

Ontario Traffic Manual

Foreword

The purpose of the Ontario Traffic Manual (OTM) is to provide information and guidance for transportation practitioners and to promote uniformity of treatment in the design, application and operation of traffic control devices and systems across Ontario. The objective is safe driving behaviour, achieved by a predictable roadway environment through the consistent, appropriate application of traffic control devices. Further purposes of the OTM are to provide a set of guidelines consistent with the intent of the Highway Traffic Act and to provide a basis for road authorities to generate or update their own guidelines and standards.

The OTM is made up of a number of Books, which are being generated over a period of time, and for which a process of continuous updating is planned. Through the updating process, it is proposed that the OTM will become more comprehensive and representative by including many traffic control devices and applications specific to municipal use. Some of the Books of the OTM are new, while others incorporate updated material from the Ontario Manual of Uniform Traffic Control Devices (MUTCD) and the King's Highway Guide Signing Policy Manual (KHGSPM).

The Ontario Traffic Manual is directed to its primary users, traffic practitioners. The OTM incorporates current best practices in the Province of Ontario. The interpretations, recommendations and guidelines in the Ontario Traffic Manual are intended to provide

an understanding of traffic operations and they cover a broad range of traffic situations encountered in practice. They are based on many factors which may determine the specific design and operational effectiveness of traffic control systems. However, no manual can cover all contingencies or all cases encountered in the field. Therefore, field experience and knowledge of application are essential in deciding what to do in the absence of specific direction from the Manual itself and in overriding any recommendations in this Manual.

The traffic practitioner's fundamental responsibility is to exercise engineering judgement and experience on technical matters in the best interests of the public and workers. Guidelines are provided in the OTM to assist in making those judgements, but they should not be used as a substitute for judgement.

Design, application and operational guidelines and procedures should be used with judicious care and proper consideration of the prevailing circumstances. In some designs, applications, or operational features, the traffic practitioner's judgement is to meet or exceed a guideline while in others a guideline might not be met for sound reasons, such as space availability, yet still produce a design or operation which may be judged to be safe. Every effort should be made to stay as close to the guidelines as possible in situations like these, and to document reasons for departures from them.

Custodial Office

Inquiries about amendments, suggestions or comments regarding the Ontario Traffic Manual may be directed to:

Ontario Traffic Manual Committee

Ministry of Transportation, Ontario Traffic Program Management Office 301 St. Paul Street, 2nd Floor St. Catharines, Ontario L2R 7R4

Telephone: (905) 704-2960 Fax: (905) 704-2888

A user response form is provided at the end of Book 1 of the Manual.

Book 5 Acknowledgements

Authors

Maryann Lovicsek, Michael Quinton, Usha Elyatamby, IBI Group

Milton Harmelink, Claudio Covelli, Dillon Consulting Limited

Rodney Edwards, Harpar Management Corporation

Alison Smiley, Human Factors North

Geni Bahar, Delcan Corporation

Technical Advisory Committee

Geni Bahar, Delcan Corporation

Michael Brady, Toronto Transportation

Gordon Brown, Ontario Traffic Conference representative

Harold Doyle, Ministry of Transportation Ontario

Rodney Edwards, Harpar Management Corporation

Richard Fruin, Formerly of Ontario Police College

Milton Harmelink, Dillon Consulting Limited

Mazda Hodiwala, Ministry of Transportation Ontario

Peter Howes, Ministry of Transportation Ontario

Greg Junnor, Ministry of Transportation Ontario

George Karlos, Ministry of Transportation Ontario

Maryann Lovicsek, IBI Group

Grant Malinsky, Regional Municipality of Ottawa-Carleton

Derek McCaughan, City of Guelph and Ontario Traffic Conference representative

William Obee, Ontario Good Roads Association

Victor Ozymtchak, Ministry of Transportation Ontario

Michael Quinton, IBI Group

Terry Short, Ministry of Transportation Ontario

Alison Smiley, Human Factors North

Joanne Stevens, Ministry of Transportation Ontario

John Thomas, Toronto Transportation and Municipal Engineers Association representative

Inquiries regarding the purchase and distribution of this Manual may be directed to the custodial office noted above.

Table of Contents

Section Number - Subject or Sign Message

Sign Number

1.	Intro	duction	11
	1.1	Application of Regulatory Signs	11
	1.2	Classification of Regulatory Signs	13
	1.3	Design of Regulatory Signs	14
	1.4	Reflectivity/Luminance	15
	1.5	Location	16
	1.6	Supplementary Flashing Beacons	16
	1.7	Dynamic Sign Technologies	16
2.	STOF	Sign	17
	STOP	Sign	17
	ALL-W	'AY (Tab Sign)	17
3.	YIELI	O Sign	24
	YIELD	Sign	24
	YIELD	(Tab Sign) Ra-2t	24
4.	Pede	strian Crossing Signs	27
	4.1	General Pedestrian Crossing Signs	27
		CROSS ON GREEN LIGHT ONLY Sign	27
		CROSS ON WALK SIGNAL ONLY Sign	27
		CROSS ONLY AT CROSSOVER Sign	28
		CROSS OTHER SIDE Sign	28
		PEDESTRIAN PUSHBUTTON Symbol Sign (with directional arrow)Ra-12	28

Sign Number

		PEDESTRIAN MUST PUSH BUTTON		
		TO RECEIVE WALK SIGNAL Symbol Sign	Ra-13	28
	4.2	Pedestrian Crossover Signs		30
		PEDESTRIAN X (Crossover) Sign	Ra-4	31
		STOP FOR PEDESTRIANS (Tab Sign)	Ra-4t	31
		NO PASSING HERE TO CROSSING Sign	Ra-10	31
		PEDESTRIAN PUSHBUTTON Sign	Ra-11	31
5.	Speed	d Control Signs		35
	MAXIM	1UM SPEED Sign	Rb-1	35
	MAXIN	IUM SPEED Sign with KM/H included	Rb-1A	35
	BEGINS	S (Tab Sign)	Rb-84t	35
	MAXIM	IUM SPEED BEGINS Sign	Rb-2	36
	MAXIM	IUM SPEED KM/H and BEGINS Sign on one sign blank	Rb-3	36
	KM/H	(Tab Sign)	Rb-7t	36
	MAXIM	IUM SPEED AHEAD Sign	Rb-5	38
	SCHOO	DL ZONE MAXIMUM SPEED Sign	Rb-6	42
	SCHOO	DL ZONE MAXIMUM SPEED WHEN FLASHING Sign	Rb-6A	42
6.	Turn	Control Signs		45
	NO ST	RAIGHT THROUGH Sign	Rb-10	45
	NO ST	RAIGHT THROUGH Sign (specified times)	Rb-10A	45
	NO RIC	GHT TURN Sign	Rb-11	46
	NO RIC	GHT TURN Sign (specified times)	Rb-11 A	46
	NO LE	FT TURN Sign	Rb-12	46
	NO LEI	FT TURN Sign (specified times)	Rb-12A	46
	NO ST	RAIGHT THROUGH OR RIGHT TURN Sign	Rb-13	47
	NO ST	RAIGHT THROUGH OR LEFT TURN Sign	Rb-14	47
	NO TU	RNS Sign	Rb-15	47
	NO U-7	FURNS Sign	Rb-16	47
	BUSES	EXCEPTED (Tab Sign)	Rb-10t	48

Sign Number

7.	One-	way Traffic Control Signs		51
	ONE-V	VAY Sign	. Rb-21	51
	DO N	OT ENTER Sign	. Rb-19	53
	DO N	OT ENTER (Tab Sign)	. Rb-19t	53
	DO N	OT ENTER / WRONG WAY Sign	. Rb-20	55
8.	Two-	way and Multi-Lane Traffic Control Signs		58
	TWO-	WAY TRAFFIC Sign	. Rb-24	58
	KEEP	RIGHT Sign	. Rb-25	60
	THRO	UGH TRAFFIC KEEP RIGHT Sign	. Rb-27	65
	DO N	OT PASS Sign	. Rb-31	66
	PASSI	NG PERMITTED Sign	. Rb-35	67
	PASS	WITH CARE (Tab Sign)	. Rb-35t	67
	KEEP	RIGHT EXCEPT TO PASS Sign	. Rb-33	68
	SLOW	ER TRAFFIC KEEP RIGHT Sign	. Rb-34	69
	PASSI	NG LANE 2 KM AHEAD Sign	. Rb-30	71
	YIELD	CENTRE LANE TO OPPOSING TRAFFIC Sign	. Rb-36	72
	STOP	FOR SCHOOL BUS WHEN SIGNALS FLASHING Sign	. Rb-37	76
	BOTH	DIRECTIONS (Tab Sign)	. Rb-37t	76
9.	Lane	Designation Signs		77
	9.1	Turn Lane Designation Signs		78
		LEFT TURN ONLY Sign	. Rb-41	78
		LEFT LANE (Tab Sign)	. Rb-41t	78
		RIGHT TURN ONLY Sign	. Rb-42	78
		RIGHT LANE (Tab Sign)	. Rb-42t	78
		STRAIGHT THROUGH OR LEFT TURN ONLY Sign	. Rb-43	79
		STRAIGHT THROUGH OR RIGHT TURN ONLY Sign	. Rb-44	79
		LEFT OR RIGHT TURN ONLY Sign	. Rb-45	79
		ALL MOVEMENTS PERMITTED Sign	. Rb-46	79

Sign Number

		STRAIGHT THROUGH ONLY Sign	80		
		TWO-WAY LEFT-TURN LANE Sign Rb-48	86		
		TWO-WAY LEFT-TURN LANE, CENTRE LANE ONLY Sign Rb-48A	86		
	9.2	Reserved Lane Signs	88		
		RESERVED BICYCLE LANE Sign (overhead) Rb-84	88		
		RESERVED BICYCLE LANE Sign (ground-mounted) Rb-84A	88		
		RESERVED LANE Sign (one vehicle class, overhead, no days and times	88		
		RESERVED LANE Sign (one vehicle class, ground-mounted, no days and times) Rb-85A	88		
		RESERVED LANE Sign (multiple vehicle classes, overhead, no days and times) Rb-86	89		
		RESERVED LANE Sign (multiple vehicle classes, ground-mounted, no days and times) Rb-86A	89		
		RESERVED LANE Sign (one or multiple vehicle class(es), overhead, days and times) Rb-87	90		
		RESERVED LANE Sign (one or multiple vehicle class(es), ground-mounted, days and times)Rb-87A	90		
		3 OR MORE PERSONS Sign			
		Reserved Lane BEGINS (Tab Sign)			
		Reserved Lane ENDS (Tab Sign)			
0.	Parking Control Signs				
	10.1	General Parking Control Signs	9!		
		NO PARKING Sign	95		
		NO PARKING Sign (with days)	96		
		NO PARKING Sign (with days and times)	96		
		NO PARKING, SNOW ROUTE Sign Rb-57	96		
		NO PARKING, EMERGENCY PARKING ONLY Sign Rb-58	96		
		PARKING RESTRICTED Sign (with days, times and duration) Rb-53	97		
		NO STANDING Sign Rb-54	97		
		NO STANDING Sign (with days and times) Rb-54A	97		

Sign Number

		NO STOPPING Sign	97
		NO STOPPING Sign (with days)	
		NO STOPPING Sign (with days and times)	98
	10.2	Disabled Parking Control Exemption Signs	102
		DISABLED PARKING PERMIT Sign	102
		DISABLED STANDING EXEMPTION Sign	103
		DISABLED STOPPING EXEMPTION Sign	103
11.	Speci	fic Vehicle Class Control Signs	105
	11.1	General Truck Control Signs	105
		TRUCK ROUTE Sign Rb-61	105
		MOVEMENTS PERMITTED (Tab Sign)	106
		NO HEAVY TRUCKS Sign Rb-62	107
		NO HEAVY TRUCKS Sign (with time restriction) Rb-62A	107
		LANE USE RESTRICTION Sign (trucks, overhead) Rb-39	109
		LANE USE RESTRICTION Sign (trucks, ground-mounted) Rb-39A	109
		LANE USE RESTRICTION Sign (length-based, overhead) Rb-40	110
		LANE USE RESTRICTION Sign (length-based, ground-mounted) Rb-40A	110
		BEGINS (Tab Sign) Rb-184t	110
		ENDS (Tab Sign) Rb-185t	111
		MAXIMUM TONNES Sign (single gross weight) Rb-63	112
		MAXIMUM TONNES Sign (differentiated by truck type) Rb-63A	114
		LOAD RESTRICTION IN EFFECT Sign	115
		CLASS B ROAD Sign Rb-77	116
		TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING Sign	117
		VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER Sign	119
	11.2	Dangerous Goods Carrier Control Signs	120
		DANGEROUS GOODS ROUTE Sign (symbol) Rb-82	121
		DANGEROUS GOODS ROUTE (Tab Sign)	121

Section Number – Subject or Sign Message

Sign Number

		NO DANGEROUS GOODS Sign (symbol)	123		
		DANGEROUS GOODS CARRIERS PROHIBITED (Tab Sign) Rb-83t	123		
	11.3	Control of Other Specific Vehicle Classes Signs	. 124		
		SCHOOL BUS LOADING ZONE Sign	124		
		NO TRACTORS Sign Rb-60	125		
		BICYCLE ROUTE Sign	126		
		NO BICYCLES Sign Rb-67	128		
		NO PEDESTRIANS OR BICYCLES Sign	129		
		SNOWMOBILE ROUTE Sign Rb-64	130		
		NO SNOWMOBILES Sign Rb-65	131		
2.	Suppl	ementary Traffic Signal Control Signs	132		
	NO RIG	HT TURN ON RED Sign	132		
	NO LEF	T TURN ON RED Sign	133		
	STOP H	IERE ON RED SIGNAL Sign	134		
	ADVAN	CED GREEN WHEN FLASHING Sign Rb-80 Rb-80	135		
	LEFT-TI	JRN SIGNAL Sign Rb-81	136		
3.	Regulatory Construction Traffic Control Signs				
	CONST	RUCTION ZONE BEGINS/ENDS Sign	3 137		
	YIELD ⁻	TO ONCOMING TRAFFIC Sign	139		
	ROAD (CLOSED SignRb-92	141		
4.	Community Safety Zone Signs				
	COMM	UNITY SAFETY ZONE Sign	14		
		RUCTION ZONE BEGINS/ENDS Sign			
5.	Off-ro	adway Facility Control Signs	14!		
	Off-road	dway Facility Control Signs (To be added in next version of Book 5)			
6	Misco	llaneous Control Signs	14		

Section Number - Subject or Sign Message Sign Page Number Number NO FISHING FROM BRIDGE Sign Rc-2 Rc-2 VEHICLES WITH LUGS PROHIBITED Sign Rc-3 Rc-3 149 NO LITTERING AND MAXIMUM FINE FOR LITTERING Sign Rc-4A 149 NO IN-LINE SKATING Sign Rc-10 Rc-10 151 NO PEDESTRIANS Sign..... Rc-12 Rc-12 152 152 COMPULSORY TAB Sign Rc-13t Rc-13t 153 17. Signs Renumbered, Added or Proposed for Relocation to Other Books . . . 154 17.1 17.2 PASSING LANE 2 KM AHEAD Sign Rb-30 155 List of Tables Table 1 – Regulatory Signs Requiring High Intensity Sheeting..... Table 2 – Maximum Acceleration Lane and/or Taper Length for YIELD Signs..... Table 3 – Standard Abbreviations for Days of Week..... 100 Table 4 – Maximum One-way Volumes for Rb-91 Use 140 Table 5 – Placement of Rb-91 Upstream of Lane Closure 140 Table 6 - Signs Proposed for Relocation from Book 5 to Other OTM Books

Section Number - Subject or Sign Message Sign Page Number Number List of Figures Figure 5 – Typical Locations of Turn Control Signs (At Unsignalized Intersections) 50 Figure 7 – Applications of Signs at Continuous Wide Median Figure 8 - Typical Application of DO NOT ENTER/WRONG WAY Signs and Figure 11 – Two-lane Highway with Added Truck Climbing Lane or Passing Lane (Single Direction)......74 Figure 12 – Two-lane Highway with Added Truck Climbing or Passing Lane (Both Directions)... 75 Figure 13 – Placement of Ground-mounted Turn Lane Figure 14 – Placement of Ground-mounted Turn Lane Figure 15 – Placement of Ground-mounted Turn Lane NOTE: A training package is available separately. For more information, contact: Ministry of Transportation Traffic Office 301 St. Paul Street, 2nd Floor St. Catharines, Ontario L2R 7R4 Telephone: (905) 704-2960

1. Introduction

Book 5 (Regulatory Signs) is one of a series of volumes that makes up the Ontario Traffic Manual (OTM). Book 5 addresses the selection and application of regulatory signs. It should be read in conjunction with Book 1 (Introduction to the Ontario Traffic Manual) and its appendices, which contain considerable essential information about the fundamental principles and policies behind the design and application of traffic control signs, signals, markings and delineation devices.

Book 5 is not intended to provide sufficient detailed information to allow the design, fabrication and installation of individual signs. For these purposes, reference should be made to Book 1b (Sign Design Principles), Book 2 (Sign Patterns and Fabrication) and Book 3 (Sign Support and Installation).

Other Books in the OTM series provide practical guidance on a full range of traffic control devices and their application. A complete listing of the planned and currently available volumes, as well as the tables of contents for all Books and an illustrated master index, is found in Book 1.

1.1 Application of Regulatory Signs

Regulatory signs are intended to instruct road users on what they must or should do (or not do) under a given set of circumstances. The term regulatory sign describes a range of signs that are used to indicate or reinforce traffic laws, regulations or requirements which apply either at all times or at specified times or places upon a street or highway, the disregard of which may constitute a violation.

The regulatory signs described in this Book have different levels of legal status, enforcement regime and penalties for violation, depending on their individual governing authority. Some signs are enforceable directly under specific sections of the Highway Traffic Act (HTA) or other legislation, others under more general provisions of the HTA and its Regulations and still others only under duly enacted municipal by-laws. Some of the regulatory signs in this Book are not directly enforceable themselves but are used to reinforce regulatory conditions contained in legislation, such as HTA Part X (Rules of the Road). A final group of signs is not enforceable at all.

The term "prescribed signs" refers to signs described in HTA Regulations, while the term "official signs" refers to signs not included in the HTA Regulations, but approved by the Ministry of Transportation of Ontario and appearing in the Ontario Traffic Manual. The official definitions for these terms, as they appear in the Introduction to the Ontario Traffic Manual, are as follows:

Prescribed Signs

The Highway Traffic Act (HTA), Section 182 (R.S.O. 1990), provides for the regulation of various signs, their type and location on the roadway. The criteria and specifications for applications, dimensions, location and orientation are prescribed and illustrated under Regulations 615, 608, 581 and 599 (R.R.O. 1990) and are indicated as such in this Manual. Signs installed in accordance with the Regulations, and pursuant to the Highway Traffic Act, are enforceable under various provisions of the Act. Enforcement is permitted under the particular section under the authority of which a prescribed sign may be installed to indicate a traffic regulation, or HTA Section 182 (R.S.O. 1990), which requires obedience to prescribed signs.

Ontario Traffic Manual • March 2000 11

Official Signs

Under the Highway Traffic Act, Subsection 1.(1), Paragraph 26 (R.S.O. 1990), official signs are any signs approved by the Ministry of Transportation of Ontario (MTO). Official signs are required to be used under certain sections of the Highway Traffic Act which become effective on the use of an official sign (for example, HTA Sections 153 and 154(c) (R.S.O. 1990)). Such signs are enforceable only under the particular provisions of the Highway Traffic Act which apply to their use. Contained in the Manual are signs which would be approved for use under these provisions.

In many cases, regulatory signs are essential to indicate the applicability of legal requirements that would not otherwise be apparent to the motorist (e.g., speed limits, turn restrictions, parking restrictions). Due care must be exercised to ensure that they are installed wherever needed to fulfil this purpose, in accordance with the prescribed location criteria, and mounted so as to be easily visible to the motorist. The message on the sign must clearly indicate the requirements imposed by the regulation.

To aid the users of this Manual, where applicable, reference is made to the appropriate section of the HTA or regulation, which provides the legal authority for that sign. It must be noted that this reference is an indication only, and is not intended to be a definitive listing. Legal advice should be sought whenever dealing with matters of legal authority. All applicable references to the HTA or other Ontario legislation and regulations in this Book refer to the Revised Statutes of Ontario (R.S.O.) 1990 and Revised Regulations of Ontario (R.R.O.) 1990.

