



**British Columbia Ministry of Transportation &
Infrastructure**

Regional Transportation Management Centre

**Date: May, 2013
ITS Canada Conference**





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Agenda

- Ministry Overview
- Existing ITS Initiatives
- Regional Transportation Management Centre (RTMC)
- Questions



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BC Ministry Vision

- *“a fully integrated transportation system that advances environmental, economic and social objectives, and moves goods and people safely within British Columbia and to markets beyond”*

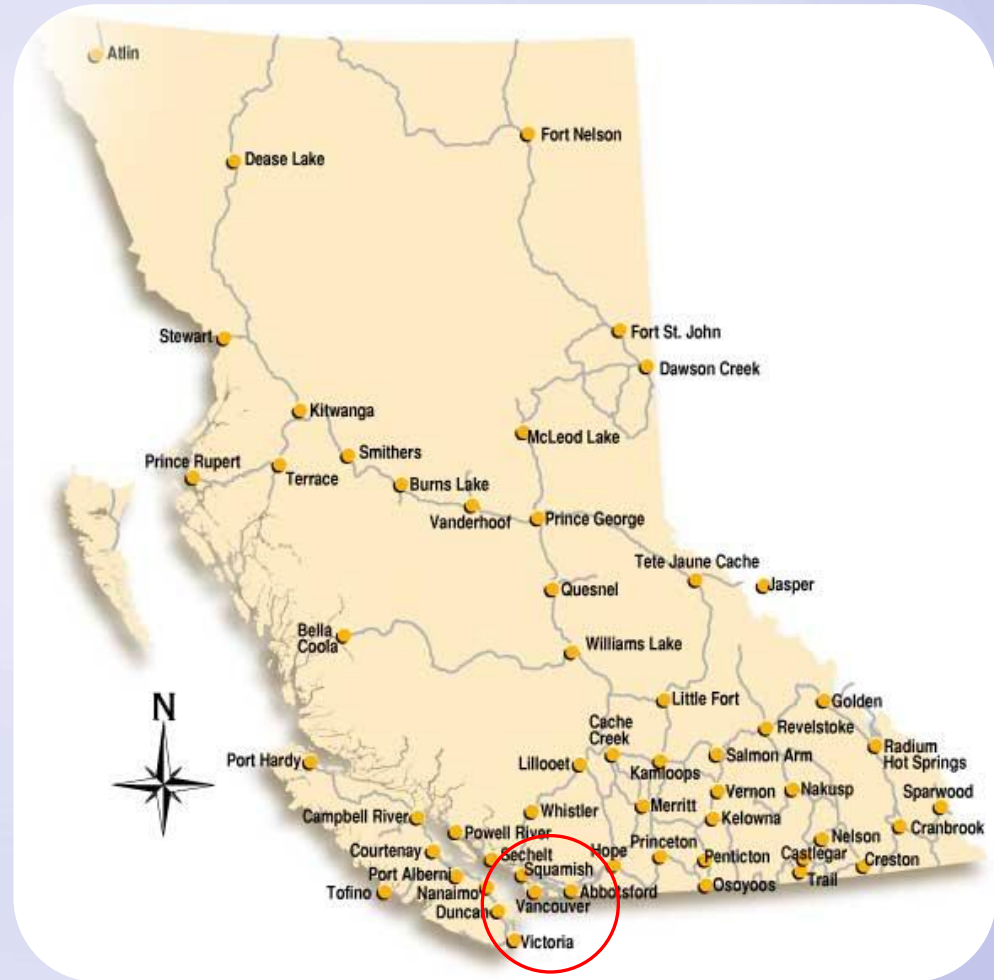


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- British Columbia population concentrated to SW Corner of Province
 - Close to 50% of Provincial Pop.
- Driver Population (licensed)
 - 3,108,000 drivers
 - 2,048,000 passenger vehicles
 - 675,000 commercial vehicles
- Road Network
 - Provincially
 - 47,519 road km's
 - 2,767 bridges
 - Lower Mainland
 - 3,462 road km's
 - 551 bridges





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■ DriveBC Web Portal

- Province-wide traveler information system
- Integrated with:
 - Advanced Traveller Information System (ATIS)
 - Dynamic Messaging System (DMS)
 - Web Camera – Static/PTZ
 - User Interface for entering planned/unplanned events

