

Winter Maintenance on Provincial Highways

Thunder Bay District Municipal League

Wayne Prystanski, A/Regional Director, Northwestern Region
Ministry of Transportation

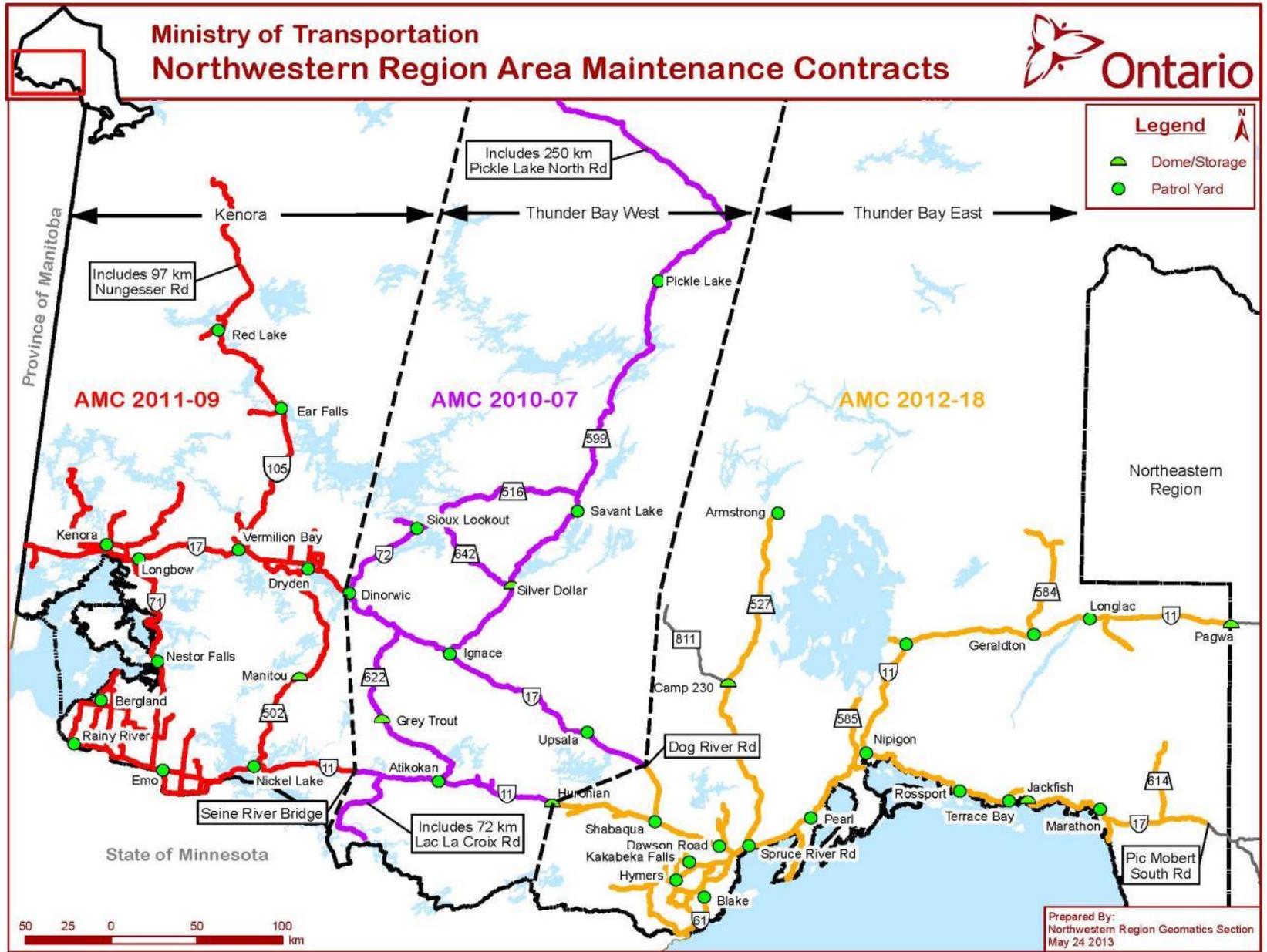
February 27, 2015

Outline

1. AMC's in NW Region
2. Winter Maintenance Standard
3. Winter Maintenance Contract Requirements
4. MTO Oversight
5. Technology
6. How Can You Help?
7. Contact Information
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Area Maintenance Contracts (AMC's)

- **Thunder Bay East** – Area Maintenance Contract by Carillion Canada Inc. started June 2013 (11 year contract)
- **Thunder Bay West** – Area Maintenance Contract by IMOS (Integrated Maintenance & Operations Services) started June 2011 (13 year contract)
- **Kenora** – Area Maintenance Contract awarded to Transfield Services (Ontario) Ltd., started June 2012 (12 year contract)



