

A stylized graphic featuring a semi-circular sun with yellow and orange rays rising above a dark blue mountain range. The sun is positioned in the upper half of the frame, and the mountains are in the lower half. The background is white above the sun and dark blue below the mountains.

ITS PROGRAM 2018/2019

BC Ministry of
Transportation and Infrastructure

June 1, 2018

OUTLINE

- What is the ITS Program in BC?
- The 2017/2018 Program
 - Program Update
- The 2018/2019 Program
 - Projects Selected
- Looking Forward

WHAT IS THE ITS PROGRAM?

- Long-term stable funding to facilitate prioritized ITS deployment,
- Pilot innovative ideas prior to broader deployment,
- Conduct planning in several ITS areas to guide future investments, and
- Address opportunities for federal partnerships, integrating systems with other municipalities and public agencies.

THE 2017/2018 ITS PROGRAM (FIRST YEAR)

PROGRAM UPDATE

Project Name	% Complete	Carryover to 2018/2019	TOTAL Project Cost
Automated Traffic Management System (ATMS) – Message Multiple Dynamic Message Signs (DMS)	On-hold	0	\$40,000
Condition-based Retrofit using seismic & Structural Health Monitoring	25%	\$17,000	\$25,000
CVSE Nordel Inspection Station WIM & AVI Bases Design & Installation in Conjunction with AFB	85%	\$83,000	\$105,000
Fibre Optic Network Management	On-hold	\$150,000	\$150,000
Hwy 3 – Princeton to Stirling Creek Bridge: Black Ice Detection and Warning	75%	\$166,000	\$266,000
Hwy 97 – Mound Rd to Chevron Corner: Fog Detection and Warning	25%	\$136,200	\$146,200
ITS Testbeds, and Transportation Innovation and Data Labs	100%	0	\$125,000
Lions Gate Bridge: Counterflow Renewal Planning	50%	\$150,000	\$250,000
Total		\$702,200 (75%)	\$1,107,200

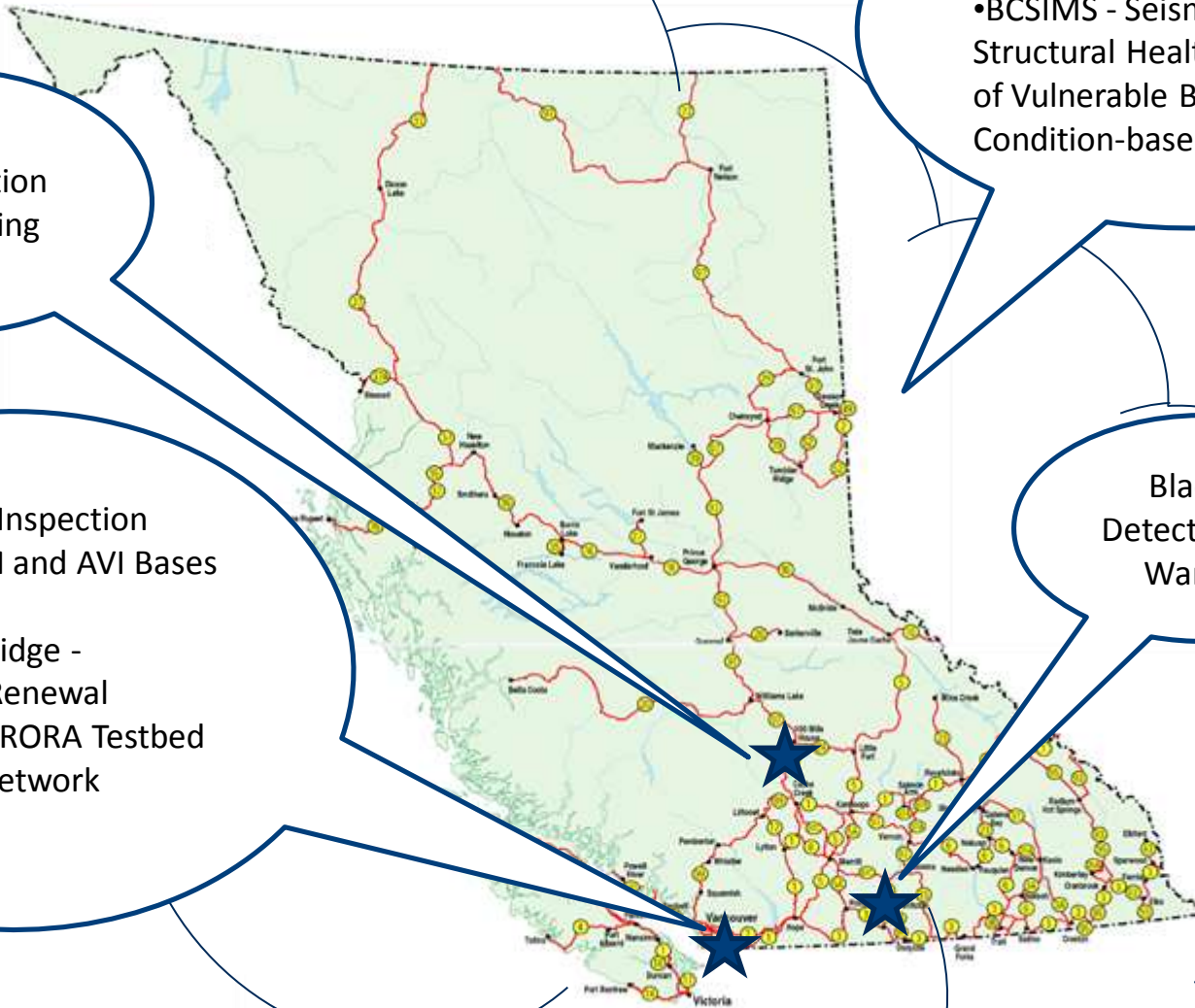
Delayed due to RTMC Remediation
 On-Hold due to RTMC Remediation

