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# The Installation and Operation of ITS on the PMH1 Project

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ITS Canada ACGM 2014  
Victoria, BC  
June 1-4, 2014

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# Outline

Background on PMH1 Project

ITS Components of the PMH1 Project

ITS Implementation During Construction

Next Steps: Operation of ITS – Regional  
Transportation Management Centre

Next Steps: Public Facing Traveller Information

# PMH1 Project Background

- Port Mann / Highway 1 is a key economic corridor on the Trans Canada Highway.
- Previously 14 hours of congestion a day.
- 37km of highway widening including new 10-lane Port Mann Bridge and 30km of new HOV lanes.
- 9 interchange replacements.

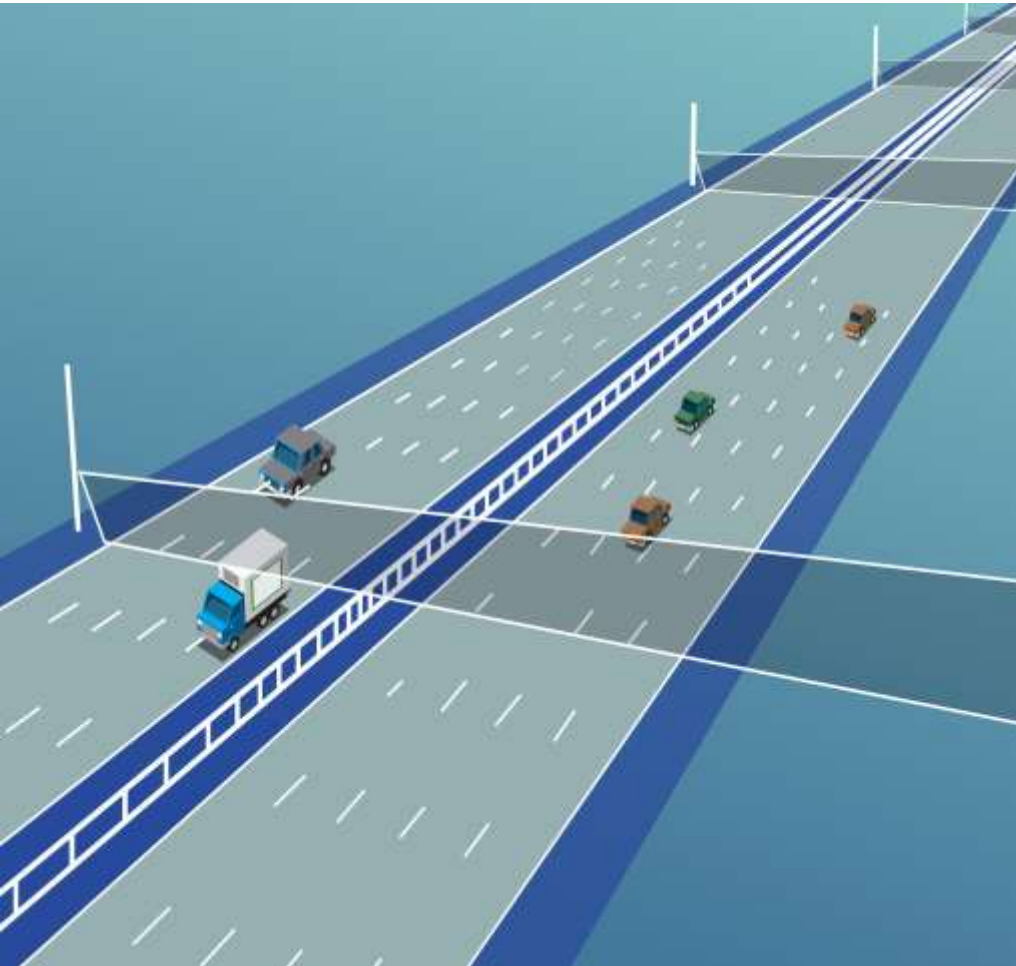


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# ITS Components of PMH1 Project

