British Columbia Ministry of Transportation & Infrastructure

Regional Transportation Management Centre

Date: May, 2013
ITS Canada Conference

Agenda

- Ministry Overview

- Existing ITS Initiatives

- Regional Transportation Management Centre (RTMC)

- Questions

BC Ministry Vision

■ *"a fully <u>integrated</u> transportation system that advances environmental, economic and social objectives, and moves goods and people safely within British Columbia and to markets beyond"*
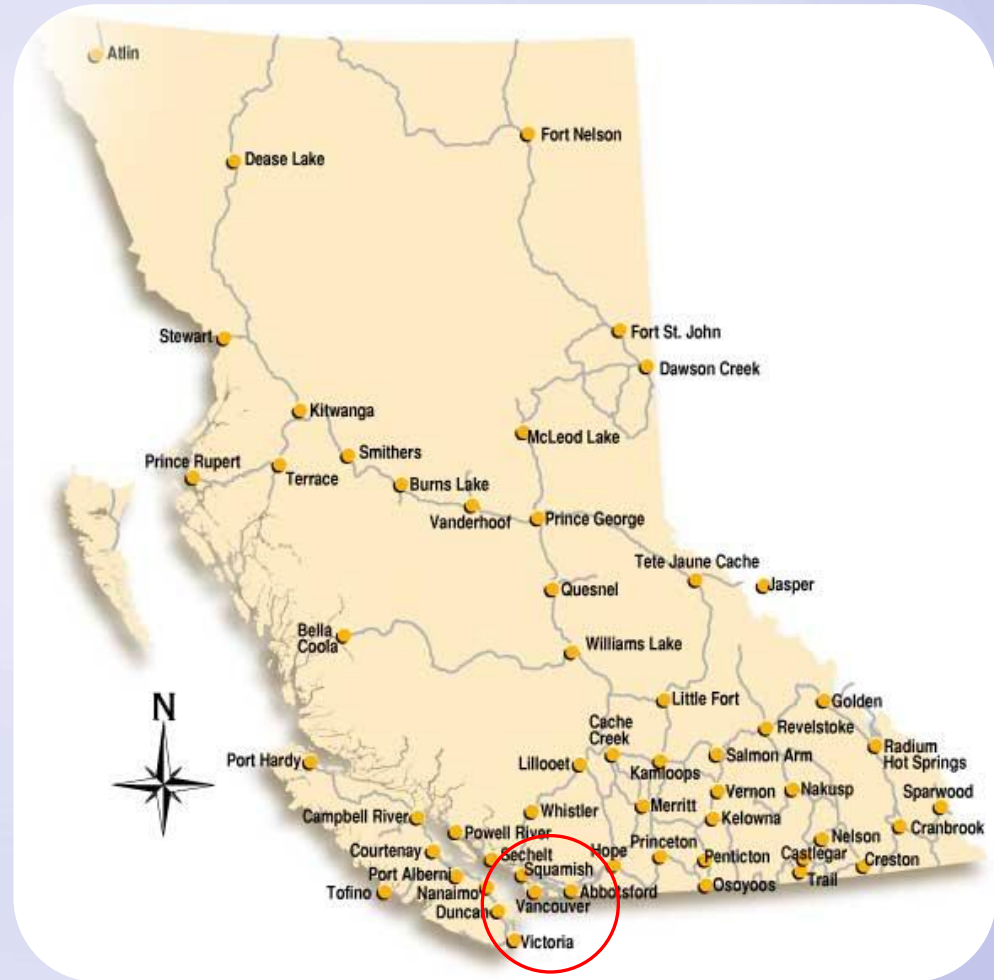
- **British Columbia population concentrated to SW Corner of Province**
  - Close to 50% of Provincial Pop.

