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# NATURAL RESOURCES CANADA

# TACTILE MAPS OF CANADA

Canada

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## 1.0 OVERVIEW

### 1.1 Tactile Maps of Canada

Tactile maps are designed with Braille, large text, and raised features for visually impaired and low vision users. The Tactile Maps of Canada collection consists of:

(a) **Maps for Education**: tactile maps intended for use in teaching geography and geographical concepts showing the general geography of Canada, including the Tactile Atlas of Canada and the Thematic Tactile Atlas of Canada.

(b) **Maps for Mobility**: tactile maps to help visually impaired persons navigate spaces and routes in major cities by providing information about streets, buildings and other features of a travel route in the downtown area of a city.

(c) **Maps for Transportation and Tourism**: tactile maps to assist visually impaired persons in planning travel to new destinations in Canada, showing how to get to a city and streets in the downtown area.

### 1.2 Purpose and Background

The Tactile Maps of Canada collection is intended to provide Canadians with visual impairments a foundation for improving knowledge about space, the environment and geography, and an enhanced quality of life through greater independence gained from increased mobility. The maps were developed with the input of primary and secondary school students, teachers and cartographic practitioners.

The maps were originally distributed by Natural Resources Canada in 2002 through the Mapping for the Visually Impaired Web site.

## 2.0 TACTILE MAPS FOR EDUCATION

### 2.1 The Tactile Atlas of Canada

The Tactile Atlas of Canada is intended for use in teaching geography and geographical concepts to blind and visually impaired students at the primary and early secondary grades. The design of the maps in the Atlas was tested in W. Ross MacDonald School and with the CNIB, as well as in schools in Ottawa and Quebec.

The Tactile Atlas shows the general geography of Canada and includes:

- a tactile map of Canada showing political boundaries; and
- tactile maps of the provinces and territories showing political boundaries, lakes, rivers and major cities.

The Tactile Atlas was originally created in collaboration with Tactile Vision Inc. and distributed as a paper product created using raised ink.

### 2.2 The Thematic Tactile Atlas of Canada

The Thematic Tactile Atlas of Canada is a continuation of the Tactile Atlas of Canada project. The Atlas is intended for visually impaired and blind students at the secondary school level.

People at all ages who have some experience with raised graphics or patterns and reading Braille will also learn more about Canada through this Atlas.

The maps included in the Thematic Tactile Atlas of Canada include:

- **Climate Regions**: This map illustrates the climatic regions of Canada. The varying climate has been classified into eight major regions such as Arctic and Pacific Maritime regions.
- **Forest Types**: This map displays the forest cover across Canada. Examples of the categories found in this theme are the Montane forest and the Taiga forest.
- **Physiographic Regions**: The physiographic regions of Canada are made up of three distinct types of landforms: shield, highlands and lowlands. The highlands include categories 2, 4 and 7. The lowlands include categories 1, 3 and 6.
- **Relief**: This theme is related to the elevation above mean sea level of Canada. Elevation is recorded in metres.
- **Cross section of relief:** This graphic shows the cross-section of the Relief map. The cross-section cuts through Canada around the 49th parallel. Not all provinces and territories are shown in the figure.
- **Rock Types**: This theme focuses on the major surface rock types found in Canada such as igneous, metamorphic and sedimentary.
- **Soil Types**: This theme focuses on the types of soil, such as Tundra soil and Dry-climate soil, and their distribution at the national level.
- **Vegetation**: This theme portrays the primary vegetation covering the Canadian landmass. Examples of the categories found in this theme are Boreal forest, Mixed forest and Grassland.

## 3.0 MAPS FOR MOBILITY

Maps for mobility are generally used to help blind and vision impaired persons learn to navigate spaces and routes they take on a regular basis, such as a trip to a bus stop or to work. The maps enhance the mobility of users by providing information about streets, buildings and other features of a travel route and destination area.

Two types of Maps for Mobility are available:

- **Neighbourhood Maps**; and
- **City Downtown Maps**.

### 3.1 Neighbourhood Maps

These custom-made maps are prepared for an individual to meet a specific mobility need, such as walking from home to a bus stop. The features shown on these maps include main streets and main topographic features such as relevant buildings. Braille labels may be added to the map, depending on the user's needs.

### 3.2 City Downtown Maps

These general street maps or topographic city area maps show the downtown area of a city. The features shown on the maps include streets and major buildings. The city downtown maps work well as audio-tactile maps because the features on the maps tend to be very close together. This makes it difficult to add Braille or text labels to streets or buildings, for example. More information about the map features can be added and accessed through an audio-tactile system.

