

EVALUATING THE USE OF WEB-BASED SYSTEMS TO MANAGE POLICY DOCUMENTATION IN WINTER MAINTENANCE

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Learning Outcomes

- At the end of this presentation, listeners will be able to:
 - Describe the importance of a comprehensive and clear winter maintenance policy document
 - Explain how the web-based system facilitates the creation of such a document
 - Recognize the advantages and challenges of such a web-based system

Testing Agencies

- Township of Dawn-Euphemia
Population: 2190
Lane KMs: 896
Average Snowfall: 79cm
- Wellington County
Population: 105,000
Lane KMs: 1400
Average Snowfall: 290cm (north), 190 (south)
- Both have used the web based system for a couple of years, and have provided feedback on how the system has benefited them, and what challenges they see with the system

*Level of Service
Policy*

Vulnerable Areas

*Material and
Equipment Listings*

Winter Preparations

*Salt
management*

**Allows users to *easily* create customizable and detailed Winter Operations
Planning document, from within their web-browser!**

Winter Patrol

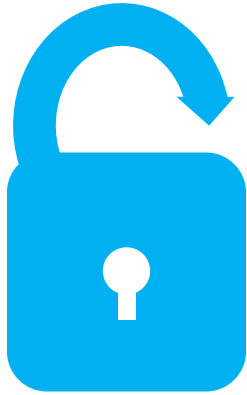
*Disposal and
Decommissioning*

Weather Monitoring

Operations

Facilities and Staff

And more!



