Canadian Institute of Transportation Engineers | Institut Canadien des Ingénieurs en Transports

A Review of Public Right-of-Way Accessibility Experiences in Canada

Outline

1. The Committee
2. Review of the accessibility legislation/regulations
3. Review of design standards
4. Survey of road authorities and people with disabilities
5. Synthesis of Practice

The Committee

- Formed in February 2016
- 6 active members from BC, Alberta and Ontario
- Wide range of backgrounds
- Group of advisors

The Committee – Importance of the Project

- No uniform guidelines in Canada (other than the CSA B651-12) that road designers, planners and transportation practitioners can rely upon

- Municipalities and provincial governments across the country have been developing their own set of standards/guidelines

Is there a need for the development of Canadian guidelines?

The Committee - Purpose

1. Provide a clear understanding of the provincial and federal accessibility regulations/legislations
2. Provide a synthesis of the experience to-date in Canada to design pedestrian facilities to optimize accessibility for people with disabilities
3. Identify accessible design elements that would benefit from standardization
4. Provide recommendations as to whether there is an opportunity for the development of Canadian national guidelines

What this committee is NOT?

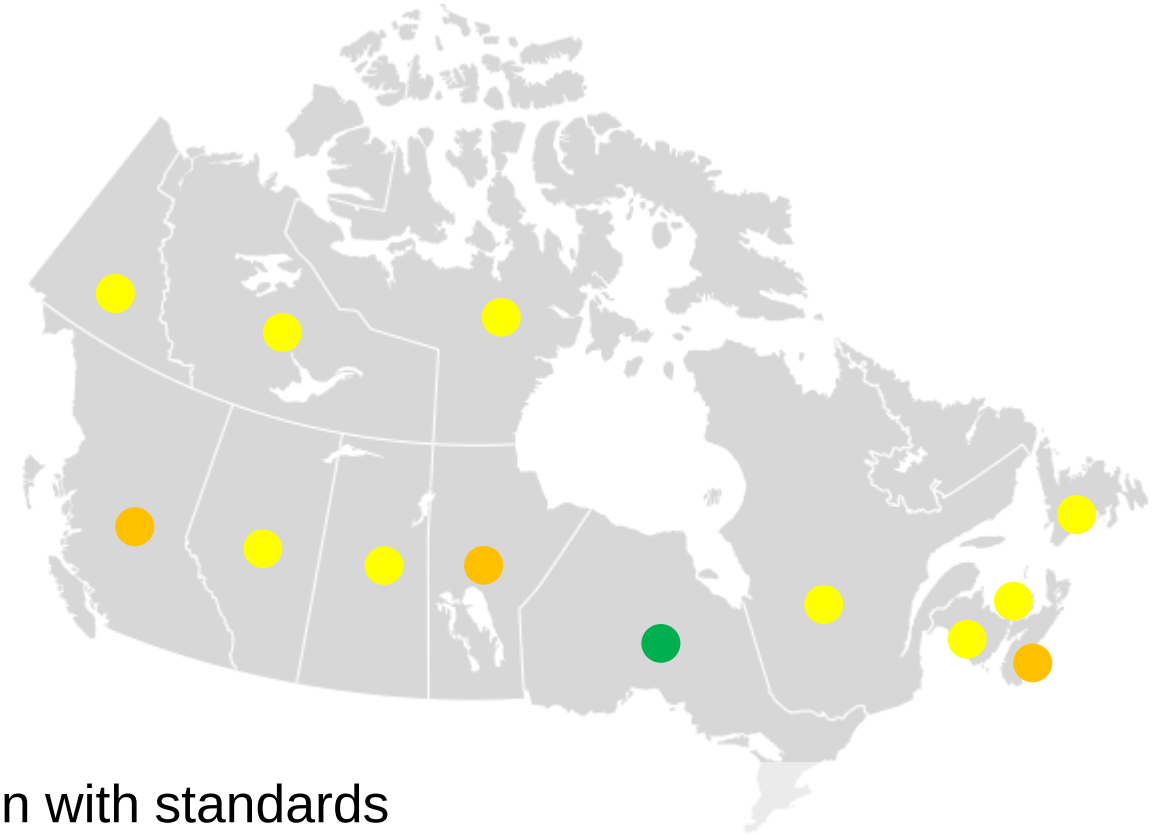
Responsible for the development of new accessibility standards.