Winter Maintenance Standard

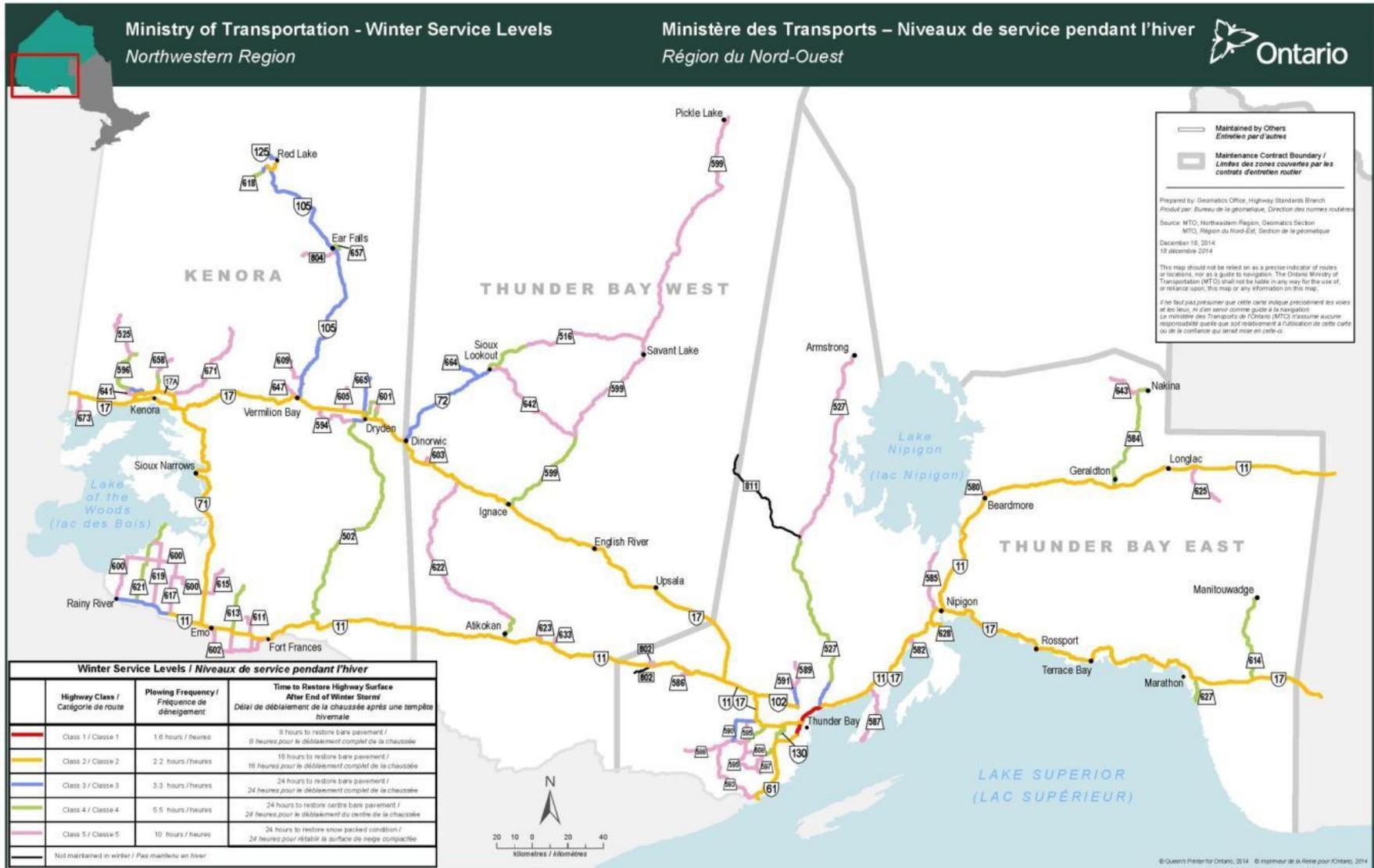
- There are 5 highway classes for winter maintenance
- The class is based on the winter traffic volumes (vehicles per day)
- Traffic counts are conducted every two years and the class is updated as appropriate

Highway Class	Winter Volumes (vpd) Northern Ontario
Class 1	>10,000
Class 2	1,500 – 10,000
Class 3	800 – 1,500
Class 4	400 - 800
Class 5	<400

Winter Maintenance Standard

Class	Highway Condition
1	Bare pavement within 8 hrs following end of winter event
2	Bare pavement within 16 hrs following end of winter event
3	Bare pavement within 24 hrs following end of winter event
4	Centre Bare within 24 hrs following end of winter event and full bare pavement when conditions permit
5	Snow packed within 24 hrs following end of winter event

Winter Maintenance Class (Map)



Winter Maintenance Contract Requirements

- Contract requirements are based on our standards and long standing best practices and include;
 - Readiness of staff, equipment and materials to respond quickly
 - Deployment of plows (upon accumulation of 2cm of snow)
 - Spreading sand/salt (within 30 minutes of arrival of storm)
 - Circuit times for plowing, sanding & salting
 - Application rates for sanding & salting
 - Continuous operations until bare pavement achieved
 - Achieving bare pavement standard within the specified time
 - Addressing isolated slippery sections
 - Post storm clean-up (shoulders, banks, commuter parking lots)
 - Salt management
 - Documentation

