Winter Maintenance on Ontario’s Highways

MTO – Eastern Region
January 24th, 2018
Northumberland County Council
Outline

1. Winter Maintenance Areas - Eastern Region
2. Winter Maintenance Standards
3. Winter Maintenance
   - Requirements
   - Technology
4. This Winter in Northumberland
5. Contact & Resource Information
6. Questions?
Winter Maintenance Areas – Eastern Region
# Winter Maintenance Standard

<table>
<thead>
<tr>
<th>Highway Class</th>
<th>Bare Pavement Standard (following the end of a winter event)</th>
<th>Circuit Time Plowing &amp; Salting (Hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Within 8 hours</td>
<td>1.6</td>
</tr>
<tr>
<td>2</td>
<td>Within 16 hours</td>
<td>2.2</td>
</tr>
<tr>
<td>3</td>
<td>Within 24 hours</td>
<td>3.3</td>
</tr>
<tr>
<td>4**</td>
<td>Centre Bare within 24 hours</td>
<td>5.5</td>
</tr>
<tr>
<td>5**</td>
<td>Snow packed within 24 hours</td>
<td>10.0</td>
</tr>
</tbody>
</table>

** Not applicable in Eastern Region
Winter Maintenance - Requirements

Transition Periods (before and after Winter Season)

- Winter Season is defined as:
  - Nov 15th to March 31st – Kingston West

- Transition Periods are the 30 days before and the 30 days after the Winter Season

- Contractors are required to have minimum 50% of the full winter equipment complement ready for Deployment during the Transition Periods
Ministry of Transportation

Winter Maintenance - Requirements

• Includes:
  • Readiness of staff, equipment and materials to respond quickly
  • Patrol, calling out and directing their own operations in accordance with the contract requirements.
  • Deployment of plows (upon accumulation of 2cm of snow)
  • Spreading sand/salt (within 30 minutes of arrival of storm)
  • Application rates for sanding and salting
  • Continuous operations until bare pavement achieved
  • Achieving bare pavement standard within the specified time
  • Address isolated slippery sections
  • Post storm clean-up (shoulders, median cross-overs, banks, commuter parking lots)
Winter Maintenance

DLA (Direct Liquid Application)

- Anti-icing liquids can be placed prior to snow, freezing rain or in frost susceptible areas (bridge decks)
- Remains on surface to melt initial precipitation and prevent the snow or ice from sticking to the surface
- Used more often in southern Ontario where temperatures are milder
- Used primarily at beginning or end of winter in Ontario
Winter Maintenance – Technology

Road & Weather Information System (RWIS)

• Integrated system of weather and road surface information
• MTO network of 148 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
  • Cameras
Winter Maintenance – Technology

• All winter equipment has AVL
• Uses 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)
• Provides detailed information;
  • location, speed, operation (plowing, spreading), type of material (salt, sand), application rates
• Information is also stored in a database for later retrieval.
Ministry of Transportation

Select information to display on map:

- Closures & Restrictions
  - Incidents and Closures
- Construction / Maintenance
  - Today's Roadwork
  - Future Roadwork
  - Construction
- Driving Conditions
  - Reported Road Conditions
  - Google Traffic
- Forecasted Driving Conditions [Pilot]
  - Current Forecast (0-3hr)
  - Short-term Forecast (3-6hr)
  - Medium-term Forecast (6-9hr)
  - Long-term Forecast (9-12hr)
- Cameras
  - Traffic Cameras
  - Weather Cameras
- Traveller/Commuter Info
  - HOV/HOT Lanes
  - Carpool Lots
  - Electric Vehicle Chargers
  - Ferry Services
  - Service Centres
  - Travel Information Centres

Cammers
Weather Warning System (WWS)
Weather Warning System - Nagle Rd to Percy St
Ministry of Transportation

Ontario

Weather Sensor – Wind, Precipitation and Temperature

Visibility Detection Sensor

Traffic Sensor

Camera
Planned Winter Maintenance Improvements

Winter 2017/18:

• Track My Plow has been expanded to all 20 of the province’s contract areas in Northern and Southern Ontario, providing more information to help drivers plan their trips.
• Ontario 511 now includes a new predicted driving conditions layer based on forecasted weather conditions we are piloting to help drivers plan ahead.
  - Continued increased use of anti-icing liquid before a storm, to help prevent ice and snowpack from forming on the road surface. This is an ongoing change to new and existing contracts.
  - Continue to research and test new technologies such as advanced visibility warning signs and ways to make spreading salt and sand more effective.
  - Two new RWIS stations with cameras in Eastern Region.
  - Expanded network of Changeable Message Signs with winter driving messages starting on Hwy 401 in Eastern Region.
  - New speed detectors in Eastern Region for research on operating speeds during inclement weather.
Winter Messaging

THIS IS WINTER!

DRIVE TO CONDITIONS

BE PREPARED FOR WINTER DRIVING

PLAN AHEAD WITH ONTARIO 511

15 CM SNOW FORECAST FOR 6 PM

PLAN AHEAD NOW

SNOW PLOWING IN PROGRESS

DON'T CROWD THE PLOW
## Public Contact & Resource Information

<table>
<thead>
<tr>
<th>Winter Road Conditions (website)</th>
<th>Ministry Information &amp; Resource Information</th>
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<tbody>
<tr>
<td>Winter Road Conditions</td>
<td>Call 511</td>
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<tr>
<td></td>
<td>Regional Twitter Account: @511Ontario account.</td>
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<tr>
<td></td>
<td>- @511ONCentral</td>
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<td>- @511ONEastern</td>
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<td>- @511ONNortheast</td>
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<td>- @511ONNorthwest</td>
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<td>- @511ONWest</td>
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| Service Ontario                | webwinterhighways@ontario.ca                  |
|                                | routesdhiver@ontario.ca                       |
|                                | 1-844-507-1427                                |

| Winter Driving Tips            | www.Ontario.ca/winterdriving                  |
Questions?