Accessibility Legislation/Regulations

1. No federal legislation/regulations stipulating what accessibility standards are to be followed when building pedestrian facilities on the public right-of-way

2. Some provinces have introduced accessibility for people with disabilities act

Accessibility Legislation/Regulations

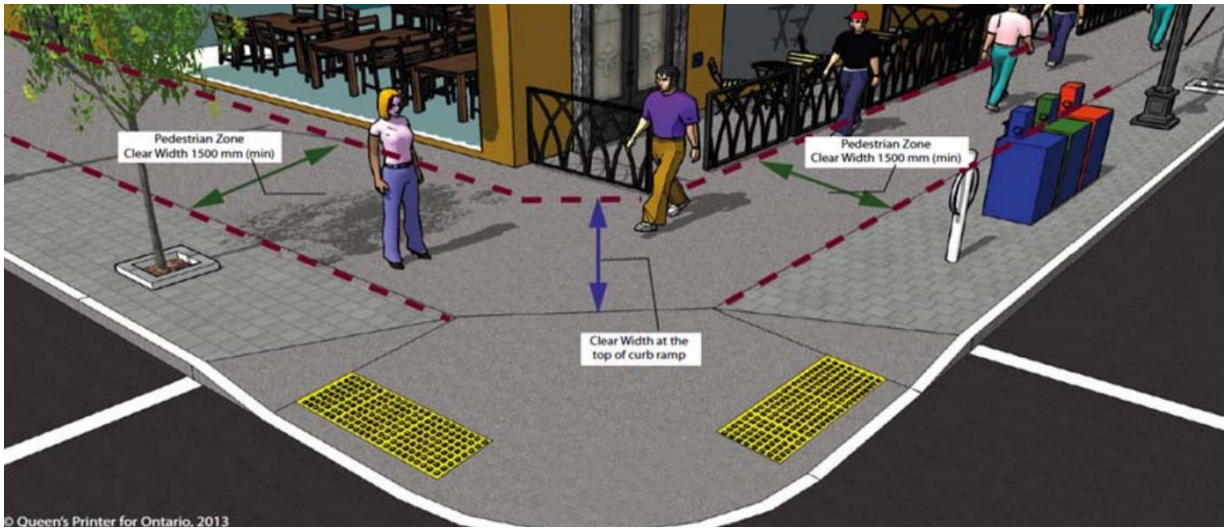


- Legislation with standards
- Legislation without standards
- No legislation

Accessibility for Ontarians with Disabilities Act (AODA)

The accessibility features covered by the AODA for the design of pedestrian facilities in the public right-of-way are for elements including

1. sidewalks
2. walkways
3. ramps
4. stairs
5. curb ramps



A significant impact of the AODA is that a large number of municipalities have developed their own accessibility standards.

Other Provinces

Manitoba

- Committed to develop mandatory accessibility standards following the 2013 the Accessibility for Manitobans Act (AMA)

British Columbia

- Provincial Government launched Accessibility 2024 in June 2014
- No provincial legislation has been adopted outlining design standards for accessible pedestrian facilities in the public ROW

Nova Scotia

- Bill 59 was passed in April 2017
- To adopt an implementation strategy within one year to achieve the goal of an accessible Nova Scotia by 2030

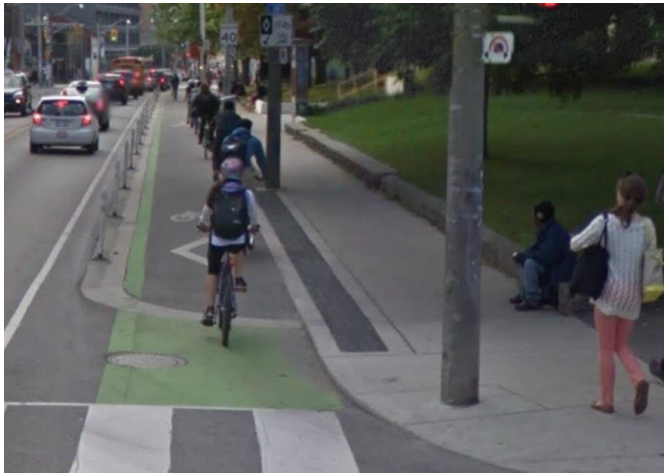
Review of the accessibility design standards

Key Findings

- The types of guidelines and manuals on accessibility available to jurisdictions greatly vary among provinces and territories.
- The majority of provinces, territories and municipalities have not yet developed their own accessibility guidelines or standards.
- Provinces where municipalities/governments have not developed their own standards/policies/guidelines:
  - Saskatchewan
  - New Brunswick
  - Newfoundland and Labrador
  - Prince Edward Island