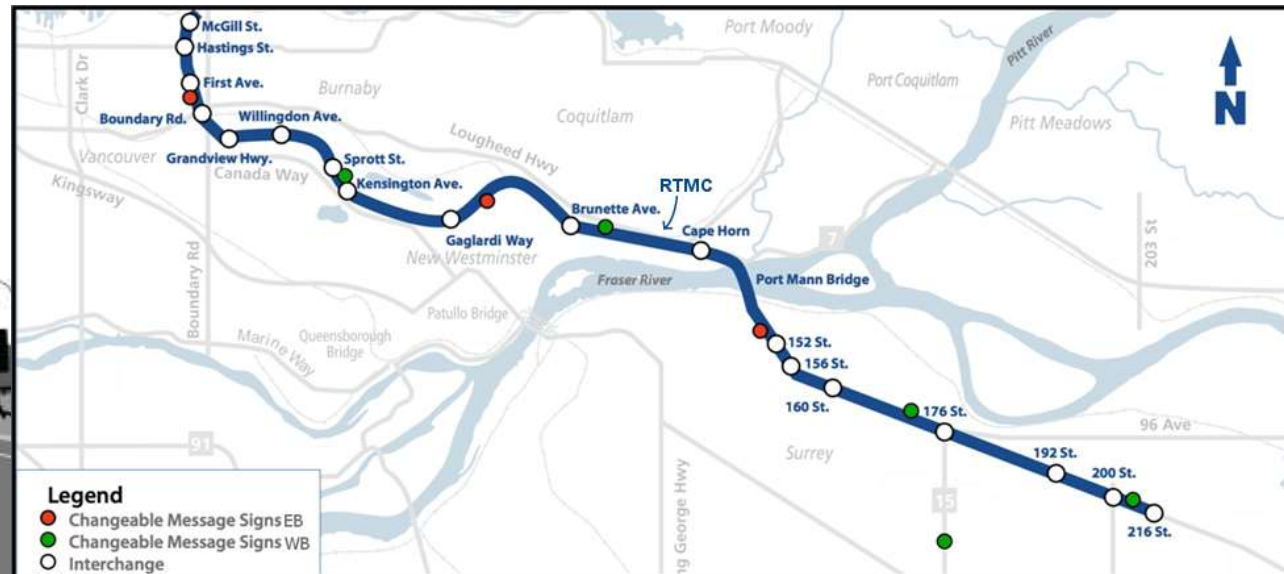
- Microwave Radar Vehicle Detectors
- Dynamic Message Signs
- Closed Circuit Television Cameras
- Open Road Tolling System
- Other: Seismic Sensors, Truck Ramp Enforcement, Weather Sensors.
- ITS components intended to enhance operations and maintenance activities and communications, improving safety, efficiency and the overall traveller experience.

# Microwave Radar Vehicle Detectors



- Collect speed, volume and lane occupancy
- Travel time and Automatic Incident Detection (AID).
- Full highway and interchange coverage.

# Dynamic Message Signs



- 8 DMSs along corridor – 3 Eastbound, 5 Westbound.
- Real time traveler information including automated travel times between interchanges or key landmarks.
- Road incident information to better advise travelers of road conditions.

# PTZ CCTV Cameras



- Full coverage of highway, including shoulders and on-/off-ramps.
- Reduced incident detection time.

# Open Road Tolling



- Free flow, open road tolling = No toll booth.
- RFID technology for toll transactions Multi-protocol for interoperability.
- Video Capture for non-RFID transactions.
- Loops and Lasers for Vehicle Identification and classification.