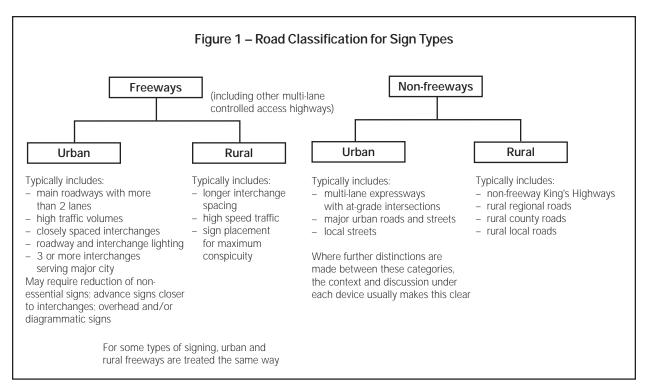
In order to retain the public credibility of all traffic control devices, unnecessary restrictions should be avoided. Signs that have been installed but are no longer applicable must be removed. All regulations indicated by the signs should be actively enforced. Otherwise, no matter how effectively the signs may be designed and placed, the desired results may not be obtained.

The type of regulatory signing used and the sign size are impacted by the classification of highway or road to which the signs apply. For determining sign *type*, road classifications used in the OTM are shown in Figure 1 and defined in Appendix A (Definitions). For determining sign *size*, the following three speed ranges have been adopted:

- (1) Speed limits of 60 km/h or lower;
- (2) Speed limits of 70 or 80 km/h; and
- (3) Speed limits of 90 km/h or higher.

Where various sign sizes are shown in the OTM, the base or standard sign size is recommended as the minimum sign size. It is typically the sign size that will apply for the lowest speed range. Where specific sign sizes are recommended for the other speed ranges, they should also be regarded as minimum sizes for those speeds. For some sign designs, only one or two sign sizes are shown. In this case, two or more of the three speed ranges are combined into one. Where, in the traffic practitioner's judgement, it is felt that the recommended minimum size is too small, and/or greater emphasis is needed, a larger sign size may be used. More information on sign size is provided in Book 1b (Sign Design Principles).

It should be noted that not all possible regulatory signs have been documented in this edition of Book 5. A number of additional signs currently in use in various jurisdictions in Ontario and across Canada have already been identified for possible inclusion in future editions of the Manual. It is anticipated that these and possibly other signs will



be referred to the Ontario Traffic Manual Committee, which is being formed to consider and recommend additions and changes to Book 5 and all other Books of the OTM on a continuing basis.

Where French language or bilingual versions of signs are available, they have not been illustrated in Book 5, but are contained in Book 2 (Sign Patterns and Fabrication).

1.2 Classification of Regulatory Signs

Regulatory signs are classified into the following three sub-classes. Each sign has been assigned a unique reference number within that sub-class:

(1) Sub-class Ra, Right-of-Way Control Signs, described in Book 5, Section 2 to 4.

This sub-class contains those signs which control the right-of-way of vehicles and/or pedestrians, including:

- Vehicular stop and yield control;
- Pedestrian crossings within intersections;
 and
- Designated pedestrian crossovers.
- (2) Sub-class Rb, Road Use Control Signs, described in Book 5, Sections 5 to 13.

This sub-class contains those signs which indicate the permitted or prohibited use of a street or highway by all vehicles or by class or classes of vehicle, including:

- Speed control;
- Turn control;

- One-way traffic control;
- Two-way and multi-lane traffic control;
- Lane designation;
- Parking control;
- Specific vehicle class control;
- Traffic signals supplementary signs; and
- Construction zone traffic control.
- (3) Sub-class Rc, Miscellaneous Control Signs, described in Book 5, Sections 14 and 15.

This sub-class includes those signs which indicate regulations not otherwise provided for in Class Ra or Rb, including:

- Miscellaneous pedestrian-related signs;
- Littering;
- · Seat belt use: and
- Off-roadway facility control signs (future).

1.3 Design of Regulatory Signs

Except for a few signs, such as the STOP sign, the YIELD sign and the ONE-WAY sign, regulatory signs are rectangular in shape, often with the longer dimension in the vertical direction. They generally contain a black, red and/or green legend on a white background.

The design of regulatory signs has evolved over a long period of time and has been undertaken with a great deal of care and attention to detail with regard to shape, dimensions, font, letter height and spacing, symbol design and colour. These design

parameters have considerable effect on the driver's ability to notice, read, understand and react to the sign while travelling, particularly in a complex driving environment. Signs must therefore be fabricated as described in the detailed patterns contained in Book 2.

Due to the need for uniform application across Ontario, it is not expected that the design of new regulatory signs will be a common occurrence. If the need for a new sign does emerge, it must be designed in accordance with the specifications set out in Book 1 (Sections 2.5 and 5.12) and Book 1b.

Minimum overall dimensions for each sign are presented in the following sections of this Book. In each case, the smaller dimension is stated first. This convention follows the current practice for specifying sign blanks and other aspects of sign design and fabrication. Where conditions require increased visibility or where the required text or symbols cannot be adequately accommodated, larger signs should be considered. When larger signs are used, all dimensions must be increased proportionately (see Highway Traffic Act, Regulation 615, Section 44). In some cases, specific sign size recommendations are made in this Book to correspond with particular speed or other road operating characteristics.

For a more rigorous analysis of sign size, the OTM user may decide to calculate required letter height or symbol size from first principles. Section 7 of Book 1b provides step-by-step instructions on how to perform this type of calculation. For each sign in Book 5, font type and letter height for the illustrated sign size are indicated, to enable the user to perform the Book 1b calculations.

For information on factors such as message length, required driver response, or complexity of driving environment that influence sign design and decisions regarding appropriate sign size selection, reference should be made to Book 1b.

1.4 Reflectivity/Luminance

With the exception of parking control signs located in illuminated areas, all regulatory signs are required to be reflectorized or internally illuminated so as to show the same shape, colour and message by night as by day. It should also be noted that, as of a certain prescribed date (either January 1, 2002 or January 1, 2006 depending on sign), any in-service examples of regulatory signs specified in Table 1 must be fabricated using higher grade materials known as high intensity sheeting. High intensity

sheeting is required for signs that are critical from a safety standpoint, that is, failure to see or heed these signs at night could have serious consequences.

When high intensity sheeting is required, a minimum sheeting level of Type III or IV must be used, as detailed in the ASTM (American Society for Testing and Materials) Specification D 4956-95 or its subsequent revisions. (In Canada, CGSB (Canadian General Standards Board) Specification 62-GP-11M or its subsequent revisions also specifies reflective sheeting.) The minimum levels of sheeting required

Table 1 - Regulatory Signs Requiring High Intensity Sheeting

Sign Number	Sign Name	Prescribed Implementation Date
Ra-1	STOP Sign	
Ra-1t	ALL-WAY Tab Sign	
Ra-2	YIELD Sign	
Rb-10 through Rb-16 inclusive	TURN CONTROL Signs	
Rb-21	ONE-WAY Sign	January 1, 2002
Rb-19	DO NOT ENTER Symbol Sign	January 1, 2002
Rb-19t	DO NOT ENTER Tab Sign	
Rb-20	DO NOT ENTER/WRONG WAY Sign	
Rb-24	TWO-WAY TRAFFIC Sign	
Rb-25*	KEEP RIGHT Sign	
Ra-2t	YIELD Tab Sign	
Rb-31	DO NOT PASS Sign	
Rb-36	YIELD CENTRE LANE TO OPPOSING TRAFFIC Sign	January 1, 2006
Rb-91	YIELD TO ONCOMING TRAFFIC Sign	
Rb-92	ROAD CLOSED Sign	

^{*} Only in certain situations and if not illuminated externally or internally.

on various regulatory sign types, with effective dates, are set out in Book 5, as part of the description for each sign. (See Book 1b for further background on retroreflective sheeting and illumination.)

Further information on the correct use of flashing beacons may be found in OTM Book 12 (Traffic Signals) in the section entitled "Flashing Beacon Signals."

1.5 Location

Regulatory signs shall normally be located in accordance with Section 12 (Sign Position) of Book 1b. However, specific or additional requirements for certain regulatory signs may pre-empt or revise directions or specifications prescribed under the general standards in Book 1b. Such deviations or exceptions from the Book 1b location principles are noted in this Book under the heading "Location Criteria" for the respective signs to which they apply. If for a given sign, exceptions are not noted under this heading, the Book 1b location principles apply.

1.6 Supplementary Flashing Beacons

Red or amber flashing beacons may sometimes be required to draw the driver's attention to the presence of a regulatory sign, (e.g., a STOP or YIELD sign, a KEEP RIGHT or SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign), particularly when visibility distance is reduced due to severe roadway geometry, or other circumstances are present which suggest that greater emphasis is required.

The use of flashing beacons should be restricted to only critical situations, in order to ensure that their impact is not lost due to overuse or to ensure that they do not become a distraction to the driver. A red flashing beacon is only used in conjunction with a STOP sign.

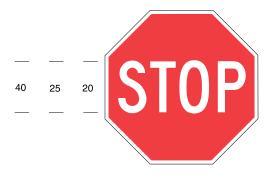
1.7 Dynamic Sign Technologies

Recent advances in technology have resulted in the capability to display messages to the driver through the use of dynamic or variable display signs. In general, these signs are not appropriate for use in displaying regulatory type messages, as it is difficult to ensure a consistent and reliable display, in accordance with the text and graphics requirements of the Regulations or by-laws. At the present time, no provision is made in the Regulations for displaying such messages as variable speed limits.

Certain specific applications of dynamic sign technologies are permitted in the HTA (see Highway Traffic Act, Regulation 615, Section 49). Where regulations such as turn restrictions or lane designations take effect only during specific hours, it may be desirable under some circumstances to install dynamic signs which may be changed to show a different display at different times of day or days of the week. Typically, such signs employ a dot or disc matrix construction (fibre optic or light emitting diode) or louvers or shutters to modify the display. Where such signs are employed, they are required to be legible to drivers only during the prescribed hours of operation and to comply as nearly as practicable with the prescribed design and dimensions.

A full discussion of the design and application of dynamic signs may be found in OTM Book 10 (Changeable Message Signs). Further information on the application of such signs within an automated traffic management or control system may be found in OTM Book 19 (Advanced Traffic Management Systems).

2. STOP Sign



60 cm x 60 cm Ra-101 75 cm x 75 cm Ra-1101 120 cm x 120 cm Font Highway Gothic C

Legend & Border - White Reflective Colour

Background - Red Reflective

ALL-WAY Tab Sign



Ra-1t 15 cm x 30 cm

Font Helvetica Bold Condensed Colour Legend & Border - Red Reflective

Background - White Reflective

Purpose and Background

Where no traffic control device is present at an intersection of two roadways, the basic rules of the road apply. The Highway Traffic Act assigns priority to vehicles already within the intersection or, in the event two or more vehicles are approaching the intersection at approximately the same time, the Act requires the driver on the left to yield to the vehicle

on the right. A number of traffic control devices are available to assist in the allocation of right-of-way between vehicles in an intersection, increasing in level of control from a YIELD sign to a STOP sign up to full traffic signal control.

The purpose of the STOP sign is to clearly assign right-of-way between vehicles approaching an intersection from different directions when traffic signals are not warranted or not yet installed and it has been determined that a YIELD sign is inadequate. The STOP sign requires the driver to stop the vehicle before entering the intersection, yield to any traffic in or approaching the intersection and then proceed when safe to do so.

The introduction of STOP sign control can reduce the frequency of certain types of collision (e.g. rightangle or turning), but also results in delay to motorists and may increase some other types of collision (e.g., rear-end). STOP signs should, therefore, not be used indiscriminately.

STOP signs must not be used on the same approach to an intersection where traffic control signals are operating, as the conflicting commands of two types of control devices would be confusing.

Portable or part-time STOP signs must not be used except in emergency or temporary situations, such as in conjunction with Traffic Control Persons or at intersections where traffic signals are inoperative.

STOP signs are not intended to be used as speed control devices. Their usage should be limited to the control of right-of-way conflicts.

In general, STOP signs should only be used where traffic engineering studies considering such factors as traffic speeds, traffic volumes, restricted sight lines and collision experience, indicate that the use of STOP signs is warranted.

Sign Types

The standard size STOP sign (Ra-1), is the minimum size permitted, and may generally be used where the posted speed is 60 km/h or less.

The **oversize STOP sign (Ra-101)** should be used where the posted speed is 70 km/h or greater. This sign may also be installed at lower speed locations where the prevailing traffic conditions warrant greater visibility or emphasis, for example in complex visual environments where many signs and other devices compete for driver attention or at high traffic volume locations where drivers must concentrate more on the driving task.

Specific situations where the **oversize STOP sign** (Ra-101) must be used include:

- At the junction of two King's Highways in rural areas:
- At the junction of any public road with a King's Highway in rural areas;
- At the junction of two major County or Regional roads; or
- At freeway exit ramp terminals not controlled by traffic signals.

The **special oversize STOP sign (Ra-1101)** may be used in locations where two relatively major roads (e.g., King's Highway, Regional or County Roads) intersect, particularly in high speed rural locations where such an intersection may be unexpected, and at other locations where special emphasis is required.

In addition to the STOP sign, there are a number of other supplementary traffic control devices which may be considered, to provide added emphasis in selected circumstances. On paved roads, the STOP sign may be supplemented with a **stop line**. For information on appropriate pavement markings, reference should be made to Book 11 (Markings and Delineation).

Where the presiding road authority has determined that an all-way stop (see below) is required, the STOP signs should be supplemented with an **ALL-WAY tab sign (Ra-1t)** directly below the STOP sign. The use of the TWO-WAY tab sign found in earlier editions of the MUTCD is not recommended, as it is ambiguous and could lead to confusion. Consistency and uniformity throughout Ontario in this practice will help distinguish all-way stop situations from conventional stop control, and facilitate driver understanding of what is required in each case.

Where necessary for increased emphasis, a supplementary **red flashing beacon** may be used to reinforce a STOP sign. Such flashing beacons may be installed overhead, within the intersection proper, or mounted directly above the STOP sign itself. For information regarding flashing beacons, refer to Book 12 (Traffic Signals).

In cases of restricted visibility or other special conditions affecting the STOP sign, a **STOP AHEAD** sign (Wb-1) may be required or recommended. For information regarding STOP AHEAD signs, refer to Book 6 (Warning Signs), Section 6.

Guidelines for Use

Stop Control

Where traffic signals are not warranted or installed, or are warranted but have not yet been installed, STOP signs should be considered as follows:

STOP signs must be used:

At the intersection of two King's Highways; and

 At the intersection of a County or Regional road with a King's Highway in a rural area.

The use of STOP signs should be considered:

- At the intersection of a County or Regional road with a King's Highway in a built-up area;
- At the intersection of a city street or township road with a King's Highway;
- At the intersection of a minor street or road with a through street or highway;
- At unsignalized intersections in a signalized area, except where they would interfere with traffic signal progression;
- At intersections where the application of the normal right hand rule or yield control would be unduly hazardous; and
- At intersections which have experienced a record of collisions of the type which are susceptible to correction by STOP control (see stop collision warrant below).

Stop Collision Warrant

STOP sign control may be warranted where three or more right angle or turning collisions per year have occurred over a period of three years and methods of reducing the collision experience, such as sight line improvements, street lighting, parking prohibitions, enforcement, geometric revisions, or YIELD sign controls, have been tried or considered, and found to be inadequate.

All-way Stop Controls

In some circumstances, it may be appropriate to install STOP signs on all approaches to an intersection. This results in an all-way stop condition. All-way STOP sign controls disrupt the flow of traffic

and introduce delays to all drivers within the intersection and should only be considered at the intersection of two relatively equal roadways having similar traffic volume demand and operating characteristics (see minimum volume warrants below). The approaches should be directly opposing (i.e., not offset), should preferably approach at right angles (i.e., no skewed approaches) and have an equal number of lanes.

All-way stop controls should be considered only under the following situations:

- As an interim measure, where traffic control signals are warranted but cannot be implemented immediately. For information on traffic signal control, refer to Book 12 (Traffic Signals);
- At locations having a high collision frequency where less restrictive measures have been tried and found inadequate (see all-way stop collision warrant below); or
- As a means of providing a transition period to accustom drivers to a change in intersection rightof-way control from one direction to another.
 Installation under this warrant must be in conformance with the Amendment of Intersection Control, discussed under Special Considerations at the end of Section 2.

All-way Stop Minimum Volume Warrant (Arterial and Major Roads)

All-way stop control may be considered on major roads where the following conditions are met:

 The total vehicle volume on all intersection approaches exceeds 500 vehicles per hour for each of any eight hours of the day;

- The combined vehicular and pedestrian volume on the minor street exceeds 200 units per hour (all vehicles plus pedestrians wishing to enter the intersection) for each of the same eight hours, with an average delay to traffic on the minor street (either vehicles or pedestrians wishing to enter the intersection) of greater than 30 seconds; and
- The volume split does not exceed 70/30. Volume on the major street is defined as vehicles only.
 Volume on the minor street includes all vehicles plus any pedestrians wishing to cross the major roadway.

All-way Stop Minimum Volume Warrant (Minor Roads)

All-way stop control may be considered on minor roads where the following conditions are met:

- Total vehicle volume on all intersection approaches exceeds 350 for the highest hour recorded; and
- Volume split does not exceed 75/25 for threeway control or 65/35 for four-way control.
 Volume is defined as vehicles only.

All-way Stop Collision Warrant

For the purposes of this warrant, a high accident frequency is an average of four collisions per year over a three-year period. Only those accidents susceptible to relief through multi-way stop control must be considered (i.e., right angle and turning type collisions).

Included in this warrant are those locations where visibility problems exist which limit the safe approach speed to less than 15 km/h, thereby creating an unreasonable accident potential. Special advance warning or overhead flashing lights may be necessary to augment the control if vertical or horizontal alignment is a factor.

Inappropriate Use of All-way Stop Control

All-way stop controls should *not* be used under the following conditions:

- Where the protection of pedestrians, school children in particular, is a prime concern. This concern can usually be addressed by other means;
- As a speed control device;
- On roads where progressive signal timing exists;
- On roads within urban areas having a posted speed limit in excess of 60 km/h;
- At intersections that are not roundabouts having less than three, or more than four, approaches;
- At intersections that are offset, poorly defined or geometrically substandard;
- On truck or bus routes, except in an industrial area or where two such routes cross:
- On multi-lane approaches where a parked or stopped vehicle on the right will obscure the STOP sign;
- Where traffic would be required to stop on grades;
- As a means of deterring the movement of through traffic in a residential area:

- Where visibility of the sign is hampered by curves or grades, and insufficient safe stopping distance exists: or
- Where any other traffic device controlling right-ofway is permanently in place within 250 m, with the exception of a YIELD sign.

Location Criteria

A STOP sign must be installed in accordance with the Regulations in order to be effective and enforceable.

The STOP sign must be installed on the right side of the roadway, facing traffic, no closer than 1.5 m and no further than 15 m from the edge of the intersecting roadway, unless it is clearly not practicable to locate the STOP sign closer to the intersection.

Within a city, town, village, police village or built-up area, the left edge of the STOP sign must be no more than 2 m from the edge of the roadway. In other (rural) areas, the left edge must be no more than 4 m and no less than 2 m from the edge of the roadway.

On divided highways and one-way roadways with visibility problems, a supplementary STOP sign should be installed on the left side of the roadway.

Where one roadway intersects another roadway at an acute angle, the STOP sign on the intersecting roadway should be turned or shielded so that motorists travelling on the higher priority roadway cannot read it.

Typical locations of STOP signs are illustrated in Figure 2.

Legal Status

Highway Traffic Act, Sections 136 and 137 (R.S.O. 1990) (STOP Sign).

Highway Traffic Act, Regulation 615, Sections 6 to 8, and Regulations 623 and 624 (R.R.O. 1990) (STOP Sign).

On roadways under the jurisdiction of a municipality, a municipal by-law is required before the STOP sign becomes enforceable.

Highway Traffic Act, Regulation 615, Section 10 (R.R.O. 1990) (ALL-WAY Tab Sign).

Minimum Sheeting Requirement

The signs must be Type III or IV as of January 1, 2002.

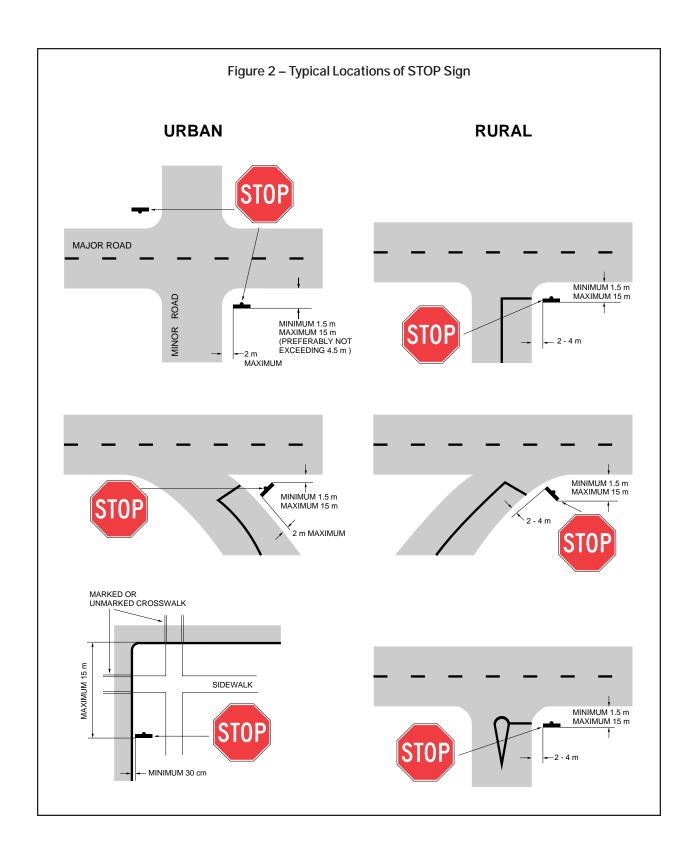
Type I is minimum requirement prior to the dates indicated.