- **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

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

www.drivebc.com

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

www.drivebc.com

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
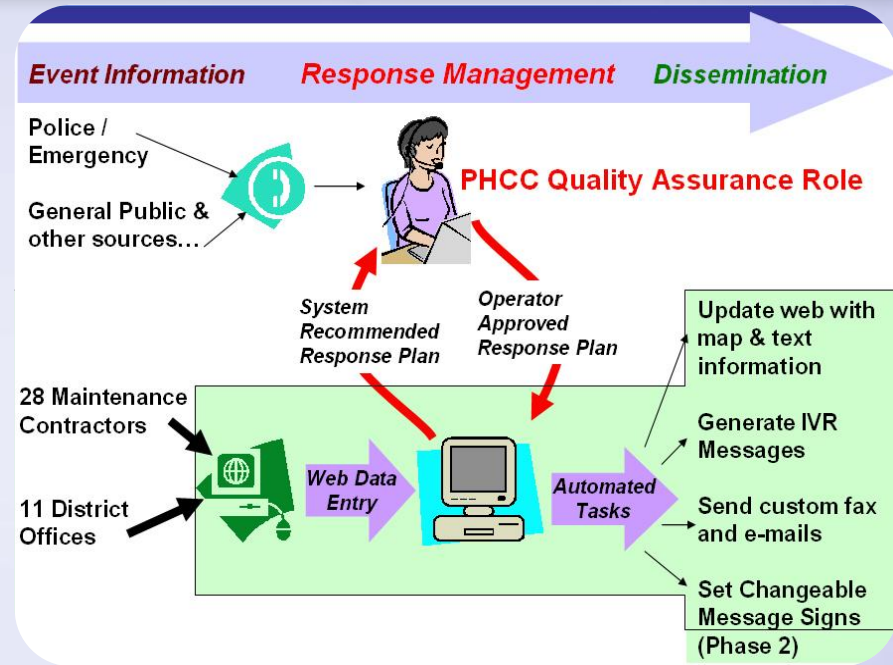
Advanced Traveller Information System (ATIS)