## 4.0 MAPS FOR TRANSPORTATION AND TOURISM

Transportation and tourism maps are prepared for low vision and blind users to assist them in planning travel to new destinations in Canada.

Two types of Maps for Transportation are available:

- **City Approach Maps** showing how to get to a city; and
- **City Downtown Maps** showing streets in the downtown area.

### 4.1 City Approach Maps

These smaller scale maps show main numbered highways entering a city; a built-up area outline of a city indicating the overall size and shape of the city; and symbols indicating features such as airports, bus stations, train stations and ports.

### 4.2 City Downtown Maps

These large scale general street maps or topographic city area maps show the downtown area of a city. The features shown on the maps include streets and major buildings. They can also be used for mobility training.

## 5.0 HOW TO PRINT A TACTILE MAP

### 5.1 Overview

Tactile Maps of Canada can be downloaded and printed individually using capsule paper. To print a tactile map, the graphic is downloaded, uncompressed, printed on capsule paper, and passed through a thermal enhancer. Capsule paper, which is a heat activated rising paper, is used in a Stereo Copying Machine to raise the printed surfaces such as contour lines, patterns and text. The tactile maps are designed to be printed on 8 ½" x 11" paper.

### 5.2 Download a Map File

Select the map you wish to download. Save the compressed archive file to your computer. Uncompress the archive, and open the map file using Adobe Acrobat (PDF files) or some other drawing application such as Photoshop or Corel Draw.

### 5.3 Printing a Map

There are two printing methods to produce a tactile map:

1. Using capsule paper and an ink-jet printer:
    - Click Print and print the image on 8 ½" x 11" sheet of capsule paper.
    - Pass the capsule paper through a thermal enhancer.

2. Using capsule paper and a photocopier:
    - Click Print and print the image on regular 8 ½" x 11" sheet of paper.
    - Photocopy this image onto capsule paper
    - Pass the capsule paper through a thermal enhancer.

Note: Any commercial ink-jet printer may be used. Do not use a laser printer. The capsule paper may jam and cause damage.

## 6.0 MAPPING PROCEDURES

These procedures are intended to help sighted users make maps for visually impaired persons. Each procedure describes in a step-by-step fashion how to create a tactile map from a different source or original map. The steps in the map creation process are described in a general way, without referring to specific software or hardware. The procedures assume the user knows how to use basic computer tools such as graphics drawing software.

### 6.1 Drawing a Tactile Map Using Digital Drawing Software and a Geographical Database

**Concept:**

1. Digital drawing software is used to draw a map. A digital geographical database is the source information.
2. The area to be mapped is chosen from the geographical data base and is copied into the digital drawing software.
3. The information to be drawn is traced on different layers in order to customize a map by simply turning layers "on" or "off" before printing.
4. The finished drawing is printed directly onto capsule paper using an ink-jet printer or on regular paper and then copied onto capsule paper using a photocopy machine.
5. The capsule paper is then passed through a thermal enhancer to produce a tactile map.

**Drawing a Tactile Map:**

1. **Copy the area** to be mapped from a digital mapping software database.
2. **Open a new file** in the digital drawing software and **paste** the image.
3. **Size the image** to fit the page in landscape or letter format.
4. **Add a new layer** to draw a border around the perimeter of the page and make a smaller boxed area at the top of the drawing to place the map name, scale bar and a north arrow.
5. **Add new layers**, select the drawing application, and draw the features you would like to map: roads, buildings, lakes, rivers, etc. on the various layers. By having several layers and placing each feature on its own layer, including Braille and type, will allow you to customize your map at the printing stage by selecting the layers you would like printed.
6. **Add a fill symbol** to closed area features such as lakes or buildings.
7. **Save the file** when all the features have been drawn.
8. **Print the file** using an ink-jet printer directly onto capsule paper or onto regular paper and then photocopy the image onto capsule paper.
9. **Pass the capsule paper** through a thermal enhancer.

### 6.2 Drawing a Tactile Map Using Digital Drawing Software and a Scanned Image

**Concept:**

1. Digital drawing software is used to draw the map. A paper map or traced drawing of an area is the source information.
2. The area is scanned using any conventional scanner, saved and then imported into the digital drawing software.
3. The information to be drawn is traced on different layers in order to customize a map by simply turning layers "on" or "off" before printing.
4. The finished drawing is printed directly onto capsule paper using an ink-jet printer or on regular paper first and then copied onto capsule paper using a photocopy machine.