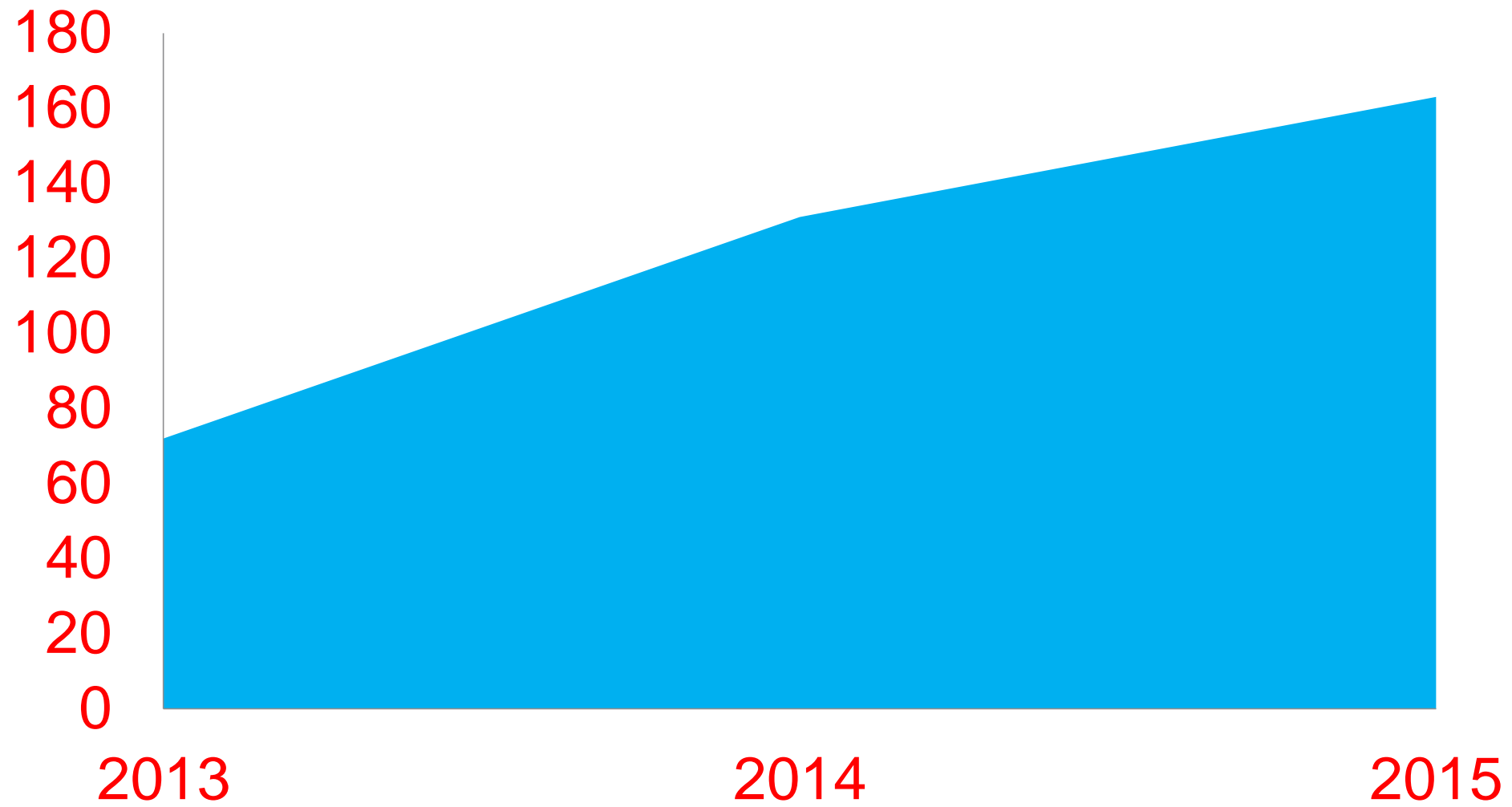
Secure Log-In



*Straightforward
Questions +
Maps*

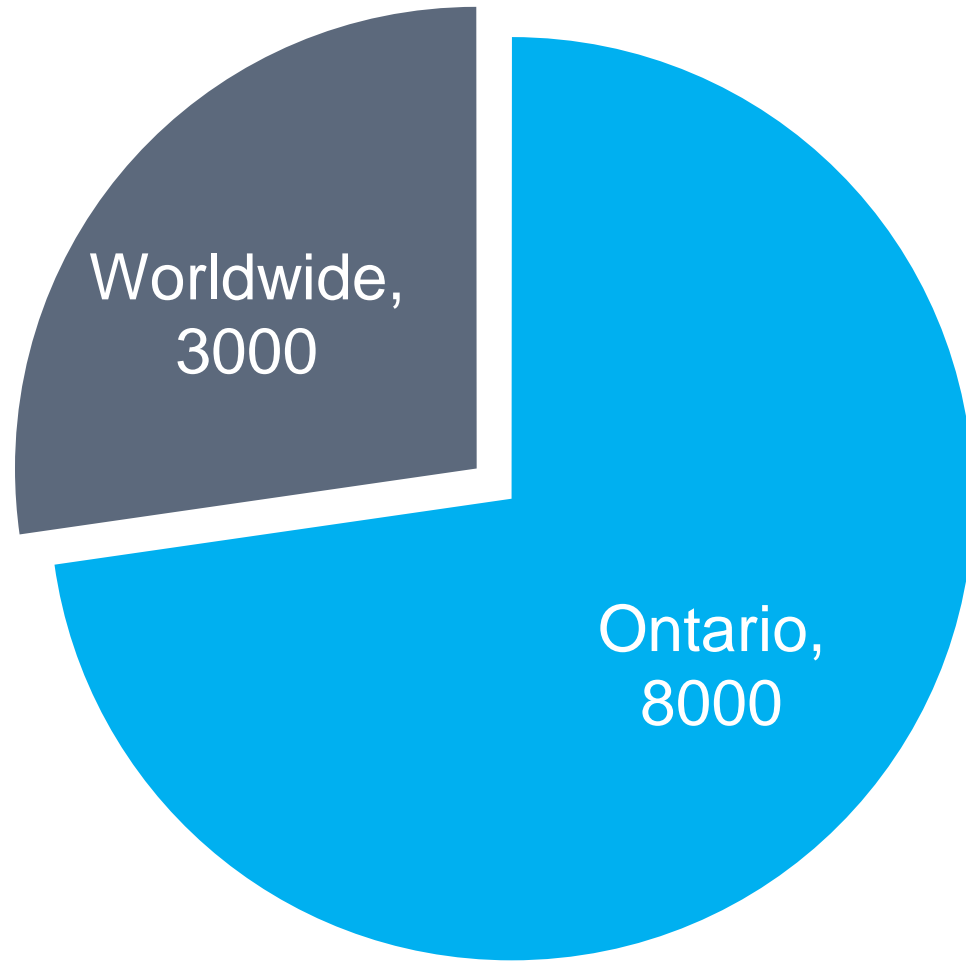


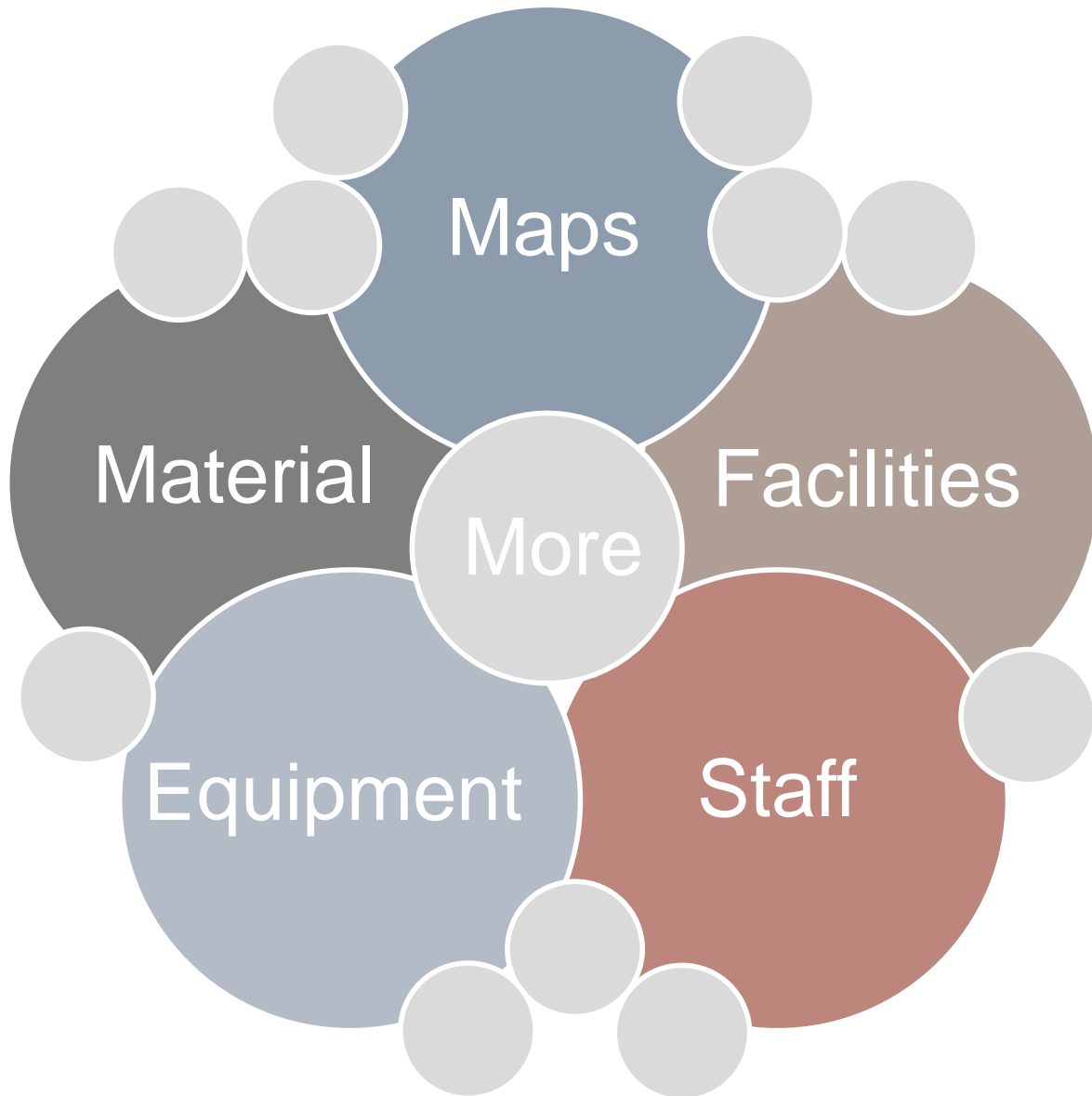
*Customized Winter Operations
Planning document **ready to
download***




160+3















Ontario Municipalities and First Nations
accessing the Winter Web App today







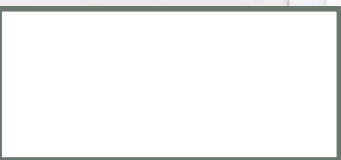
 Click for Documents List



| | | |
|--|--|--|
|  Contact Info |  Road Network |  Level of Service |
|  Preparations |  Operations |  Facilities and Staff |
|  Material and Equipment |  Vulnerable Areas |  Weather Monitoring |
|  Communications |  Disposal and Decommissioning |  Training |
|  Records, Monitoring and Updating |  Plan Improvements | |


