps. Develop DriveBC route planner/congestion tracker app, oversized route planner apps and border crossing apps.	Implement "Next Bus" Transit apps, Ferry Tracker apps and other apps as determined through citizen engagement.
3	Enhance the DriveBC website utilizing cutting edge map interface, adding in layers such as weather and congestion information, integrating social media tools and reducing manual data entry (building on the almost three million hits per month).	Refine interactive web-based map interface and build subscription functionality to allow customized regional or route information subscriptions.	Develop additional functionality that layers weather, road restriction, congestion, route dimensions and more on the map interface.	Actions will be determined by available emerging technology in year three.



Building Block 1: Citizen Engagement – A Two-way Dialogue and Open Data Sharing

STRATEGY	ACTIONS		
	YEAR 1	YEAR 2	YEAR 3
4 Continue to develop a full suite of social media tools and build a social media work unit that connects with and builds on resources across ministries.	<p>Finalize development of social media work unit and continue to identify and build expertise within the ministry.</p> <p>Collaborate with other Ministries and transportations agencies.</p> <p>Build on www.tranbc.ca, TRAN Youtube, TRAN Flickr and other social media tools to connect with citizens to actively and regularly seek citizen and industry input on services.</p> <p>Build a Social Media Strategy that establishes the vision, objectives, strategies and actions for the following two years.</p>	<p>Implement the Social Media Strategy that establishes the vision, objectives, strategies and actions for the following two years.</p>	<p>Measure the effectiveness of the program and revise strategy.</p>





Building Block 1: Citizen Engagement – A Two-way Dialogue and Open Data Sharing

STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
5	Expand the webcam program to add an additional 30 webcams per year over the next three years. Introduce user controlled webcams and multipurpose cams (building on the 171 currently in service).	Engage with citizens and industry to prioritize webcam locations. Install 30 webcams. Incorporate user controlled webcam technology into all new webcam installations. Assess potential of incorporating weather data collection and traffic volume data collection at webcam sites.	Engage with citizens and industry to assess feedback from year one and prioritize webcam locations for year two. Install 30 webcams. Incorporate user controlled webcam technology into all new webcam installations.	Engage with citizens and industry to assess feedback from year two and prioritize webcam locations for year three. Install 30 webcams. Incorporate user controlled webcam technology into all new webcam installations. Assess functionality of pilot locations and determine if further installations will benefit the public and the ministry.

Building Block 2: World Leaders in Goods Movement and Tracking

B.C. enjoys a geographic advantage in the world market on the movement of trade between North America and the largest trading partners in Asia. Our ports are up to 58 hours closer than ports on the west coast of the United States. Additionally, **the province's Asia Pacific Gateway Strategy has connected provincial, national and international manufacturers, shippers, receivers, marketplaces and consumers and created a demand for supply chain management tools.** Facilitating web-based real-time information exchange from anywhere to anywhere at any time is critical to be the world leader in goods movement. Also critical to B.C.'s ongoing success as a key player in the movement of goods is

the need to ensure travel times are minimized at all stages along the supply chain.

Advances in information technology provides an opportunity to **work with our partners to facilitate web-based tools that better connect rail, port, airport, transit and trucking in a seamless, integrated effort.** B.C. has already laid a strong foundation to be built on and has the internal resources needed to support further transformation. The integration of Weigh2Go intelligent Inspection Stations and the truck transponder program at nine Commercial Vehicle Inspection Stations, along with three Weigh-in-Motion (WIM) facilities, has transformed the movement of goods through the province, resulting in cost savings as well as reduced greenhouse gas emissions.



Over the next three years we will:

Building Block 2: World Leaders in Goods Movement and Tracking				
STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
6	Continue to engage industry and key partners in the development of a web-based multi-modal goods tracking system that connects with existing industry and sector tracking tools and is accessible anywhere.	Collaborate with shippers, ports, rail, trucks, receivers and others to assess which tracking tools currently exist in the marketplace. Work with industry, national and international partners to develop a strategy that will integrate tracking tools into the goods movement supply chain.	Review data and prepare report and action plan to develop web-based tool. Begin development of tracking tool in partnership with industry, national and international partners.	Implement web-based tracking tool in partnership with industry, national and international partners.
7	Expand the Weigh2GoBC program by doubling the number of transponders in the marketplace each year over the next three years thus allowing remote identification of carriers and real-time access to safety profiles that will focus enforcement activities on poor performers.	Implement marketing strategy to increase awareness of Weigh2GoBC program. Initiate incentive program for registration in Weigh2GoBC program. Identify key corridors/ locations for additional intelligent inspection station locations.	Add two new intelligent inspection facilities to the network.	Add two new intelligent inspection facilities to the network.
8	Develop mobile apps tailored for the commercial transport industry that enables on-line remote permitting, oversized load route planning and load restriction information. This will provide industry with 24/7 access to services and make more efficient use of staff resources	Develop and implement load restriction, oversized load route planning and permitting app.	Develop and implement mobile app and web-based product to display permits (paperless).	Specific tools to be determined by industry engagement.