5. The capsule paper is then passed through a thermal enhancer to produce a tactile image.

**Drawing a Tactile Map:**

1. **Choose the base** to be scanned - a printed map or a traced / free-hand drawing of an area.
2. **Scan the base** using any conventional scanner, save it and then import it into digital drawing software.
3. **Size the image** to fit the page in landscape or letter format.
4. **Add a new layer** to draw a border around the perimeter of the page and make a smaller boxed area at the top of the drawing to place the map name, scale bar and a north arrow.
5. **Add new layers**, select the drawing application, and draw the features you would like to map: roads, buildings, lakes, rivers, etc. on the various layers. By having several layers and placing each feature on its own layer, including Braille and type, will allow you to customize your map at the printing stage by selecting the layers you would like printed.
6. **Add a fill symbol** to closed area features such as lakes and buildings.
7. **Save the file** when all the features have been drawn.
8. **Print the file** using an ink-jet printer directly onto capsule paper or onto regular paper and then photocopy the image onto capsule paper.
9. **Pass the capsule paper** through a thermal enhancer.

### 6.3 Drawing a City Approach Tactile Map

**Concept:**

1. A 1:250 000 scale topographic map is used as the base to draw a city approach map.
2. The city to be mapped is scanned from the 1:250 000 map and copied into digital drawing software.
3. The information to be drawn is traced on different layers in order to customize a map by simply turning layers "on" or "off" before printing.
4. The finished drawing is printed directly onto capsule paper using an ink-jet printer or on regular paper and then copied onto capsule paper using a photocopy machine.
5. The capsule paper is then passed through a thermal enhancer to produce a tactile map.

**Drawing a City Approach Map:**

1. **Scan the area** to be mapped from a 1:250 000 topographic map. Save the image as a .tif file.
2. **Open a new file** in digital drawing software and import the scanned image.
3. **Size the image** to fit the page in landscape or letter format.
4. **Add a new layer** to draw a border around the perimeter of the page and make a smaller boxed area at the top of the drawing to place the map name, scale bar and a north arrow.
5. **Select the drawing applications** to draw the features you would like to map: city outline, roads, lakes, symbols (for airport and bus station, etc.) and place these on separate layers. By having different layers and placing each feature on its own layer, including Braille and type, will allow you to customize your map at the printing stage by selecting the layers you would like printed.
6. **Add a fill symbol** to closed area features such as lakes, city outline area.
7. **Save the file** when all the features have been drawn.
8. **Print the file** using an ink-jet printer directly onto capsule paper or onto regular paper and then photocopy the image onto capsule paper.
9. **Pass the capsule paper** through a thermal enhancer.

### 6.4 Drawing a City Core Tactile Map

**Concept:**

1. A 1:50 000 scale topographic map is used as the base to draw a city core map.
2. The city to be mapped is scanned from the 1:50 000 map and is copied into digital drawing software.
3. The information to be drawn is traced on different layers in order to customize a map by simply turning layers "on" or "off" before printing.
4. The finished drawing is printed directly onto capsule paper using an ink-jet printer or on regular paper and then copied onto capsule paper using a photocopy machine.
5. The capsule paper is then passed through a thermal enhancer to produce a tactile map.

**Drawing a City Core Map:**

1. **Scan the area** to be mapped from a 1:50 000 topographic map. Save the image as a .tif file.
2. **Open a new file** in digital drawing software and import the scanned image.
3. **Size the image** to fit the page in landscape or letter format.
4. **Add a new layer** to draw a border around the perimeter of the page and make a smaller boxed area at the top of the drawing to place the map name, scale bar and a north arrow.
5. **Select the drawing applications** to draw the features you would like to map: main roads, secondary roads, places of interest, rivers, symbols (for train station and bus terminal etc.) and place these on separate layers. By having different layers and placing each feature on its own layer, including Braille and type, will allow you to customize your map at the printing stage by selecting the layers you would like printed.
6. **Add a fill symbol** to closed area features such as lakes, city outline area.
7. **Save the file** when all the features have been drawn.
8. **Print the file** using an ink-jet printer directly onto capsule paper or onto regular paper and then photocopy the image onto capsule paper.
9. **Pass the capsule paper** through a thermal enhancer.