Fog Detection and Warning

- CVSE Nordel Inspection Station - WIM and AVI Bases Design
- Lions Gate Bridge - Counterflow Renewal
- ITS Active AURORA Testbed
- Fibre Optic Network Management

- ATMS – Message Multiple DMS Deployment
- BCSIMS - Seismic & Structural Health Monitoring of Vulnerable Bridges for Condition-based Retrofit

Black Ice Detection and Warning



PHOTOS



Site Visit for Hwy 97 – Fog
Detection and Warning



CVSE Nordel Inspection Station WIM & AVI



Equipment Install
for ITS Testbeds,
and
Transportation
Innovation and
Data Labs



Site Layout for Hwy 3 – Black Ice
Detection and Warning

THE 2018/2019 ITS PROGRAM (SECOND YEAR)

OUTREACH

- This year, to reach a broader audience an email was sent:
 - Describing “What is ITS?”, and
 - How the ITS Program could provide unique opportunities for improvement
- Discussions also occurred with
 - Highway Department Regional Directors and District Managers,
 - CVSE,
 - Pacific Gateway Branch,
 - Engineering Services,
 - etc.

From: [Dr. Prof. Sara TRAVIS](#)
To: [TRANSP.MGT.STAFF](#)
Subject: ITS Program
Date: Monday, December 11, 2017 12:01:03 PM
Attachments: [ITS2017.pdf](#)
[ITS2017.ppt](#)
[SCHEDULE - ITS Program Application 2018.docx](#)

Good afternoon,

I would like to take this opportunity to inform you about Intelligent Transportation Systems (ITS), and how you can help plan future ITS projects.

What is ITS?

Intelligent Transportation Systems (ITS) can be defined as: "the application of advanced sensor, computer, electronics, and communication technologies and management strategies—in an integrated manner—to improve the safety and efficiency of the surface transportation system." This includes a vast collection of systems, sensors, information processing, and communications technologies.

Our Ministry has been installing ITS for over 20 years to monitor & manage traffic, and regulate vehicles. Some recent examples include:



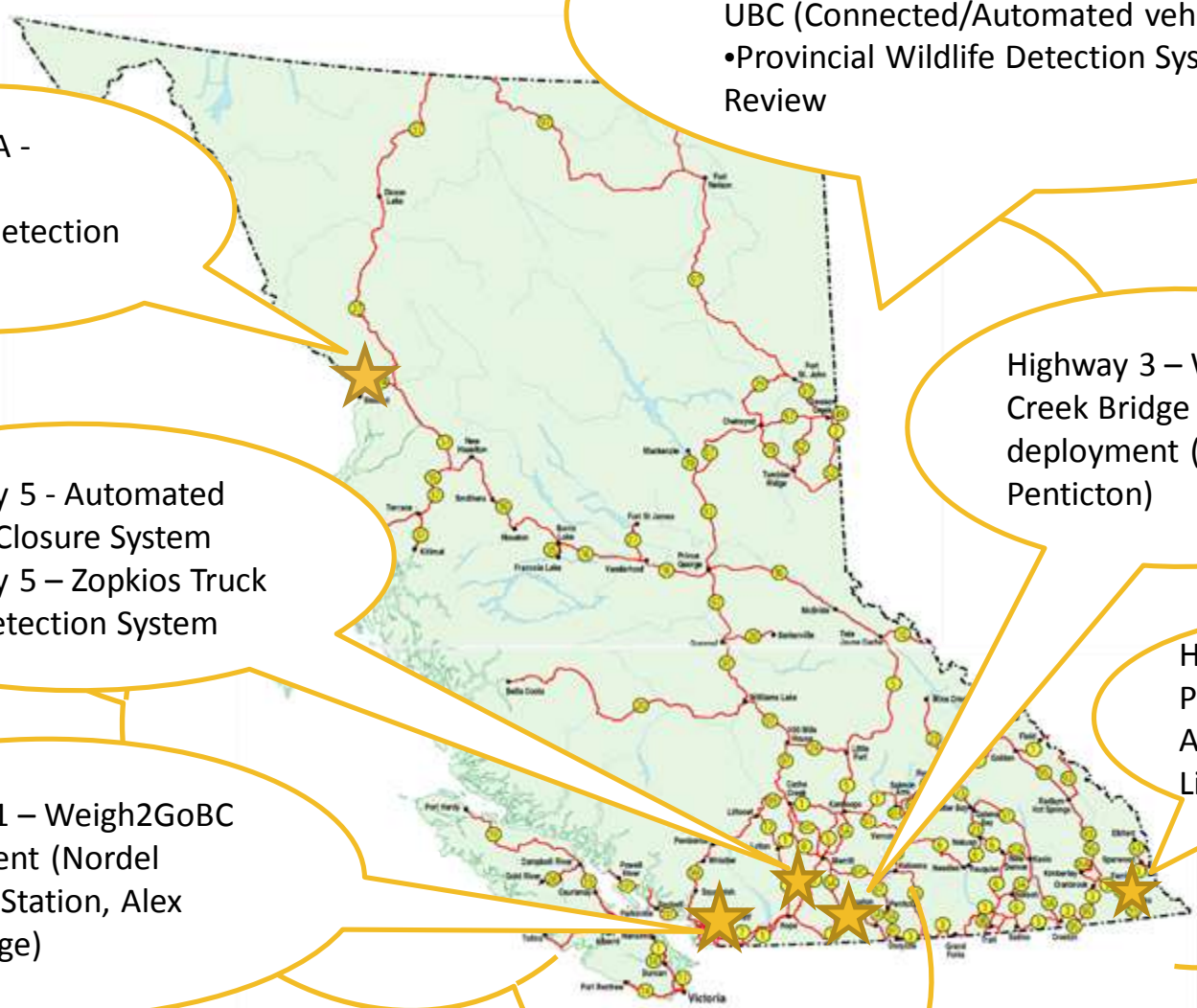
What is the ITS Program?