■ Type of Information

- Road and Driving Conditions
- Incident Data
- Weather Data
- Event Information

The screenshot shows the DriveBC website interface. At the top, it says "DriveBC" and "Traveller Information System". Below the header, there is a navigation menu with options like "Welcome", "Map View", "Conditions & Events", "Webcam List", "FAQ", "Related Links", "Feedback", "Help", and "What's New?". The main content area features a map of British Columbia with several overlays: a "SHIFT INTO WINTER" banner with the text "Get yourself and your vehicle ready to shift into winter.", a "Commercial Vehicle Chain Requirements" box, a "Winter Tire and Chain Up Info" box, and a "Seasonal Lead Restrictions" box. The map also shows various cities and locations across the province.

www.drivebc.com



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■ Province Wide Webcams

- Key Highway Locations
 - 150 (currently)
 - 10-20/yr
- Public webcams
 - Still images only
 - No long-term storage
- Internal webcams
 - Recording capable (24 hours)
- Landline, Cellular, or WAN Connections
- Images available via DriveBC website

The screenshot shows the DriveBC BC HighwayCams website. At the top, there is a navigation bar with the British Columbia logo, the DriveBC logo, and the text 'BC HighwayCams'. Below the navigation bar, there is a welcome message and a list of tabs for different regions: NR, SIR, LM, VI, Brdr, All, and MyCams. The 'Lower Mainland' region is selected, and a list of webcams is displayed, including Horseshoe Bay, Ironworkers Memorial Bridge, Willingdon, and Kensington. The website also features a sidebar with links to various services and a 'CONNECT WITH US ON TranBC' section.

www.drivebc.com

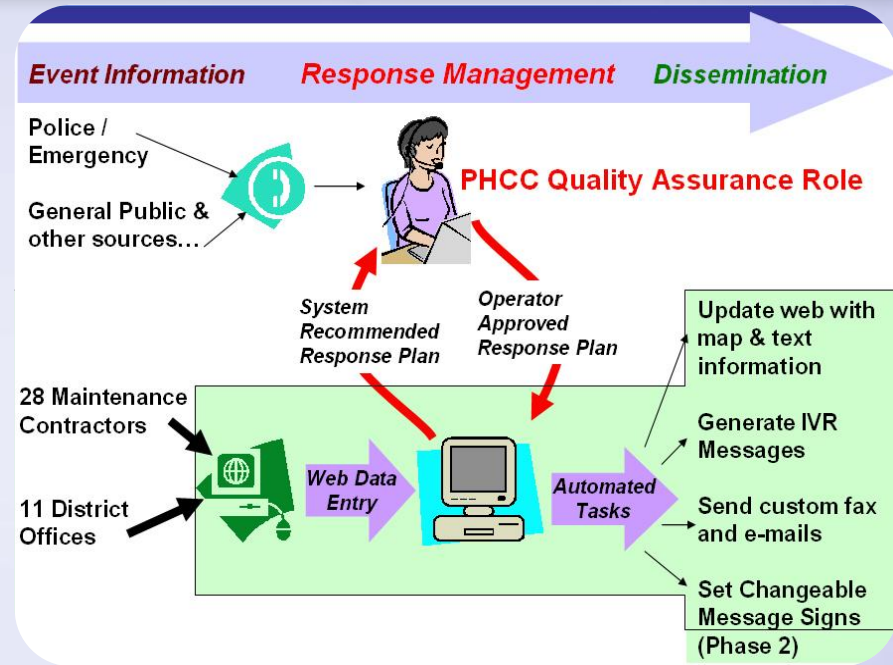


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■ Provincial Highway's Condition Centre (PHCC)

- 24/7 Operations
- Coordinate/report on road and weather conditions through
 - Drive BC (web platform)
 - Dynamic Message Signs
 - Fax
 - Emails
 - Call Outs
- Support Provincial Maintenance Contractors (Private) with Incident/Event Information
- Coordinate with Emergency Responders during Incidents





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Advanced Traveller Information System (ATIS)

- Lions Gate Bridge Delays
 - Estimated travel times from Highway 1 to downtown core
- Canada/US Border Delays (joint initiative WSDOT & MOTI)
 - vehicle detection station data is used to estimate border wait times
- Hwy 99/ Hwy 91 Travel Times
 - Estimate travel times for alternate routes using Bluetooth Technology