 Completed  Incomplete  Not Started

| Document Content |
|--|
| Purpose |
| Definition |
| 1.0 Winter Operations Management Objective |
| 2.0 Policy Statement |
| 3.0 Winter Maintenance Program |
| 3.1 The System Maintained |
| 3.2 Level of Service |
| 3.3 Winter Maintenance Season |
| 3.4 Winter Preparations |
| 3.5 Winter Patrol |
| 3.6 Operations |
| 3.7 Decommissioning Winter Operations |
| 3.8 Training |
| 3.9 Record Keeping |
| 4.0 Plan Improvements |
| 5.0 Monitoring and Updating |
| Appendices |













+ ADD - ONS



**WINTER PLANNING &
OPERATIONS DOCUMENT**

🔧 MY DATA

| | | | |
|---|--|--|---|
|  <p>CONTRACTORS</p> |  <p>MAPS</p> |  <p>MATERIAL</p> |  <p>FACILITIES</p> |
|  <p>VULNERABLE AREAS</p> |  <p>STAFF</p> |  <p>EQUIPMENT</p> |  <p>SETTINGS</p> |

MAPS

Any maps you create anywhere within the Winter Web App appear in this list. You may edit the maps from within this list or even add new ones; however, when editing, please be extra careful as the changes will ripple through any other sections of the Winter Web App sharing the respective map(s)

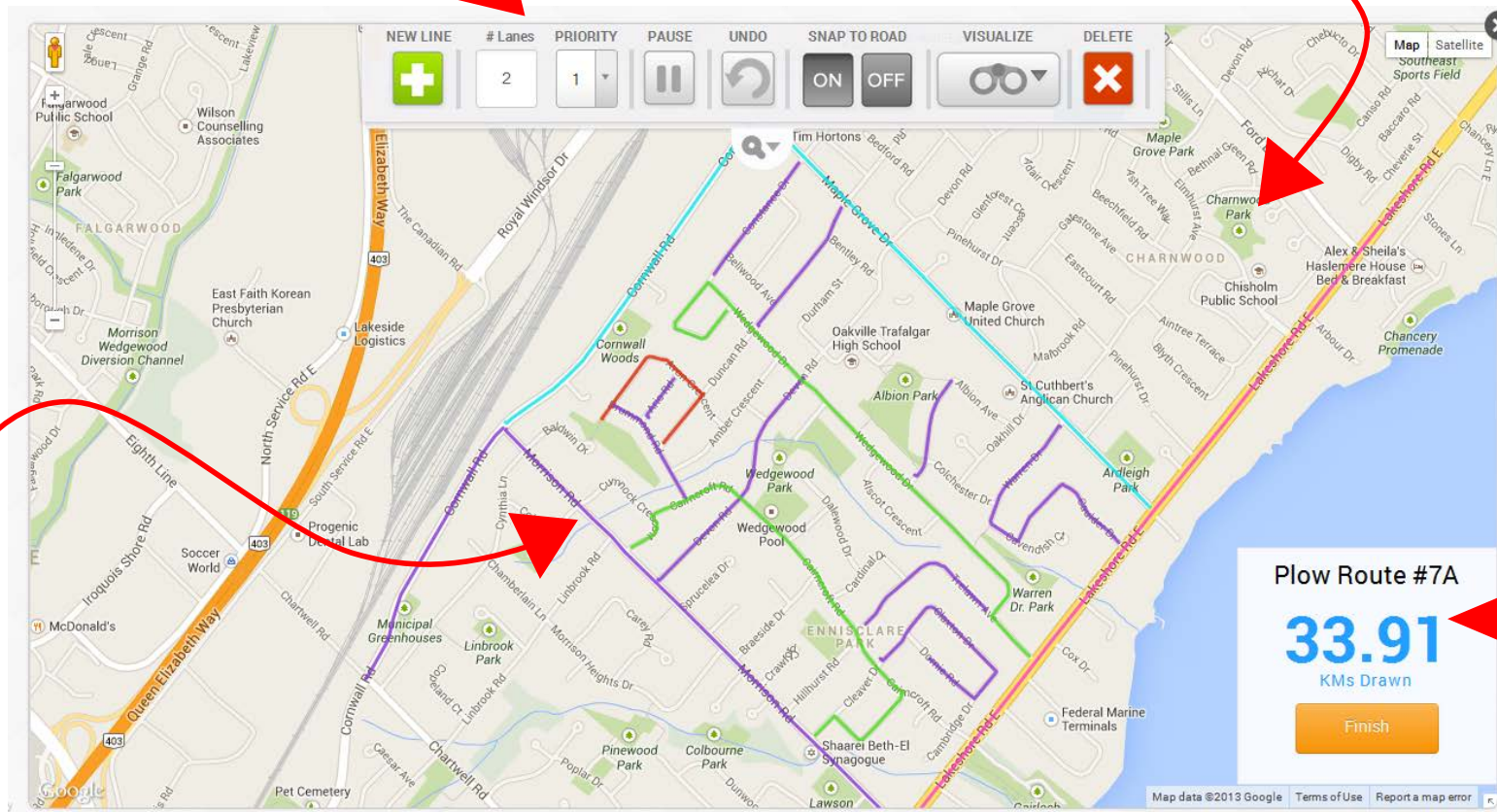
[+ NEW MAP](#) [+ NEW MAP USING KML](#)