Special Considerations

Amendment of Intersection Right-of-way Control

Where right-of-way is being reassigned from one roadway to another crossing roadway, through the elimination of an existing STOP sign control and the installation of STOP sign control on the previously uncontrolled roadway, an introductory period is required to safely carry out the transition.

The recommended procedure for completing such a reversal is described below. For information on the warning signs noted in the procedure, reference should be made to Book 6 (Warning Signs).



(1) Install new STOP signs on the previously uncontrolled approaches along with stop lines and crosswalk markings, if required. Oversize STOP signs and/or additional left side installations may be provided where conditions warrant. Install ALL-WAY tabs on all approaches. A painted "stop" legend on the roadway, in advance of the stop line, may be added for additional emphasis.

Install a 90 cm x 90 cm CROSS TRAFFIC DOES NOT STOP sign (Wa-19), on the newly controlled roadway, in advance of the STOP sign. This is the standard size of sign. A larger size sign may be used where prevailing traffic conditions warrant greater visibility or emphasis, e.g., in complex visual environments where many signs and other devices compete for driver attention.

Install a NEW sign (Wb-3) above, and an AFTER (month and day) tab sign (Wa-19t) below, in black letters on a yellow retroreflective background, stating the date that the old control will be removed. The warning sign's position should be such that it does not block the approaching motorist's view of the STOP sign but commands attention and may be read as the driver approaches the stop line. A location approximately 30 m in advance of the stop line is recommended, in low speed applications.

Install a STOP AHEAD (Wb-1) sign, with NEW sign (Wb-3) above, at the proper location in advance of the intersection on the newly controlled approaches. An oversize STOP AHEAD sign, and a STOP AHEAD roadway marking legend may be provided for additional warning where conditions warrant.

- (2) After at least 15 days, remove the STOP AHEAD signs, if any, the STOP signs, stop lines and any crosswalk lines from the previously controlled roadway. Remove the ALL-WAY tabs from all approaches. Remove the NEW signs attached to the CROSS TRAFFIC DOES NOT STOP signs (Wa-19), and the STOP AHEAD signs. Remove the Wa-19t tabs. Any roadway marking legends, if provided, should be allowed to fade and not be replenished unless local conditions warrant the continued provision of this additional warning.
- (3) After an additional period of at least 15 days, the Wa-19 signs should be removed. Any oversize STOP signs may now be replaced with standard sized signs unless the continued additional emphasis is warranted. STOP AHEAD signs should be reduced from oversize to standard size or removed if their continued presence is unwarranted.

Where an existing all-way stop control is to be removed and a through roadway created, the following procedure is recommended:

(1) Install 90 cm x 90 cm diamond-shaped warning signs bearing the legend CROSS TRAFFIC DOES NOT STOP (Wa-19) in black letters on a yellow retroreflective background, on the approaches where the STOP control is to remain, at least 15 days before the removal of control.

Install a NEW sign (Wb-3) over the sign and an AFTER (month and day) tab sign (Wa-19t) with black text on a yellow retroreflective background, stating the date when the control on the crossing roadway will be removed.

- (2) On the appointed date, remove the STOP AHEAD signs, if any, on the crossing roadway. Remove the STOP signs, stop lines and any crosswalk lines on these approaches. Remove all of the ALL-WAY tabs at the intersection. Remove the Wa-19t tabs from the warning signs.
- (3) After an additional period of at least 15 days, the NEW signs and Wa-19 signs should be removed.

In all cases information regarding the change in right-of-way control should be publicized via local print and electronic media, particularly using radio stations which provide traffic coverage in commuter areas. Local residents should be advised of the revisions, and law enforcement agencies requested to provide stepped up enforcement and more frequent patrols of the location. Advance notification should also be provided to local ambulance services, transit authorities, bus companies, taxi companies and trucking firms known to use the intersection frequently.

Any actual removal or revision of the control at an intersection should occur prior to the start of the morning peak on the specified date, both to preserve the integrity of the Wa-19t tab message and to permit the revision to take place during a period of reduced demand.

3. YIELD Sign



Ra-2 75 cm Ra-102 90 cm

Font N/A Colour Lege

Legend – Red Reflective Background – White Reflective

YIELD Tab Sign



 Ra-2t
 22.5 cm x 45 cm

 Ra-102t
 30 cm x 60 cm

 Font
 Highway Gothic D

Colour Legend & Border – Red Reflective Background – White Reflective

Purpose and Background

The purpose of the YIELD sign is to regulate right-ofway control.

A YIELD sign can be an effective control device at intersections, roundabouts or where necessary at traffic circles, if it is found that:

 The normal right-of-way rule does not provide safe, convenient and efficient traffic movement; and A stop regulation at one or more of the approaches is too restrictive.

Vehicles approaching the sign must yield the rightof-way at the intersection to oncoming vehicles on the priority road, and at the roundabout or traffic circle to vehicles inside the facility, stopping if necessary.

Sign Types

The **standard size YIELD sign (Ra-2)** should be used where posted speed is 60 km/h or less.

The oversize YIELD sign (Ra-102) should be used where posted speed is 70 km/h or greater. This sign may also be installed at lower speed locations where prevailing traffic conditions warrant greater visibility or emphasis, e.g., in complex visual environments where many signs and other devices compete for driver attention, or at high traffic volume locations where drivers must concentrate more on the driving task

The educational tab signs (Ra-2t, Ra-102t) may be used where it has been determined that motorists are still unfamiliar with the meaning of the symbol. Motorist familiarity can be assessed according to factors such as collision experience, incidences of near-collisions, observation and presence of similar signs in the area.

If an educational tab sign is required, the **standard size tab sign (Ra-2t)** should be used with the standard size YIELD sign (Ra-2), and the **oversize tab sign (Ra-102t)** should be used with the oversize YIELD sign (Ra-102).

In cases of restricted visibility or other special conditions affecting the YIELD sign, a **YIELD AHEAD sign (Wb-1A)** may be required or recommended. For information regarding YIELD AHEAD signs, refer to Book 6 (Warning Signs), Section 6.

Guidelines for Use

Before using a YIELD sign as a substitute for the normal right-of-way rule or for a STOP sign, consideration must be given to its suitability in relation to traffic volume, speed, sight distance along the main road onto which vehicles merge, and collision record of the intersection related to right-of-way control.

The use of a YIELD sign should be considered under the following circumstances:

- (1) On a minor road approaching its intersection with a major road, where:
 - Right-of-way control is required for the major road:
 - Stopping on the minor road is not always required; and
 - The safe approach speed on the minor road exceeds 15 km/h:
- (2) Within an intersection of a road with a divided highway, where:
 - There is a STOP sign approaching the intersection with the roadway upstream of the median:
 - Further control is necessary at the approach to the intersection of the roadway downstream of the median; and
 - Where the median width exceeds 10 m;
- (3) At each approach to a roundabout to provide right-of-way to vehicles on the roundabout;
- (4) On an entrance ramp to a freeway or expressway, where the acceleration lane or taper is less than specified in Table 2 below; or

(5) Where there is a separate or channelized rightturn lane, and the acceleration lane or taper is less than specified in Table 2 below.

Table 2 – Maximum Acceleration Lane and/or Taper Length for YIELD Signs

Posted Speed for Through Road	Length of Acceleration Lane and/or Taper
km/h	m
50	50
60	60
70	65
80	70
90	80
100	85
110	90

YIELD signs should *not* be used for the following applications:

- (1) To control the major flow of traffic at an intersection:
- (2) At an intersection of a County or Regional Road with a King's Highway, so as to provide uniformity of driver expectancy on major highways;
- (3) On more than two opposing approaches of an intersecting street or highway;
- (4) At an intersection where there are STOP signs on one or more approaches except, under special circumstances, to provide minor movement control within complex intersections, e.g., a divided highway;

- (5) On the through roadway of freeways or expressways; or
- (6) On entrance ramps at well designed interchanges, because the sign would interfere with the free merging movement of vehicles.

Location Criteria

The YIELD sign must be installed on the right side of the roadway, facing traffic, no closer than 1.5 m and no further than 15 m from the edge of the intersecting roadway, unless it is clearly not practicable to locate the YIELD sign closer to the intersection.

Within a city, town, village, police village or built-up area, the left edge of the YIELD sign must be no more than 1.5 m from the edge of the roadway. In other (rural) areas, the left edge must be no more than 4 m and no less than 1.5 m from the edge of the roadway.

On divided highways and one-way roadways with visibility problems, a supplementary YIELD sign should be installed on the left side of the roadway.

Legal Status

Highway Traffic Act, Section 138 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 16 to 19, and Regulation 631 (R.R.O. 1990) (Territory Without Municipal Organization).

Highway Traffic Act, Sections 135 and 139 (R.S.O. 1990) for general rules of yielding.

Minimum Sheeting Requirement

Ra-2 and Ra-102 must be Type III or Type IV as of January 1, 2002.

Ra-2t and Ra-102t must be Type III or Type IV as of January 1, 2006.

Type I is minimum requirement prior to the dates indicated.

Special Considerations

N/A

4. Pedestrian Crossing Signs

4.1 General Pedestrian Crossing Signs

CROSS ON GREEN LIGHT ONLY Sign



Ra-6 30 cm x 45 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

CROSS ON WALK SIGNAL ONLY Sign



Ra-7 30 cm x 45 cm

Font Highway Gothic C

Colour Legend & Border – Black
Background – White Reflective

CROSS ONLY AT CROSSOVER Sign



Ra-8 30 cm x 45 cm

Font Highway Gothic C

Colour Legend & Border – Black

Background – White Reflective

CROSS OTHER SIDE Sign



Ra-9 30 cm x 30 cm

Font Highway Gothic D

Colour Legend & Border – Black

Background – White Reflective



Ra-9A 30 cm x 45 cm Font Highway Gothic D

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

PEDESTRIAN PUSHBUTTON Symbol Sign (With Directional Arrow)



Ra-12 13 cm x 20 cm

Font N/A

Colour Legend - Black

Background - White Reflective

PEDESTRIAN MUST PUSH BUTTON TO RECEIVE WALK SIGNAL Symbol Sign



Ra-13 45 cm x 60 cm

Font N/A

Colour Legend - Black

Background - White Reflective

Purpose and Background

The purpose of pedestrian crossing signs is to regulate and safely direct pedestrians crossing roads.

Pedestrian crossing signs may be used to supplement traffic signal controls where unusual conditions exist or where specific information needs to be provided. Pedestrian crossing signs may also be used to limit pedestrian crossings to safe locations. For example, a Road Authority may elect to use pedestrian crossing signs where experience has shown that pedestrians interfere with traffic by crossing against signals, where the length of the

pedestrian phase is relatively short, where pedestrians cross at undesignated locations or where the crossing configuration is different than normal.

For more information on the application of pedestrian crossing signs in the general context of pedestrian control and protection, see Book 15 (Pedestrian Control and Protection). Book 12 (Traffic Signals) provides further details on pedestrian signals, audible signals and other related topics, and Book 11 (Markings and Delineation) provides information on pavement markings at pedestrian crossings.

Sign Types

The CROSS ON GREEN LIGHT ONLY sign (Ra-6) and CROSS ON WALK SIGNAL ONLY sign (Ra-7) are used at signalized intersections. The Ra-6 sign is used where there is no pedestrian signal head.

The CROSS ONLY AT CROSSOVER sign (Ra-8) may be used in areas where it is necessary to limit pedestrian crossings to a safe crossing location.

The CROSS OTHER SIDE sign (Ra-9) or preferably its symbolic alternate, Ra-9A, must be used where crossings are restricted to one leg of an intersection at a given time. This may be the case where there are two adjacent left-turn lanes and it is desirable to facilitate the vehicle flow by removing the need for vehicles to yield to pedestrians.

The PEDESTRIAN PUSHBUTTON symbol sign (with directional arrow) and the PEDESTRIAN MUST PUSH BUTTON TO RECEIVE WALK SIGNAL sign (Ra-12 and Ra-13) should be used to indicate to pedestrians that pushbuttons are available and should be used for controlling

pedestrian signal indications at traffic signal controlled intersections. The pedestrian pushbuttons initiate the pedestrian signal phase, and in some cases extend the timing of the pedestrian phase.

The **Ra-12** sign is intended for use at the pushbutton, while the **Ra-13** is intended to be placed by the pedestrian signal head on the far side of the crossing.

Guidelines for Use

The following guidelines refer to pedestrian crossing signs in general:

- Pedestrian crossing signs are targeted at pedestrians and the application, size and placement of these signs should take into account the requirements of pedestrians, which are different than those of drivers.
- Pedestrian crossings are ordinarily required only in business districts or at signalized intersections in non-business districts.
- Pedestrian signal heads or crossover signing and crossing pavement markings should be provided at pedestrian crossings.

The Ra-12 PEDESTRIAN PUSHBUTTON symbol sign (with directional arrow) must be used where pedestrian signal pushbuttons are present, while the Ra-13 PEDESTRIAN MUST PUSH BUTTON TO RECEIVE WALK SIGNAL symbol sign may be used where research or field studies have shown that pedestrians are failing to push the pedestrian pushbutton to obtain a walk signal prior to crossing at a signalized intersection.

Location Criteria

Pedestrian crossing signs should be placed on the far side of the intersection on the traffic signal pole, where pedestrians would normally look to find pedestrian signal heads. Pedestrian crossing signs must face pedestrians about to cross the road.

On divided roadways, consideration should be given to installing two additional signs, mounted back-toback on the traffic signal pole in the median, facing pedestrians about to cross in both directions.

The above general location guidelines apply to all pedestrian crossing signs except the CROSS ONLY AT CROSSOVER sign (Ra-8) and the PEDESTRIAN PUSHBUTTON symbol sign (with directional arrow) (Ra-12).

The CROSS ONLY AT CROSSOVER sign (Ra-8) should be placed on the far side of the street at locations where research or field studies have shown that pedestrians are crossing illegally at unsafe locations.

The PEDESTRIAN PUSHBUTTON symbol sign (with directional arrow) (Ra-12) should be placed directly above the pushbutton, with the arrow indicating the crossing to which the sign and button apply.

Legal Status

No Highway Traffic Act reference. Signs must be supported by municipal by-law to be enforceable in municipalities.

Pedestrians must obey signs where pedestrian signal heads provided (see general rules for pedestrian crossings in Highway Traffic Act, Subsections 144.(22 to 28) (R.S.O. 1990)).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

4.2 Pedestrian Crossover Signs

Ground-mounted and overhead pedestrian crossover signs are used to indicate the presence of a pedestrian crossover, which is a protected pedestrian crossing at an unsignalized location. In addition to the regulatory signs described below, overhead warning signs (Wc-20 and Wc-120) (see Book 6 (Warning Signs)), flashing amber beacons and pavement markings are all components of pedestrian crossovers. For further details on pedestrian crossover installation criteria and how the various components comprising a pedestrian crossover are combined, see Book 15 (Pedestrian Control and Protection). Until Book 15 is available, refer to Section A-6 (Pedestrian Crossovers) of the Ontario Manual of Uniform Traffic Control Devices (MUTCD).

PEDESTRIAN X (Crossover) Sign



Ra-4 60 cm x 75 cm

Font Highway Gothic C

Colour Legend & Border – Black

STOP FOR PEDESTRIANS Tab Sign

Background - White Reflective



Ra-4t 45 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

NO PASSING HERE TO CROSSING Sign



Ra-10 60 cm x 75 cm

Font Highway Gothic C

Colour Top Section of Sign:

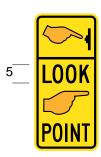
Legend – White Reflective

Border - Black

Background – Red Reflective Bottom Section of Sign: Legend & Border – Black Background – White Reflective

PEDESTRIAN PUSHBUTTON Sign

(proposed to be relocated to Book 6 (Warning Signs))



Ra-11 17.5 cm x 37.5 cm

Font Highway Gothic C

Colour Legend – Black and Orange

Border – Black Background – Yellow

Purpose and Background

The ground-mounted regulatory pedestrian crossover signs must distinctly indicate to drivers, pedestrians and other road users that a specific portion of roadway has been designated as a pedestrian crossover. Since pedestrians are especially vulnerable at pedestrian crossovers, it is important that drivers see and recognize the signs in time to respond in a manner that ensures the safety of pedestrians. Therefore, the signs have a distinctive appearance, and the large "X" legend on the Pedestrian X sign (Ra-4) has very good legibility.

The larger signs are targeted primarily at drivers, and instruct drivers on what they must and must not do at pedestrian crossovers: stop for pedestrians and do not pass other vehicles. The smaller PEDESTRIAN PUSHBUTTON sign (Ra-11) is for pedestrians and provides instructions on what they should do if they wish to cross at the pedestrian crossover: push the button to activate the flashing beacons, look for vehicles and point to indicate their intention to cross.

Sign Types

The PEDESTRIAN X (Crossover) sign (Ra-4) identifies the presence and location of the pedestrian crossover to drivers, pedestrians and other road users.

The **STOP FOR PEDESTRIANS tab sign (Ra-4t)** is a mandatory educational tab sign that must be attached below the PEDESTRIAN X (Crossover) sign.

The NO PASSING HERE TO CROSSING sign (Ra-10) prohibits passing within a 30 m stretch upstream of the pedestrian crossover.

The **PEDESTRIAN PUSHBUTTON sign (Ra-11)** symbolically indicates to pedestrians what they must do prior to crossing at the pedestrian crossover.

Guidelines for Use

Since it is critical that drivers notice and respond appropriately to pedestrian crossovers, a certain amount of redundancy is required in the application of pedestrian crossover signs. Redundancy is achieved by the following means:

- PEDESTRIAN X (Crossover) signs (Ra-4) must be posted on both sides of the road;
- The STOP FOR PEDESTRIANS tab sign (Ra-4t) must always accompany the Ra-4 sign; and
- The NO PASSING HERE TO CROSSING sign (Ra-10) provides advance warning of the upcoming pedestrian crossover.

Location Criteria

The location of pedestrian crossover signs for vehicles on a two-way road is shown in Figure 3 in the context of pavement marking locations. The Ra-4 signs together with their Ra-4t tabs must be installed back-to-back on each side of the road, to accommodate each lane and direction of traffic. The Ra-10 sign must be located on the right side of the roadway, facing the approaching traffic in each direction, at a point approximately 30 m upstream of the crossing location.

On a one-way road, the differences from the two-way road installation are as follows:

- Signs are only required to face the direction of approaching traffic; and
- Ra-10 signs must be installed on both sides of the roadway.

The PEDESTRIAN PUSHBUTTON sign (Ra-11) should be located directly adjacent to the pushbutton which activates the flashing beacons.

Legal Status

Highway Traffic Act, Section 140 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 20.1, 20.2, 20.3, 20.7, 20.8, 20.9 and 20.10 (R.R.O. 1990).

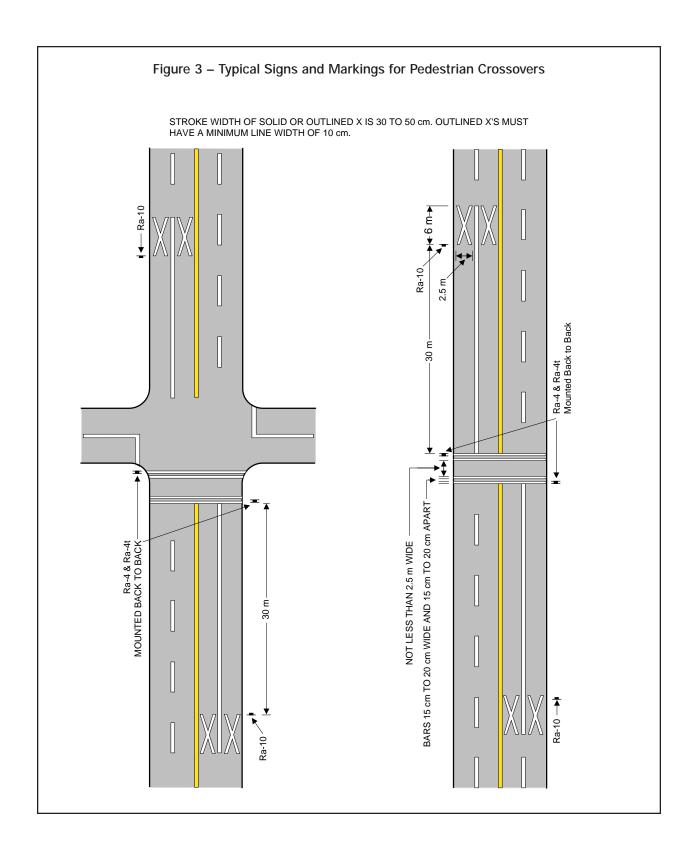
Minimum Sheeting Requirement

Type I

Special Considerations

The PEDESTRIAN PUSHBUTTON sign (Ra-11) is proposed to be moved to Book 6 (Warning Signs) before the next version of Book 5 (Regulatory Signs) is released. It is proposed that the sign become a warning sign, rather than a regulatory sign.

