MUTCDC Background Information

TAC's MUTCDC

The Sixth Edition of the *Manual of Uniform Traffic Control Devices for Canada* (MUTCDC) replaces the Fifth Edition published in 2014. The MUTCDC was first published in 1960.

What it is

The MUTCDC is a toolbox of road signs, traffic signals, pavement markings and other devices that communicate to pedestrians, cyclists, motor vehicle drivers and other road users about important regulations, roadway characteristics, potential hazards and temporary conditions. It guides the use of those traffic control devices to support the safe and efficient movement of people and goods, and is an essential tool for professionals involved in traffic management and control. It helps Canada's federal, provincial, territorial and municipal governments to apply traffic control devices in a consistent and harmonized manner, which is an important factor in road safety.

The MUTCDC is not a regulatory tool or a standards document that Canadian transportation agencies must follow. Rather, it offers state-of-the-art technical guidance for jurisdictions to consider in developing their own legislation and regulations, and for individual practitioners to consider when applying professional judgement in their local context.

What's new

The MUTCDC is **60 percent longer than the Fifth Edition** published in 2014. A comprehensive line-by-line rewrite and overall reorganization means that **important guidance is now easier to find and understand.**

The MUTCDC includes a major new section on Typical Applications (Part E) with 89 figures that **show how signs, signals and pavement markings work together to protect all road users.** It describes a wide range of situations on roads, at intersections, and involving special facilities such as high-occupancy vehicle lanes and cycling facilities.

Other new elements of the **MUTCDC include more than 30 traffic control devices**, a section on dynamic message signs (A5), and an index of devices by name and number.

Guidance on pedestrian crossings, which was previously in a dedicated section, is now integrated with other guidance and more accessible to practitioners. New guidance on typical walking speeds will help practitioners to better accommodate slower seniors and persons with disabilities at pedestrian crossings.

Why it matters

The MUTCDC helps improve safety for all road users by promoting the design and operation of traffic control devices as an integrated system. It encourages predictable, rapid and error-free decisions by individual road users in conformance with applicable laws, and supports the harmonization of traffic control across Canada while providing flexibility for individual jurisdictions and practitioners to make the best possible local decisions. Uniformity of traffic control devices also reduces costs for road authorities.

How it supports and protects vulnerable road users

In recent decades, the MUTCDC has increasingly prioritized the safe movement of vulnerable road users. **The Sixth Edition continues this trend, giving even greater consideration to children and older pedestrians, cyclists, persons with disabilities, and novice and older drivers**; it also provides information on key human factors principles to help meet the needs of vulnerable road users, drawing from international road safety manuals and other TAC publications. To make guidance related to pedestrians and cyclists more accessible to practitioners, the MUTCDC now integrates it throughout the manual alongside other guidance related to motor vehicles.

The MUTCDC continues to provide guidance on established traffic control devices such as pedestrian countdown timers, bicycle traffic signals and bicycle lanes, as well as on relatively new devices such as rectangular rapid flashing beacons for pedestrian crosswalks. New guidance includes a recommendation to design pedestrian crossing signals based on slower average walking speeds in locations where significant proportions of seniors or persons using assistive devices are expected. The MUTCDC also includes a provision for leading pedestrian intervals that give pedestrians several seconds to start crossing an intersection before vehicle turning movements begin, a practice that benefits older pedestrians in particular.

How it was developed

Collaborative Process

The new Manual is the product of a six-year collaboration by partner organizations from across Canada. It was funded and directed by 27 partners including Canada's municipal, provincial, territorial and federal governments. The Manual serves the diverse interests of TAC's member organizations and offers guidance for a wide range of conditions including urban and rural contexts from coast to coast.

Development of the Manual was guided by a steering committee of expert practitioners from 27 partner organizations. The steering committee met 13 times, was closely involved in each step of work, and conducted line-by-line review and approval of the guidance in the Manual.

The Manual represents a strong national consensus among all orders of government. The MUTCDC, Sixth Edition received unanimous support in a ballot of TAC's Chief Engineers, who represent 23 municipal, provincial, territorial and federal agencies.