### 6.5 Drawing a Thematic Tactile Map

**Concept:**

1. Retrieve an existing thematic map
2. Digitize a thematic map using ArcView
3. Export the map from ArcView and Import it into CorelDraw
4. Graphic design of thematic map
5. Tactile output

**Drawing a Thematic Tactile Map:**

1. **Find an existing thematic map** where the information can easily be replicated through digitization. A softcopy map stored as an ArcView "shapefile" is preferable, or an image (tiff) file that can be viewed in ArcView. The maps used for the Thematic Tactile Atlas project were taken from the Atlas of Canada and the Geological Survey of Canada.
2. **Digitize a new map** from the information found on the thematic map, using the on-screen digitizing tool in ArcView.
3. **Create a "new polygon theme"**, and digitize the information in a generalized fashion where all detailed data, which cannot be read through touch, is excluded. The final product is a digitized map of several theme categories.

4. **Export the final digitized map** as a Postscript (EPS) file from ArcView. If more than one theme has been digitized in ArcView, each theme must be exported separately. Each theme to be exported must be the only visible Theme in the View.
5. **Import the map** as a Postscript Interpreted (PS, PRN, EPS) file into CorelDraw.
6. **Ungroup the map** that was imported as a grouped object in CorelDraw. It must be ungrouped before any graphical changes can be made.
7. **Identify each theme category** with a different symbol in order to make a distinction between them. Numbers or patterns can be used to give a distinction between theme categories. If a pattern is used, each individual polygon (theme category) must be a closed unit before it can be filled.
8. **Add text** and other map elements to explain the thematic map.
9. **Change the text format** to Braille.
10. **Print the file** using an ink-jet printer directly onto capsule paper or onto regular paper and then photocopy the image onto capsule paper.
11. **Pass the capsule paper** through a thermal enhancer.

## 7.0 OTHER RESOURCES

Educational resources include:

- **Links**: web sites with useful teaching aids and materials; and
- **Bibliographic Resources**: a list of journals, books, atlases, directories and bibliographies for teaching and understanding issues in tactile mapping.

### 7.1 Links

Visit the following sites for useful teaching aids and materials.

University of Toronto Adaptive Technology Resource Centre
http://www.utoronto.ca/atrc/index.html

National Centre for Tactile Diagrams
http://www.nctd.org.uk/

CNIB - Canadian National Institute for the Blind
http://www.cnib.ca/

Braille Jymico
http://www.braillejymico.com/

Freedom Scientific
http://www.freedomscientific.com/

Royal National Institute for the Blind (RNIB)
http://www.rnib.org.uk/

American Printing House for the Blind (APH)
http://www.aph.org/index.html

Center on Disabilities, California State University Northridge
http://www.csun.edu/cod/

### 7.2 Bibliographic Resources

These materials may assist in teaching and understanding issues in tactile mapping.

**Journals**

Castner, H. W., Tactual maps and graphics - some implications for our study of visual cartographic communication. Cartographica. 1983; 20(3), pp 1-16.

> **Abstract:** Considers some of the implications for thinking about mapping in the visual area when considering the limitations and problems that arise for tactual map users and for the designers of graphics for the blind. A suggestion is made as to how the Canadian Cartographic Association might facilitate a Canadian effort in fostering the continuation of the momentum initiated at the 1st International Symposium on Maps and Graphics for the Visually Handicapped held in Washington, D.C., in March, 1983. -Author (Abstract taken from the Carleton University Database).

Culbert, S. S.; Stellwagen, W. T., Tactual discrimination of textures. Perceptual and Motor Skills. 1963; 16(2): 545-552.

> **Abstract:** The purpose of the experiment was to determine the relative discriminability of 40 tactual patterns prepared by a special embossage technique. The method of paired comparisons was used with 150 Ss, making 200 discrimination judgments each. Marked differences in discriminability were found, with each of at least 11 patterns discriminable enough from all others to be useful in the preparation of material such as maps for the blind. (Abstract taken from the Carleton University Database).

Greatorex, I., Mapping for the blind. Bulletin - Society of University Cartographers. 1986; 20 (1), pp 17-21.

> **Abstract:** A review of activities in tactile maps for the blind. Issues covered are: types, notably mobility and education; selection of information; scale; size, symbolization; production techniques. A specific case study of town maps is presented.-M.Blakemore (Abstract taken from the Carleton University Database).

**Books**

Barraga, Natalie, Visual handicaps and learning. Austin, Tex.: Exceptional Resources, c1983.