- ADMIN
- PLOW ROUTES**
- PATROL ROUTES
- VULNERABLE AREA
- LAND BOUNDARY

| NAME | BIENG SHARED WITH | ACTIONS |
|--------------|--------------------------|-------------------------------------|
| Plow Route 1 | Winter Planning Document | ✎ ✖ |

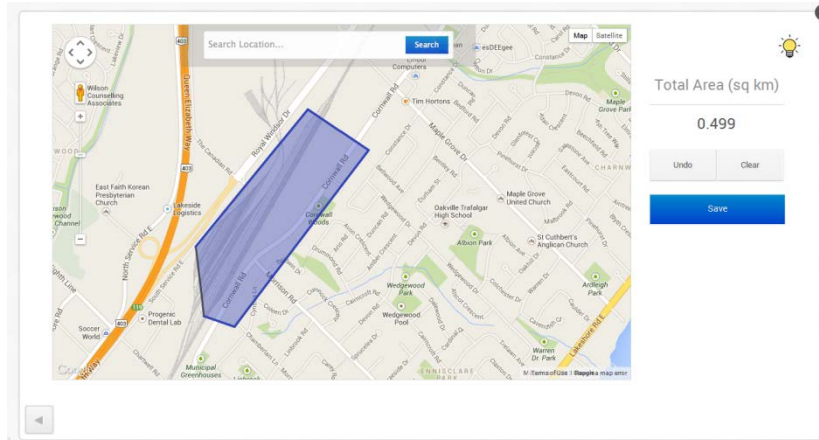
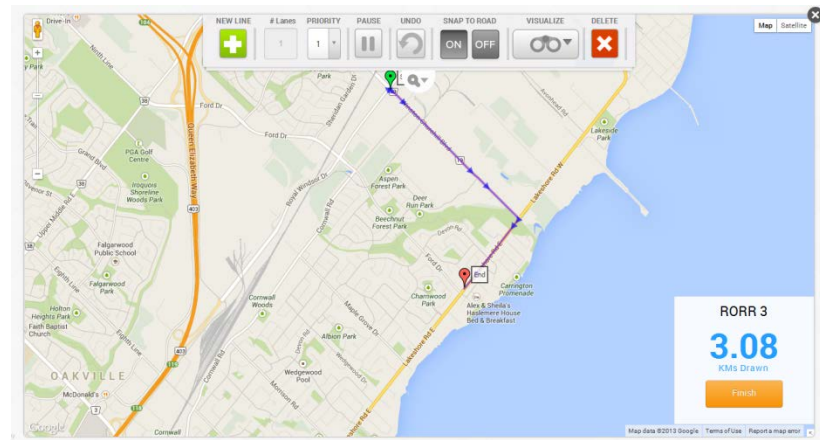
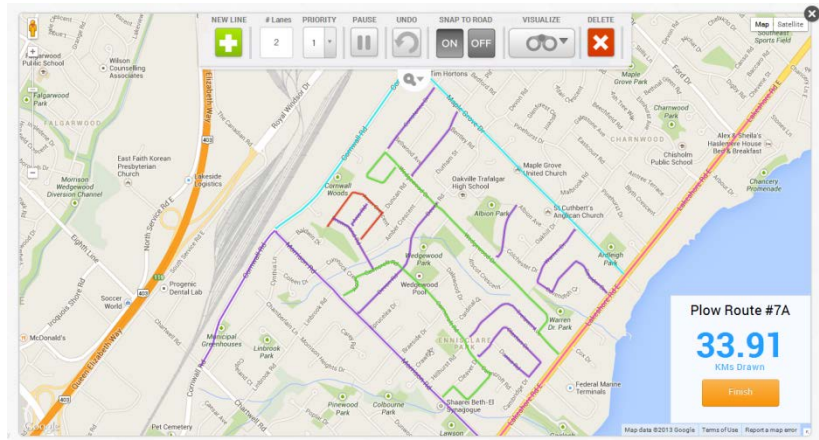
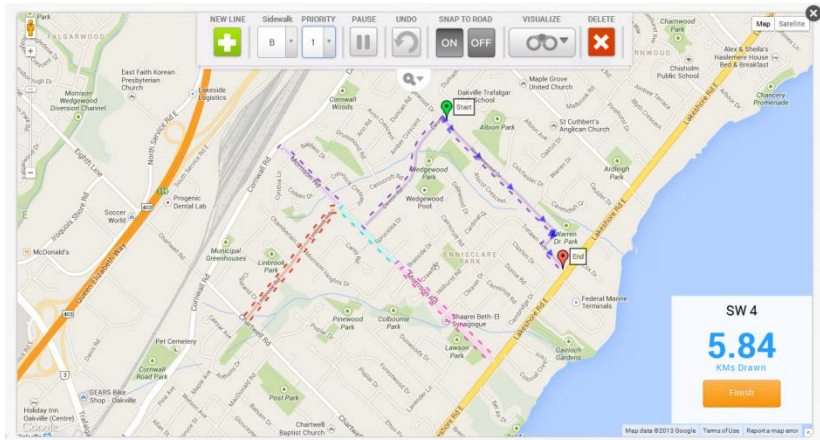
Simple Toolbar

