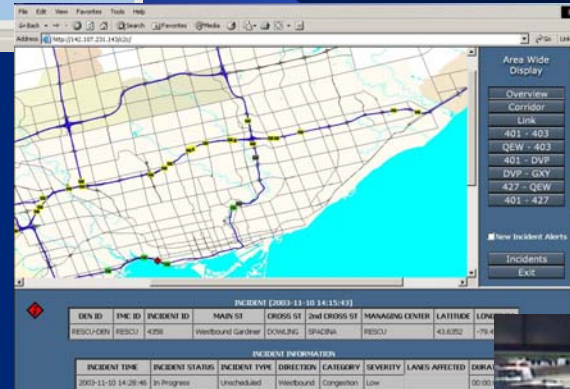


MTO Needs & Uses of XML Standards



Phil Masters, P.Eng
Head
Advanced Traffic
Management Section

COMPASS



PURPOSE

- ◆ To provide an overview of MTO's XML needs

OUTLINE

- ◆ How does COMPASS work?
- ◆ What does MTO use XML for today?
- ◆ What additional data transfer needs will we likely have in the future?
- ◆ Current standards activities
- ◆ What questions do we need answered?

How does *COMPASS* work?

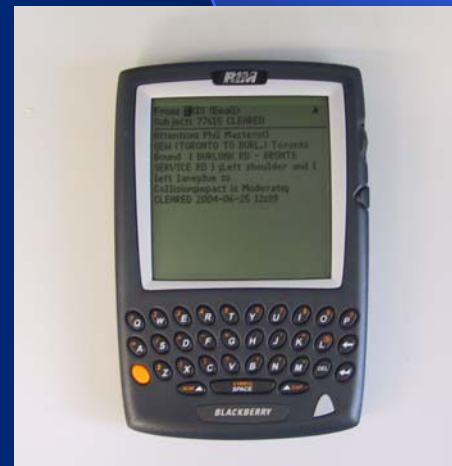
- ◆ **Monitoring** of traffic flows and detection of incidents through vehicle detectors, calls from OPP and Area Maintenance Contractor staff and analysis by automated incident detection algorithms
- ◆ **Incident Confirmation** through pan, tilt, zoom CCTV
- ◆ **Incident Management** through MTO AMC response and coordination with emergency services



How does COMPASS work?