Lions Gate Bridge Advanced Traveller Information System

Updated: 2010/10/04 10:10:14

The estimated delay from Taylor Way to downtown Vancouver via the Lions Gate Bridge is **0 MIN**

Updated: 2010/10/04 10:10:14

The map on the left displays current traffic back-ups approaching downtown Vancouver from Taylor Way, Marine Drive, Lions Gate Bridge, and the Stanley Park causeway. The road segments are colour coded dynamically based on current traffic conditions to indicate the extent of back-ups (see legend).

RTE 99 SOUTHBOUND, ESTIMATED TRAVEL TIMES

KING GEORGE BLV 99A VIA
HWY 99 20 MIN
HWY 91 20 MIN
HWY 17 EXIT 10 MIN
NEW WEST HWY 91 10 MIN

Updated: 2010/10/04 10:16:03

Legend: Traffic Backup, No Traffic Backup, No Data, US Customs, Traffic Camera, Traffic Sign

ESTIMATED NON-COMMERCIAL BORDER CROSSING DELAYS

PEACE ARCH CROSSING	N/A
PACIFIC CROSSING	40 MIN
EASTBOUND 8TH AVENUE	5 MIN

Updated: 2010/10/04 10:16:02

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Peace Arch Mon Oct 4 10:13:38 2010

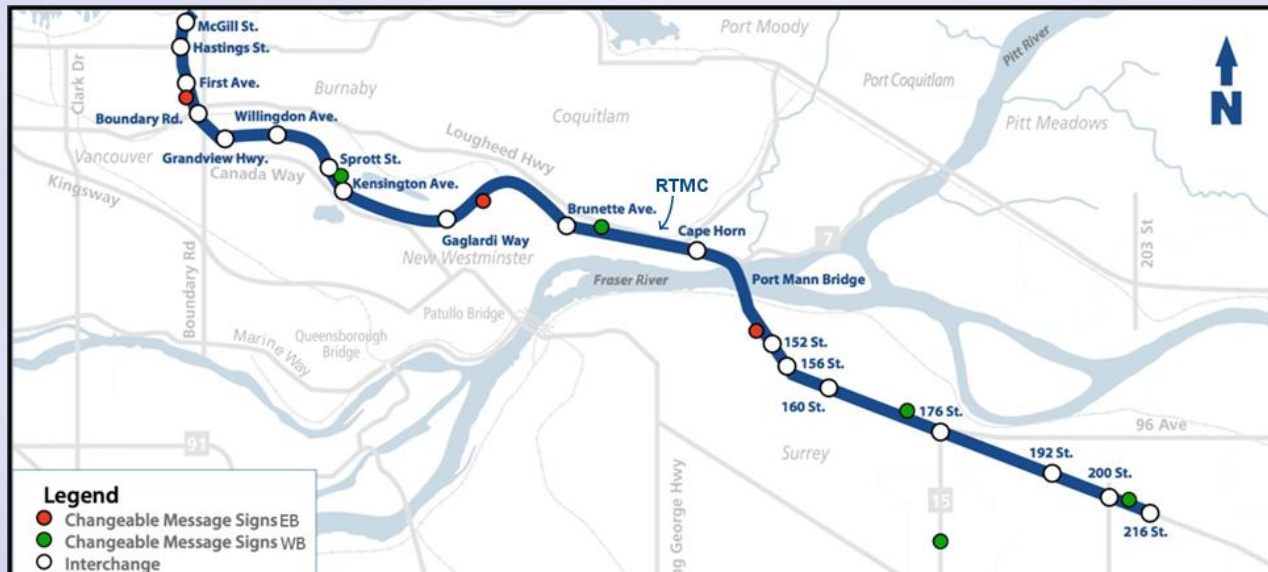
Drive.BC Oct 04, 2010 10:16 AM



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Port Mann Highway 1



BC's new ITS corridor:

- Improving safety and reliability
- Real time travel information



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Golden Ears Bridge – Tolling