Diverse Participation

TAC's partner organizations were:

Federal government

- Transport Canada

Provincial and territorial governments

- Alberta Transportation
- British Columbia Ministry of Transportation and Infrastructure
- Manitoba Infrastructure
- Ministère des Transports du Québec
- Ministry of Transportation, Ontario
- New Brunswick Department of Transportation and Infrastructure
- Newfoundland and Labrador Transportation and Works
- Northwest Territories Department of Infrastructure
- Nova Scotia Transportation and Active Transit
- Prince Edward Island Department of Transportation and Infrastructure
- Saskatchewan Ministry of Highways
- Yukon Highways and Public Works

Municipal governments

- City of Burlington
- City of Calgary
- City of Edmonton
- City of Kelowna
- City of Moncton
- City of Ottawa
- City of Saskatoon
- City of Toronto
- City of Vancouver
- City of Winnipeg
- Halifax Regional Municipality
- Ville de Montréal

Not-for-profit organizations

- Canadian Institute of Transportation Engineers
- International Municipal Signal Association

The consulting team included Canadian experts in human factors, road safety, active transportation and traffic operations. CIMA Canada Inc. led a multidisciplinary team of individuals from the private and academic sectors with backgrounds in research and real-world applications:

- Hart Solomon, CIMA Canada Inc.
- Alireza Hadayeghi, CIMA Canada Inc.
- Chantal Dagenais, CIMA Canada Inc.
- Phil Weber, CIMA Canada Inc.
- Soroush Salek, CIMA Canada Inc.
- Brian Malone, CIMA Canada Inc.
- Sheetal Thukral, CIMA Canada Inc.
- Reza Omrani, CIMA Canada Inc.
- Manny Grewal, CIMA Canada Inc.
- Chris Philp, CIMA Canada Inc.
- Geni Bahar, NAVIGATS Inc.
- Jeannette Montufar, MORR Transportation Consulting Ltd.
- Stephen Chapman, MORR Transportation Consulting Ltd.
- John Morrall, Canadian Highways Institute Ltd.
- Robert Dewar, Western Ergonomics Inc.
- Eric Hildebrand, University of New Brunswick
- Fred Hanscom, Transportation Research Corporation

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- Samantha Bennett, CIMA Canada Inc.
- Raheem Dilgir, TranSafe Consulting Ltd.

Robust Technical Input

TAC's expert volunteers are responsible for keeping the MUTCDC current. Dozens of volunteers on TAC's Traffic Operations & Management Committee (TOMC) work to monitor emerging practices and research, and to evaluate traffic control devices before they are included in the Manual.

The new Manual integrates up-to-the-minute guidance. Over several years since the Fifth Edition was published, TOMC and TAC's Chief Engineers approved a number of new traffic control devices for inclusion in the updated Manual. The Sixth Edition's consulting team also developed a list of devices for consideration, based on the literature and input from partner agencies. The resulting review process considered more than 130 proposed traffic control devices, of which 31 were included in the new Manual; TOMC will subject more than 30 others to comprehension testing using software developed by TAC and involving members of the public; and about 60 more may be considered in the future. As new devices are approved, they will be added to the MUTCDC through periodic published revisions.

TAC also offers a tool for manufacturing signs that conform to the Manual. An important companion to the MUTCDC is *TAC Sign Patterns*, which enables the accurate and consistent production of road signs in the MUTCDC.

What's the difference between Canada's MUTCDC and the U.S. MUTCD?

There are a number of significant differences between the MUTCDC and its American counterpart, the U.S. MUTCD. These include:

Who leads the development of the Manuals?

- The Transportation Association of Canada (TAC) is a national non-profit technical association with about 500 member organizations. Its members include all levels of government, private companies, academic institutions, and other associations that share common interests in road-related and urban transportation. TAC is funded by membership dues and the sales of its products and services.
- The Federal Highway Administration (FHWA) is an agency of the U.S. Department of Transportation. It supports state and local governments in the design, construction, and maintenance of the United States highway system.

Authority of the Manuals

- TAC's MUTCDC represents a national collaborative effort to improve road safety by harmonizing traffic control devices across Canada, without limiting the ability of provinces, territories and communities to test or adopt different, context-sensitive solutions. With the MUTCDC as a common starting point, **provinces adopt their own laws regulations and manuals** on traffic control devices. ***See Appendix A for a list and links.***

- FHWA's MUTCD sets the standards used by road authorities across the United States to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD is updated periodically to accommodate the nation's changing transportation needs and address new safety technologies, traffic control tools, and traffic management techniques.

Availability and cost of the Manuals

- TAC sells the MUTCDC, which is a complex document about 1000 pages in length, through its online bookstore. A portion of the revenue from each sale of the Sixth Edition, as well as a portion of TAC's annual revenue from membership dues, will be reserved toward the ongoing updates to ensure the Manual remains current/relevant.
- As an agency of the U.S. government operating within the Department of Transportation, the FHWA is funded by tax dollars and therefore makes its MUTCD available free of charge. This is similar to how Canada's provincial traffic control laws, regulations and manuals are available at no cost.