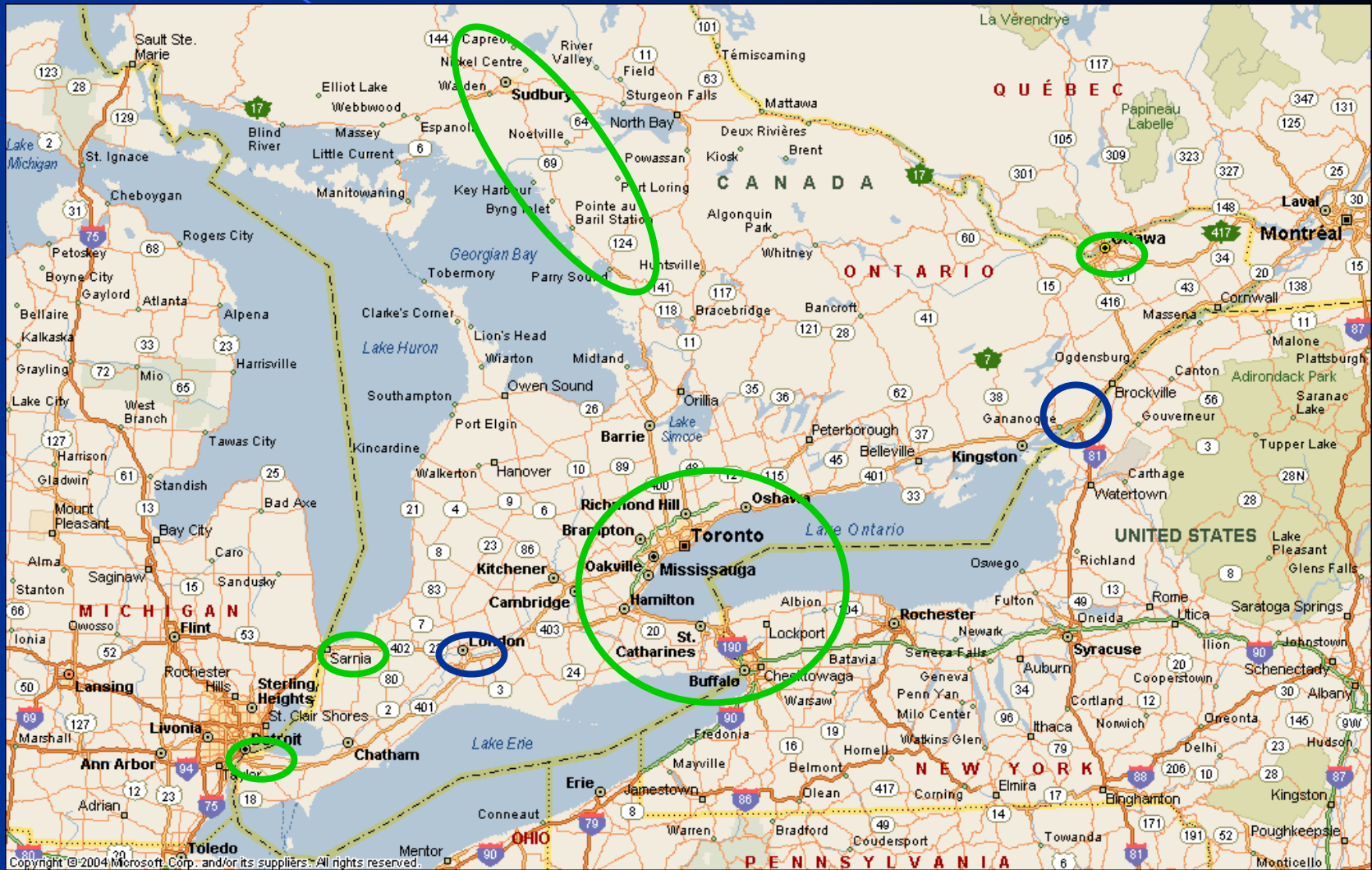
continued

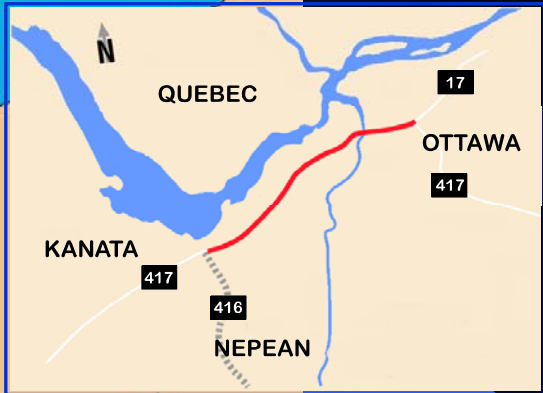
- ◆ **Motorist Advisory** through variable message signs, TRIS and COMPASS website
- ◆ **Traffic Flow Management** through congestion management, travel time displays and ramp metering



COMPASS

Where is COMPASS Deployed?





COMPASS Systems in place

	Highway 401	QEW	Ottawa Queensway
Limits	Hwy 407 to Westney Rd.	Thorold Stone to Hwy 406 Millen Rd. to Third Line Royal Windsor to Hwy 427	Regional Road 174 to Hwy 416
System Length	125 km	80 km	20 km
Vehicle Detectors	3022	1016	0
Cameras	99	74	11
Full Size VMS	41	12	0
Portable VMS	11	15	10
Ramp Meters	0	11	0
Control Area	Toronto, York, Durham,	Peel, Halton, Hamilton, Niagara, Simcoe	Eastern Region

Current XML uses

- ◆ Transfer information from COMPASS central computer to web server for COMPASS website
 - ❖ Congestion zones and congestion levels (3) to drive traffic flow maps
 - ❖ English text congestion zones and levels
 - ❖ French text congestion zones and levels
 - ❖ English planned and unplanned incidents
 - ❖ French planned and unplanned incidents



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Location: [Ministry Home](#) > [Traveller's Information](#) > [COMPASS](#) > Burlington/Mississauga(QEW) Traffic Map

Last Updated: 2007-01-12 10:56



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Toronto Region Traffic Report

This report is being updated every few minutes. It contains information on collisions, breakdowns, emergency roadworks, and scheduled maintenance and construction events on [provincially maintained highways](#).