Google Maps



Route Priorities
by Colour

Live Lane-KM
Calculations



Greens

The screenshot shows a web browser window with the URL `ogra-doc.herokuapp.com/my_documents/50c63c1ca9fd1bb74a00000e`. The page title is "Ogra". The main content area is titled "WOP Documents" and features a grid of 15 document categories, each with an icon and a label. A legend at the bottom indicates the status of each document: Completed (green), On-Going (yellow), Incomplete (red), Not Started (grey), and Not Applicable (dark grey). A "Document Content" sidebar on the right lists the following sections: Purpose, Definition, 1.0 Winter Operations Management Objective, 2.0 Policy Statement, 3.0 Winter Maintenance Program (with sub-sections 3.1-3.9), 4.0 Plan Improvements, 5.0 Monitoring and Updating, and Appendices. A "BETA" badge is visible on the left side of the main content area.

WOP Documents


Document Content

- Purpose
- Definition
- 1.0 Winter Operations Management Objective
- 2.0 Policy Statement
- 3.0 Winter Maintenance Program
 - 3.1 The System Maintained
 - 3.2 Level of Service
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- 5.0 Monitoring and Updating
- Appendices

Legend: ■ Completed ■ On-Going ■ Incomplete ■ Not Started ■ Not Applicable











+ ADD - ONS



WINTER PLANNING & OPERATIONS DOCUMENT

🔧 MY DATA

| | | | |
|---|--|--|---|
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Benefits

- Extremely easy to use – absolutely no need to be a computer expert;
- The entire software is online – nothing to install except for the browser;
- Ability to create and have full control over route Maps – no need to go through their local “IT folks” anymore;
- Satisfaction that a “standardized format/language” document is being used;
- Satisfaction that the content is heavily tied into Ontario’s Minimum Maintenance Standards (MMS), which Ontario trusts

More Benefits

- Ability to generate a document for every winter season;
- A single click can port all the data from previous winter season to the current;
- Questions posed to the user serve as great reminders or “mental flags”
- Questions also provide user with an insight into how the public works director should be thinking/planning about winter operations under best practices
 - Example - having a question appear on level of service policy on sidewalk snow clearance makes the user question their current practices, even if they do not presently have any policies for that topic;
- Overall promotion of best practices across the board

Challenges

- Inability to import existing GIS maps. Will be available in version 2.
- Inevitable limitations in a template based process – for example, some data entry points are numerical only – this is part of the compromise in creating an easy to use process – you lose some flexibility
- Inability to add additional documents and sections within the planning document that is produced. In version 2, users will be able to add their own documents as appendices, and will also be able to add new sections into the document.
- Version 1 was in Canadian units only (km not miles, for example). Version 2 allows units to be specified

Overall Conclusion from Test Agencies

- Useful tool that provides a winter policy and planning document
- Document creation ensures that all the “bases” are covered in the document, so agencies can be confident they have a comprehensive document
- Provides not only a planning framework for the agency, but also a risk management tool
- The ability (in the future) to use the web app a portal to gather and analyze data relating to winter maintenance activities is both intriguing and exciting

Learning Outcomes Revisited

- At the end of this presentation, listeners will be able to:
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