Appendix A

Provincial Manuals and Laws around Traffic Control

British Columbia

MANUALS

Traffic Signs and Pavement Markings:
https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/traffic-engineering-safety/traffic-signs-markings

Pedestrian Crossing Control Manual:
https://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/traffic-engineering-safety/pedestrian-crossing

LAWS/REGULATIONS

Motor Vehicle Act, Part 3:
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96318_05#part3

Alberta

MANUALS

Traffic Control and Signs: start at https://www.alberta.ca/traffic-control-standards.aspx

LAWS/REGULATIONS

Traffic Safety Act:
https://www.qp.alberta.ca/570.cfm?frm_isbn=9780779821389&search_by=link

Traffic Safety Regulation:
https://www.qp.alberta.ca/570.cfm?frm_isbn=9780779779260&search_by=link

(This sets the MUTCDC as the standard for Alberta until 2024, when it will be reviewed.)

Manitoba

MANUALS

See Traffic Engineering Branch: http://www.gov.mb.ca/mit/traffic/index.html

LAWS/REGULATIONS

Highway Traffic Act, Sections 74-85:
https://web2.gov.mb.ca/laws/statutes/ccsm/h060e.php#74

Traffic Control Devices Regulation:
https://web2.gov.mb.ca/laws/regs/current/_pdf-regs.php?reg=13/2019

(Allows MUTCDC and other devices as approved by the Ministry)

Ontario

MANUALS

Ontario Traffic Manual Series: Get it in the MTO Online library starting at https://www.library.mto.gov.on.ca/SydneyPLUS/Sydney/Portal/default.aspx

Search for "OTM" and look for items with "Yes" in the Attachment Included column.

(See especially Book 1, Section 2.3 – Relation to Manual of Uniform Traffic Control Devices for Canada.)

LAWS/REGULATIONS

Highway Traffic Act:
https://www.ontario.ca/laws/statute/90h08

Regulations:
https://www.ontario.ca/laws/statute/90h08 (see tab "Regulations under this Act")

Québec Ministère des transports

MANUALS

Online index of signs/devices:
http://www.rsr.transports.gouv.qc.ca/

Volume V - Traffic Control Devices (ordering information):
http://www3.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier/normes/norme5.en.html

Tome V - Signalisation Routière (ordering information):
http://www3.publicationsduquebec.gouv.qc.ca/produits/ouvrage_routier/normes/norme6.fr.html

LAWS/REGULATIONS

Title VII: Road and Traffic Signs and Signals:
http://legisquebec.gouv.qc.ca/en/showdoc/cs/C-24.2?langCont=en#ga:l_vii-h1

Titre VII: Signalisation Routière:
http://legisquebec.gouv.qc.ca/fr/showdoc/cs/C-24.2?langCont=fr#ga:l_vii-h1

Saskatchewan

MANUALS

Saskatchewan Traffic Control Devices Manual:
https://publications.saskatchewan.ca/#/categories/5098

LAWS/REGULATIONS

Traffic Safety Act:
https://pubsaskdev.blob.core.windows.net/pubsask-prod/18166/T18-1.pdf

Nova Scotia

LAWS/REGULATIONS

Nova Scotia Traffic Sign Regulations:
https://novascotia.ca/just/regulations/regs/mvtrafficsigns.htm

Motor Vehicle Act, Sections 86-96:
https://nslegislature.ca/sites/default/files/legc/statutes/motor%20vehicle.pdf

New Brunswick

MANUALS

Work Area Traffic Control Manual:
https://www2.gnb.ca/content/dam/gnb/Departments/trans/pdf/en/RoadsHighways/WATCM/WATCM2019_Revised_Manual_EN.pdf

LAWS/REGULATIONS

Motor Vehicle Act - Traffic Control Devices:
http://laws.gnb.ca/en/showfulldoc/cs/M-17/#anchorga:s_115

Prince Edward Island

MANUALS

Temporary Workplace Traffic Control Manual:
https://www.princeedwardisland.ca/sites/default/files/publications/trafficcont_cr.pdf

LAWS/REGULATIONS

Highway Traffic Act, Part VIII - Traffic Signs and Directions:
https://www.princeedwardisland.ca/sites/default/files/legislation/h-05-highway_traffic_act.pdf

Newfoundland and Labrador

MANUALS

Traffic Control Manual [for work zones]:
https://www.gov.nl.ca/ti/files/publications-traffic-control-2018.pdf

LAWS/REGULATIONS

Highway Traffic Act, Section 106 - Traffic Control Devices
https://www.assembly.nl.ca/Legislation/sr/statutes/h03.htm#106_

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