- 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

Port Mann Highway 1

BC's new ITS corridor:

- Improving safety and reliability
- Real time travel information

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

Real Time Traffic Data System
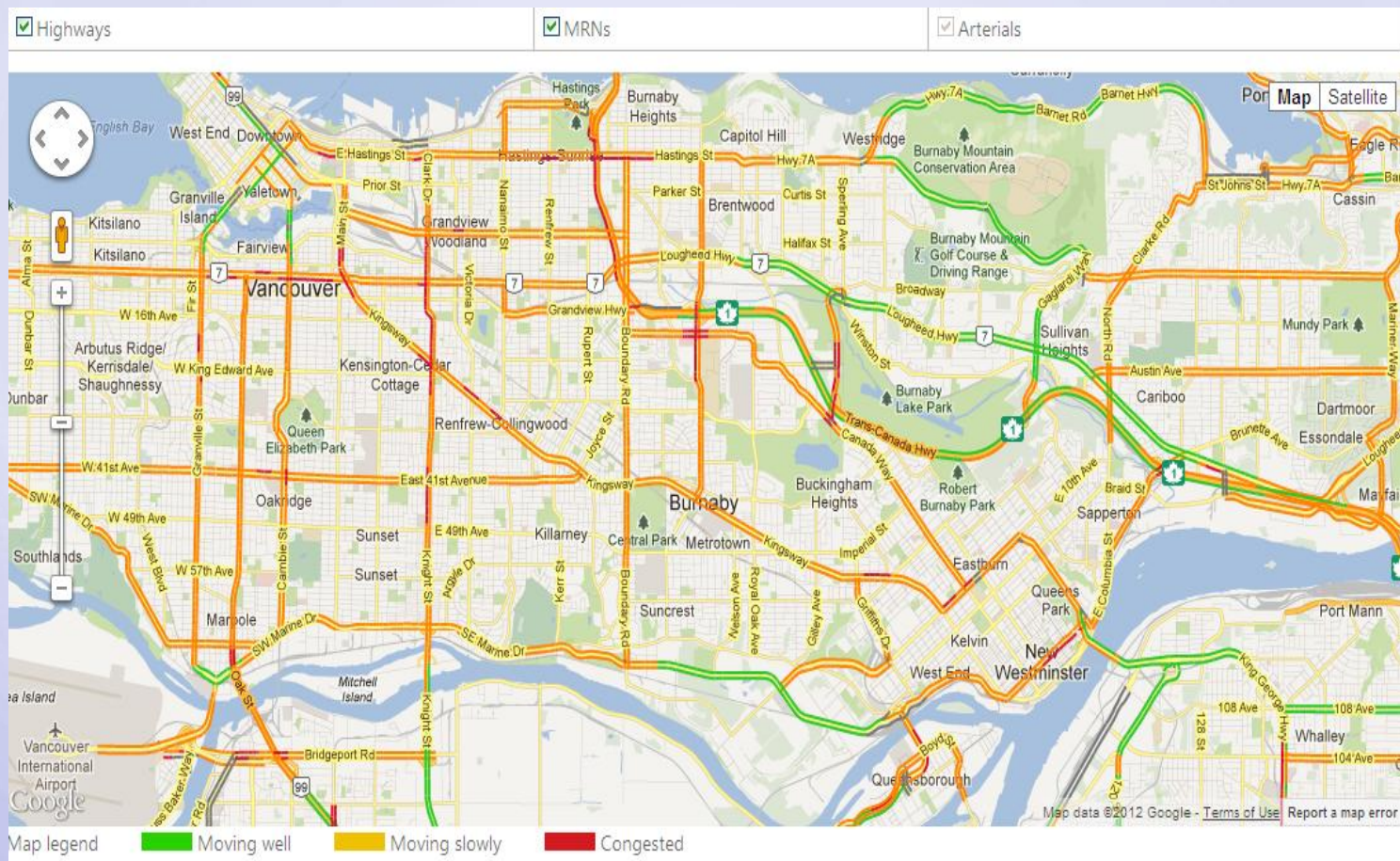
Reversible Lane Control Systems