Building Block 3: Smart Highways Technologies

The **recent advancements in intelligent transportation systems in terms of the physical network, vehicle technologies and mobile information access is revolutionizing the transportation sector.** Innovations in vehicle safety systems have included lane departure warning systems, driver-fatigue monitoring, anti-lock braking systems and all-wheel drive. These advancements combined with enhanced engineering design approaches such as collision prediction modelling and improved highway safety systems including cable barriers, rumble strips and changeable message signs, have yielded inspiring results with collisions reduced by 40% within B.C.

Improvements in public transit has increased ridership dramatically. We will continue to improve our transit system with the implementation of the Smart Card and Fare Gate Programs.

Investments in weigh-in-motion (WIM) technologies, state-of-the-art Commercial Vehicle Inspection Stations, and transponder technologies are keeping truckers moving, saving them time and reducing fuel consumption. These technologies are also helping staff focus safety inspections where needed by providing instant access to trucker trip information and safety records.

Building on the success of the 2010 Olympic Games traffic management centre, which won international recognition, **a permanent, state-of-the-art, integrated traffic management centre will be established in Metro Vancouver, which will bring together multiple agencies and leading-edge, real-time monitoring technologies** to keep traffic flowing all across the Lower Mainland.

Over the next three years we will:

Building Block 3: Smart Highways Technologies				
STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
9	Continue to utilize collision prediction modelling on all expansion projects valued over \$20 million in addition to collision history.	Continue to integrate collision prediction modelling (CPM) into design for expansion projects on select projects valued over \$20 million. Determine criteria for more wide spread use of CPM in other highway design apps to improve smart construction practices.	Implement CPM throughout the ministry on expansion projects valued over \$20 million.	Monitor the results of improvements and collision predictions based on actual information over the next five to seven years after the road improvement has been put in service.



Building Block 3: Smart Highways Technologies

STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
10	Install intelligent signs at key decision locations throughout the network that provide congestion, road condition, weather and routing information to motorists.	Pilot two projects connecting remote weather information with intelligent, changeable message boards that provide custom, weather-related messages.	<p>Pilot two additional projects connecting remote weather information with intelligent, changeable message boards that provide custom, weather-related messages.</p> <p>Engage the automobile industry on the integration of intelligent transportation networks with new vehicle technologies.</p> <p>Conduct a system-needs analysis to identify priority pilot projects for intelligent signs that would communicate with cars – such as curve advisory, wildlife areas, rock fall areas, intelligent changeable message signs that link with remote weather stations, etc.</p>	Pilot the use of intelligent signs that communicate advisories with cars – such as curve advisory, wildlife areas, rock fall areas, intelligent changeable message signs that link with congestion information, etc.
11	Implementation of Transit Smart Cards and Fare Gates, and add a more convenient and streamlined billing process for citizens.	Work with TransLink to implement pay system infrastructure that supports the Smart Card program in the Lower Mainland.	<p>Work with TransLink to market and promote the Smart Card program.</p> <p>Monitor data collection to allow for strategic investment strategies based on travel patterns.</p>	Continue to expand the Smart Cards and Fare Gates and investigate data sharing to mobile devices for congestion information on transit.



Building Block 3: Smart Highways Technologies

STRATEGY		ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
12	Utilize cellular data and GPS tracking to provide citizens with real-time access to traffic congestion monitoring for trip planning, and to identify traffic patterns and speed profiles to support transportation planning.	<p>Work with industry partners to develop and implement a system to acquire cellular data and GPS tracking to provide real-time traffic speed profiles and congestion monitoring on the Metro Vancouver road system.</p> <p>Work with partners to develop and implement an open public data site to provide traffic speed and congestion information for Metro Vancouver in support of traffic monitoring and transportation planning.</p>	<p>Undertake a study that cross integrates cellular data information with collision data and collision prediction modelling. Identify trends related to infrastructure improvements or enforcement and education programs.</p> <p>Consider opportunities to expand use of cellular data to monitor traffic patterns in other areas of the province.</p>	Incorporate information on cellular data trending into regular planning process for highway and transit improvements.
13	Continue to establish a multi-agency state-of-the-art traffic management command centre in Metro Vancouver to centrally manage all intelligent traffic infrastructure under one roof, and provide a coordinated response to traffic incidents.	<p>Complete engineering design for the regional traffic management centre.</p> <p>Finalize funding partnership between the Federal Government, TransLink and the province for establishment of the traffic management command centre.</p>	<p>Proceed with establishment of the regional traffic management centre.</p> <p>Establish protocols with partner agencies and plan for the consolidation in one location.</p>	Begin operation of the regional traffic management centre.
14	Engage the automobile industry to identify infrastructure requirements that will support the advancement of driverless vehicles.	Approach key automobile industry partners to collaborate on requirements for infrastructure improvements.	Along with industry and agency partners, develop Driverless Car Strategy.	Continue to work with partners.



Chapter 3

IM/IT Investments

A \$1.5 million IM/IT request has been submitted for the DriveBC 2.0 project. No further IM/IT requests are being submitted for fiscal year 2011/12.

The Ministry of Transportation and Infrastructure will be bringing forward IM/IT investment information and capital requests in future years.



Chapter 4

Corporate Infrastructure

The Ministry of Transportation and Infrastructure has been refining its corporate infrastructure requirements on an ongoing basis.

The ministry will continue to monitor its capital infrastructure requirements and provide updated information in the next submission of the Transformation and Technology plan.

Transformation and Technology Plan

2011/12 – 2013/14



Ministry of
Transportation
and Infrastructure