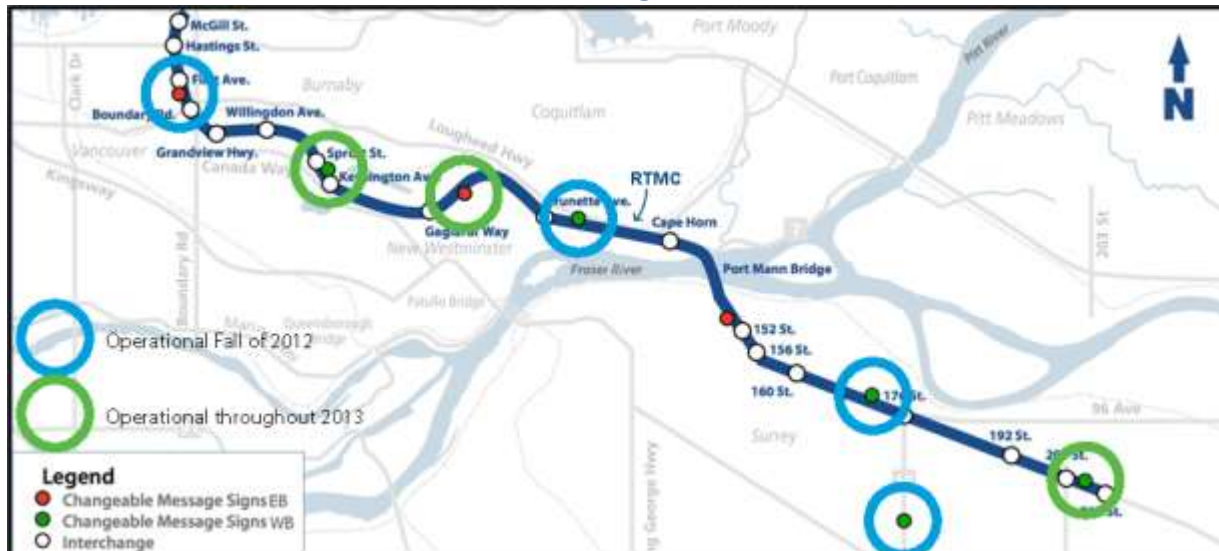
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# ITS Implementation Throughout Construction

- The PMH1 Project maintained traffic flow throughout the highway and bridge active construction zone.
- Varying schedules and multiple projects (PMH1 Road/Bridge construction, ITS implementation, RTMC construction and ATMS development).
- Cooperation and coordination with all parties key to success in interim operations.

# ITS Implementation Throughout Construction

- Multiple overhead DMS available 2+ years ahead of schedule:
  - Key for on-road communication with travelling public.
  - Traffic management during construction and project updates.
  - Incident information and congestion information



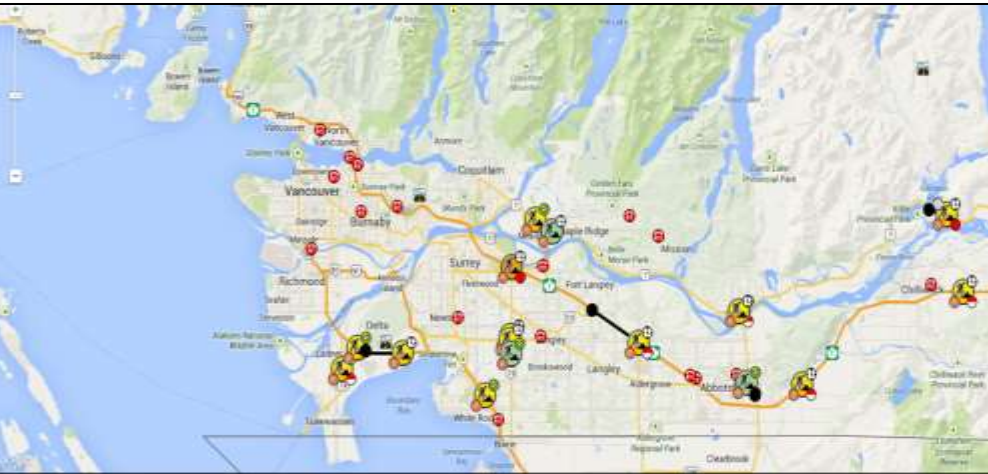
# Next Steps: Operations of ITS – RTMC

- PMH1 ITS operations will occur through the RTMC (Fall 2014).
- The RTMC is a multi-jurisdiction, multi-agency facility designed to:
  - enable real time monitoring of traffic congestion and incident management;
  - promote regional data sharing and integration with public agencies and municipalities; and
  - provide coordinated response during emergency events.



# Next Steps: Operations of ITS – RTMC

- Additional components of PMH1 ITS Operations:
  - Fully Integrated Camera System
  - Travel Time and Congestion Management
  - Automatic Incident Detection
  - Automated Response Plans



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# Next Steps: Public Facing Traveller Information

- Harnessing information collected for operational purposes and developing public facing traveller information website.
- Combination of on-road information (DMS) and browser-based information.
- For delivery in Fall 2014.



# Questions?

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