Winter Maintenance Contract Requirements

- Contractors are responsible for;
 - Patrolling, callout and directing their own operations in accordance with the contract requirements.
 - Meeting our winter maintenance bare pavement standard and contract requirements
- Consequences for non-compliance
 - Financial – financial consequences for initial non-compliance & ongoing until brought into compliance
 - Infraction – can reduce ability to bid on future contracts
 - Termination – in the most severe cases

Winter Maintenance Contract Requirements

Transition Period (Start of Winter, End of Winter)

- Contractors are required to have a minimum of 50% of the full winter equipment compliment in use during the Transition Period
- The transition periods in Northwestern Region are September 22 to October 21 in the fall and April 23 to May 22 in the spring

Spare Equipment

- Contractors are required to have spare equipment ready for use in the event of equipment breakdown

Passing Lanes

- Cleared at the same time as through lanes

MTO Oversight

- Ministry staff have extensive experience in winter road maintenance, contract administration and specification requirements.
- Oversight is performed using various tools and techniques;
 - Monitor all equipment and activities using GPS-based system
 - Monitor weather and road conditions using road and weather information system
 - Field inspections by selective audits
 - Document review (contractor diaries, equipment reports, material usage, MTO communication reports, OPP reports)

MTO Oversight

- MTO assess contractor operations against over 30 contract requirements including;
 - response time
 - equipment utilization
 - plowing and spreading operations
 - material type (sand or salt) and distribution rates
 - plow and spreading circuit times
 - continuous operations
- Assess if circumstances are beyond contractor's control (ie. circuit times cannot be met due to traffic congestion or highway closed due to collision)
- Issue consequences (financial, infraction, termination) for failure to meet contract requirements that are within the contractor's control.

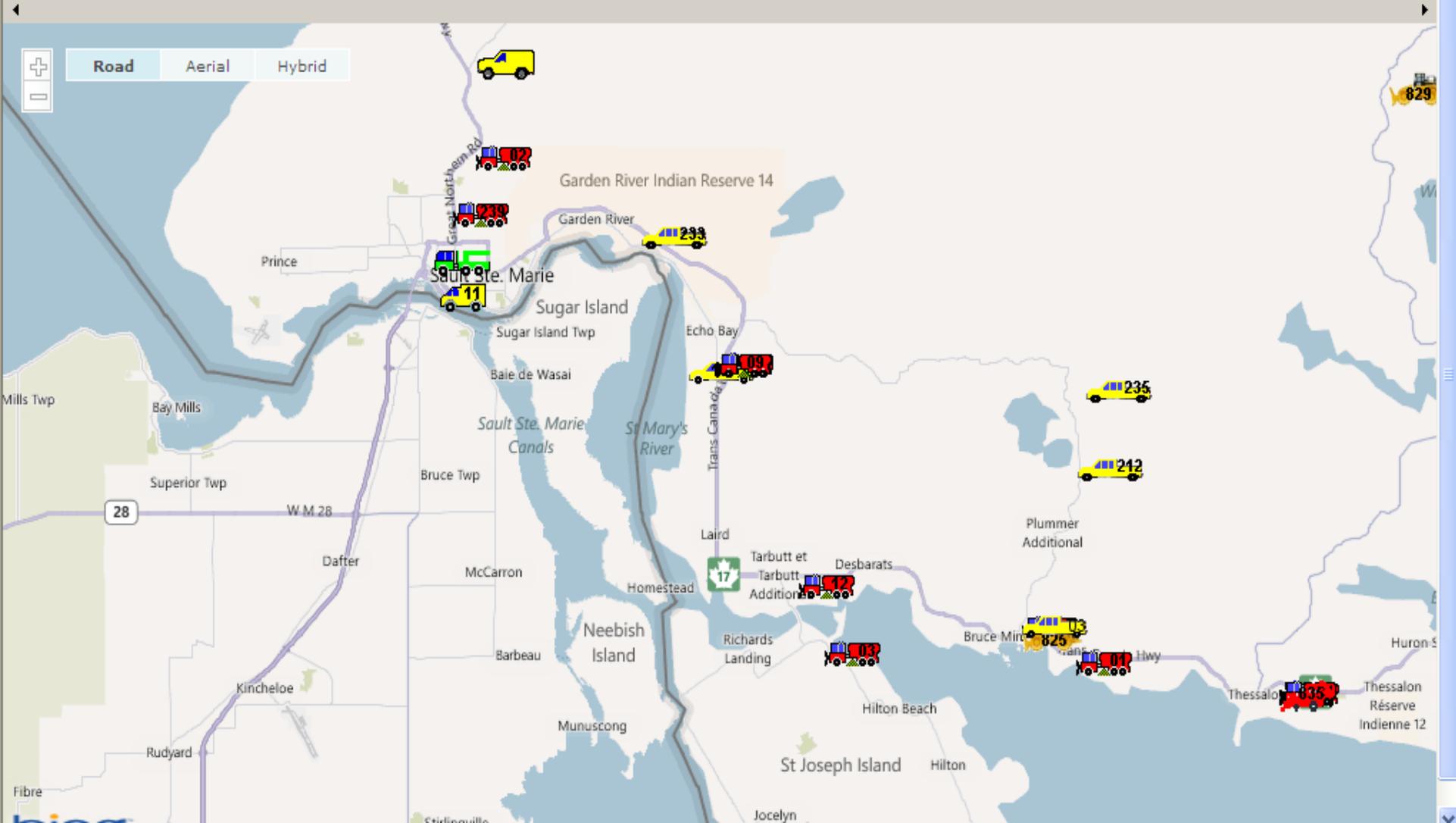
Technology

Automated Vehicle Location System (AVL)