- 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

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

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.

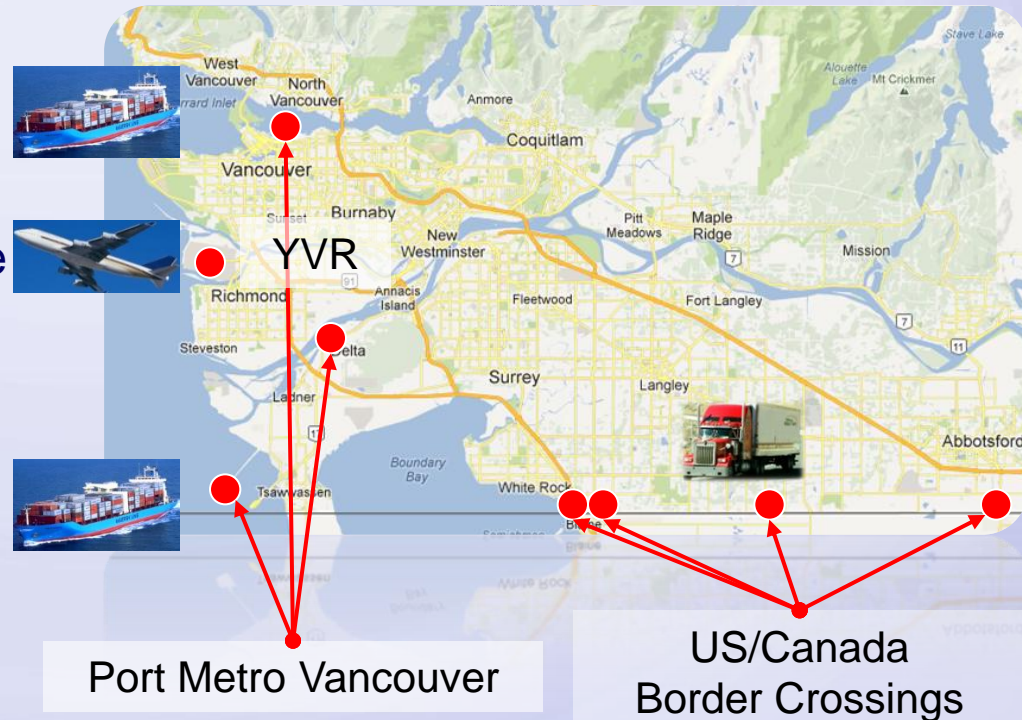- **Funding Partners**

- **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

Lower Mainland, BC

YVR

Port Metro Vancouver

US/Canada Border Crossings

- **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

Components of RTMC

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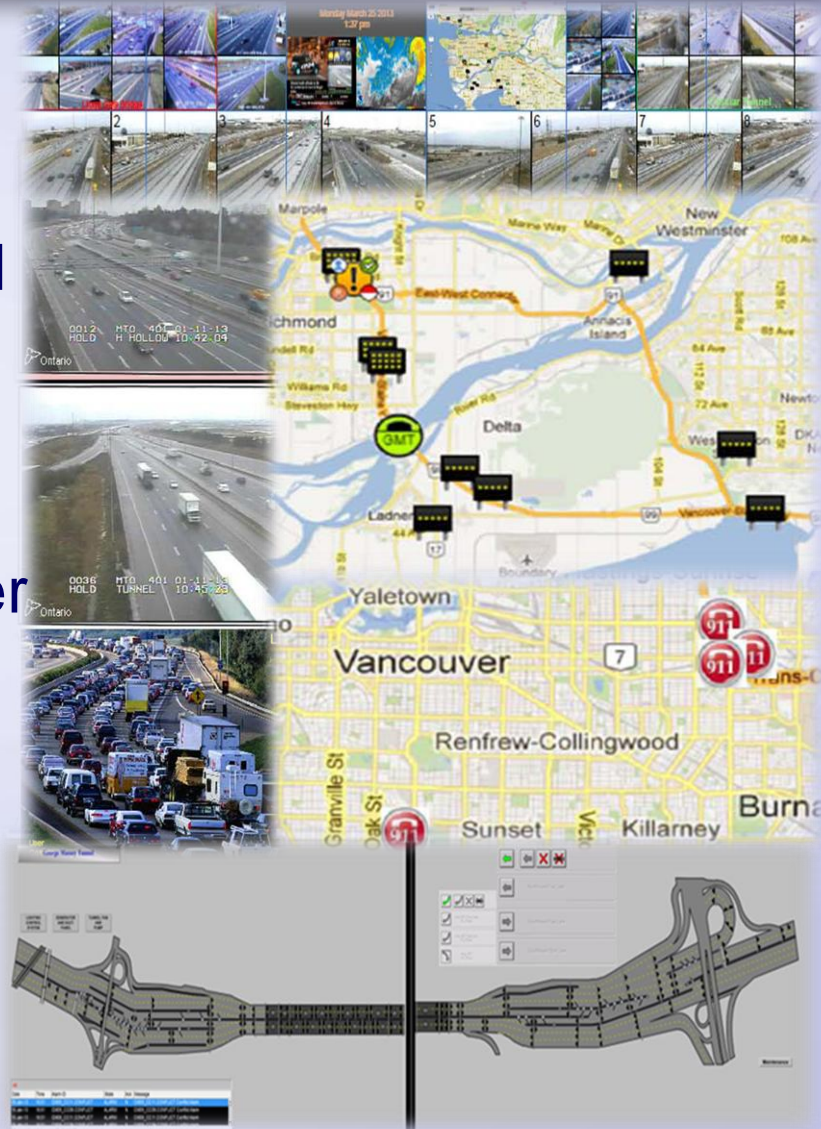- RTMC Building (TMC)
- RTMC Control Centre