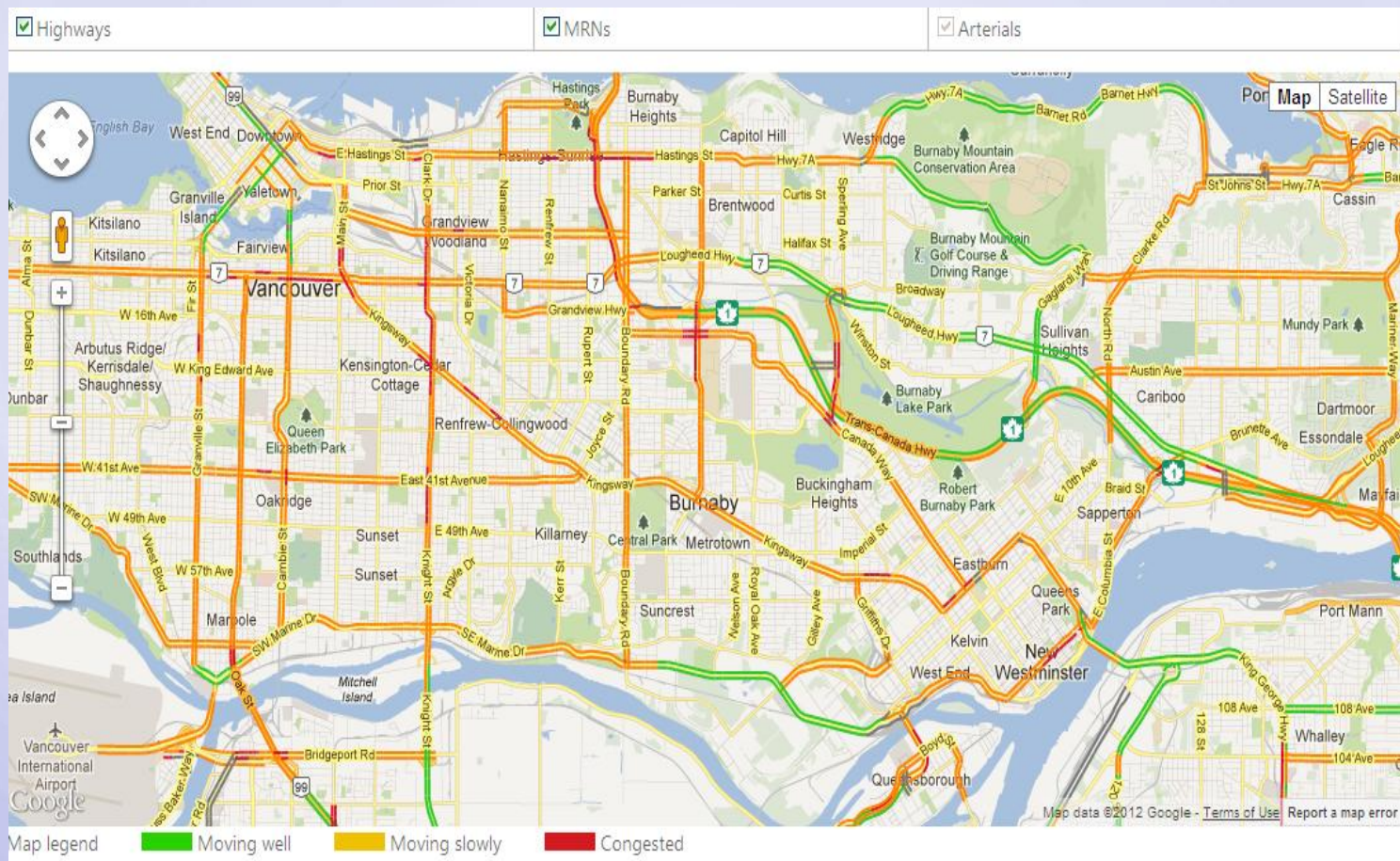
- Golden Ears Bridge is a 6-lane bridge that connects the communities of Pitt Meadows and Maple Ridge to Langley, Surrey and beyond
- First electronic tolled bridge in Western Canada



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Real Time Traffic Data System





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■ Reversible Lane Control Systems

- Designed to alleviate rush hour congestions
- Computer-based, operator controlled systems, designed to reverse traffic flow
 - Gates
 - Overhead directional signs
- 2 active systems
 - George Massey Tunnel
 - Lions Gate Bridge





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■ Weigh2GoBC

- Weigh in Motion (WIM) & Automatic Vehicle Inspection (AVI) technology
- On-road electronic screening allowing commercial carriers to bypass inspection stations
- Results are shared across inspection stations





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Regional Transportation Management Centre (RTMC)

A state of the art centre that will centralize traffic operations and incident management in the lower mainland while continuing to provide a key monitoring and response service for the rest of the provincial network.