- All winter equipment have AVL
- Use GPS technology to track plow trucks, salt/sand trucks, patrol trucks, etc.
- Capable of tracking, storing and reporting movement and actions while in use, 24 hrs/day 7 days/week.
- Can monitor winter equipment in real time (within cell coverage)
- Information is also stored in a database for later retrieval.
- Provides detailed information;
 - location, speed, operation (plowing, spreading), type of material (salt, sand), application rates



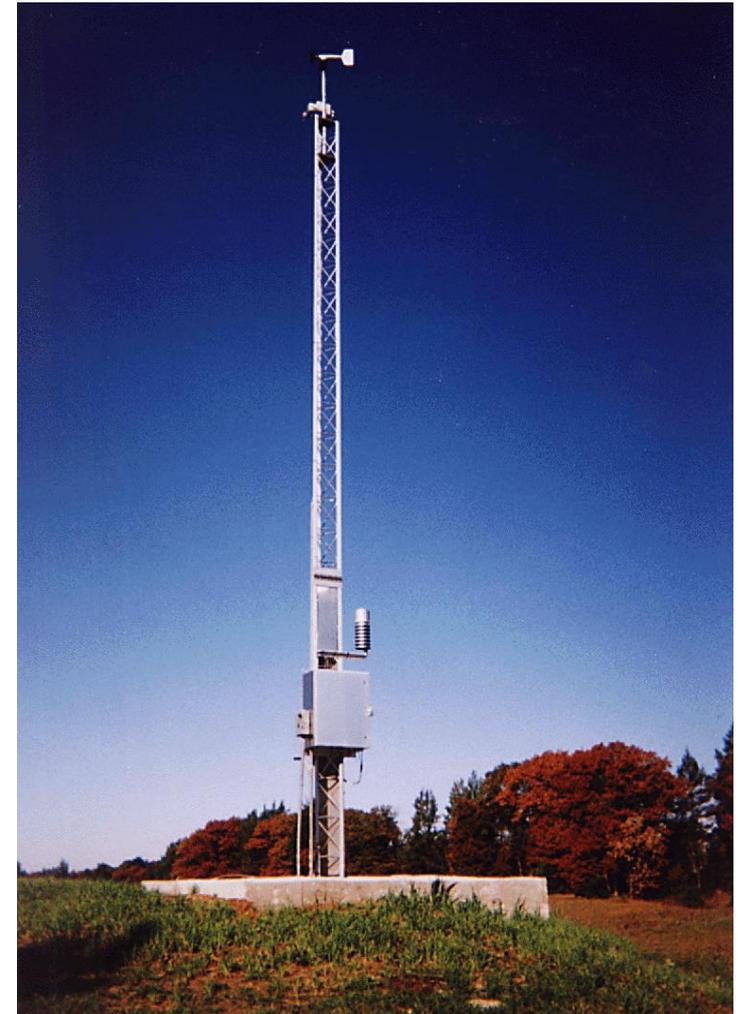
Address <http://avl1.interfleet.com/production/>