B. E. Goodrick, A Map User Guide to Reading Tactual and Low Vision Maps. Division of National Mapping, Department of Resources and Energy, Canberra, Australia.

N.S.W. Tactual and Bold Print Mapping Committee, A guide for the production of tactual and bold print maps. Surry Hills, N.S.W. - The Committee, 1987.

Wiedel, J. W., Proceedings of the first international symposium on maps and graphics for the visually handicapped, March 1983, Washington DC. Association of American Geographers, Washington DC. 1983; 185 pp.

## Atlases

Canadian National Institute for the Blind, Braille atlases of Canada. Toronto, 1977.

Australia. Division of National Mapping, Tactual Atlas of Australia. Canberra, Australia., 1990. Published in 2 volumes; v. 1, General reference, physical environment; v. 2, People and industry. Each volume is divided into 2 parts--one for maps, one for Braille commentaries.

## Directories and Bibliographies

Preiser, Woldgang F. E., The visually handicapped and the built environment: tactile mapping and building directories - a selected bibliography. Monticello, Ill. : Vance Bibliographies, 1981.

**Appendix 1**

**MAPS FOR EDUCATION**

The Tactile Atlas of Canada

Maps are available in three types: Braille, Large-Format Text, and combined Braille with Large-Format Text. Data formats include PDF, GIF and Corel Draw CDR.

| File Name Prefix | Map Title (English) | Map Title (French) |
|---|---|---|
| ab_en, ab_fr | Alberta | Alberta |
| bc_en, bc_fr | British Columbia | Colombie-Britannique |
| ca_en, ca_fr | Canada | Canada |
| mb_en, mb_fr | Manitoba | Manitoba |
| mt_en, mt_fr | Maritimes | Maritimes |
| nf_en, nf_fr | Newfoundland and Labrador | Terre-Neuve-et-Labrador |
| nt_en, nt_fr | North West Territories | Territoires du Nord-Ouest |
| nu_en, nu_fr | Nunavut | Nunavut |
| on_en, on_fr | Ontario | Ontario |
| qc_en, qc_fr | Quebec | Québec |
| sk_en, sk_fr | Saskatchewan | Saskatchewan |
| yt_en, yt_fr | Yukon | Yukon |

The Thematic Tactile Atlas of Canada

Maps have Braille and Large-Format Text.
Data formats include PDF, GIF and Corel Draw CDR.

| File Name Prefix | Map Title (English) | Map Title (French) |
|---|---|---|
| cl_en, cl_fr | Climate Regions | Régions climatique |
| cr_en, cr_fr | Cross Section: Relief of Canada | Coupe transversale: Relief du Canada |
| fo_en, fo_fr | Forest Types | Types de forêts |
| ph_en, ph_fr | Physiographic Regions | Régions physiographiques |
| re_en, re_fr | Relief of Canada | Relief du Canada |
| ro_en, ro_fr | Rock Types | Types de roches |
| so_en,so_fr | Soil Types | Types de sols |
| ve_en, ve_fr | Vegetation | Végétation |

**Appendix 2**

**MAPS FOR MOBILITY**

Neighbourhood Maps / City Downtown Maps

Maps have Braille and Large-Format Text.
Data formats include PDF, GIF and Corel Draw CDR.

