

TRB Roundabout Update for Canada 2016  
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Brief update on Canadian roundabout construction and ongoing efforts

British Columbia currently has 33 roundabouts on BC MoTI jurisdiction roadways. 14 of these are at interchanges. Only one new roundabout was constructed this year. There are 9 roundabouts either being planned, designed or waiting to be constructed, 5 of these will be at interchanges.

Calgary, Alberta has 89 roundabouts installed with 10 more in various planning/construction phases. They are very popular in new subdivisions.

The Province of Alberta has another 11 roundabouts on their road system. 3 were installed this year. There are several roundabouts in the planning stages at this time, with one planned to be a mini roundabout.

The Region of Waterloo in Ontario constructed four multi-lane roundabouts in 2015 and are planning to construct four more multi-lane roundabouts in 2016. For the future, the Region has approximately 30 roundabouts in various levels of the planning stages.

Prince Edward Island has 13 roundabouts operating with 1 planned for 2016. One of the new Roundabouts has a central painted island as opposed to a raised mountable apron. The intersection exhibits a good rate of compliance; however, snow maintenance is limiting visibility of the inner painted island. The location has low traffic volumes, so it hasn't caused much of an issue. At another location PE DOT has opened what they are terming a Rural Roundabout, it has no curbs on the outer edges of the ICD, just sod. The centre island has curb as does the mountable apron. In the words of the DOT it works extremely well thus far.

Nova Scotia is planning many roundabouts for future projects. There are now 28 roundabouts in the Province. One roundabout was constructed in 2015, it is only partially open and will be completed in 2016.

New Brunswick has had one roundabout constructed by the City of Fredericton, it opened this fall. It was constructed on the former 100km/h Highway system, connecting two busy commercial corridors. The University of New Brunswick (UNB) Transportation group is monitoring driver behaviour. Preliminary results from the UNB work indicates that driver behavior has been continuously improving. The data from their work has been used to target public education efforts on common driver errors that have been observed.

Another project will see a roundabout constructed on the provincial system near Shediac in 2016.

An ongoing count of Canadian roundabout installations is underway through the Transportation Association of Canada (TAC) Joint Roundabouts Sub-Committee. We have been using approximate numbers of 330-380 as our current estimated total installations. This project is volunteer led and will attempt to exploit the use of a GIS database.

The Canadian Roundabout Design Guide (CRDG) project, is now at the 100% draft stage, publication is tentatively set for later in 2016. This project combines the design domain concepts intrinsic to the Geometric Design Guide for Canadian Roads by incorporating ranges of acceptable values for various geometric parameters with additional application data and information from other sources like NCHRP 672 and other research.

Ongoing design issues include:

In British Columbia they have been trying to accommodate the heavy haul trucking industry on their major routes. The size of loads moving through the province keeps getting larger. The length and width of these extraordinary loads present challenges for designing a roundabout that they can drive through, while at the same time maintaining suitable geometry to control the speed of passenger cars and the typical truck design vehicle (WB-20).

The largest roundabout on a major haul route has been designed to accommodate two configurations:

- 13 axle configuration made up of a tractor, jeep, trailer and booster
  - overall length = 50 m, trailer width = 3.05 m, load = 21 m long x 6 m wide
- 10-axle steerable dolly truck
  - overall length = 60 m, trailer width = 2.60 m, load = 51 m long x 5 m wide

Alberta has similar challenges associated with the cost of the roundabouts, especially when designing to accommodate oversized and overweight vehicles.

On the topic of mini-roundabouts:

Calgary has had some issues with their first mini. People driving over it when it's covered in snow but that could be due to late implementation and driver familiarity.

Alberta is considering the use of mini roundabouts to reduce costs.

PEI has implemented a paint-only roundabout and is monitoring the operations as the seasons progress.