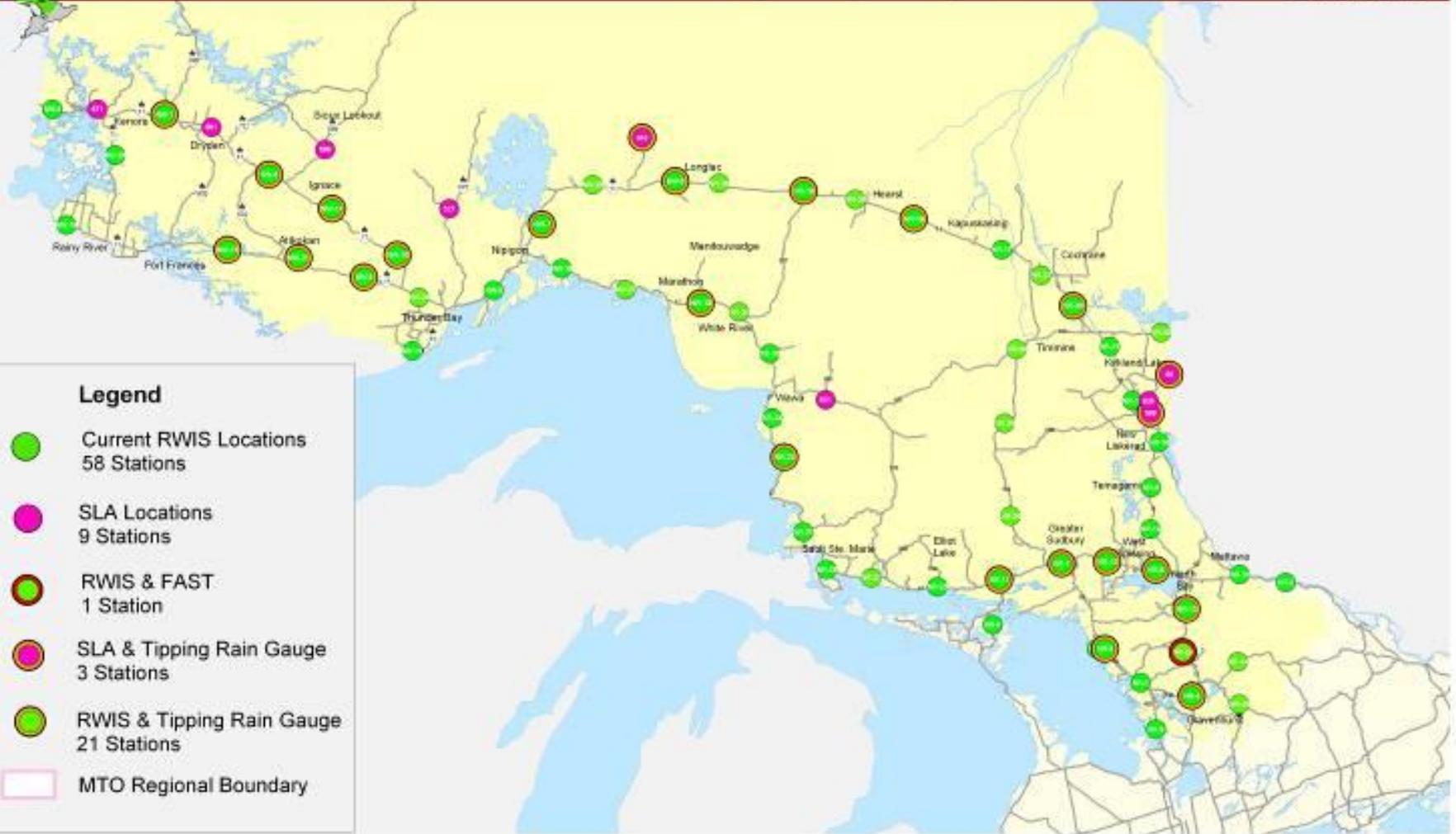


Technology

Road Weather Information System

- Integrated system of weather and road surface information
- MTO network of 141 stations
- Used to predict winter weather, road conditions & maintenance services
- Includes
 - Detailed 24 hour weather forecast for rain, snow, temperature, dew point, wind
 - Detailed 24 hour road surface forecast for snow or ice, frost, wet, damp, dry
 - 7 day long range weather forecast





Technology

Equipment – Combination Trucks and Tow Plows

- Advances in equipment technology means that our highways can be maintained to our standard and contract requirements with different types and numbers of equipment.
- For example, separate plows and spreaders have now been replaced with combination trucks that can plow and spread simultaneously.
- Tow plows are now being used in areas of multiple lanes

Tow Plow



Highway Closures

- Despite our best efforts, there will be times when extreme weather may prevent the highway from being cleared quickly
- Sometimes the safest and best option is to close a highway until weather conditions improve enough to allow snow and ice control
- Only the police have the authority to close the highway

How Can You Help?

Let us know if you or others have a concern about our winter maintenance services.

- If you have a question about winter maintenance;
 - Please contact our **Regional Communications Coordinator, Annemarie Piscopo**
- If you wish to refer an individual to the ministry;
 - To obtain information about current road conditions, they can refer to our website or 511 automated telephone system
 - To ask a question or express a concern, they can send an e-mail to mtinfo@ontario.ca or call our 1-800 Information Line
 - To express an urgent concern, they can contact our contractor directly on their toll free number; contractors are required to return all calls within 24 hours and keep a log of calls for ministry review

How Can You Help?

Help us to get the word out about safe driving in winter conditions

- We have a lot of great winter driving tips on our website
- Stay alert, slow down, stay in control
 - Slow down and drive according to weather and road conditions
 - Keep a safe distance between you and the vehicle in front
 - Give yourself extra time to get to your destination
 - Consider delaying your trip
 - Prepare your vehicle
 - Keep a winter survival kit

Public Contact & Resource Information Northwestern Ontario

Contact	Ministry Contact & Resource Information
Regional Communications Coordinator	Annemarie Piscopo, (807) 474-2954, annemarie.piscopo@ontario.ca
Winter Road Conditions (Website)	www.ontario.ca/511 http://www.mto.gov.on.ca/french/traveller/trip
Winter Road Conditions (Telephone 511)	Call 511
Service Ontario Transportation Info. Line	Call: 1-800-268-4686 E-mail: winterhighways@ontario.ca or E-mail: mtoinfo@ontario.ca
Winter Driving Tips	http://www.mto.gov.on.ca/english/safety/winterdrive/winterdrive.shtml http://www.mto.gov.on.ca/french/safety/winterdrive/winterdrive.shtml