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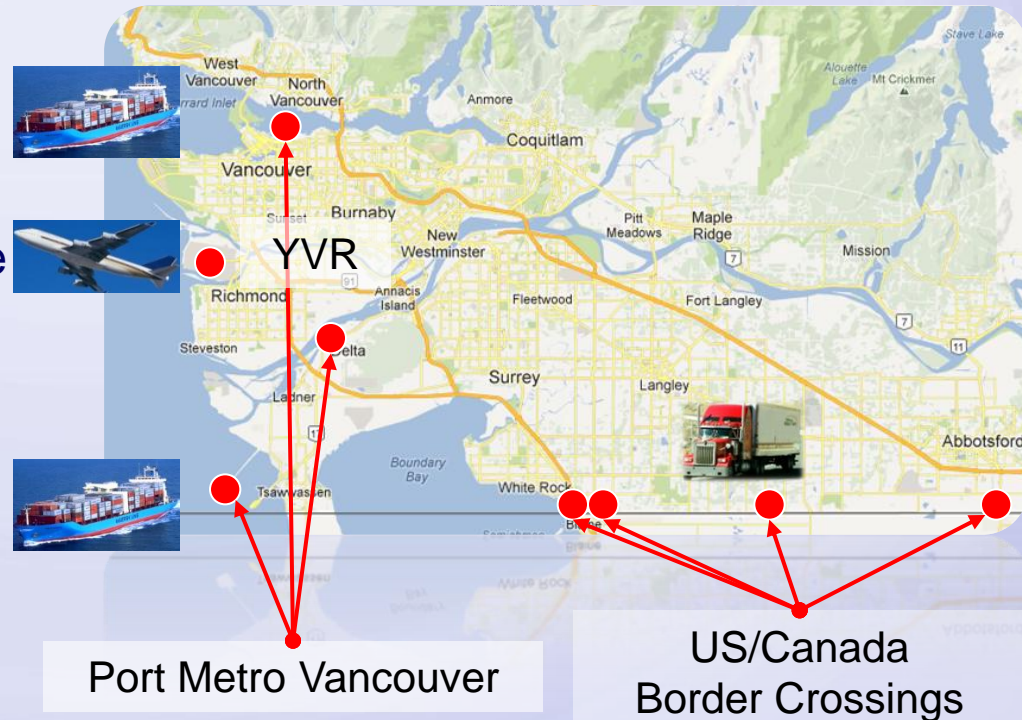
■ Funding Partners



Lower Mainland, BC

■ Demand for ITS

- Lower Mainland is a key Asia-Pacific Gateway
- Lower Mainland has a strong Canada/US cross border trade market
- Builds on existing investments in the Lower Mainland
- Agencies looking to ITS systems to optimize key gateways representing mutual benefits





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■ Regional Transportation Management Centre (RTMC)

- Consolidate & Integrate multiple Ministry Local Operations Centres
- Integrate operations from external operations centres and other ITS systems
- Provide enhanced multiple-agency coordination of incident management, special events, and post disaster response/recovery
- Data and video sharing of transportation partners

■ Benefits

- Cost Savings through Centralized Operations
- Network/Incident delay reductions





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■ Components of RTMC

- Advanced Traffic Management System (ATMS)
- Fibre Optic Network Expansion
- RTMC Building (TMC)
- RTMC Control Centre