Accessibility Design Elements

Curb Ramp



Exterior Path

Accessible pedestrian signals

Curb Ramps

British Columbia

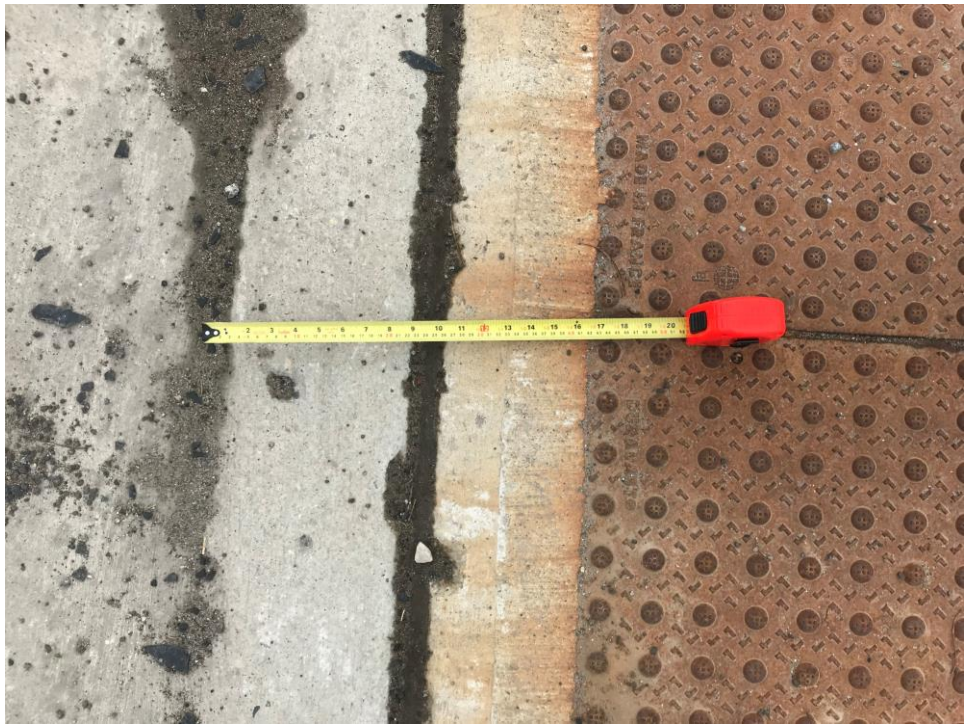
Road Authority	Clear width	Running slope	Cross slope	Slope of the flared side	Tactile features
City of Kelowna	Minimum clear width of 1,200 mm	Maximum 1:10	N/A	N/A	• Series of parallel grooves 610 mm long, perpendicular to roadway • 1.5 m wide color/brightness contrasted 1.5 m strip along curb
City of Vancouver	N/A	Maximum 8%	N/A	N/A	N/A
MoTI SSHC	1,800mm (or as directed) 1,200mm minimum	Maximum 1:12 (8.33%)	2%	1:10 (10%) for diagonal and perpendicular ramps; 1:12 to 1:20 for parallel ramps.	Score lines in concrete (surface markings) or detectable warning mats

Curb Ramps

Ontario

Road Authority	Clear width	Running slope	Cross slope	Slope of the flared side	Tactile features
IASR	Minimum clear width of 1,200 mm exclusive of any flared sides	• Maximum of 1:8, where elevation is less than 75 mm • Maximum of 1:10, where elevation is 75 mm or greater and 200 mm or less	Not steeper than 1:50	Not steeper than 1:10	• Have raised tactile profiles • Have high tonal contrast with the adjacent surface • Located at the bottom of the curb ramp • **Set back between 150 mm and 200 mm from the curb edge**
City of Kitchener	Minimum clear width of 1.2 m, exclusive of flared sides	• N/A	• N/A	N/A	• Have raised tactile profiles • Have high tonal contrast with the adjacent surface • Located at the bottom portion of the depressed curb that is flush with the roadway • **Are set back between 150 mm and 200 mm from the curb edge**
Town of Oakville	1500 mm (minimum) exclusive of return curbs	• Maximum of 1:10 (10%) • Counter slope of gutters and road surfaces immediately adjacent to the bottom of the curb ramp max 1:20 (5%)	• 1:50 (2%) on paved surface • 1:20 (5%) on unpaved surface	1:10	• TWSI must meet requirements ion ISO 23599:2012 • Have colour / tonal contrast from adjoining surfaces • Be detectable when walked upon by being difference in texture from adjoining surfaces • Extend the entire width of the curb ramp • **Be set back between 150 mm and 200 mm from back of curb**