The ITS program is an opportunity to: pilot innovative ideas prior to mass deployment, conduct planning in several ITS areas to guide future investments, create long-term stable funding to facilitate prioritized ITS deployment, and; leverage opportunities for federal partnerships, integrating systems with other municipalities and public agencies.

2018/2019 PROJECTS SELECTED

Project Name	Type	Capital	Annual Operational Cost	
			Ops & Maint.	Resources
BCSIMS Migration and Enhancements	Deployment	\$800,000	\$375,000	1 FTE
Highway 3 – Pedestrian-Cyclist Activated Bridge Lighting	Planning	\$50,000		
Highway 3 – Whipsaw Creek Bridge safety ITS deployment	Deployment	\$550,000	\$85,000	0.5 FTE
Highway 37A – Automated Avalanche Detection System	Planning & Deployment	\$1,300,000	\$156,000	1.5 FTE
Highway 5 – Automated Highway Closure System	Planning	\$100,000		
Highway 5 – Zopkios Truck Queue Detection System	Planning	\$100,000		
Highway 91 – Weigh2GoBC Enhancement (Nordel Inspection Station, Alex Fraser Bridge) *	Deployment	\$700,000	\$54,000	minimal
Provincial Wildlife Detection System Review	Planning	\$100,000		
Transportation Futures Partnership with UBC (Connected/Automated vehicles)	Planning	\$150,000		
Contingency (~4%)		\$150,000		
TOTAL		\$4,000,000	\$670,000	

* Weigh2GoBC is expected to run into 2019/2020 at an additional capital cost of \$700,000



- BCSIMS Migration and Enhancements
- Transportation Futures Partnership with UBC (Connected/Automated vehicles)
- Provincial Wildlife Detection System Review

Highway 37A - Automated Avalanche Detection System

- Highway 5 - Automated Highway Closure System
- Highway 5 - Zopkios Truck Queue Detection System

Highway 3 - Whipsaw Creek Bridge safety ITS deployment (West of Penticton)

Highway 91 - Weigh2GoBC Enhancement (Nordel Inspection Station, Alex Fraser Bridge)

Highway 3 - Pedestrian-Cyclist Activated Bridge Lighting

PROGRAM RISKS

SHORT TERM RISKS

- Timely initiation of projects (developing project teams, distribution of project funds),
- Training inexperienced project and technical managers,
- Work load for ITS Engineering and IMB (technical roles and managing program).

LONG TERM RISKS

- Determining governance and ownership of ITS deployments,
- On-going operational costs,
- Resources to support operations,
- Rehabilitation and Renewal costs.

RISK MITIGATION - 2018/2019

- Lessons learned from 2017/2018:
 - Robust project monitoring with ITS project managers including detailed cost and project progress tracking,
 - Established program governance structure.
- Projects short-listed for 2018/2019 are independent of the RTMC Audit Remediation.
- IMB and ITS Engineering are increasing staff and contractor resources to support the ITS Program and RTMC Audit Remediation.
- Growing ITS community of expertise is taking shape within the Ministry.

LOOKING FORWARD

- Long term stable funding has supported multiple pilot projects.
- Opportunity for ITS planning before larger ITS announcements
- Growing ITS community of expertise is taking shape within the Ministry.