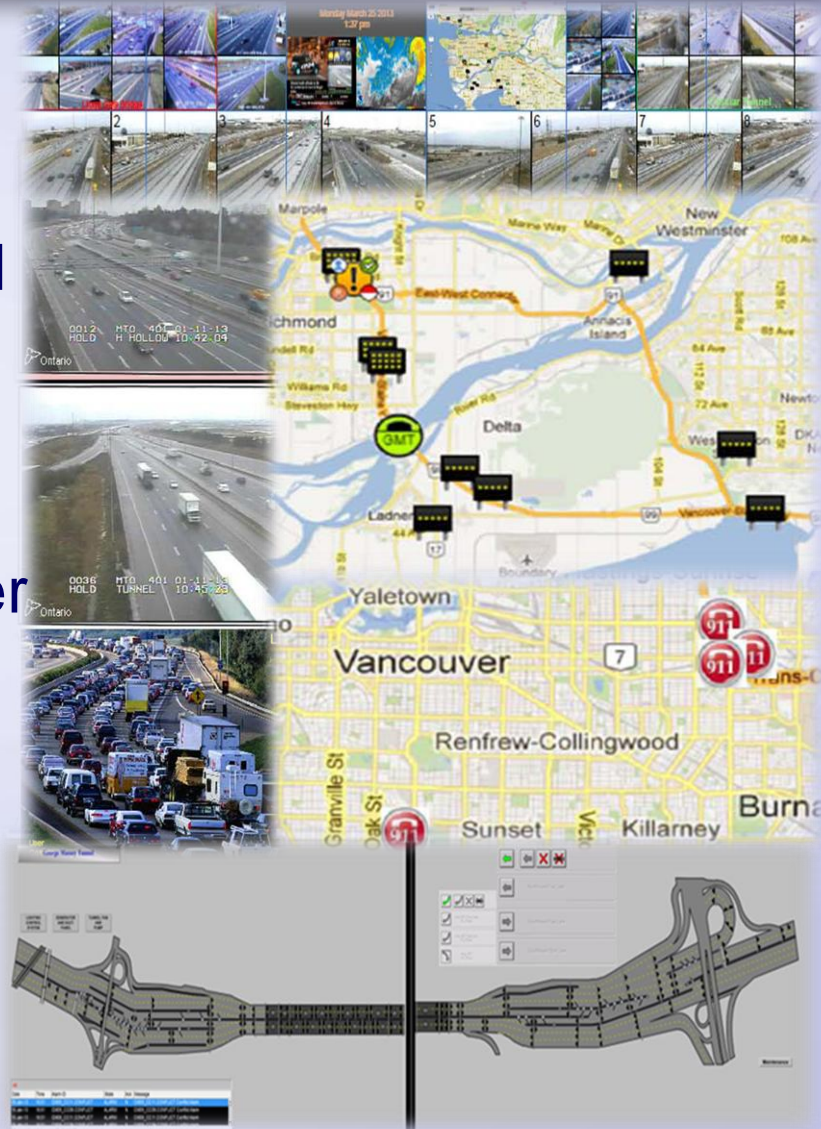


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■ ATMS

- Integrating our public user interface, webcams, advanced traveller information system, seismic warning devices, and Lane Control Systems.
- Built on experiences from other Centres
- PRIME
 - 1ST of its kind in Canada
- Highway and Major Road Network
- Multi-Agency Coordination