33



5. **Speed Control Signs**

The purpose of speed control signs is to indicate to motorists the maximum legal speed.

Information on determining maximum speeds and planning speed zones is provided in Book 14 (Speed Zoning and Speed Controls).

MAXIMUM SPEED Sign

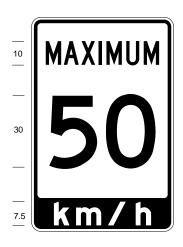


Rb-1 Font Colour

Highway Gothic C, D Legend & Border - Black Background - White Reflective

60 cm x 75 cm

MAXIMUM SPEED Sign with KM/H Included



60 cm x 90 cm Rb-1A

Font Highway Gothic C, D Colour Top Section of Sign:

Legend & Border - Black Background - White Reflective

Bottom Section of Sign: Legend - White Reflective Background - Black

BEGINS Tab Sign



Rb-84t 20 cm x 60 cm

Font Highway Gothic C

Legend & Border – White Reflective Colour

Background - Black

MAXIMUM SPEED BEGINS Sign



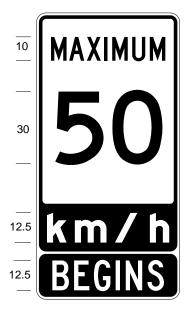
Rb-2 Font Colour 60 cm x 90 cm

Highway Gothic C, D

Top Section of Sign:
 Legend & Border – Black
 Background – White Reflective

Bottom Section of Sign:
 Legend – White Reflective
 Background – Black

MAXIMUM SPEED KM/H and BEGINS Sign on One Sign Blank



Rb-3 60 cm x 120 cm

Font Highway Gothic C, D, E Colour Top Section of Sign:

Legend & Border – Black
Background – White reflective
Bottom Section of Sign:

Legend – White Reflective Background – Black

KM/H Tab Sign



Rb-7t 20 cm x 60 cm

Font Highway Gothic E

Colour Legend & Border - White Reflective

Background - Black

Purpose and Background

The purpose of the MAXIMUM SPEED sign is to indicate to drivers the legal maximum speed for a given speed zone. MAXIMUM SPEED signs must be used where the speed limit is different than the statutory speeds for urban and rural environments. They may also be used, however, to confirm and supplement the statutory speeds, especially where there is evidence of drivers violating the speed limits.

Sign Types

The **MAXIMUM SPEED sign (Rb-1)** is the basic version of the speed limit sign.

In some cases, a supplementary "km/h" legend has been mandated by the Road Authority. In other cases, Road Authorities may opt to use the legend for some or all applications. If the decision is made to use the "km/h" legend in conjunction with basic speed limit signing, one of the following alternatives must be used:

- Attach KM/H tab sign (Rb-7t) to basic MAXIMUM SPEED sign (Rb-1); or
- Use the Rb-1A MAXIMUM SPEED sign, which incorporates the legend of the Rb-1 and Rb-7t sign on one blank. This alternative is practical where problems have been experienced in maintaining the Rb-7t tab sign.

Where there is a change in speed limit on any road, the supplementary **BEGINS tab sign (Rb-84t)** must be used in conjunction with the basic MAXIMUM SPEED sign (Rb-1), or the combination may be replaced by the **MAXIMUM SPEED BEGINS sign (Rb-2)**.

If the decision has been made to use the "km/h" legend on speed limit signs, the MAXIMUM SPEED KM/H and BEGINS sign on one sign blank (Rb-3) must be used instead of the other options featuring the "begins" legend but which do not include the "km/h" text (that is, instead of either the Rb-2 sign or the Rb-1 sign with the Rb-84t tab sign).

Guidelines for Use

All maximum speed signs established by Ontario Regulation or municipal by-law must be shown in units of km/h and in multiples of 10 km/h, e.g., 50 km/h, 60 km/h, not 55 km/h.

The prescribed rate of speed must be posted at the beginning of each speed zone, and only there be accompanied by the "begins" legend, either in tab form or as part of the Rb-2 or Rb-3 signs.

A "km/h" legend must be provided on all speed limit signs, both regulatory and advisory, on King's Highways, because of the greater likelihood of unfamiliar interprovincial and international users. Other Road Authorities may use the "km/h" legend at their discretion, and depending on local needs. If not explicitly required, Road Authorities may consider using the "km/h" legend near border locations, near airports and where violation experience or observation have shown that drivers are not understanding the units for speed restrictions.

Signs indicating new speed limits must not be installed until the new maximum speeds are approved and officially authorized.

Location Criteria

Any sign with the "begins" legend (that is, the Rb-84t tab sign, Rb-2 sign and Rb-3 sign) must be posted only at the beginning of the speed zone and must not be repeated beyond intersecting streets or highways.

MAXIMUM SPEED signs should be posted downstream of intersections with major public roads. On freeways, the MAXIMUM SPEED sign must be displayed after the assurance sign.

Typical examples for locating and spacing MAXIMUM SPEED signs are provided in Figure 4.

Legal Status

Highway Traffic Act, Section 128 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 1 to 4, and Regulations 619 and 621 (R.R.O. 1990).

The maximum speed can be changed and enforced by municipal by-law in municipalities.

The BEGINS tab sign (Rb-84t), MAXIMUM SPEED BEGINS sign (Rb-2) and MAXIMUM SPEED KM/H and BEGINS sign on one sign blank (Rb-3) are not included in HTA Regulation 615, but are expected to be included by September 30, 1998.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

MAXIMUM SPEED AHEAD Sign



Rb-5

60 cm x 75 cm

Font Colour Highway Gothic D Legend & Border – Black Background – White Reflective

Purpose and Background

The MAXIMUM SPEED AHEAD sign provides advance information to drivers entering a section of road where the speed limit is considerably reduced.

Sign Types

There is one type of **MAXIMUM SPEED AHEAD** sign: Rb-5.

Guidelines for Use

The MAXIMUM SPEED AHEAD sign (Rb-5) must be used to warn motorists of a posted speed reduction of 20 km/h or more.

The MAXIMUM SPEED AHEAD sign must be followed by a MAXIMUM SPEED sign with the "begins" legend (that is, Rb-1 with Rb-84t tab sign attached or Rb-2 or Rb-3). The MAXIMUM SPEED sign with "begins" legend must be placed at the beginning of the zone where the reduced maximum speed applies.

The MAXIMUM SPEED AHEAD sign should not be used under the following conditions:

- For speed reductions of 10 km/h (no advance speed warning is required);
- For speed increases.

Location Criteria

The MAXIMUM SPEED AHEAD sign must be placed 100 m to 250 m upstream of the reduced speed zone.

Typical examples for locating and spacing MAXIMUM SPEED AHEAD signs are provided in Figure 4.

Legal Status

Official sign: not enforceable. However, the MAXIMUM SPEED signs to which the MAXIMUM SPEED AHEAD sign refers are enforceable under:

- Highway Traffic Act, Section 128 (R.S.O. 1990).
- Highway Traffic Act, Regulation 615, Sections 1 to 4, and Regulation 621 (R.R.O. 1990).

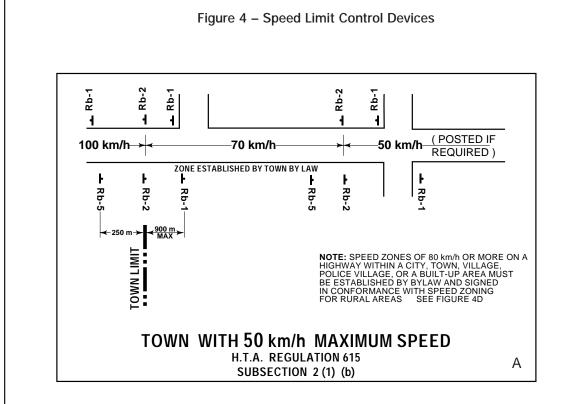
Minimum Sheeting Requirement

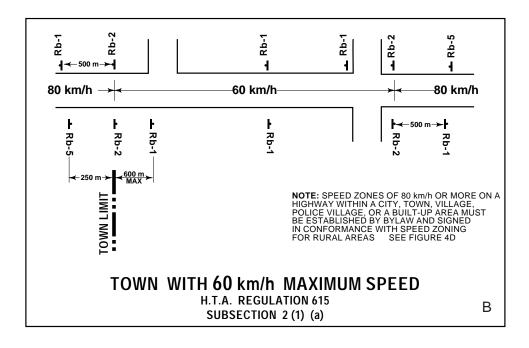
Type I

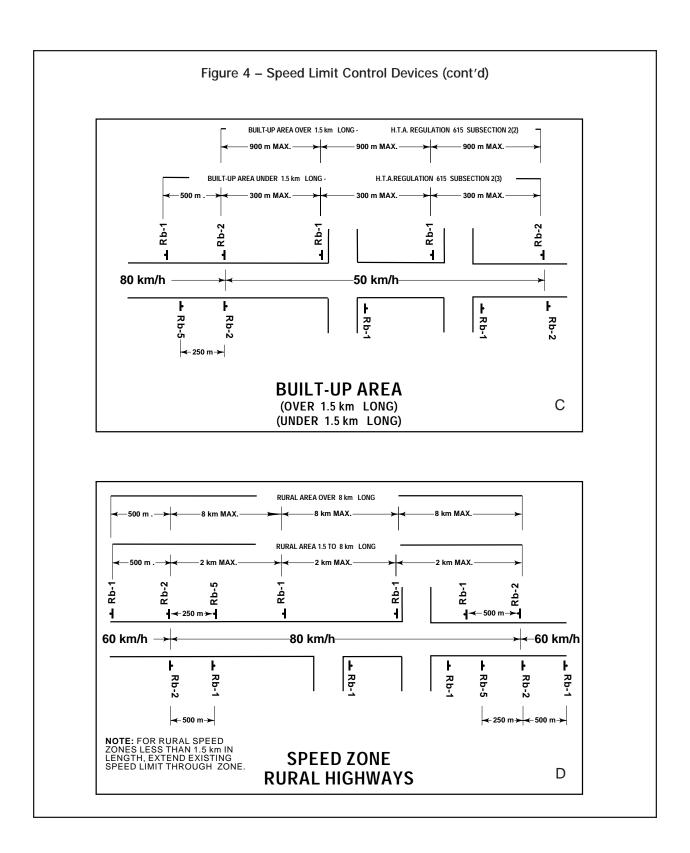
Special Considerations

N/A

39







SCHOOL ZONE MAXIMUM SPEED Sign

SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING Sign



Rb-6 60 cm x 90 cm

Rb-7t tab (optional)(20 cm x 60 cm)

Font Colour Highway Gothic D, E Top Section of Sign:

Legend & Border – White Reflective Background – Blue Reflective

Middle Section of Sign:

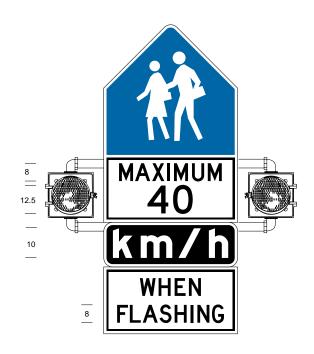
Legend & Border – Black

Background – White Reflective

Bottom Section of Sign:

Legend & Border - White Reflective

Background - Black



Rb-6A Font Colour 60 cm x 140 cm

Highway Gothic D, E

Top Section of Sign:

Legend & Border – White Reflective

Background – Blue Reflective

2nd Section of Sign:

Legend & Border - Black

Background - White Reflective

3rd Section of Sign:

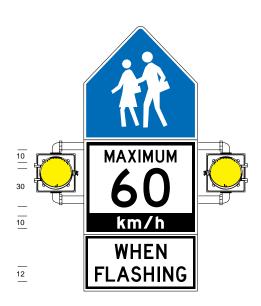
Legend & Border – White Reflective

Background - Black

Bottom Section of Sign:

Legend & Border - Black

Background - White Reflective



Rb-106A Font Colour 90 cm x 210 cm

Highway Gothic D, E

Top Section of Sign:
 Legend & Border – White Reflective
 Background – Blue Reflective

2nd Section of Sign:
 Legend & Border – Black
 Background – White Reflective

3rd Section of Sign:
 Legend & Border – White Reflective
 Background – Black
Bottom Section of Sign:
 Legend & Border – Black
Bottom Section of Sign:
 Legend & Border – Black
Background – White Reflective

Purpose and Background

The SCHOOL ZONE MAXIMUM SPEED sign indicates to motorists that they should reduce their speeds at certain times because they are entering a school zone where school children are present and may be crossing the road. Both versions of the sign have variable elements which convey that the reduced speed limit applies only at certain times.

In some jurisdictions, studies have shown that SCHOOL ZONE MAXIMUM SPEED signs (especially the Rb-6A version) are effective in decreasing speeds, although not to the extent specified on the sign. Other jurisdictions, however, have found the sign to be ineffective, unless it is visibly enforced or there are children present. The driving environment has a major impact on what drivers perceive to be reasonable restrictions, therefore the type of road, lane width, level of built-up development and other physical factors will influence driver compliance with speed reduction signing.

Sign Types

The SCHOOL ZONE MAXIMUM SPEED sign (Rb-6) is electrically illuminated from within and the maximum speed is legible to approaching motorists only when it is illuminated. The sign prescribes a 40 km/h maximum speed and should be used where posted speed on the approach is 60 km/h or less.

The SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign has a "when flashing" legend shown on the bottom section of the sign and incorporates flashing amber beacons. The standard size SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign (Rb-6A) prescribes a 40 km/h maximum speed and should be used where posted speed on the approach is 60 km/h or less. The oversize SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign (Rb-106A) prescribes a 60 km/h maximum speed on a King's Highway and should be used where posted speed on the approach is 70 km/h or 80 km/h.

Guidelines for Use

Where a 40 km/h speed for a school zone has been designated, the Rb-6 or Rb-6A SCHOOL ZONE MAXIMUM SPEED sign must be used:

- · Adjacent to a school entrance or exit; and
- Within a distance of 150 m along the road in either direction beyond the limits of the school property.

The Rb-6 and Rb-6A signs are only used by municipalities. A municipal by-law is required to set times that the sign is in effect and the variable element is activated. The times should be relevant to the operating hours of schools in the jurisdiction, within the limits of 8 a.m. to 5 p.m.

The Rb-106A sign is used only on designated sections of a King's Highway adjacent to a school. The flashing amber signals on the sign must be activated at times when school buses are entering and leaving the school property, on the days when regular school activities are taking place.

School speed zones which result in a speed reduction of more than 20 km/h should be avoided. This removes the requirement for a MAXIMUM SPEED AHEAD sign, which would only be valid part of the time (that is, only when the SCHOOL ZONE MAXIMUM SPEED sign is activated).

SCHOOL ZONE MAXIMUM SPEED signs are typically used together with warning signs specific to school zones, such as the SCHOOL AREA sign (Wc-1) and SCHOOL CROSSING signs (Wc-2, Wc-2A). For more information on these signs, see Book 6 (Warning Signs).

On the SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign, the double amber beacons must flash in a "bouncing ball" pattern. The beacons must be flashed at a rate of 50 to 60 on and off flashes per minute, with the duration of the on and off flashes being approximately equal. (For more information on the operation of the flashing beacons on the Rb-6A sign, see Book 12 (Traffic Signals).)

A regulatory speed limit sign must be placed at the end of a school zone.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Highway Traffic Act, Subsection 128.(5) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 5 (R.R.O. 1990).

Highway Traffic Act, Regulation 619, Section 7 (R.R.O. 1990) for times that the Rb-106A sign must be in effect on King's Highways.

Municipal by-law is required to designate the school zone in municipalities. A municipal by-law is also required to specify times within the limits of 8 a.m. to 5 p.m. that the Rb-6 or Rb-6A sign is in effect in municipalities.

HTA Regulation 615 shows versions of the SCHOOL ZONE MAXIMUM SPEED sign (Rb-6) the SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING sign (Rb-6A) that are different than those in OTM Book 5. For both signs, the HTA version uses the text "max. speed" instead of "maximum". In the case of the SCHOOL ZONE MAXIMUM SPEED sign (Rb-6), the "km/h" text does not appear on the HTA version.

HTA Regulation 615 is expected to be revised to be consistent with the OTM by September 30, 1998. As of January 1, 1999, all new signs installed must match the versions shown in the OTM (and revised HTA). As of January 1, 2004, all existing signs must be replaced with the versions shown in the OTM (and revised HTA).

Minimum Sheeting Requirement

Type I

Special Considerations

Special sign support needed for Rb-6A.

6. Turn Control Signs

NO STRAIGHT THROUGH Sign



Rb-10 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO STRAIGHT THROUGH Sign (Specified Times)



Rb-10A 60 cm x 90 cm

Font Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO RIGHT TURN Sign



Rb-11 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO RIGHT TURN Sign (Specified Times)



Rb-11A 60 cm x 90 cm Font Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO LEFT TURN Sign



Rb-12 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO LEFT TURN Sign (Specified Times)



Rb-12A 60 cm x 90 cm Font Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO STRAIGHT THROUGH OR RIGHT TURN Sign



Rb-13 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO STRAIGHT THROUGH OR LEFT TURN Sign



Rb-14 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO TURNS Sign



Rb-15 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO U-TURNS Sign



Rb-16 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

BUSES EXCEPTED Tab Sign



Rb-10t 30 cm x 60 cm Font Highway Gothic D

Colour Legend & Border – White Reflective

Background - Black

Purpose and Background

The purpose of turn control signs is to indicate the prohibition of specific turns or manoeuvres that are indicated symbolically on the signs using arrows and the red interdictory symbol. Examples of prohibited turns or manoeuvres include right turns, left turns, U-turns and straight-through movements. There are a number of turn control signs to represent various combinations of prohibited turns which may or may not be restricted by time of day.

Sign Types

The **NO STRAIGHT THROUGH sign (Rb-10)** prohibits straight-through movements, and requires that the vehicle turn to either the left or right.

The NO STRAIGHT THROUGH sign with specified times (Rb-10A) restricts the Rb-10 prohibition to the specified times of day and days of week.

The **NO RIGHT TURN sign (Rb-11)** sign prohibits right turns.

The NO RIGHT TURN sign with specified times (Rb-11A) restricts the Rb-11 prohibition to the specified times of day and days of week.

The **NO LEFT TURN sign (Rb-12)** sign prohibits left turns.

The NO LEFT TURN sign with specified times (Rb-12A) restricts the Rb-11 prohibition to the specified times of day and days of week.

The NO STRAIGHT THROUGH OR RIGHT TURN sign (Rb-13) prohibits both straight-through and right-turn movements.

The NO STRAIGHT THROUGH OR LEFT TURN sign (Rb-14) prohibits both straight-through and left-turn movements.

The **NO TURNS sign (Rb-15)** prohibits both right-turn and left-turn movements.

The **NO U-TURN sign (Rb-16)** prohibits a 180 degree turning manoeuvre at or near the location of the sign.

All signs in the above list having time-of-day restrictions, as indicated by the "A" sign number suffix (e.g., Rb-10A, Rb-11A and so on), may be replaced by an electrically or mechanically operated blank-out sign bearing the legend of the corresponding sign number minus the "A" suffix (e.g., Rb-10, Rb-11 and so on). The legend of the blank-out sign must be visible only during the times that the restriction is in effect. For more information on blank-out signs, see Section 1.7 (Dynamic Technologies) and Book 10 (Changeable Message Signs).

The **BUSES EXCEPTED** tab sign (Rb-10t) may be used where the Road Authority wishes to permit buses to make the movements prohibited by any of the above turn control signs.

Guidelines for Use

Turn control signs are typically used at intersections. In the case of U-turns, however, the sign indicates that drivers are prohibited from making U-turns at or near the location of the sign.

Additional turn control signs may be used as advance signs upstream of the intersection to which they apply. There should be no other intersections, driveways or entrances between the advance sign and the intersection to which the turn control sign applies.