| File Name Prefix | Map Title (English) | Map Title (French) |
|---|---|---|
| calgary_core_en, _fr | Calgary | Calgary |
| charlottetown_core_en, _fr | Charlottetown | Charlottetown |
| drummondville_dd_en, _fr | Drummondville | Drummondville |
| edmonton_core_en, _fr | Edmonton | Edmonton |
| fredericton_core_en, _fr | Fredericton | Fredericton |
| halifax_core_en, _fr | Halifax | Halifax |
| iqaluit_1km_dd_en, _fr | Iqaluit | Iqaluit |
| iqaluit_dd_en, _fr | Iqaluit | Iqaluit |
| montreal_central_en, _fr | Montréal-Central | Montréal-Central |
| montreal_concordia_en, _fr | Montréal-Concordia | Montréal-Concordia |
| montreal_gare_en, _fr | Montréal-Gare | Montréal-Gare |
| montreal_latin_en, _fr | Montréal-Latin | Montréal-Latin |
| montreal_vieux_en, _fr | Old Montréal | Vieux-Montréal |
| ottawa_core_en, _fr | Ottawa | Ottawa |
| ottawa_en, _fr | Ottawa | Ottawa |
| quebec_core_en, _fr | Québec | Québec |
| regina_core_en, _fr | Regina | Regina |
| regina_en, _fr | Regina | Regina |
| saskatoon_core_en, _fr | Saskatoon | Saskatoon |
| stjohns_dd_en, _fr | St John's | St John's |
| toronto_bay_en, _fr | Toronto-Bay Street | Toronto-Rue Bay |
| toronto_central_en, _fr | Toronto-Central | Toronto-Centre |
| toronto_core_en, _fr | Toronto | Toronto |
| toronto_kensington_en, _fr | Toronto-Kensington | Toronto-Kensington |
| toronto_union_en, _fr | Toronto-Union | Toronto-Union |
| toronto_uoft_en, _fr | Toronto-U of T | Toronto-U. de T. |
| vancouver_central_en, _fr | Vancouver-Central | Vancouver-Centre |
| vancouver_china_en, _fr | Vancouver-Chinatown | Vancouver-Quartier chinois |
| vancouver_core_en, _fr | Vancouver | Vancouver |
| vancouver_granville_en, _fr | Vancouver-Granville | Vancouver-Granville |
| vancouver_museums_en, _fr | Vancouver-Museums | Vancouver-Musées |
| vancouver_stanley_en, _fr | Vancouver-Stanley | Vancouver-Stanley |
| victoria_core_en, _fr | Victoria | Victoria |
| whitehorse_core_en, _fr | Whitehorse | Whitehorse |
| windsor_core_en, _fr | Windsor | Windsor |
| winnipeg_core_en, _fr | Winnipeg | Winnipeg |
| winnipeg_dd_en, _fr | Winnipeg | Winnipeg |
| woodstock_dd_en, _fr | Woodstock | Woodstock |
| yellowknife_core_en, _fr | Yellowknife | Yellowknife |

**Appendix 3**

**MAPS FOR TRANSPORTATION AND TOURISM**

City Approach Maps

Maps have Braille and Large-Format Text.
Data formats include PDF, GIF and Corel Draw CDR.

| File Name Prefix | Map Title (English) | Map Title (French) |
|---|---|---|
| banff_en, _fr | Banff | Banff |
| bowen_en, _fr | Bowen Island | Bowen Island |
| brandon_en, _fr | Brandon | Brandon |
| calgary_en, _fr | Calgary | Calgary |
| charlottetown_en, _fr | Charlottetown | Charlottetown |
| churchill_en, _fr | Churchill | Churchill |
| cowichan_en, _fr | Cowichan Valley | Cowichan Valley |
| dawson_en, _fr | Dawson | Dawson |
| drummondville_en, _fr | Drummondville | Drummondville |
| edmonton_en, _fr | Edmonton | Edmonton |
| fredericton_en, _fr | Fredericton | Fredericton |
| gander_en, _fr | Gander | Gander |
| halifax_en, _fr | Halifax | Halifax |
| happy_goose_en, _fr | Happy Valley - Goose Bay | Happy Valley - Goose Bay |
| iqaluit_10km_en, _fr | Iqaluit | Iqaluit |
| iqaluit_ap_en, _fr | Iqaluit | Iqaluit |
| jasper_en, _fr | Jasper | Jasper |
| moncton_en, _fr | Moncton | Moncton |
| montreal_en, _fr | Montreal | Montreal |
| ottawa_en, _fr | Ottawa | Ottawa |
| oxford_en, _fr | Oxford County | Oxford County |
| prince_george_en, _fr | Prince George | Prince George |
| quebec_en, _fr | Québec | Québec |
| regina_en, _fr | Regina | Regina |
| saintjohn_en, _fr | Saint John | Saint John |
| saskatoon_en, _fr | Saskatoon | Saskatoon |
| stjohns_en, _fr | St John's | St John's |
| sudbury_en, _fr | Sudbury | Sudbury |
| thunder_bay_en, _fr | Thunder Bay | Thunder Bay |
| toronto_en, _fr | Toronto | Toronto |
| vancouver_en, _fr | Vancouver | Vancouver |
| victoria_en, _fr | Victoria | Victoria |
| whitehorse_en, _fr | Whitehorse | Whitehorse |
| windsor_en, _fr | Windsor | Windsor |
| winnipeg_en, _fr | Winnipeg | Winnipeg |
| yarmouth_en, _fr | Yarmouth | Yarmouth |
| yellowknife_en, _fr | Yellowknife | Yellowknife |