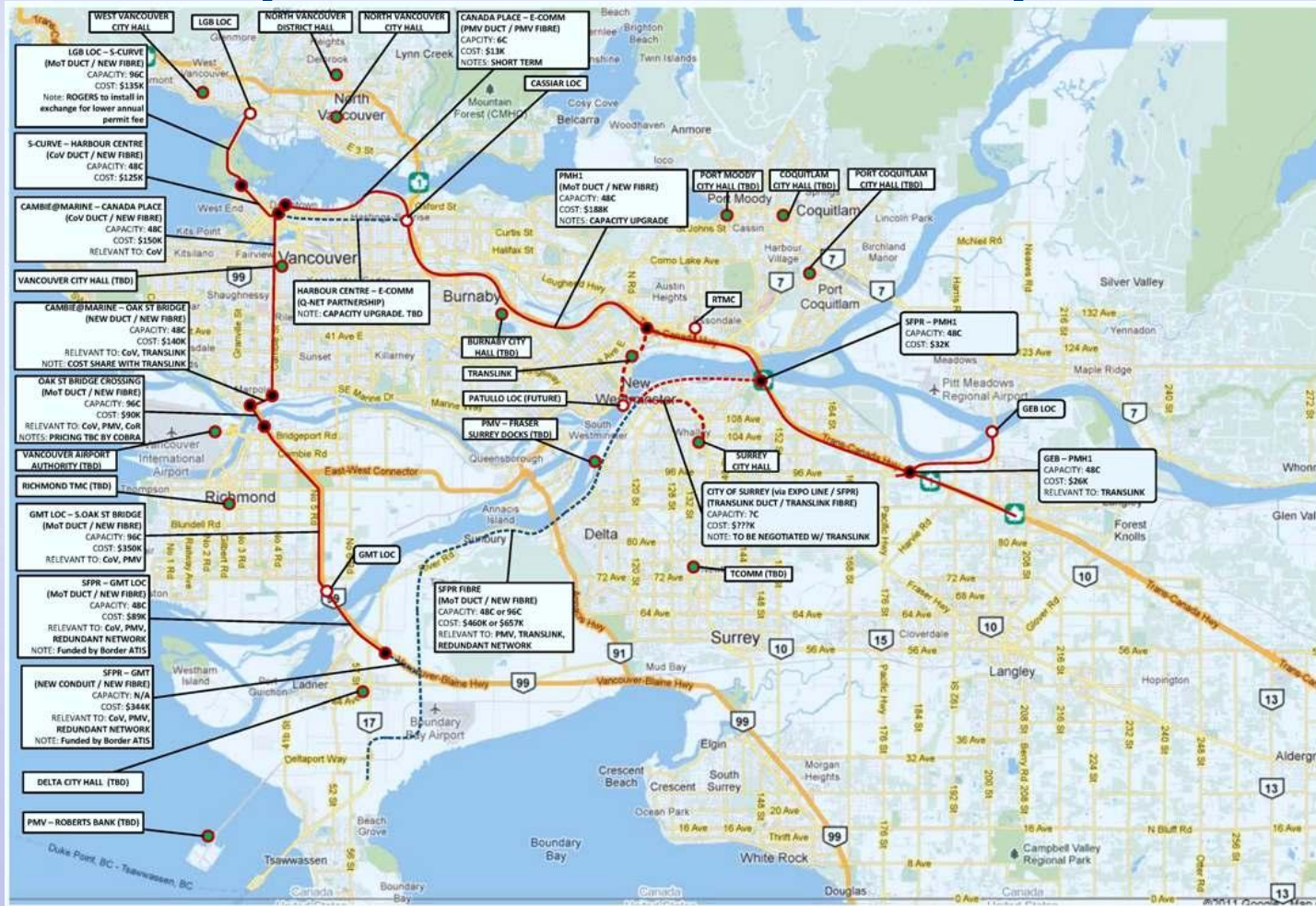




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Fibre-Optic Network Expansion





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■ RTMC Building (TMC)

- Post Disaster Recovery Building
- Payment Card Industry Data Security Standard (Tolling)
- Built to LEED Gold Standard

■ RTMC Centre

- State of the art facility
- Connected to an expanded fibre network
- Can be setup as a post disaster operations centre for multiple agencies



RTMC In Construction

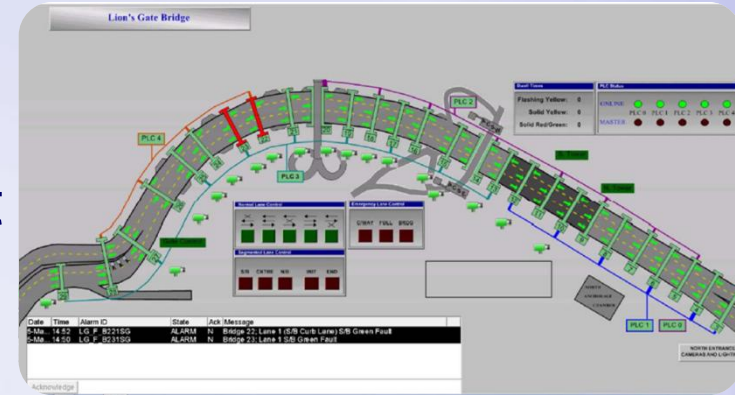


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■ Legacy Systems

- Ministry has existing systems that manage counterflow at 3 major crossings (onsite)
- Systems are being upgraded as overall project and moved to new RTMC for centralized operation