If entry to a restricted area is prohibited during certain time periods only, the appropriate turn control signs having an "A" suffix indicating time restrictions should be used e.g., Rb-10A, Rb-11A and Rb-12A. This application avoids the need for a DO NOT ENTER sign with time restrictions, which the OTM advises against (see Guidelines for Use for DO NOT ENTER sign (Rb-19)).

At an intersection with a one-way street, the ONE-WAY sign (Rb-21) should be used rather than a turn control sign to indicate that entry to the one-way street is prohibited. At a signalized intersection with a one-way street, however, a turn control sign may be added to the ONE-WAY sign, providing the benefit of supplementary and redundant information to the driver.

In order to allow drivers more opportunity to read and carry out any necessary lane changes where times and days are shown on turn control restriction signs, a larger sign size should be used where possible. The maximum sign size may be limited by sign support structure and wind loading considerations. See Book 3 (Sign Support and Installation) for further information on structural details.

The BUSES EXCEPTED tab sign (Rb-10t) must be installed directly below the turn control sign to which the exception applies. If there are two or more turn control signs at the same location applying to the same prohibited movement, each sign must have a Rb-10t tab sign attached directly below it.

Information on permissive signs is available in the Highway Traffic Act, but the use of these types of signs is not recommended for turn control.

Location Criteria

Turn control signs must be placed in accordance with Figure 5.

At unsignalized intersections, turn control signs must be mounted facing traffic approaching the intersection.

At signalized intersections, turn control signs must be mounted adjacent to the signal heads governing the traffic to which they apply. A turn control sign, that is mounted on a traffic signal mast arm and installed directly over any roadway, must have a minimum clearance of 4.5 m above the roadway. Supplementary signs may be placed on the right side of the road immediately upstream of the intersection.

Legal Status

Highway Traffic Act, Section 143 (R.S.O. 1990) prohibits U-turns in specific situations. In these cases, it is not necessary to use the NO U-TURN sign (Rb-16), but advisable to do so.

Highway Traffic Act, Regulation 615, Sections 21 to 23 (R.R.O. 1990).

Minimum Sheeting Requirement

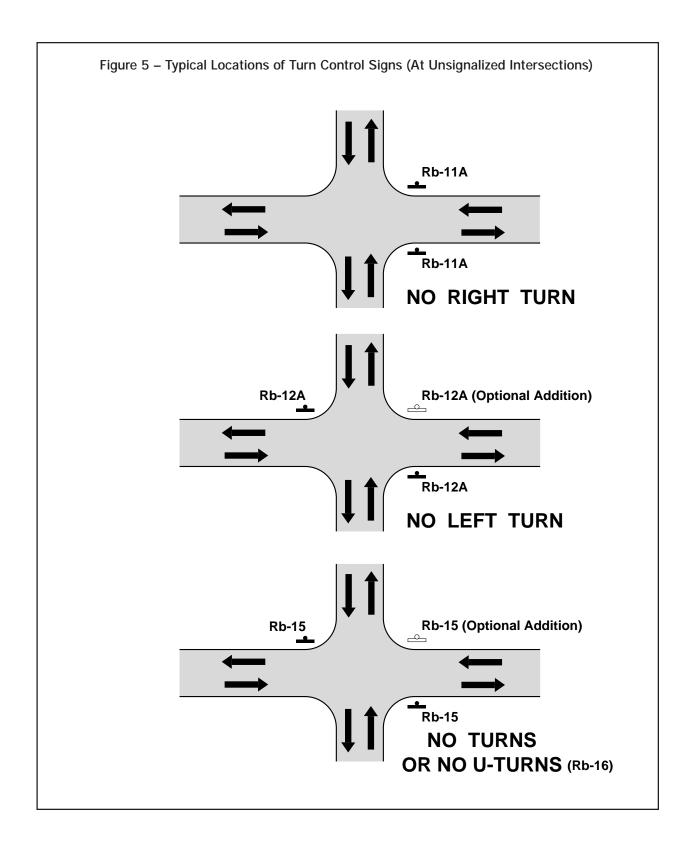
All signs except BUSES EXCEPTED tab sign (Rb-10t) must be Type III or IV as of January 1, 2002.

Type I is minimum requirement for these signs prior to the date indicated

Type I is the minimum requirement for the BUSES EXCEPTED tab sign (Rb-10t).

Special Considerations

N/A



7. One-way Traffic Control Signs

Motorists are only permitted to travel in one direction on one-way roads, interchange ramps, ramp-type roadways, entrances and exits to freeway service centres and other designated one-way sections of roadways. In these situations, one-way traffic control signs are used to guide traffic in the proper direction.

ONE-WAY Sign



Rb-21 30 cm x 90 cm Rb-121 60 cm x 180 cm

Font N/A

Colour Legend & Border – White Reflective

Background - Black

Purpose and Background

The ONE-WAY sign must be used to indicate roads on which traffic is allowed to travel in one direction only. The sign is typically used to prevent traffic travelling in the wrong direction to enter the one-way road.

Sign Types

The **standard size ONE-WAY sign (Rb-21)** should be used on urban streets and/or where the posted speed is 60 km/h or less.

The **oversize ONE-WAY sign (Rb-121)** must be used at the following locations:

- At freeway ramps in rural areas;
- At freeway service centres in rural areas;
- At urban expressways accessed by one-way streets or ramps; or
- Where the driver environment is complex.

The oversize version of the sign should also be used where the posted speed is 70 km/h or greater.

If a version of the sign with the arrow pointing left is required, the standard sign with the arrow pointing right should be turned upside-down.

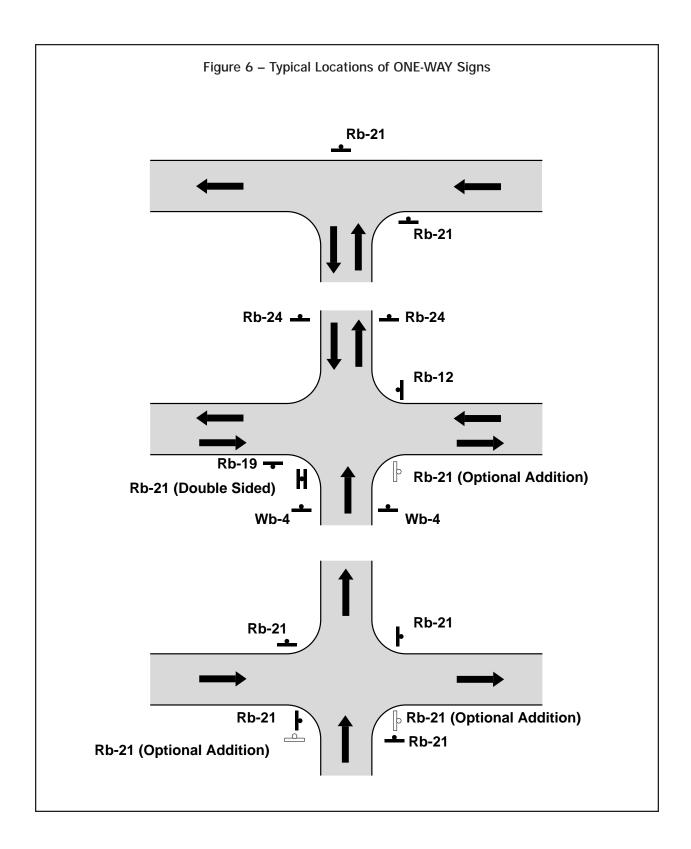
Guidelines for Use

At an intersection with a one-way street, the ONE-WAY sign should be used rather than a turn control sign to indicate that entry to the one-way street is prohibited. At a signalized intersection with a one-way street, however, a turn control sign may be used in addition to the ONE-WAY sign, providing the benefit of supplementary and redundant information to the driver.

Location Criteria

ONE-WAY signs must be placed on the near right corner or the far left corner of an intersection, and facing the traffic moving perpendicular to a one-way street.

Typical locations of ONE-WAY signs are illustrated in Figures 6 and 7.



Legal Status

Highway Traffic Act, Section 153 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 30 (R.R.O. 1990).

Minimum Sheeting Requirement

All signs must be Type III or IV as of January 1, 2002.

Type I is minimum requirement prior to the date indicated.

Special Considerations

N/A

DO NOT ENTER sign



Rb-19 Font Colour 60 cm x 60 cm

IN/

Legend – Red Reflective

Border – Black

Background - White Reflective

DO NOT ENTER Tab Sign



Rb-19t 30 cm x 60 cm

Font Highway Gothic D
Colour Legend & Border -

Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the DO NOT ENTER sign is to prohibit vehicles from entering a restricted area. The DO NOT ENTER sign must be conspicuously placed at the potential point of illegal entry to a one-way roadway or ramp.

The driver must be given every opportunity to notice a DO NOT ENTER sign, because the consequences of missing it could be serious, e.g., high speed head-on collisions. Therefore redundancy in its use is encouraged.

Sign Types

The **DO NOT ENTER sign (Rb-19)** is the standard symbol sign.

The **DO NOT ENTER educational tab sign** (**Rb-19t**) should be used if it has been determined that the motorists are unfamiliar with the meaning of the symbol. Motorist familiarity can be assessed according to factors such as collision experience, incidences of near-collisions, observation and use of similar signs in the area.

Guidelines for Use

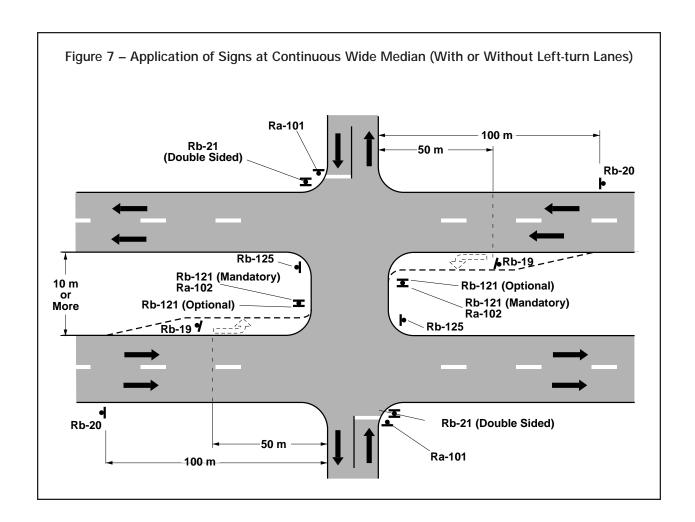
The DO NOT ENTER sign should be used for absolute conditions with no time restrictions. If there are certain time periods for which the sign does not apply, then the condition is no longer absolute, and the special meaning of the sign is compromised. If entry to a restricted area is prohibited during certain time periods only, the appropriate turn control signs having an "A" suffix indicating time restrictions should be used e.g., Rb-10A, Rb-11A and Rb-12A.

The signs must be used at signalized and unsignalized intersections from which entry to a road or ramp is restricted (see Location Criteria).

The DO NOT ENTER sign may be used to indicate that a highway or section of highway is temporarily closed by Police. (See also the ROAD CLOSED sign (Rb-92) in Section 13 (Regulatory Construction Traffic Control Signs).)

Location Criteria

At unsignalized intersections, the DO NOT ENTER sign must be placed across the intersection on both the left and right sides, facing traffic that would otherwise illegally enter the one-way road.



At signalized intersections, the DO NOT ENTER sign must be placed adjacent to the signal heads controlling the traffic that would otherwise illegally enter the one-way road.

The use of the sign on at-grade intersections of highways with continuous wide medians (that is those that are 10 m wide or wider) is shown in Figure 7. More information on this application is provided under Location Criteria for the DO NOT ENTER / WRONG WAY sign (Rb-20).

At right-turn channelized ramps and one-way freeway exit ramps, the sign must be mounted at the back of the YIELD sign or STOP sign, facing the merging or exiting traffic. A second sign should be placed approximately 30 m within the ramp on the opposite side of the road from the sign mounted on the back of the STOP or YIELD sign. The second sign serves as an additional warning to the motorist who has entered the ramp illegally. Figure 8 shows the typical placement of the DO NOT ENTER sign on freeway exit ramps, in conjunction with other related regulatory signs.

Legal Status

Highway Traffic Act, Section 153 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 31 and 32, and Regulation 599 (R.R.O. 1990).

Minimum Sheeting Requirement

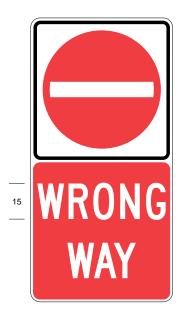
The sign must be Type III or IV as of January 1, 2002.

Type I is minimum requirement prior to the date indicated.

Special Considerations

N/A

DO NOT ENTER / WRONG WAY Sign

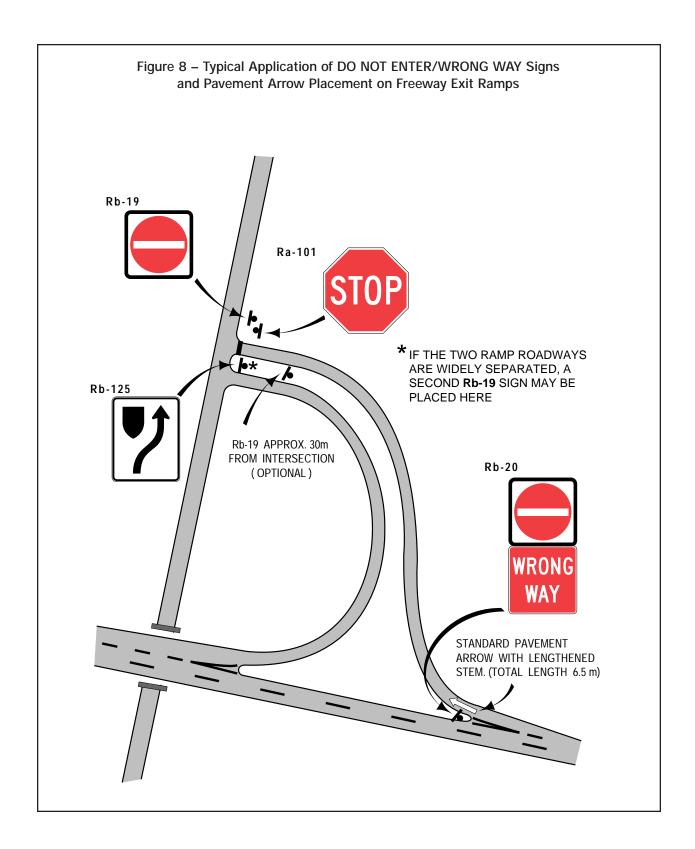


Rb-20 Font Colour 60 cm x 120 cm

Highway Gothic C

Top Section of Sign:
 Legend – Red Reflective
 Border – Black
 Background – White Reflective

Bottom Section of Sign:
 Legend & Border – White Reflective
Background – Red Reflective



Purpose and Background

The DO NOT ENTER / WRONG WAY sign (Rb-20) is used as a last resort supplement to the DO NOT ENTER sign (Rb-19) to warn motorists again that they are illegally entering a freeway or highway against the flow of traffic. In some cases it is a supplement to the DO NOT ENTER sign (Rb-19), providing yet another degree of redundancy. The explicit wording of the Rb-20 sign is intended to strongly alert motorists that they are about to encounter high volumes of high speed traffic travelling in the opposite direction.

Sign Types

There is one type of **DO NOT ENTER / WRONG WAY sign: Rb-20**.

Guidelines for Use

The DO NOT ENTER / WRONG WAY sign must be used at freeway interchanges, at freeway service centres and on highways divided by a continuous wide median (see Location Criteria).

The signs must be conspicuous to drivers travelling in the direction of traffic for which they are intended (that is, drivers travelling the wrong way), but should not be visible to drivers travelling in the correct direction.

A standard pavement arrow indicating the correct direction of travel should be located adjacent to the sign. (See Book 11 (Markings and Delineation) for more information on the arrow pavement marking.)

Location Criteria

The typical sign layout for freeway and service centre use is shown in Figure 8. At freeway interchanges, the DO NOT ENTER / WRONG WAY sign must be conspicuously placed in the bullnose of all freeway exit ramps, facing traffic illegally entering the freeway. The sign must either be mounted on the back of the post supporting the EXIT sign or supported in this position by a second post, if required to properly angle the sign.

The freeway ramp signs must be installed on the right side of the ramp, facing traffic, from the perspective of drivers illegally entering the freeway. The sign must be angled so that it is not visible to drivers legally entering the ramp from the freeway, who may be confused by the sign.

Figure 7 shows the typical layout for DO NOT ENTER (Rb-19) and DO NOT ENTER / WRONG WAY (Rb-20) signs on at-grade intersections on highways with a continuous wide median. For this application, a wide median is defined to be ten or more metres wide. In this application, the DO NOT ENTER sign must be placed on the median and the DO NOT ENTER / WRONG WAY sign opposite the median, with both signs facing the traffic illegally entering the roadway. The signs on the median must be placed 50 m from the intersection. The signs on the side of the road opposite the median must be placed 100 m from the intersection.

Legal Status

No Highway Traffic Act reference. However, the DO NOT ENTER portion of the sign is covered under:

- Highway Traffic Act, Section 153 (R.S.O. 1990).
- Highway Traffic Act, Regulation 615, Sections 31 and 32, and Regulation 599 (R.R.O. 1990).

Minimum Sheeting Requirement

The sign must be Type III or IV as of January 1, 2002.

Type I is minimum requirement prior to the date indicated.

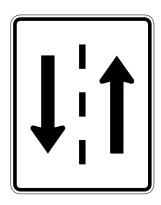
Special Considerations

N/A

8. Two-way Traffic and Multi-lane Traffic Control Signs

Two-way and multi-lane traffic control signs refer to a group of signs that pertain specifically to the complexities of regulating traffic on bi-directional roads and roads with more than one lane. This group also includes signs related to passing and opposing traffic. Due to the risks associated with passing vehicles in lanes where oncoming traffic is present, as well as the potential for collisions during lane changes, it is important that the signs be well-designed and positioned so that drivers can read, understand and respond to them safely.

TWO-WAY TRAFFIC Sign



Rb-24 60 cm x 75 cm Rb-124 60 cm x 90 cm

Font N/A

Colour Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the TWO-WAY TRAFFIC sign is to indicate a change from one-way traffic operation to two-way operation, advising motorists that their ability to pass freely is now restricted by opposing traffic. The message must be conveyed to drivers in time, especially in high speed situations where drivers will need considerable distance to notice and read the sign and then manoeuvre their vehicles into the correct travel lane.

Sign Types

The standard size TWO-WAY TRAFFIC sign (Rb-24) should be used where the posted speed is 60 km/h or less.

The **oversize TWO-WAY TRAFFIC sign (Rb-124)** should be used where the posted speed is 70 km/h or greater.

Guidelines for Use

Where speeds are 70 km/h or greater, it may be necessary to install a number of oversize Rb-124 signs at intervals and supplement them with two-way arrow pavement marking symbols. In urban areas and on lower speed roads, a pair of standard size signs, with one sign placed on each side of the road, is usually sufficient.

The TWO-WAY TRAFFIC AHEAD sign (Wb-4) must be used in conjunction with TWO-WAY TRAFFIC signs to warn motorists on a one-way road that they are approaching a road section where two-way traffic is permitted (see Book 6 (Warning Signs) for more details on the Wb-4 sign).

Location Criteria

The TWO-WAY TRAFFIC sign must be placed on each side of the road at the commencement of two-way traffic operation. Where the sign is required at more than one point along the road (see Guidelines for Use), pairs of signs must be used at each point of installation, with one sign placed on each side of the road.

Figure 6 illustrates the placement of the TWO-WAY TRAFFIC sign (Rb-24) at an intersection, in conjunction with the ONE-WAY sign (Rb-21) and the TWO-WAY TRAFFIC AHEAD sign (Wb-4).

Legal Status

Highway Traffic Act, Subsection 148.(1) (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

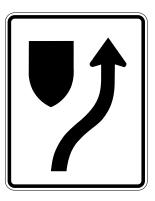
The sign must be Type III or IV as of January 1, 2002.

Type I is minimum requirement prior to the date indicated

Special Considerations

N/A

KEEP RIGHT sign



Rb-25 60 cm x 75 cm Rb-125

60 cm x 90 cm

Font Colour

Legend & Border - Black Background - White Reflective

Purpose and Background

The purpose of the KEEP RIGHT sign is to indicate to drivers that they must keep their vehicles to the right of obstructions such as:

- Raised or depressed median strips;
- Loading islands;
- · Refuge islands;
- Traffic islands: and
- Central piers.

The KEEP RIGHT sign must appear at the approach end (upstream end) of the obstruction, both to indicate that vehicles must keep to the right and to define where the upstream end of the obstruction is.

In some cases, the obstruction impacts both directions of traffic on a two-way road. If so, the KEEP RIGHT sign is used to draw driver attention to the upstream end of the obstruction, as perceived from both directions of approach. Two KEEP RIGHT signs are required, one at each end of the obstruction, facing outward toward traffic approaching the obstruction.