Public Contact Information Northwestern Ontario

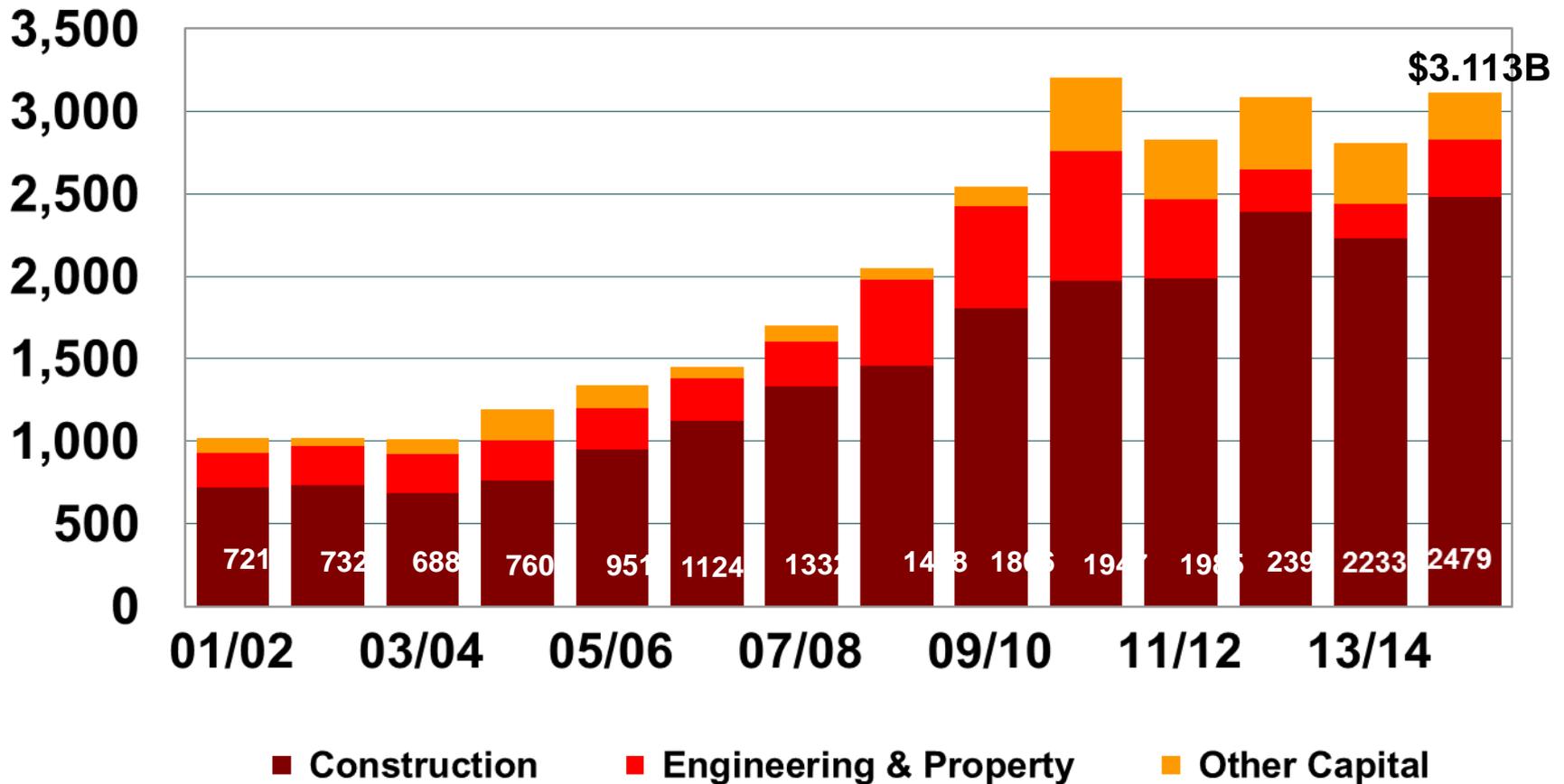
Contract Location	Name and Phone Number
Kenora	Transfield Services (Ontario) Ltd. 1-888-933-3326
Thunder Bay East	Carillion Canada Inc. 1-888-636-8704
Thunder Bay West	Integrated Maintenance & Operations Services 1-855-680-0861

Northwestern Region Highlights

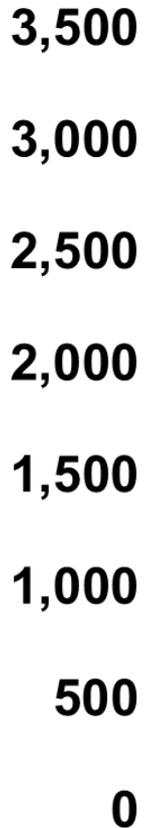
**46 Construction Contracts
underway in 2014**

- Tenders ongoing for 2015

Capital Budgets (\$M) 2001 – 2014



2014/15 Capital Budget - \$3,113 M



14/15

\$287 M for other transportation programs
 (Service Centres, Interest Capitalization, Remote Airports,
 Ferries, Program Support)

\$347 M for design and property

\$2,479 M for highway construction:

	Rehab	Expansion Traditional	Expansion AFP	Total
South	\$751 M	\$259 M	\$941 M	\$1,952 M
North	\$380 M	\$147 M	\$0 M	\$527 M
	\$1,131 M	\$406 M	\$941 M	\$2,479 M