Curb Ramps



Curb Ramps

Quebec

Road Authority	Clear width	Running slope	Cross slope	Slope of the flared side	Tactile features
Gatineau [27]	1,500 mm minimum	N/A	N/A	N/A	N/A
Laval [28]	1,100 mm	1:12 (8%) maximum	N/A	1:12 (8%) maximum	N/A
Quebec City [29]	N/A	N/A	N/A	1:8 (12.5%) maximum	N/A
Institut Nazareth et Louis-Braille [30]	1,200 mm at the top of the ramp and 1,800 mm at the bottom of the ramp	1:12 (8%) maximum	2% maximum	1:10 (10%) maximum	• Have raised tactile profiles • Have high tonal contrast with the adjacent surface • Located at the bottom of the curb ramp and extend until its height is 13 mm above the road surface • 600 mm width • Install 150 mm back from the front edge of the curb ramp

Curb Ramps

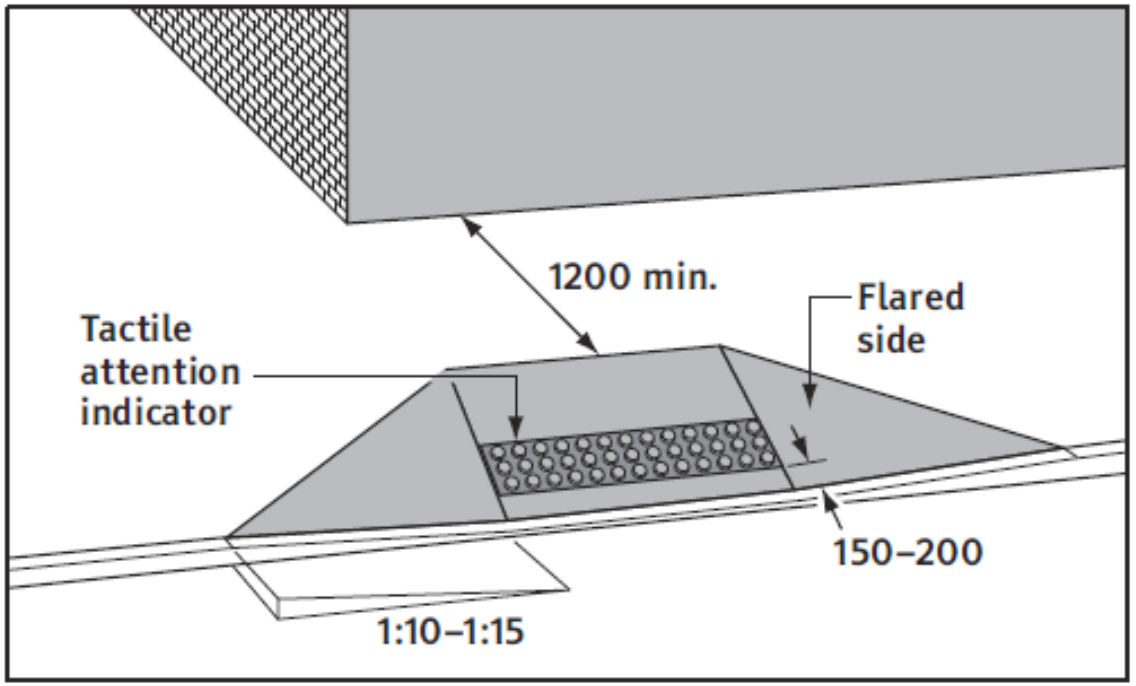


Figure 64
Accessible route and curb ramp with flared sides
(See Clauses 8.2.2 and 8.3.3.6.)