Sign Types

The standard size KEEP RIGHT sign (Rb-25) should be used where posted speed is 60 km/h or less.

The oversize KEEP RIGHT sign (Rb-125) should be used where posted speed is 70 km/h or greater. The sign should also be used at lower speed locations where prevailing traffic conditions warrant greater visibility or emphasis, e.g., in complex visual environments where many signs and other devices compete for driver attention, or at high traffic volume locations where drivers must concentrate more on the driving task.

Guidelines for Use

In order to avoid vehicle conflicts with the obstructions indicated by KEEP RIGHT signs, drivers must be aware of their presence. Clearly seeing a non-reflectorized obstruction in the middle of the roadway presents a challenge at night. To improve

driver awareness of the obstruction during hours of darkness and within complex visual environments, some applications of KEEP RIGHT signs require the use of amber flashing beacons together with additional sign illumination.

Low beam headlights do not provide sufficient light for all drivers to see non-reflectorized obstructions at night in time to stop for speeds above approximately 50 km/h. Therefore it is particularly important that obstructions extending substantially beyond the width of the KEEP RIGHT sign be reflectorized to indicate their width. The OBJECT MARKER sign (Wa-33L) must be used in conjunction with the KEEP RIGHT sign to identify fixed object hazards within 2 m of the roadway edge. The marker must be placed with the stripes sloping at a 45 degree angle down toward the travel lanes of the roadway (down to the right, when used with the KEEP RIGHT sign). (See Book 11 (Markings and Delineation) for more information on the use of the OBJECT MARKER sign.)

The KEEP RIGHT sign may be installed without illumination, high intensity retroreflective sheeting and an amber flashing beacon under the following conditions:

- (1) At the beginning of a median divider, travelling from an undivided highway to a divided highway, if the sign is within 300 m of a signalized intersection; or
- (2) At the upstream end of a raised median island at a signalized intersection.

Under the following conditions, the KEEP RIGHT sign must be installed with an amber flashing beacon and have either illumination (internal or external) or high intensity retroreflective sheeting (Type III or Type IV):

- At the beginning of a median divider when travelling from an undivided to a divided highway, if the sign is not within 300 m of a signalized intersection; or
- (2) Where a centre pier of a structure is located within the paved area of an undivided highway, e.g., loading island for street cars.

Beacons must be flashed at a rate of 50 to 60 on and off flashes per minute, with the duration of the on and off flashes being approximately equal. For more information on the operation of flashing beacons, see Book 12 (Traffic Signals). Further background and details on illumination and retroreflective sheeting can be found in Book 1b (Sign Design Principles).

Beacons must flash at all times. If illumination is used, it is only required during the hours of darkness.

A composite sign assembly showing the use of the KEEP RIGHT sign (Rb-25), the OBJECT MARKER sign (Wa-33L) and the flashing amber beacon, together with the appropriate pavement markings is shown in Figure 9. More information on pavement markings and delineation for safety zones, loading islands and other similar applications is found in Book 11 (Markings and Delineation).

Location Criteria

The KEEP RIGHT sign must be placed facing motorists travelling towards the obstruction.

The mounting location of the sign depends on the type of obstruction, as follows:

 At channelized traffic islands or on pedestrian islands, the sign must be placed at the upstream end of the island or close to it as possible.

- On raised or depressed median strips, the sign should be placed not more than 1.5 m beyond the upstream end of the island.
- At piers, at dividing strips between two ramps or at obstructions in the centre of the roadway, the sign should be placed on the face of, or immediately upstream of, such obstructions.

Where the obstruction impacts both directions of traffic on a two-way road, the upstream ends of the obstruction as perceived from the two directions of approach, must each be signed with a KEEP RIGHT sign.

On wide medians, the KEEP RIGHT sign should be offset from the median centreline in order to place it more directly within the driver's line of sight.

Figure 8 illustrates the placement of the oversize KEEP RIGHT sign (Rb-125) together with other regulatory signs, in the context of a freeway exit ramp. Figure 10 shows typical placement of the sign at a signalized urban intersection.

Legal Status

Official sign: not enforceable. However, the actions which may result from not obeying the sign are enforceable, such as colliding with an obstruction or colliding head-on with opposing traffic having the right-of-way.

Minimum Sheeting Requirement

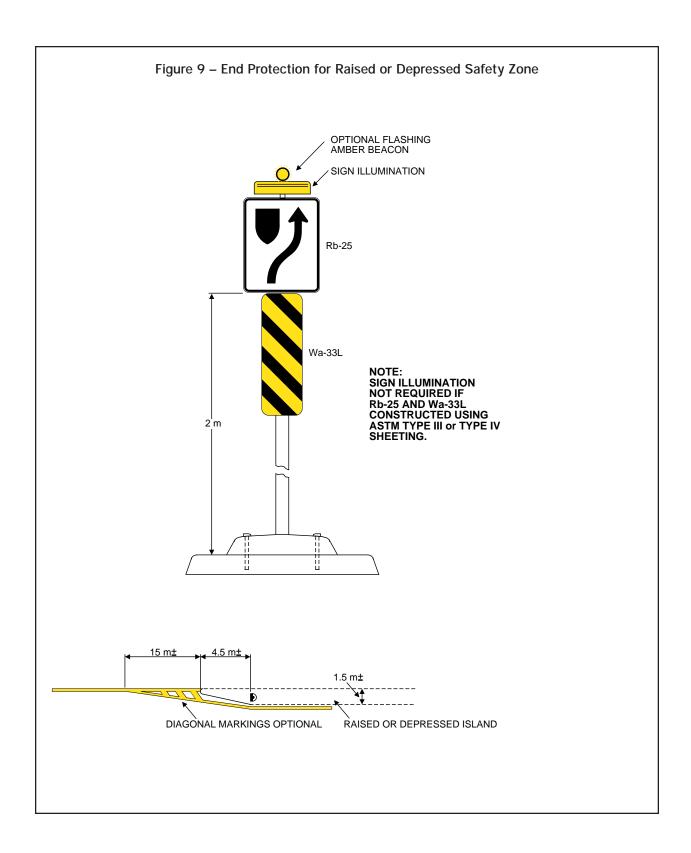
Type I for applications where additional illumination or reflectorization is *not* required (see Guidelines for Use).

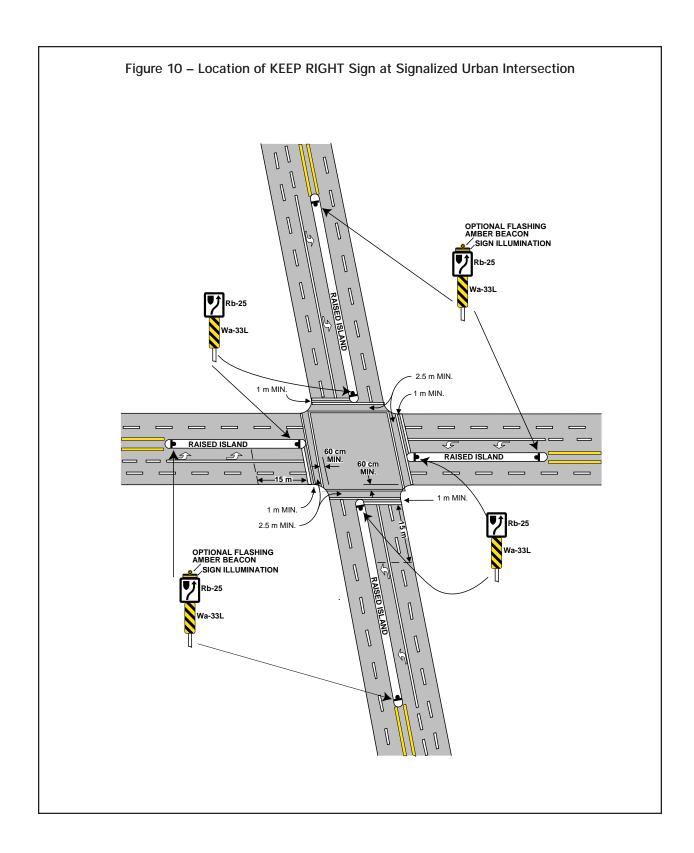
Type I for applications where additional illumination or reflectorization *is* required and illumination *is* provided.

The sign must be Type III or IV as of January 1, 2002 for applications where additional illumination or reflectorization *is* required and illumination is *not* provided. Under these conditions, Type I is the minimum requirement prior to the date indicated.

Special Considerations

N/A





THROUGH TRAFFIC KEEP RIGHT Sign



Rb-27 Rb-127 60 cm x 75 cm 90 cm x 120 cm

Font Colour Highway Gothic C Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the THROUGH TRAFFIC KEEP RIGHT sign is to direct through movement traffic into the right lane so that it is not impeded by traffic turning left. The sign is intended to alleviate conflicts and congestion that would result if both through traffic and left-turn traffic shared the left lane.

Sign Types

The standard size THROUGH TRAFFIC KEEP RIGHT sign (Rb-27) should be used where posted speed is 60 km/h or less. The sign should be used:

- In urban areas; and
- In rural areas at low speed T-intersections on local roads, where there is a separate left-turn storage lane.

The **oversize THROUGH TRAFFIC KEEP RIGHT sign (Rb-127)** should be used where posted speed is 70 km/h or more. In addition, the sign should be used at high speed T-intersections.

Guidelines for Use

The THROUGH TRAFFIC KEEP RIGHT sign should be used at T-intersections on the through roadway, where a centre lane is provided for left turns.

The sign may also be used at other intersections where conflicts arise due to vehicles travelling straight through in the left-turn lane.

The sign should be used at left-turn slip-arounds and other locations where the through lane geometrics are adequate to permit vehicles to safely negotiate them at the posted speed limit e.g., good road alignment, adequate lane width.

Location Criteria

If an additional lane is created to accommodate leftturn traffic, the THROUGH TRAFFIC KEEP RIGHT sign should be placed at the beginning of the additional lane.

Legal Status

Highway Traffic Act, Section 150 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

DO NOT PASS Sign



Rb-31

60 cm x 60 cm

Font Colour N/A

Interdictory Symbol – Red Reflective Legend & Border – Black

Background – White Reflective

Purpose and Background

The DO NOT PASS sign may be used under exceptional circumstances to warn motorists that conditions are not safe for overtaking vehicles.

Sign Types

There is one type of **DO NOT PASS sign: Rb-31**.

Guidelines for Use

Typically pavement markings are sufficient to handle no-passing zones in conventional situations, such as the following:

- · Travelling uphill;
- Around curves or bends: or
- Environments with poor visibility, e.g., in tunnels and under bridges.

There are exceptional situations, for which the DO NOT PASS sign may be used in addition to pavement markings. Examples include:

- Construction zones where overtaking is hazardous; or
- No passing zones where collision statistics have established that the pavement markings are not being obeyed.

The passing prohibition takes effect at the point where the DO NOT PASS sign is located and should also be consistent with pavement markings in the vicinity.

Where a portable lane control signal system is used for temporary conditions works, the DO NOT PASS sign must be used as one of a group of regulatory and warning signs supporting the temporary system (see Book 7 (Temporary Conditions)).

Location Criteria

The sign must be placed on the right side of the roadway.

In locations with high percentages of large vehicles or trucks, where these vehicles may obstruct adequate visibility of the sign, it may be necessary to place another sign on the left side of the roadway.

Legal Status

Highway Traffic Act, Section 149 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 35, and Regulation 606 (R.R.O. 1990).

Minimum Sheeting Requirement

The sign must be Type III or IV as of January 1, 2006.

Type I is minimum requirement prior to the date indicated.

Special Considerations

N/A

PASSING PERMITTED Sign



Rb-35 60 cm x 60 cm

Font N/A

Colour Permissive Symbol – Green Reflective

Legend & Border – Black Background – White Reflective

PASS WITH CARE Tab Sign



Rb-35t 30 cm x 60 cm

Font Highway Gothic D Colour Legend & Border – I

ur Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the PASSING PERMITTED sign is to inform motorists that they are no longer in the no-passing zone indicated upstream by the DO NOT PASS sign (Rb-31) and that passing is permitted when safe to do so. The PASSING PERMITTED sign also implies that vehicles should proceed with caution or care when passing.

Sign Types

The PASSING PERMITTED sign (Rb-35) is the standard symbol sign.

The PASS WITH CARE educational tab sign (Rb-35t) may be used where it has been determined that motorists are still unfamiliar with the meaning of the symbol. Motorist familiarity can be assessed according to factors such as collision experience, incidences of near-collisions, observation and use of similar signs in the area.

Guidelines for Use

The PASSING PERMITTED sign must be used only at the end of a no passing zone that is properly signed with the DO NOT PASS sign (Rb-31).

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Official sign: not enforceable. However, the DO NOT PASS sign (Rb-31) which must always be used together with the PASSING PERMITTED sign is enforceable under:

- Highway Traffic Act, Section 149 (R.S.O. 1990).
- Highway Traffic Act, Regulation 615, Section 35, and Regulation 606 (R.R.O. 1990).

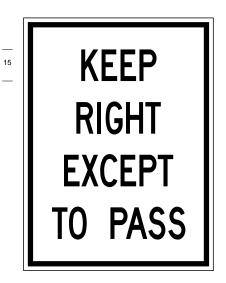
Minimum Sheeting Requirement

Type I

Special Considerations

N/A

KEEP RIGHT EXCEPT TO PASS Sign



Rb-33 90 cm x 120 cm

Font Highway Gothic D

Colour Legend & Border – Black

Background – White Reflective

Purpose and Background

The purpose of the KEEP RIGHT EXCEPT TO PASS sign is to advise slower moving vehicles to remain in the right lane to allow vehicles travelling at higher speeds to pass.

Sign Types

There is one type of **KEEP RIGHT EXCEPT TO PASS sign: Rb-33**.

Guidelines for Use

The KEEP RIGHT EXCEPT TO PASS sign must be used on sections of two-lane highway where a third intermittent lane has been added for passing (e.g., a truck climbing lane or another passing lane).

The sign must not be used in areas where two or more continuous lanes are provided for one direction of traffic, and problems have been experienced with slow-moving vehicles blocking the left lane. Instead, the SLOWER TRAFFIC KEEP RIGHT sign (Rb-34) should be used for this purpose.

Supplementary repeat signs may be considered for passing lanes longer than 2 km.

Location Criteria

The KEEP RIGHT EXCEPT TO PASS sign must face the traffic it is intended to address.

The sign must be placed on the right side of the roadway, at the start of the taper for the truck climbing lane or other passing lane.

The placement of the KEEP RIGHT EXCEPT TO PASS sign is illustrated in Figures 11 and 12, in the context of other regulatory and warning signs, and pavement markings.

Legal Status

Highway Traffic Act, Sections 132 and 147 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

15

SLOWER TRAFFIC KEEP RIGHT Sign

SLOWER TRAFFIC KEEP RIGHT

Rb-34 90 cm x 120 cm

Font Highway Gothic D

Colour Legend & Border – Black

Background – White Reflective

Purpose and Background

The purpose of the SLOWER TRAFFIC KEEP RIGHT sign is to alert or advise slow-moving traffic to drive in the right lane and allow vehicles travelling at higher speeds to pass.

Sign Types

There is one type of **SLOWER TRAFFIC KEEP RIGHT sign: Rb-34**.

Guidelines for Use

The SLOWER TRAFFIC KEEP RIGHT sign must be used on multi-lane divided and undivided provincial highways, where it is necessary to direct slower moving vehicles to travel in the right lane. The sign may be used on other highways and roads for the same purpose.

The sign may be also be used in other areas where problems have been experienced with slow-moving vehicles congesting the left lane, possibly provoking erratic passing behaviour.

The sign must not be used on sections of two-lane highway where a third intermittent lane has been added for passing (e.g., a truck climbing lane or another passing lane). Instead, the KEEP RIGHT EXCEPT TO PASS sign (Rb-33) must be used for this purpose.

Location Criteria

The SLOWER TRAFFIC KEEP RIGHT sign, where used, must be placed at the beginning of a section of highway where two or more lanes are provided for one direction of traffic. The sign may be used at other locations as required (see Guidelines for Use).

The sign must be placed on the right side of the roadway. Where possible, an advance sign should be placed on the left side of roadway, facing approaching traffic.

The sign may be installed downstream of freeway interchanges, addressing each direction of traffic, but in any case at intervals of no greater than 8 km.

Legal Status

Highway Traffic Act, Sections 132 and 147 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Minimum Sheeting Requirement

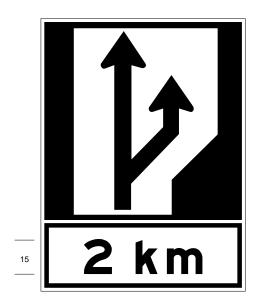
Type I

Special Considerations

N/A

PASSING LANE 2 KM AHEAD Sign

(proposed to be relocated to either Book 6 (Warning Signs) or Book 8 (Directional Guide Signs))



Rb-30

90 cm x 120 cm

Font Colour Highway Gothic E Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the PASSING LANE 2 KM AHEAD sign is to inform motorists of an opportunity ahead to pass slower-moving vehicles. This information is intended to discourage risky passing manoeuvres on highway sections with restricted sight distance.

Sign Types

There is one type of **PASSING LANE 2 KM AHEAD sign: Rb-30**.

Guidelines for Use

The PASSING LANE 2 KM AHEAD sign must be used on two-lane roads, in advance of where a third intermittent lane has been added for passing (e.g., a truck climbing lane or another passing lane).

Location Criteria

This sign must be placed approximately 2 km upstream of the start of the taper for the truck climbing lane or other passing lane.

The placement of the PASSING LANE 2 KM AHEAD sign is illustrated in Figures 11 and 12, in the context of other regulatory and warning signs, and pavement markings.

Legal Status

Official sign: not enforceable. It is proposed that the sign be relocated from Book 5 (see Special Considerations), therefore enforceability is not required.

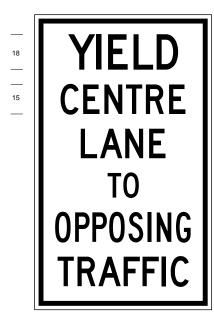
Minimum Sheeting Requirement

Type I

Special Considerations

The PASSING LANE 2 KM AHEAD sign is proposed to be moved to either Book 6 (Warning Signs) or Book 8 (Directional Guide Signs) before the next version of Book 5 (Regulatory Signs) is released. The sign will become either a warning sign or an information sign, rather than a regulatory sign.

YIELD CENTRE LANE TO OPPOSING TRAFFIC Sign



Rb-36 Font Colour 90 cm x 150 cm Highway Gothic C, D Legend & Border – Black Background – White Reflective

Purpose and Background

The YIELD CENTRE LANE TO OPPOSING TRAFFIC sign is used in the context of three-lane sections of highway, where the middle lane is a truck climbing lane or another passing lane allocated to one direction of traffic. The purpose of the sign is to advise motorists travelling in the single-lane direction to exercise caution when passing because they are using a lane assigned to oncoming traffic, and that they must move out of the passing lane, if necessary, so as not to obstruct oncoming traffic travelling in the centre lane.

The previous version of the YIELD CENTRE LANE TO OPPOSING TRAFFIC sign was the PASS ONLY WHEN CENTRE LANE IS CLEAR sign. The previous sign did not effectively convey that even if the centre lane is clear, oncoming traffic has the right to use the centre lane at any time for passing.

Sign Types

There is one type of YIELD CENTRE LANE TO OPPOSING TRAFFIC sign: Rb-36.

Guidelines for Use

The YIELD CENTRE LANE TO OPPOSING TRAFFIC sign must be used:

- On three-lane sections of highway with passing lanes (e.g., truck climbing lanes or other passing lanes), addressing vehicles in the single-lane direction; and
- Only where passing is permitted in the single-lane direction by pavement markings.

The decision to permit passing in the single lane direction, and consequently the use of the supporting pavement markings and the Rb-36 sign, should be carefully considered by the Road Authority. Passing should not be permitted if:

- Volumes of heavy vehicles and other traffic in the two-lane direction are large;
- There are other passing opportunities in the single lane direction relatively close to the passing lane section, either before or after the section being considered; or
- The truck climbing lane or other passing lane is relatively short, either at or just beyond the minimum lengths specified in Book 11 (Markings and Delineation).

Location Criteria

The sign must be placed to face traffic travelling in the single-lane direction where passing is permitted by pavement markings. The sign must be located at the start of every passing opportunity in that singlelane direction, and at intervals of approximately 800 m throughout the three-lane section.

The placement of the YIELD CENTRE LANE TO OPPOSING TRAFFIC sign is illustrated in Figure 11, in the context of other regulatory and warning signs, and pavement markings.

Legal Status

Official sign: not enforceable. However, the actions which may result from not obeying the sign are enforceable, such as colliding head-on with opposing traffic having the right-of-way.