Northwestern Region

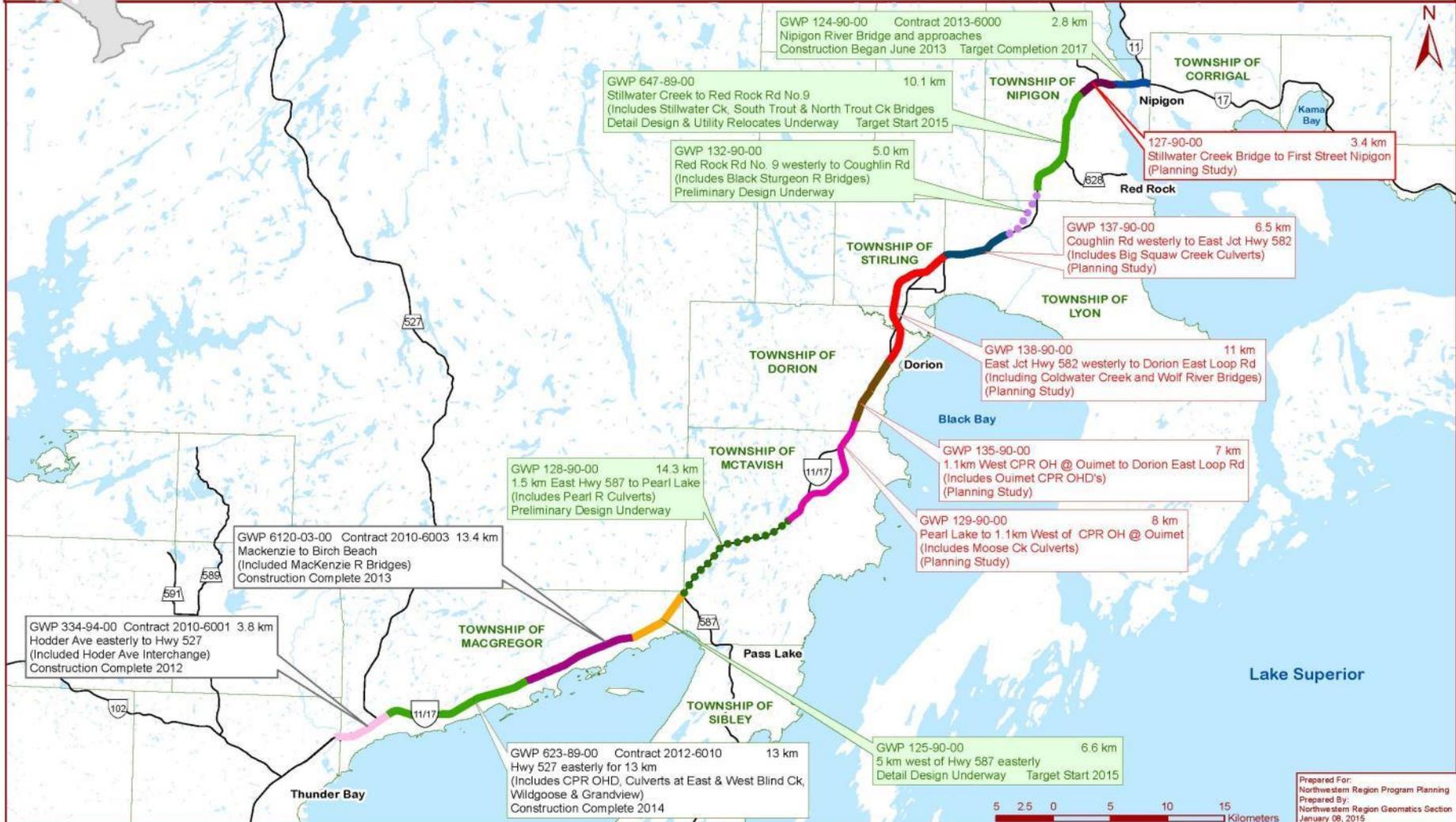
Expenditures in 2014/15

\$322 million total expenditures

Operating budget	-	\$60 million
Rehabilitation	-	\$192 million
Expansion	-	\$70 million

Expansion – Thunder Bay to Nipigon

Highway 11/17 - Thunder Bay to Nipigon Corridor 4 Laning - Work Projects



Prepared For:
Northwestern Region Program Planning
Prepared By:
Northwestern Region Geomatics Section
January 08, 2015

Expansion Highlights

- Highway 11/17 - From Hodder Avenue to Highway 527
Construction completed in 2012 -Teranorth Construction
- Highway 11/17 - From Mackenzie easterly 13.4 km to
Birch Beach - Construction completed in summer 2013 -
BOT Construction
- Highway 11/17 - From Highway 527 easterly 13 km to
Mackenzie – Construction started in fall 2012. Aecon
Construction & Materials Ltd. (complete and opened to
traffic this fall)

Expansion Highlights (con't)