Real-time traffic reports are also available for the [Niagara](#), [Hamilton](#), [Halton](#), [Peel](#), [York](#), [Durham](#), and [Simcoe](#) regions.



Traffic Camera views of:

[Toronto \(Highway 401\)](#)

[Halton/Peel \(QEW\)](#)

[Niagara \(QEW/Hwy 58\)](#)

Unscheduled EVENTS

Last Updated: 2004-05-28 15:48



Reference ID: 76747

HWY 401 Eastbound Off Ramp(s) [WESTON RD North & Southbound]

Lanes affected: 1 left lane

Reason: Disabled vehicle

Last change: CLEARED 2004-05-28 15:17

Scheduled EVENTS

Last Updated: 2004-05-28 15:48



Current XML uses

continued

- ◆ Connection of remote TRIS entry screens to central computer

Oracle Application Server Forms Services - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss

Address http://142.107.231.155/forms90/f90servlet?form=tris_cmlog_rsu_menu_web.fmx

Window ORACLE

WINDOW1

ADD TRIS Event - Approved Closure Permit

Contract# TEST123 Sequence # 1 [Goto TRIS Block](#) [View Contract](#) [View Sequence#](#) [View Conflict](#)

Event ID Status ACT Created By COMPASS at 2004-12-01 11:31
Patrol 17 Event S Modified By at
Type

TRIS Block

Start Time 2004-12-15 00:00 End Time 2004-12-20 06:00 Highway TestRd[Test Road] Direction Eastbound
(YYYY-MM-DD HH:MM) (YYYY-MM-DD HH:MM)

Upstream 2[TestInt[Test Intersec... Downstream 1[TestInt[Test Intersec... Category Nightly Category Maintenance
(Major) /

Severity 2[Moderate] Section TRANS Closure Type Collector to Express
Section Name

Blockage Patterns: Road Closed All Lanes Blocked Partial Blockage LS Left Centre Right RS
0 0 0

Source Public TRIS Comment This is a test event [Preview](#)
French Comment

Preview Text

Test Road Eastbound Transfer Collector to Express [Test Intersection 2 - Test Intersection 1]
Lanes affected: Left shoulder
Event start date: 2004-12-15 Event end date: 2004-12-20
Start time: 00:00 End time: 06:00
Reason: Maintenance (This is a test event)
Traffic Impact: Moderate

[Confirm](#) [Reject](#) [Close](#)

Future data transfer needs

- ◆ Provision of data to external users
 - ❖ English text congestion zones and levels
 - ❖ French text congestion zones and levels
 - ❖ English planned and unplanned incidents
 - ❖ French planned and unplanned incidents
 - ❖ 20 second speed, volume & occupancy (this may not be possible with XML ~ 20 million pieces of data per day)
- ◆ Inter-process communications in Next Generation COMPASS Software (NGCS)

Future data transfer needs

continued

- ◆ Centre to centre communication for multiple COMPASS Centres using NGCS
- ◆ Centre to centre communications with municipal and other centres using various software platforms
- ◆ Provision of video snapshots to external users
- ◆ Provision of streaming video in various formats to external users

Current standards activities

- ◆ TMDD
 - ❖ Large and complicated standard
 - ❖ Will need significant training to implement
- ◆ ISO TC/204
 - ❖ Is this standard applicable to this effort?
- ◆ NAVTEQ Standard
 - ❖ Is this really a standard and how is it different than TMDD etc?
- ◆ Others?

Questions to be answered

- ◆ Do we need a standard?
- ◆ Do we have to have a made in Canada standard or can we adopt US standards?
- ◆ Can we adopt existing work like TMDD?
- ◆ Can all information providers and users adopt the standard relatively easily?

COMPASS



**Setting
the Direction for
Safe and Efficient
Roads**