- **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
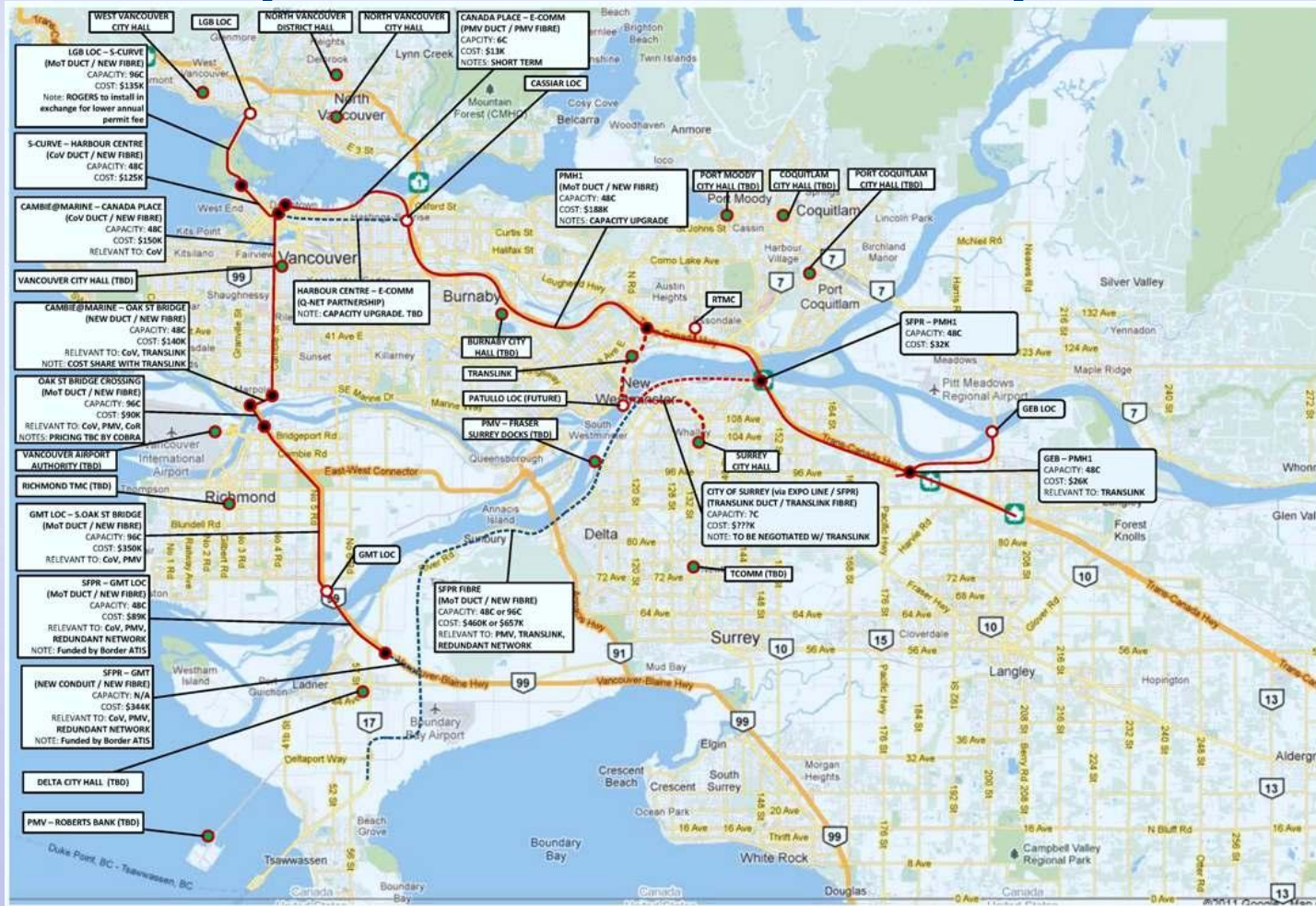 - Highway and Major Road Network
  - Multi-Agency Coordination

Fibre-Optic Network Expansion

- # 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
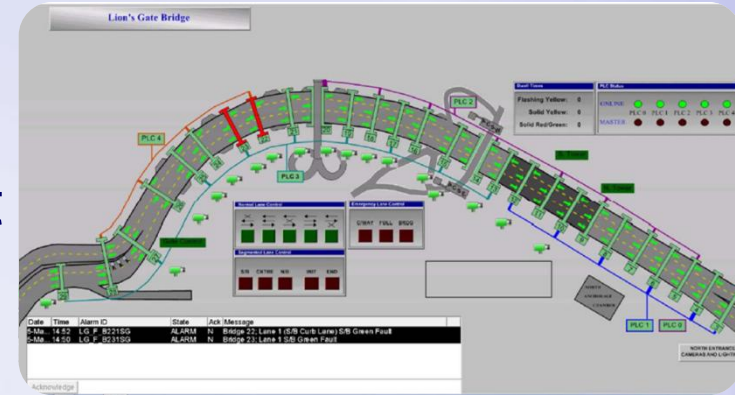