- Highway 11/17 – Nipigon River Bridge- New four lane bridge – Construction started in summer of 2013 – Bot Ferrovia Nipigon Joint Venture
- Highway 11/17 – Stillwater Creek to Red Rock Road #9, which includes the South Trout Creek - New Eastbound Bridge – Construction started in early 2014 – L H North Ltd (structure complete). Main contract to be tendered shortly – work to start summer 2015
- Highway 11/17, from 5.0 km west of Highway 587 easterly 6.6 km to 1.5 km east of Highway 587 (currently being tendered – awarded this spring). Design Build Major

New Nipigon River Bridge

- New 4 lane cable stayed bridge.
- First cable stayed bridge on the Ontario highway network.
- Uses high strength cables as primary support system
- lower carbon footprint.
- Construction started in 2013, opening anticipated in 2017.
- **Website:**
www.enl.tbay.com/nipigonbridge.html
- Live video feed: showing work through the winter and can follow towers being erected later this year



Hwy 11/17 – Hwy 527 to Mackenzie



Nipigon River Bridge – December 2014



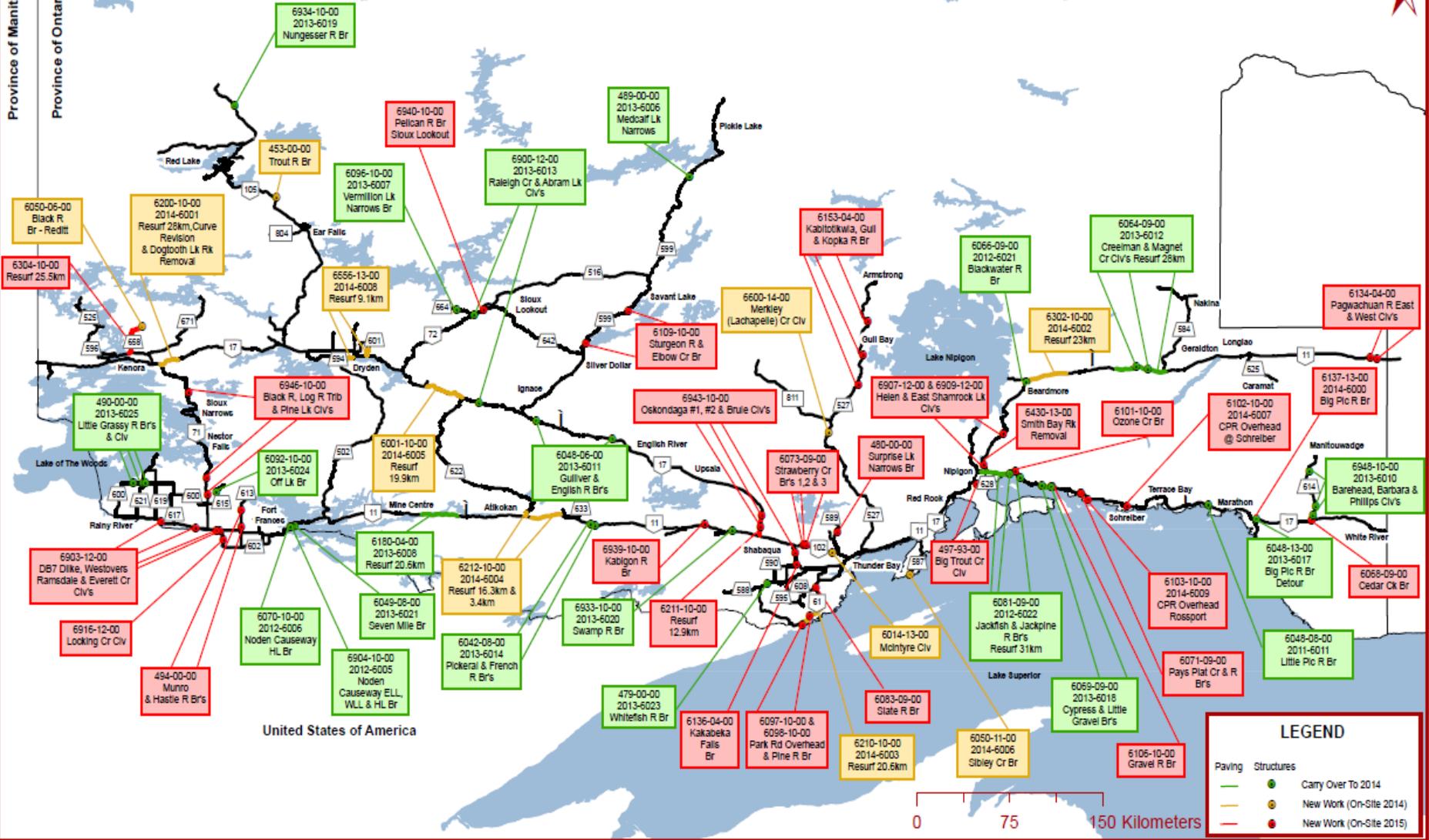
Nipigon River Bridge



Ministry of Transportation Northwestern Region Construction Program 2014/2015



Province of Manitoba
Province of Ontario



LEGEND

- Paving: Yellow line
- Structures: Green line
- Carry Over To 2014: Red circle
- New Work (On-Site 2014): Yellow circle
- New Work (On-Site 2015): Red circle

Prepared By: Ryan Hudec
Northwestern Region, Program Planning
September 8th, 2014