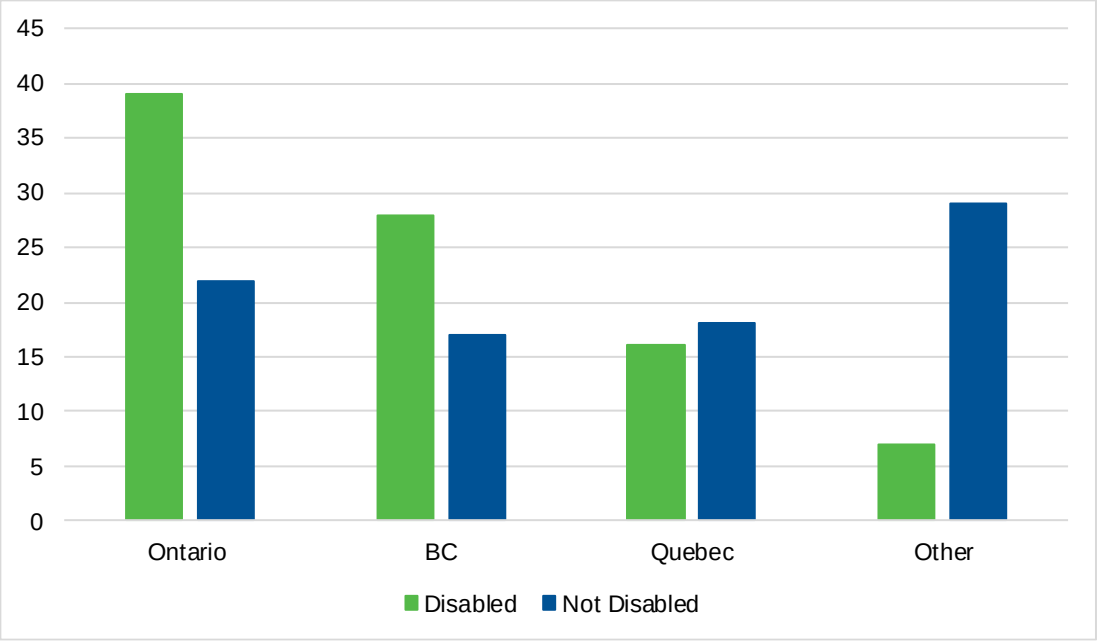
Exterior Paths and APS

- Exterior Path: Relatively consistent among guides
- APS: Few municipalities provide guidance

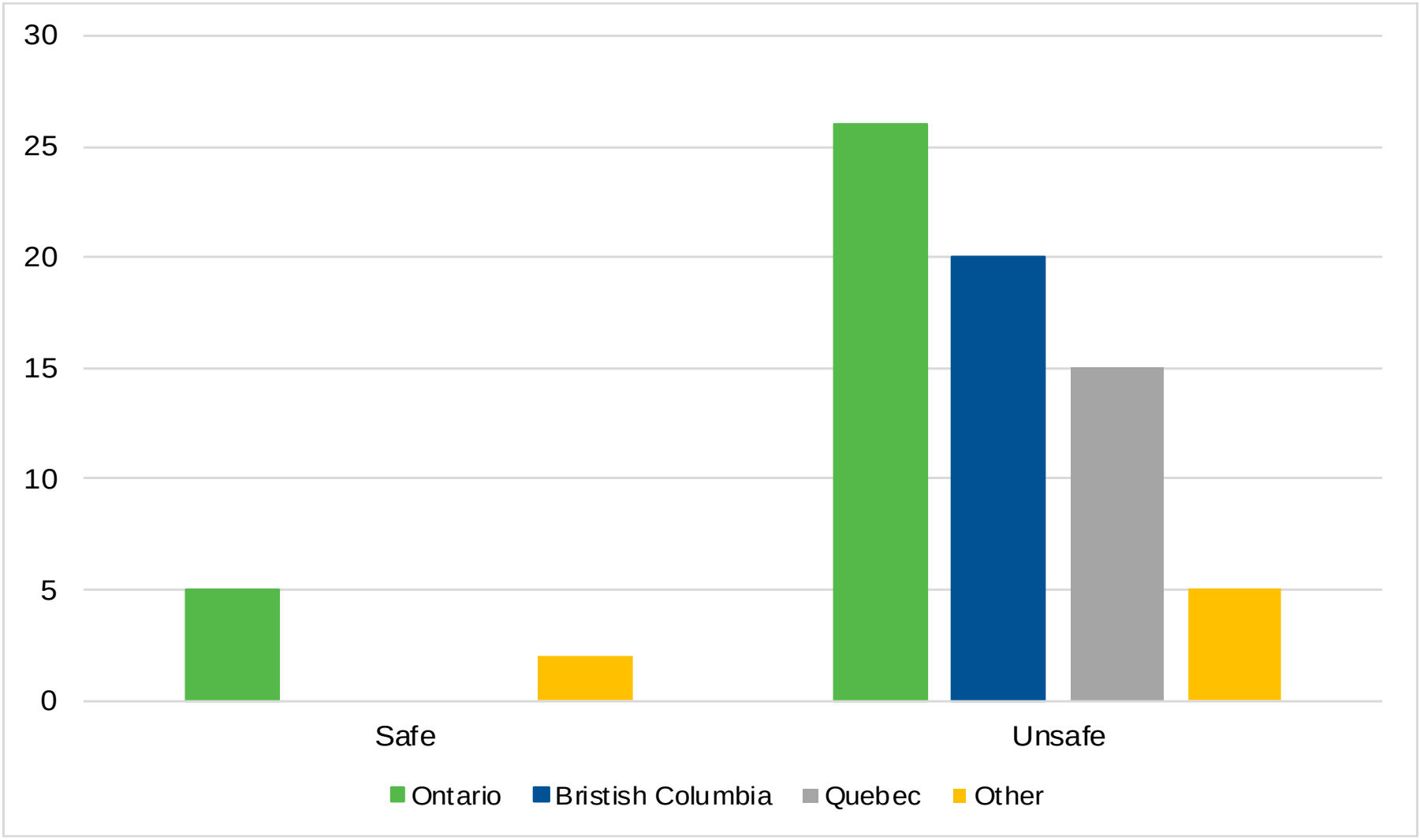
Road Authority	Proximity to curb edge	Mounting Height	Tactile Arrow	Activation	Indicators
City of Kelowna	Within a few meters of the curb	0.8 m above ground	Should be provided	Pedestrian activated push button	10-15 decibels above background noise of crosswalk area
City of Vancouver	N/A	N/A	N/A	N/A	N/A
MoTI SSHC	N/A	1.0 m above ground	Standard sign is tactile	High-visibility easy-to-push yellow button.	'Chirp-chirp' or 'Cuckoo' audible signals.