RTMC In Construction

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
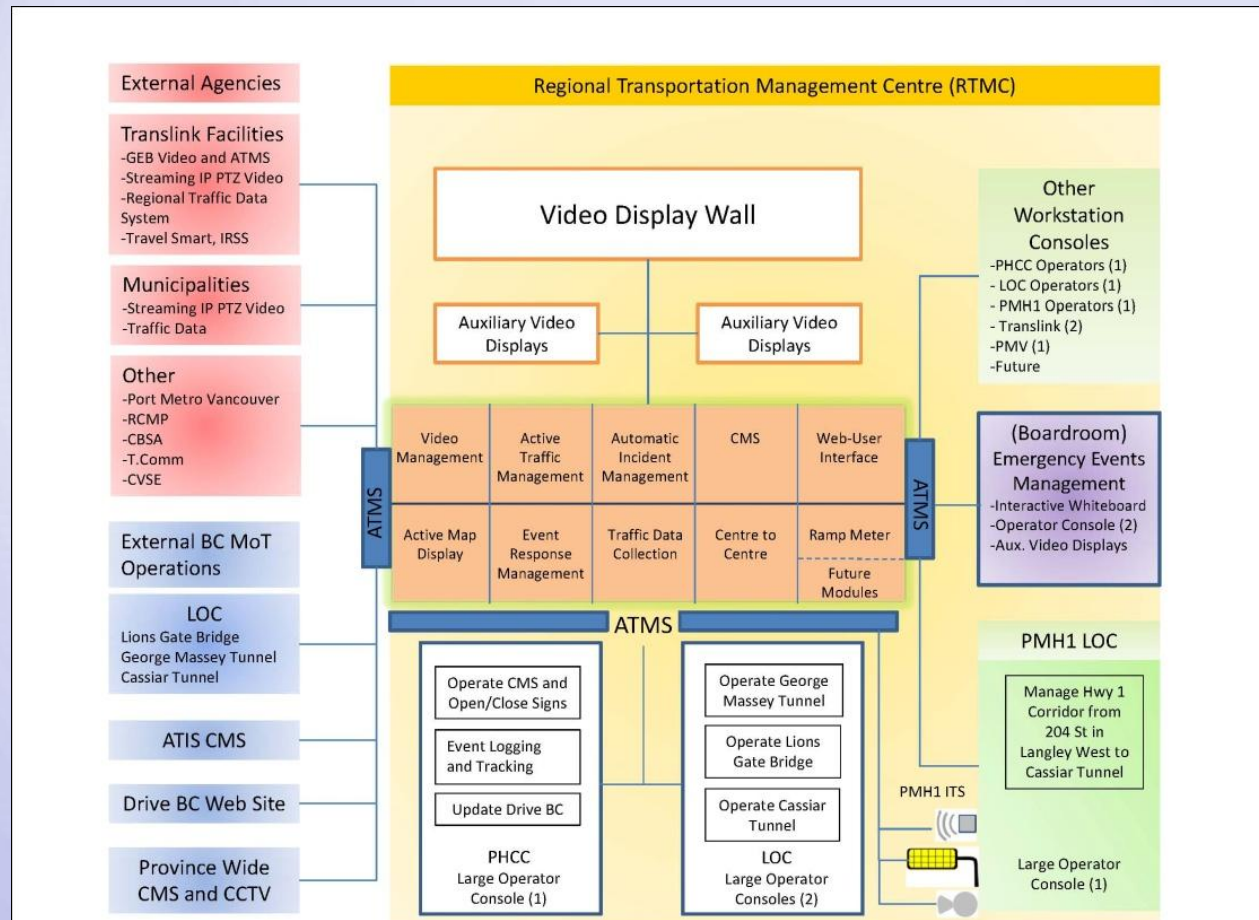
RTMC Concept of Operations

Challenges

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

Capital Costs

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

Proposed Timeline

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

Questions?