Minimum Sheeting Requirement

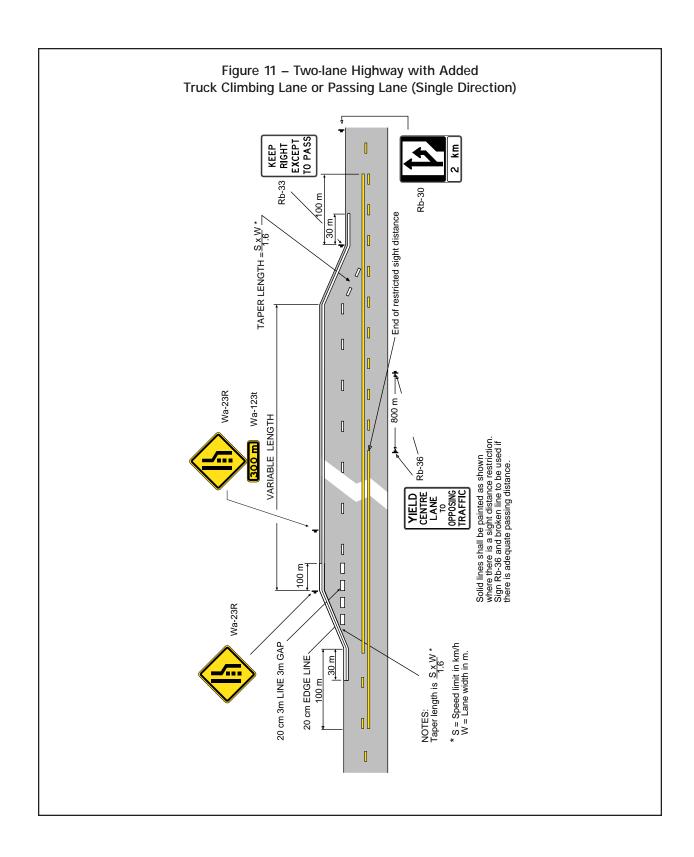
The sign must be Type III or IV as of January 1, 2006.

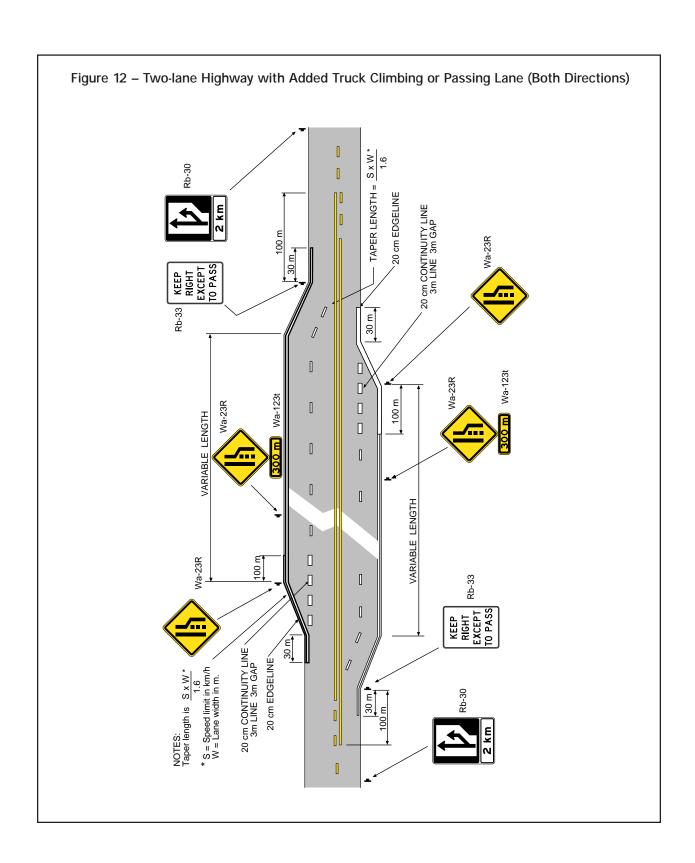
Type I is minimum requirement prior to the date indicated.

Special Considerations

N/A

73





STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING Sign

STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING

Rb-37 Font Colour

15

120 cm x 240 cm

Highway Gothic D Legend & Border – Black

Background - White Reflective

BOTH DIRECTIONS Tab Sign

BOTH DIRECTIONS

Rb-37t

30 cm x 240 cm

Font Highway Gothic D
Colour Legend & Border – Black

Background - White Reflective

Purpose and Background

The purpose of the STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING sign is to advise motorists travelling on a four-lane undivided highway that both directions of traffic must stop when school bus signals are flashing, to enable the safe loading and unloading of school buses on certain School Bus Routes. Motorists travelling in the opposite direction to the school bus may be uncertain as to whether they are required to stop when school bus signals flash. The sign is intended to alleviate any confusion in this regard.

A School Bus Route is the sequence of roads travelled by a school bus for the purpose of picking up and dropping off school children at their schools and residences. Additional caution is required on these routes, because school children may be crossing the road on their way to or from school bus loading/unloading locations.

Sign Types

The STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING sign (Rb-37) is the standard text sign.

The **BOTH DIRECTIONS tab sign (Rb-37t)** is used to convey that both directions of traffic must stop when the school bus signals flash.

Guidelines for Use

The STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING sign together with the BOTH DIRECTIONS tab sign must be used on all School Bus Routes located on four-lane undivided highways:

- With a singing strip (rumble strip) of 3 m or less; and
- Where posted speed is 70 km/h or greater.

These signs should be placed at locations where they are highly visible. The signs should serve as a reminder to motorists to stop when they see a school bus with signals flashing. The sign should also remind motorists on a four-lane road that they are on a School Bus Route, and to overcome any uncertainty that they must also stop for buses in the other direction.

Location Criteria

The STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING sign and its accompanying tab sign must be installed downstream of major intersections or large municipalities, as determined by the Road Authority.

The sign should be spaced at intervals of not more than 8 km.

Legal Status

Highway Traffic Act, Subsection 175.(11) (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

9. Lane Designation Signs

Regulatory lane designation signs instruct drivers on what may or may not be done in specific lanes on the roadway. Two groups of lane designation signs are covered in this section:

- Turn Lane Designation Signs, which indicate turning movements and through movements permitted in specific lanes;
- Reserved Lane Signs, which indicate classes of vehicles permitted to use special reserved lanes called diamond lanes.

Both groups of lane designation signs can be either installed overhead, directly above the lane to which each sign refers, or ground-mounted. While overhead signs convey more clearly the intent of the signs, they are also more expensive. Therefore, guidelines are provided on conditions under which ground-mounted signs are suitable and those under which overhead mounting is preferred or required.

9.1 Turn Lane Designation Signs

LEFT TURN ONLY Sign



Rb-41 60 cm x 60 cm

Font N/A

Colour Legend & Border - White Reflective

Background - Black

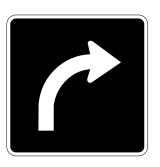
LEFT LANE Tab Sign



Rb-41t 30 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

RIGHT TURN ONLY Sign



Rb-42 60 cm x 60 cm

Font N/A

Colour Legend & Border – White Reflective

Background – Black

RIGHT LANE Tab Sign



Rb-42t 30 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

STRAIGHT THROUGH OR LEFT TURN ONLY Sign



Rb-43 60 cm x 60 cm

Font N/A

Colour Legend & Border – White Reflective

Background - Black

STRAIGHT THROUGH OR RIGHT TURN ONLY Sign



Rb-44 60 cm x 60 cm

Font N/A

Colour Legend & Border – White Reflective

Background - Black

LEFT OR RIGHT TURN ONLY Sign



Rb-45 60 cm x 60 cm

Font N/A

Colour Legend & Border - White Reflective

Background - Black

ALL MOVEMENTS PERMITTED Sign



Rb-46 60 cm x 60 cm

Font N/A

Colour Legend & Border - White Reflective

Background – Black

STRAIGHT THROUGH ONLY Sign



Rb-47 60 cm x 60 cm

Font N/A

Colour Legend & Border – White Reflective

Background - Black

Purpose and Background

The purpose of turn lane designation signs is to indicate, using single or multiple arrow symbols, the permitted movements designated to each lane on the approach to an intersection.

Turn lane designation signs must be used on the approaches to intersections where the permitted movement in one or more of the lanes on a given approach is contrary to the normal unsigned rules of the road. This may include permission for a normally prohibited movement, prohibition of a normally permitted movement, or both.

Normal rules of the road, which may be overridden by turn lane designation signs, include the following:

- Straight-through movements are usually allowed, except if leading to a road restricted by a DO NOT ENTER sign (Rb-19) or NO STRAIGHT THROUGH sign (Rb-10, Rb-10A);
- Left-turn movements are usually permitted from the left-most lane only;

 Right-turn movements are usually permitted from the right-most lane only.

Sign Types

The **LEFT TURN ONLY sign (Rb-41)** designates a lane for left-turn movements only.

The **RIGHT TURN ONLY sign (Rb-42)** designates a lane for right-turn movements only.

The **STRAIGHT THROUGH OR LEFT TURN ONLY sign (Rb-43)** designates a lane for both straight-through movements and left-turn movements.

The STRAIGHT THROUGH OR RIGHT TURN ONLY sign (Rb-44) designates a lane for both straight-through movements and right-turn movements.

The LEFT OR RIGHT TURN ONLY sign (Rb-45) designates a lane for both left- and right-turn movements.

The ALL MOVEMENTS PERMITTED sign (Rb-46) designates a lane for left- and right-turn movements and straight-through movements.

The **STRAIGHT THROUGH ONLY sign (Rb-47)** designates a lane for straight-through movements only.

The LEFT LANE (Rb-41t) and RIGHT LANE (Rb-42t) tab signs may be used where observation or collision experience has shown that vehicles are using the wrong lane for turning and that clarifying the meaning of the symbol will alleviate further problems.

Guidelines for Use

For overhead mounting, the individual turn lane designation signs must be mounted on an overhead structure and placed either:

- Over the lane or lanes where the movement is contrary to the normal rules of the road; or
- Over all lanes on the same approach.

For ground-mounting, sets of two or three individual turn lane designation signs must be attached together side-by-side, so that they represent the turning movement configuration for the lanes closest to the side of the road where the sign is mounted. On a two-lane approach, sets of two attached signs should be used. On a three-lane approach, sets of either two or three attached signs should be used (see Figures 13, 14 and 15).

The decision on whether to use ground-mounted or overhead turn lane designation signs is at the discretion of the Road Authority. The following guidelines pertain to this decision:

- (1) Ground-mounted signs may be used at freeway off ramps or at other locations with up to three approach lanes, where physical conditions such as road alignment, sight distance and visual complexity make the placement of ground-mounted signs practical. Ground-mounting must not compromise the effectiveness, visibility or lane correlation of the sign message.
- (2) Overhead signs must be used at locations with four or more approach lanes.

- (3) Overhead signs should be used where visibility restrictions, heavy traffic volumes, high speeds or other site characteristics warrant greater advance warning of lane designations.
- (4) Where ground-mounted signs are ineffective, resulting in low driver compliance or collisions related to lane designation, overhead mounting should be considered.
- (5) Specific applications for overhead and ground-mounted signing include the following:
 - Where dual left-turn lanes are provided at signalized at-grade intersections, overhead lane designations should be provided for the left-turn lanes as minimum, but preferably for all lanes on the approach.
 - Overhead signs should be considered at three-lane exit ramps terminating in a fourway intersection, where combined movements are permitted from the centre lanes (e.g., left-turn, right-turn and straightthrough movements).
 - Ground-mounted signs should be used at three-lane exit ramps terminating in a T-intersection, where there is multi-lane usage (e.g., two left-turn lanes or two rightturn lanes).

If the Rb-47 STRAIGHT THROUGH ONLY sign indicates a roadway that changes alignment at or beyond the intersection, the arrow symbol may be angled to indicate the actual alignment of the roadway.

For more information on mounting supports for overhead signs, see Book 3 (Sign Support and Installation).

For more information on minimum sight distances for overhead signs, see Book 13 (Traffic Characteristics, Planning and Operations).

Pavement marking arrows must be used to supplement both overhead and ground-mounted turn lane designation signs (see Book 11 (Markings and Delineation) for more details on pavement markings).

Where a major channelization exists at a ramp terminal and the provision of double left- or right-turn lanes is obvious to motorists, lane designation signing is not required.

Location Criteria

Overhead turn lane designation signs should be mounted so that the bottom of the sign is a minimum of 4.5 m to 5.3 m above the roadway (see Book 1b, Section 12.3 (Vertical Mounting Offset)). Each sign should be centred over the lane it governs.

Ground-mounted signs are located as follows:

- For double left turns designated by Rb-41 or Rb-43 signs, advance signs must be located on the left side of the roadway.
- For double right turns designated by Rb-42 or Rb-44 signs, advance signs must be located on the right side of the roadway.
- Figures 13, 14 and 15 illustrate the placement of ground-mounted turn lane designation signs for typical configurations.

Legal Status

Highway Traffic Act, Sections 141, 152, 153 and 154 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 34 (R.R.O. 1990).

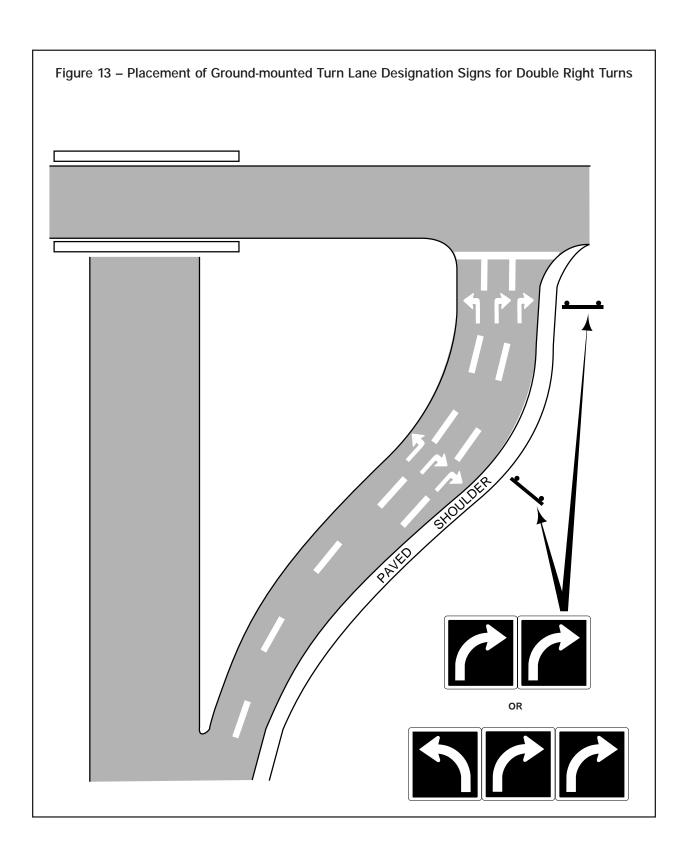
The application of turn lane designation signs in municipalities requires legal approval by municipal by-laws.

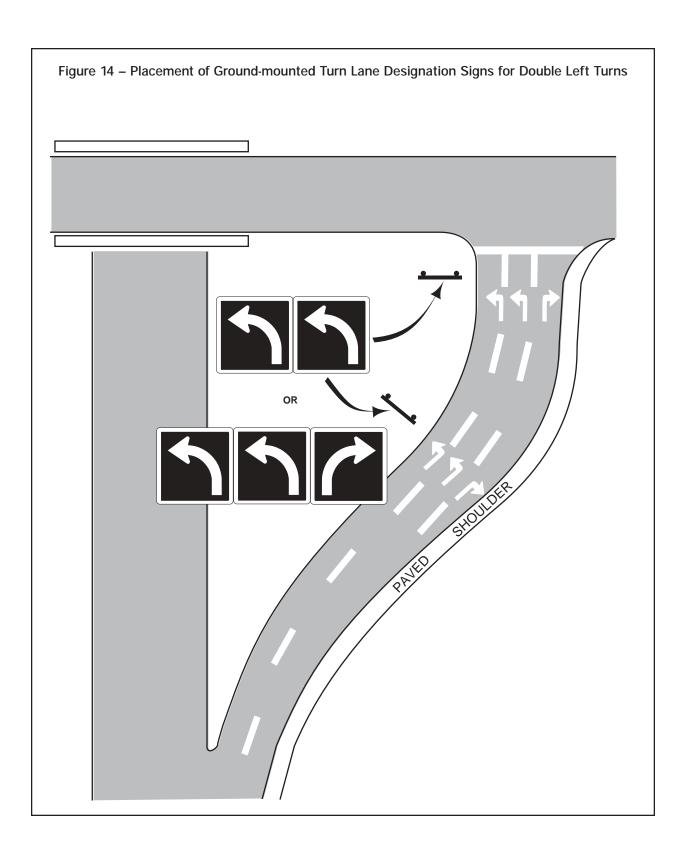
Minimum Sheeting Requirement

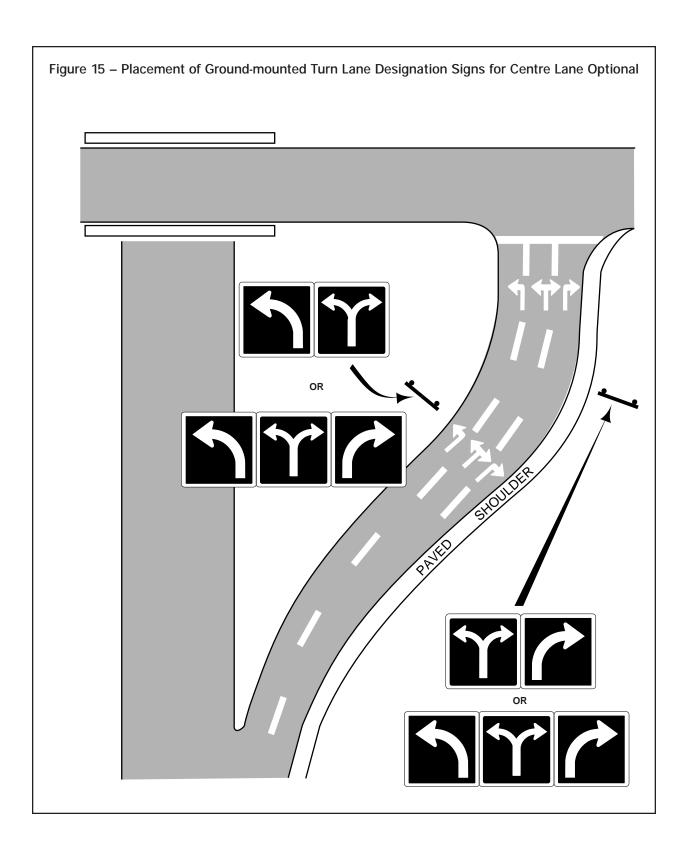
Type I

Special Considerations

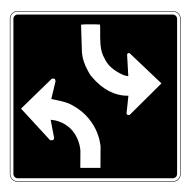
N/A







TWO-WAY LEFT-TURN LANE Sign



Rb-48

90 cm x 90 cm

Font

N/A

Colour Legend & Border – White Reflective

Background - Black

TWO-WAY LEFT-TURN LANE, CENTRE LANE ONLY Sign



Rb-48A

90 cm x 150 cm

Font Colour Helvetica Medium
Top Section of Sign:

Legend – White Reflective Background & Border – Black Bottom Section of Sign: Legend & Border – Black Background – White Reflective

Purpose and Background

The TWO-WAY LEFT-TURN LANE sign specifically applies where one centre lane separates opposing traffic flows on multi-lane roadways, and where it is desirable to reserve the centre lane for shared left-turn movements from both directional flows. The sign may be used between intersections or to access other points along the roadway (e.g., side streets, shopping malls, driveways and so on).

Sign Types

The **TWO-WAY LEFT-TURN LANE sign (Rb-48)** designates the centre lane on a road without a median for shared left-turn movements by traffic in both directions. The sign is intended for overhead mounting.

The TWO-WAY LEFT-TURN LANE, CENTRE LANE ONLY sign (Rb-48A) combines the symbolic legend of the Rb-48 sign with a text legend on one blank. The sign is intended for ground-mounting.

Guidelines for Use

In areas where driver exposure to two-way left-turn facilities is limited, TWO-WAY LEFT-TURN LANE signs should be mounted overhead. Ground-mounted Rb-48A signs may be used in urban areas where drivers are more familiar with this type of facility.

Signs should be mounted overhead on wide facilities with more than five lanes.

Within a continuous section of TWO-WAY LEFT-TURN LANE signs, the signs should either be all mounted overhead or all ground-mounted. To avoid driver confusion and support driver expectation, it is recommended that the mounting type be consistent throughout an area or network.

For more information on mounting supports for overhead signs, see Book 3 (Sign Support and Installation).