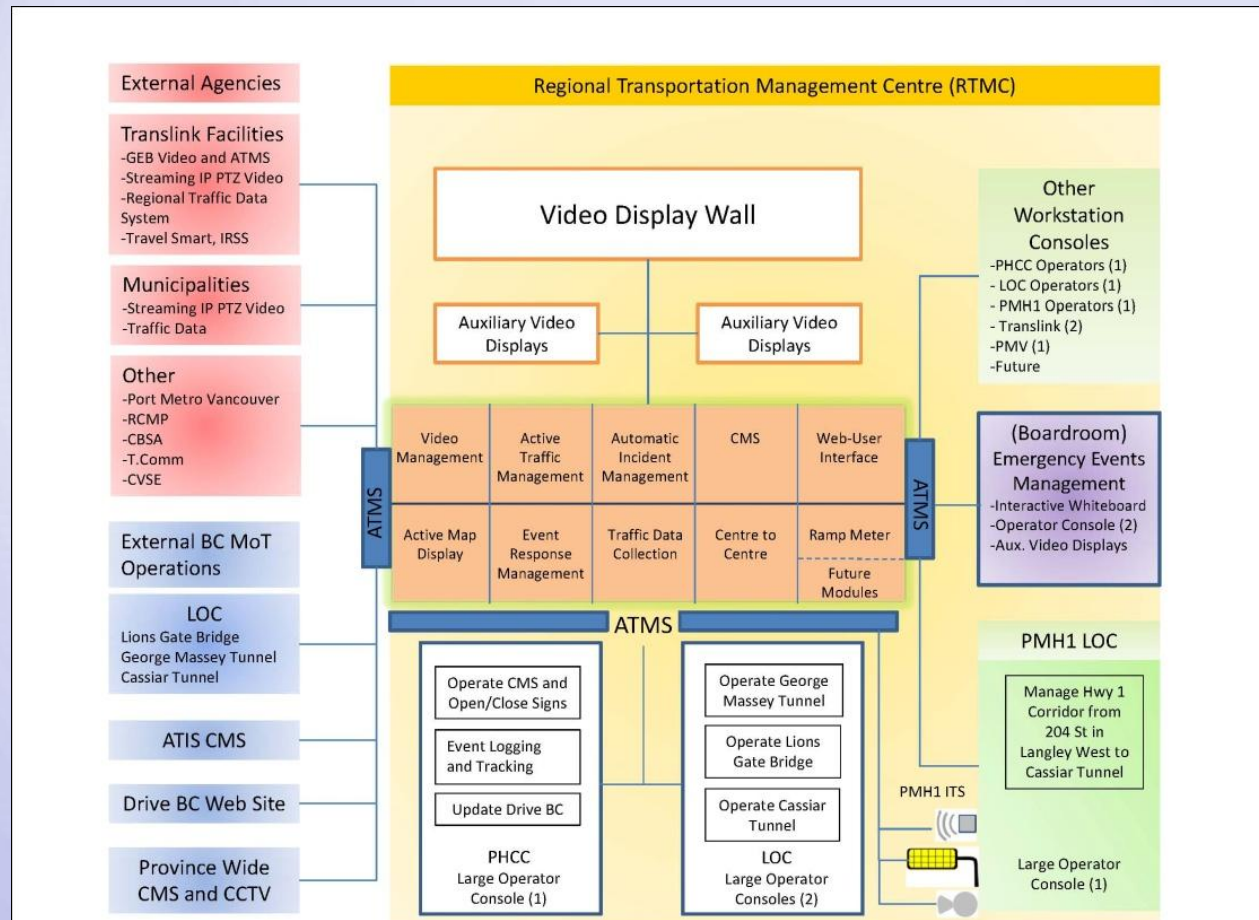




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RTMC Concept of Operations





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Challenges

- **Project complexity**
 - Technology, existing systems, interdependence
- **Multitude of stakeholders**
 - Ministry, TransLink, municipalities, police/fire/ambulance, others
- **Compressed schedule**
 - Opening day Fall 2013



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Capital Costs

- Fibre Communication Links
- LOC Integration
- Control Centre Setup
- Building Cost
- Integration with municipalities
and public agencies
- Total \$11.60M



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Proposed Timeline

- Building Completion, April 2013
- RTMC Building Occupancy, May 2013
- RTMC 'Opening Day', Fall 2013



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Questions?