Survey of road authorities and people with disabilities

- **22** Survey Questions
- **214** Participants
- English and French Survey
- Road Authorities and People with Disabilities



Does the public ROW have an adequate level of safety?



Survey Key Findings

The three most common challenges identified by people with reduced mobility when travelling on different types of transportation infrastructures present on the public right-of-way

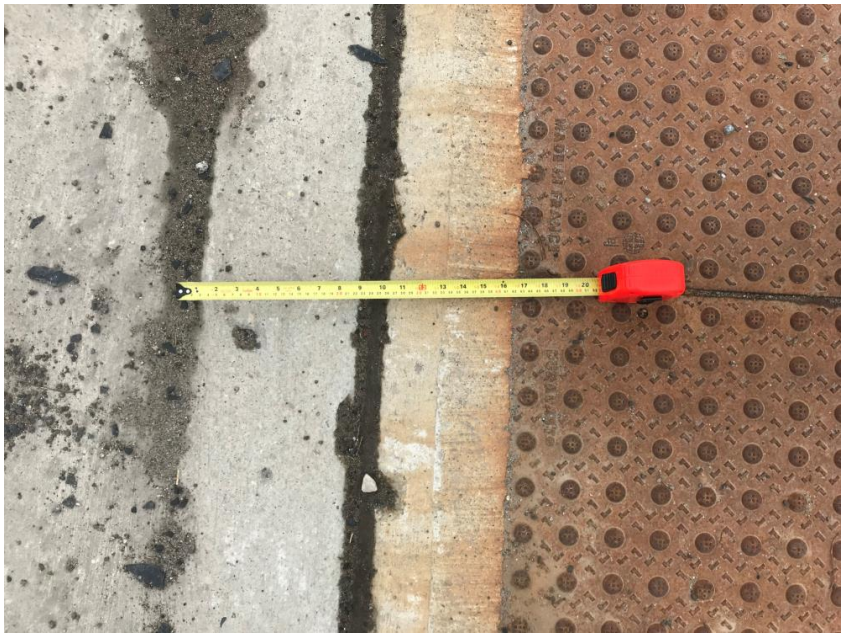
Orientation of the curb ramps

Proximity of the APS to the curb

Width of the sidewalk

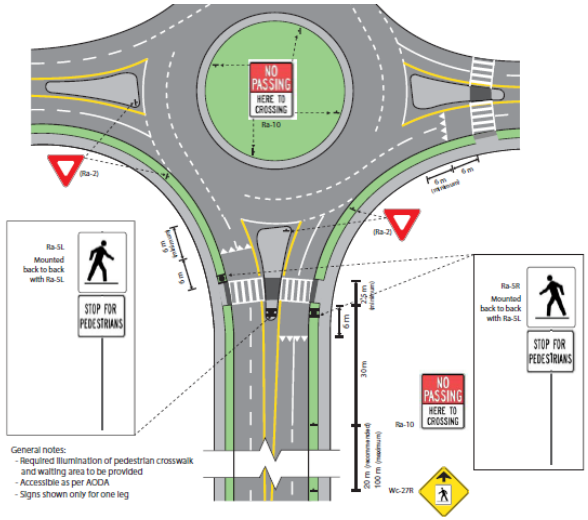
Survey Key Findings

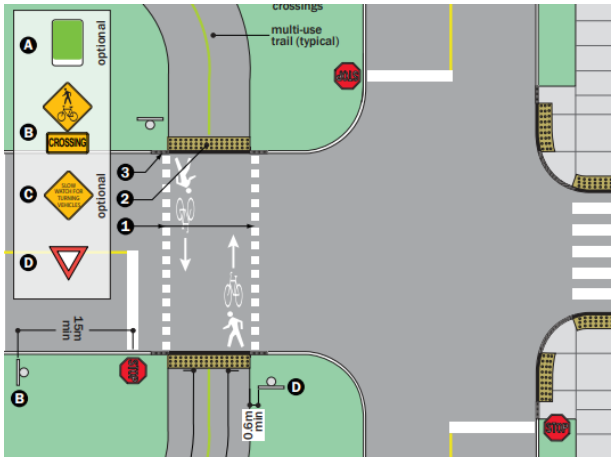
The most challenging treatment to implement and maintain, and the treatments they would appreciate obtaining more guidance on are “*Tactile walking surface indicators*”.

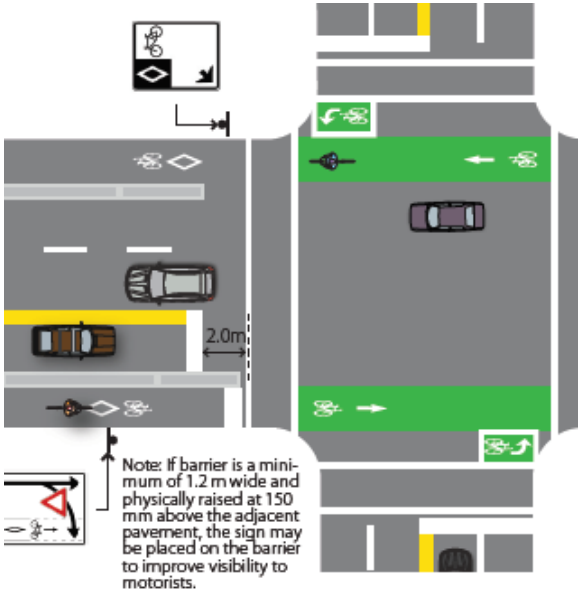


Survey Key Findings

A significant proportion of practitioners indicated that they would appreciate obtaining more guidance on the implementation of pedestrian facilities at:





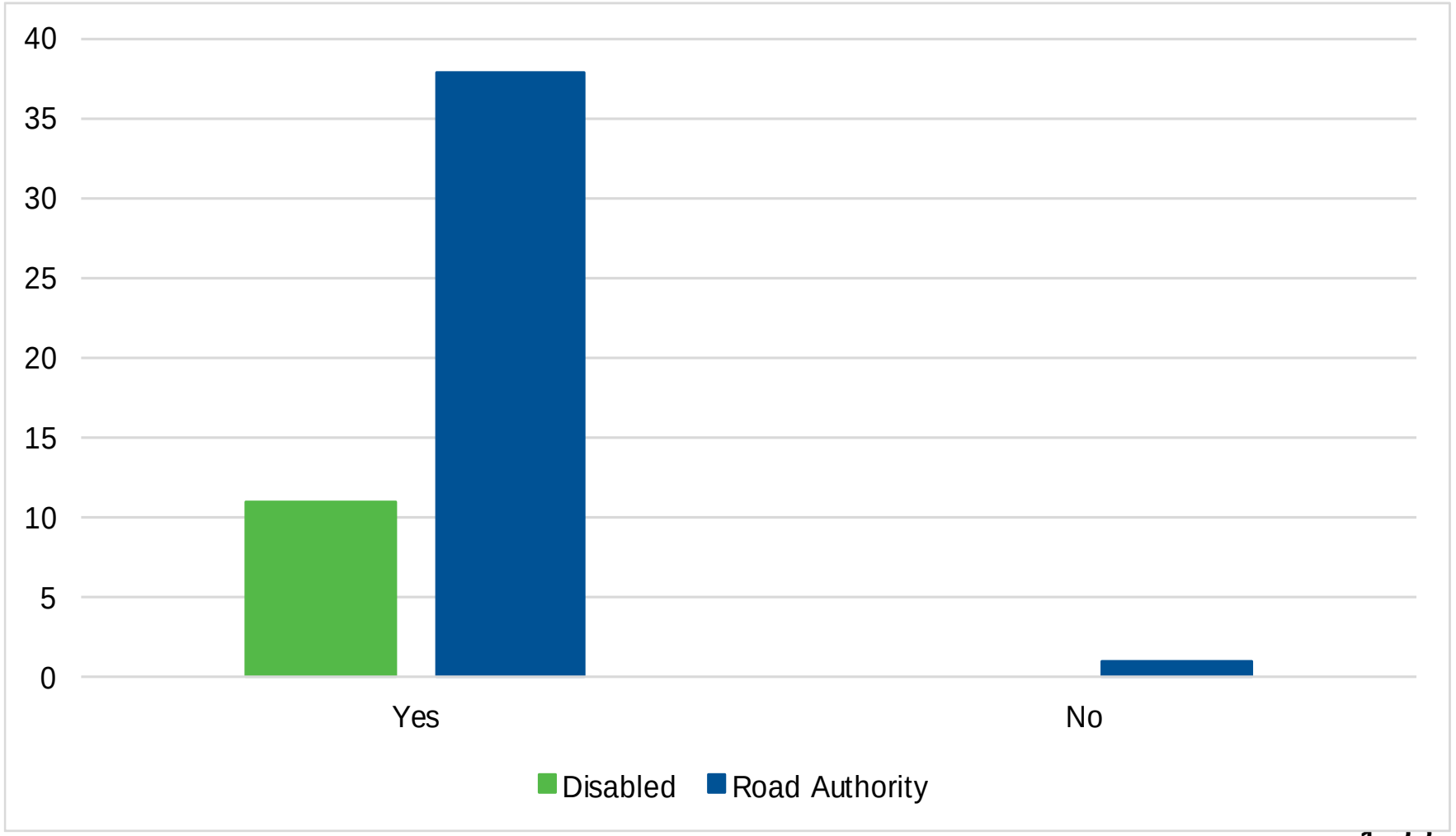


Roundabouts
(OTM Book 15)

Multi-use facilities
(Toronto Multi-Use Trail Design Guidelines)

Bicycle lanes
(OTM Book 18)

Would Road Authorities Benefit from National Accessibility Guidelines?



Would Road Authorities Benefit from National Accessibility Guidelines?

A few comments provided by respondents:

"*National standards would be extremely helpful so that municipalities could have consistent standards and not have to develop their own standards.*"

"*National consistency would be useful. Often refer to US ADA.*"

"*But must adapt to local needs.*"

"*Ideally try to reference existing standards (US etc.) instead of re-inventing the wheel.*"

Synthesis of Practices

1. No federal legislation that regulates the standards
2. National-level guidance: requirements for some treatments are not explicitly provided
3. Provincial-level guidance: a few provinces with provincial guidance
4. Municipal-level guidance:
    i. Most municipalities across Canada have not yet developed their guidelines
    ii. The level of guidance vary significantly across municipalities
    iii. Some confusion noted in province where accessible standards are legislated

Synthesis of Practices (Con't)

1. Lack of uniformity and consensus
2. Ambiguity as to what design guidelines transportation practitioners should reference when designing accessible public infrastructure
3. Potential for a more uniform and cohesive practice
4. People with disabilities and transportation practitioners to be involved in this process so that the challenges of both parties are considered and reflected in the accessibility

Acknowledgements

Nicolas Haddad
Christina Klein, P.Eng.
Jim Mallet, M.A.Sc., P.Eng., PTOE
Michael Skene, Eng.
Daphne Wee, P. Eng.
Kunle Williams, M. Eng., P.Eng.

And to the group of advisors

Alex Nolet, P.Eng., M.Eng.: anolet@tnsgroup.ca