Pavement marking arrows must be used to supplement both overhead and ground-mounted TWO-WAY LEFT-TURN LANE signs (see Book 11 (Markings and Delineation) for more details on pavement markings).

Location Criteria

Both the ground-mounted and overhead versions of the TWO-WAY LEFT-TURN LANE sign (Rb-48A and Rb-48) should be placed at the beginning of the designated centre left-turn lane, downstream of all major intersections, and in between intersections at intervals of no more than 300 m.

The overhead TWO-WAY LEFT-TURN LANE sign should be mounted so that the bottom of the sign is from 4.5 m to 5.3 m above the roadway (see Book 1b, Section 12.3 (Vertical Mounting Offset)). The sign should be centred over the two-way left-turn lane.

Where right and left turns are permitted from the centre lane, advance signs must be located in a staggered fashion on both sides of the roadway.

Legal Status

Highway Traffic Act, Sections 141, 152, 153 and 154 (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 34 (R.R.O. 1990).

The application of sign in municipalities requires legal approval by municipal by-laws.

Minimum Sheeting Requirement

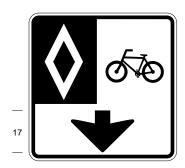
Type I

Special Considerations

N/A

9.2 Reserved Lane Signs

RESERVED BICYCLE LANE Sign (Overhead)



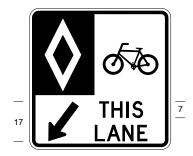
Rb-84 60 cm x 60 cm Rb-184 90 cm x 90 cm

Font N/A

Colour Diamond Symbol – White Reflective

Diamond Background – Black Legend & Border – Black Background – White Reflective

RESERVED BICYCLE LANE Sign (Ground-mounted)



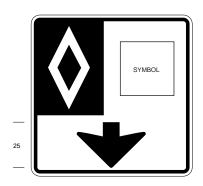
 Rb-84A
 60 cm x 60 cm

 Rb-184A
 90 cm x 90 cm

 Font
 Highway Gothic D

Colour Diamond Symbol – White Reflective

Diamond Background – Black Legend & Border – Black Background – White Reflective RESERVED LANE Sign (One Vehicle Class, Overhead, No Days and Times)



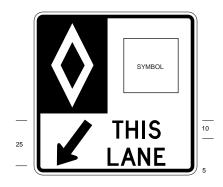
Rb-85 90 cm x 90 cm

Font N/A

Colour Diamond Symbol – White Reflective

Diamond Background – Black Legend & Border – Black Background – White Reflective

RESERVED LANE SIGN (One Vehicle Class, Ground-mounted, No Days and Times)



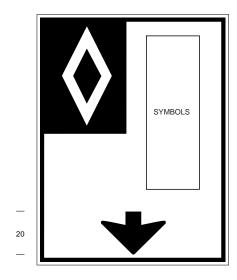
Rb-85A 90 cm x 90 cm Font Highway Gothic D

Colour Diamond Symbol – White Reflective

Diamond Background – Black Legend & Border – Black Background – White Reflective

RESERVED LANE Sign (Multiple Vehicle Classes, Overhead, No Days and Times)

RESERVED LANE Sign (Multiple Vehicle Classes, Ground-mounted, No Days and Times)

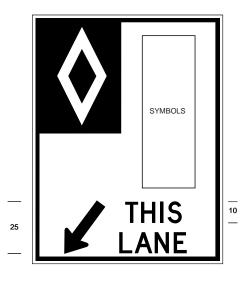


Rb-86 90 cm x 120 cm

Font N/A

Colour Diamond Symbol – White Reflective Diamond Background – Black Legend & Border – Black

Background - White Reflective



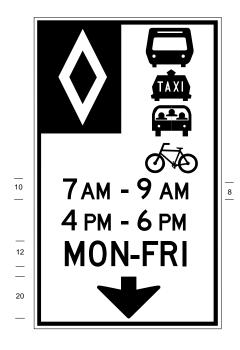
Rb-86A 90 cm x 120 cm

Font Highway Gothic D

Colour Diamond Symbol – White Reflective
Diamond Background –Black
Legend & Border –Black
Background –White Reflective

RESERVED LANE Sign (One or Multiple Vehicle Class(es), Overhead, Days and Times)

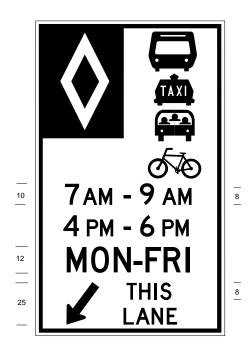
RESERVED LANE Sign (One or Multiple Vehicle Class(es), Ground-mounted, Days and Times)



Rb-87 90 cm x 150 cm

Font Highway Gothic D
Colour Diamond Symbol -

Diamond Symbol – White Reflective Diamond Background – Black Legend & Border – Black Background – White Reflective



Rb-87A 90 cm x 150 cm

Font Highway Gothic D

Colour Diamond Symbol – White Reflective Diamond Background – Black

Legend & Border – Black Background – White Reflective

3 OR MORE PERSONS Sign



Rb-88 60 cm x 90 cm

Font Highway Gothic D, E Colour Legend & Border – Black

Background - White Reflective

Reserved Lane BEGINS Tab Sign



Rb-84t 20 cm x 60 cm Rb-184t 30 cm x 90 cm

Font Highway Gothic C

Colour Legend & Border – White Reflective

Background - Black

Reserved Lane ENDS Tab Sign



 Rb-85t
 20 cm x 60 cm

 Rb-185t
 30 cm x 90 cm

 Font
 Highway Gothic C

Colour Legend & Border - White Reflective

Background - Black

Purpose and Background

The purpose of reserved lane signs is to designate specific lanes on the road exclusively for high occupancy and special use traffic. These vehicles can include buses, cars carrying at least three (in some cases, at least two) or more persons, taxis and bicycles. Reserved lane signs can be applied to urban streets as well as freeways and highways, and can be mounted overhead or ground-mounted. A reserved lane condition can be permanent, or in effect only during specified times of the day and/or days of the week.

The objective of dedicated lanes for high occupancy vehicles is to discourage the use of private vehicles with one occupant, and encourage the use of public transit and car-pools, to make better use of road facilities, alleviate congestion, increase safety, reduce energy consumption, and improve air quality. High Occupancy Vehicle (HOV) lanes provide high occupancy vehicles, such as buses and cars with three or more persons, with a dedicated uncongested lane on an otherwise congested facility.

Reserved lanes go beyond the concept of HOV lanes by allowing, in addition to high occupancy vehicles, other road users with special needs which may conflict with the main stream of traffic. For example, taxis which make frequent stops in city traffic have unique requirements. Also, in areas where many people travel by bicycle, bicycles may be included in

reserved lane signing, because of their slow speed relative to other traffic and their vulnerability. Providing reserved lanes that include bicycles also has the impact of concentrating cyclists on those streets with reserved lane signing, and simplifying traffic flows on other streets in the vicinity.

Reserved lanes have a unique function within the set of regulatory signs, and are therefore distinguished by a unique symbol: the outline of a diamond in reversed colours from the rest of the sign (that is, the main sign has a black legend on a white background, while the diamond symbol is white on a black background). Reserved lanes are therefore also referred to as diamond lanes.

For more information on the planning and implementation of reserved lanes, see Book 17 (Reserved Lane Controls). Supplementary details on bicycle facilities are available in Book 18 (Bicycle Facilities).

Sign Types

Reserved Bicycle Lane Signs

The RESERVED BICYCLE LANE signs (Rb-84, Rb-84A, Rb-184 or Rb-184A) must be used to designate on-road lanes reserved exclusively for bicycles with no time-of-day conditions.

The standard size RESERVED BICYCLE LANE sign (overhead) (Rb-84) includes in its legend an arrow pointing straight down at the designated lane, and is mounted overhead.

The standard size RESERVED BICYCLE LANE sign (ground-mounted) (Rb-84A) includes in its legend an arrow pointing diagonally down to the left together with the words "this lane", and is ground-mounted.

The oversize RESERVED BICYCLE LANE sign (overhead) (Rb-184) is the oversize version of the Rb-84 sign. The signs may be used at locations where prevailing traffic conditions warrant greater visibility or emphasis, e.g., in complex visual environments where many signs and other devices compete for driver attention, or at high traffic volume locations where drivers must concentrate more on the driving task.

The oversize RESERVED BICYCLE LANE sign (ground-mounted) (Rb-184A) is the oversize version of the Rb-84A sign. If a ground-mounted sign is used, the Rb-184A oversize sign should be used under the conditions described for the Rb-184 sign.

Reserved Lane Signs for One or Multiple Vehicle Class(es)

The RESERVED LANE signs for one or multiple vehicle class(es) (Rb-85, Rb-85A, Rb-86, Rb-86A, Rb-87 or Rb-87A) must be used to designate on-road facilities for one or more classes of vehicles, including (but not restricted to) buses, taxis, cars with three or more (or two or more) persons and bicycles.

The RESERVED LANE sign (one vehicle class, overhead, no days and times) (Rb-85) designates a reserved lane for one vehicle class.

The sign includes in its legend an arrow pointing.

The sign includes in its legend an arrow pointing straight down at the designated lane, and is mounted overhead. The reserved lane condition is in effect at all times.

The RESERVED LANE sign (one vehicle class, ground-mounted, no days and times) (Rb-85A) designates a reserved lane for one vehicle class.

The sign includes in its legend an arrow pointing diagonally down to the left together with the words "this lane", and is ground-mounted. The reserved lane condition is in effect at all times.

The RESERVED LANE sign (multiple vehicle classes, overhead, no days and times) (Rb-86) designates a reserved lane for two or more vehicle classes. The sign includes in its legend an arrow pointing straight down at the designated lane, and is mounted overhead. The reserved lane condition is in effect at all times.

The RESERVED LANE sign (multiple vehicle classes, ground-mounted, no days and times) (Rb-86A) designates a reserved lane for two or more vehicle classes. The sign includes in its legend an arrow pointing diagonally down to the left together with the words "this lane", and is ground-mounted. The reserved lane condition is in effect at all times.

The RESERVED LANE sign (one or multiple vehicle class(es), overhead, days and times) (Rb-87) designates a reserved lane for one or more vehicle classes. The sign includes in its legend an arrow pointing straight down at the designated lane, and is mounted overhead. The reserved lane condition is in effect only during the days and times specified on the legend.

The RESERVED LANE sign (one or multiple vehicle class(es), ground-mounted, days and times) (Rb-87A) designates a reserved lane for one or more vehicle classes. The sign includes in its legend an arrow pointing diagonally down to the left together with the words "this lane", and is ground-mounted. The reserved lane condition is in effect only during the days and times specified on the legend.

Supplementary Reserved Lane Signs

The standard size reserved lane BEGINS tab sign (Rb-84t) and ENDS tab sign (Rb-85t) must be attached below the first and last standard size RESERVED BICYCLE LANE signs in a reserved bicycle lane facility, to indicate the beginning and end, respectively, of the facility.

The oversize reserved lane BEGINS tab sign (Rb-184t) and ENDS tab sign (Rb-185t) must be attached below the first and last oversize RESERVED BICYCLE LANE signs in a reserved bicycle lane facility, and the first and last reserved lane signs for multiple vehicle classes in a reserved lane facility, to indicate the beginning and end, respectively, of the facility.

The **3 OR MORE PERSONS educational sign (Rb-88)**, may be used with RESERVED LANE signs including the symbol for cars with three or more persons. (A variation of the sign, with the "3" in the legend replaced by a "2", may be used in conjunction with the symbol for cars with two or more persons.) The tab assists initial comprehension of the symbol, which studies have shown may be poorly understood when first applied. The educational tab may be used where it has been determined that motorists are still unfamiliar with the meaning of the symbol. Motorist familiarity can be assessed according to factors such as observed lane use and presence of similar signs in the area.

Guidelines for Use

Reserved lane signing must be used where municipal by-law or Regulation designates lanes for exclusive use by specific classes or types of vehicles, either permanently or during certain times of the day and/or days of the week.

Reserved lane signs may be either ground-mounted or placed overhead. Reserved lane sign numbers having an "A" suffix are ground-mounted versions of the overhead signs with the corresponding numbers. Ground-mounted signs may be used when the designated lane is adjacent to a curb, the opportunity to install signs is available and sufficient visibility is assured. Otherwise, overhead reserved lane signs should be used.

Reserved lane signs should be used together with the corresponding pavement markings for diamond lanes. Details on pavement markings for reserved lanes are provided in Book 11 (Markings and Delineation).

The Rb-87 and Rb-87A RESERVED LANE signs must not be used if the bicycle symbol is the only vehicle class depicted. If this were to be done, the sign would become a RESERVED BICYCLE LANE sign with time restrictions, which is not advisable because bicycle lanes typically have narrow lane widths.

Location Criteria

On non-freeway reserved lane facilities, reserved lane signs must be installed throughout the full length of the facility:

- At intervals of 300 m or less; and
- Immediately downstream of intersections with public roadways.

On freeway reserved lane facilities, reserved lane signs must be installed throughout the full length of the facility:

- At intervals of 800 m or less; and
- Immediately downstream of interchanges.

If the 3 OR MORE PERSONS educational sign (Rb-88), or its 2 OR MORE PERSONS variant, is used in the context of overhead RESERVED LANE signs, it should be mounted on the vertical support of the mounting arm for the overhead sign. If the Rb-88 sign is used in the context of ground-

mounted RESERVED LANE signs, it should be ground-mounted on its own support approximately midway between two ground-mounted RESERVED LANE signs.

Appropriate pavement markings should be installed in conjunction with reserved lane signing, enabling drivers to more clearly comprehend the restrictions imposed (see Book 11 (Markings and Delineation)).

Legal Status

Highway Traffic Act, Sections 154 and 155 (R.S.O. 1990).

Signs must be supported by municipal by-law to be enforceable in municipalities.

Reserved lane signs are not included in HTA Regulation 615, but are expected to be included in 1999.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

10. Parking Control Signs

Parking control is necessary to support the rational utilization of curb lanes. The safe, unimpeded movement of traffic takes priority over curb-lane loading and unloading, which in turn takes priority over curb-lane parking.

Parking control has the following proven benefits:

- Prohibiting parking, standing and stopping at selected locations in the curb lanes of busy thoroughfares improves traffic flow, especially at signalized intersections;
- Allocating designated curb space to bus stops or taxi zones, enables buses and taxis more efficiently to manoeuvre in and out of the traffic stream:
- Allocating designated curb space to emergency vehicles provides them with permanently available parking space close to essential equipment (e.g., fire hydrants);
- Restricting the times when parking, standing and stopping are permitted increases roadway capacity and reduces congestion when most required, e.g., during peak periods;
- Where demand for on-street parking exceeds the supply, limiting the duration of parking provides a more equitable distribution of parking space; and
- Allocating designated parking space to persons with disabilities enables them close access to common destinations.

Standing and stopping are different than parking. Standing refers to the presence of a stationary vehicle in the curb lane, for the purpose of picking up or dropping off passengers. The driver does not

have to be in the vehicle during this procedure. Stopping refers to a driver stopping a vehicle in the curb lane for any reason, except when legally required to do so, for example at a STOP sign.

Parking control signs in this section are covered under two categories:

- General Parking Control Signs;
- Disabled Parking Control Exemption Signs.

For more information on planning and implementing parking controls, see Book 16 (Parking Controls).

10.1 General Parking Control Signs

NO PARKING Sign



Rb-51 30 cm x 30 cm Rb-151 60 cm x 60 cm

Font N/

Colour Interdictory Symbol – Red Reflective Legend & Border – Black

Background – White Reflective

NO PARKING Sign (With Days)



 Rb-51A
 30 cm x 30 cm

 Rb-151A
 60 cm x 60 cm

 Font
 Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO PARKING Sign (With Days and Times)



 Rb-52
 30 cm x 45 cm

 Rb-152
 60 cm x 90 cm

 Font
 Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO PARKING, SNOW ROUTE Sign



 Rb-57
 30 cm x 45 cm

 Rb-157
 60 cm x 90 cm

 Font
 Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO PARKING, EMERGENCY PARKING ONLY Sign

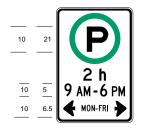


Rb-58 60 cm x 90 cm Font Highway Gothic D

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

PARKING RESTRICTED Sign (With Days, Times and Duration)





 Rb-53
 30 cm x 45 cm

 Rb-153
 60 cm x 90 cm

 Font
 Highway Gothic C

Colour Permissive Symbol - Green Reflective

Legend & Border – Black Background – White Reflective

NO STANDING Sign



 Rb-54
 30 cm x 30 cm

 Rb-154
 60 cm x 60 cm

 Font
 Highway Gothic C

Colour "NO STANDING" Legend – Red Reflective

Rest of Legend & Border – Black Background – White Reflective

NO STANDING Sign (With Days and Times)



 Rb-54A
 30 cm x 45 cm

 Rb-154A
 60 cm x 90 cm

 Font
 Highway Gothic C

Colour "NO STANDING" Legend – Red Reflective

Rest of Legend & Border – Black Background – White Reflective

NO STOPPING Sign



Rb-55 30 cm x 30 cm Rb-155 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO STOPPING Sign (With Days)



 Rb-55A
 30 cm x 30 cm

 Rb-155A
 60 cm x 60 cm

 Font
 Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

NO STOPPING Sign (With Days and Times)



 Rb-56
 30 cm x 45 cm

 Rb-156
 60 cm x 90 cm

 Font
 Highway Gothic C

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of general parking control signs is to restrict parking, standing and stopping of all vehicles at specified locations, to realize the benefits of parking control outlined above. General parking control signs may limit the prohibition to specified days, specified times, and/or specified durations.

General parking control signs cover the following four functions:

Parking prohibitions;

- Parking duration restrictions;
- Stopping prohibitions; and
- Standing prohibitions.

Sign Types

Parking Prohibition Signs

The **NO PARKING sign** must be used where parking is prohibited at all times. The **standard size NO PARKING sign (Rb-51)** should be used where posted speed is 60 km/h or less and the **oversize NO PARKING sign (Rb-151)** should be used where posted speed is 70 km/h or greater.

The NO PARKING sign (with days) must be used where parking is prohibited 24 hours a day on specified days. The standard size NO PARKING sign (with days) (Rb-51A) should be used where posted speed is 60 km/h or less and the oversize NO PARKING sign (with days) (Rb-151A) should be used where posted speed is 70 km/h or greater.

The NO PARKING sign (with days and times) must be used where parking is prohibited at specified times on specified days. The standard size NO PARKING sign (with days and times) (Rb-52) should be used where posted speed is 60 km/h or less and times) (Rb-152) should be used where posted speed is 70 km/h or greater.

The NO PARKING, SNOW ROUTE signs (Rb-57 and Rb-157) must be used to prohibit parking on designated routes for purposes of snow cleaning in accordance with municipal by-law conditions. Where parking prohibitions on snow routes are required, the standard size Rb-57 sign should be used where posted speed is 60 km/h or less and the oversize Rb-157 sign should be used where posted speed is 70 km/h or greater.

The NO PARKING, EMERGENCY PARKING ONLY sign (Rb-58) must be used to prohibit parking except for emergency purposes on the shoulders of freeways downstream of all interchanges.

Emergency purposes include use by emergency vehicles (e.g., Police, Fire, Ambulance) and vehicles involved in freeway accidents and incidents. The sign may also be used in exceptional situations on other highways at designated locations, or on municipal streets where supported by municipal by-law.

Parking Duration Restriction Signs

The PARKING RESTRICTED sign (with days, times and duration) must be used in areas where the parking period is restricted to the specified duration (e.g., 30 minutes), at specified times on specified days. The standard size PARKING RESTRICTED sign (with days, times and duration) (Rb-53) should be used where posted speed is 60 km/h or less and the oversize PARKING RESTRICTED sign (with days, times and duration) (Rb-153) should be used where posted speed is 70 km/h or greater.

Standing Prohibition Signs

The **NO STANDING sign** must be used where standing is prohibited at all times. The **standard size NO STANDING sign (Rb-54)** should be used where posted speed is 60 km/h or less and the **oversize NO STANDING sign (Rb-154)** should be used where posted speed is 70 km/h or greater.

The NO STANDING sign (with days and times) must be used where standing is prohibited at specified times on specified days. The standard size NO STANDING sign (with days and times) (Rb-54A) should be used where posted speed is 60 km/h or less and times) (Rb-154A) should be used where posted speed is 70 km/h or greater.

Stopping Prohibition Signs

The **NO STOPPING sign** must be used where stopping is prohibited at all times. The **standard size NO STOPPING sign (Rb-55)** should be used where posted speed is 60 km/h or less and the **oversize NO STOPPING sign (Rb-155)** should be used where posted speed is 70 km/h or greater.

The NO STOPPING sign (with days) must be used where stopping is prohibited 24 hours a day on specified days. The standard size NO STOPPING sign (with days) (Rb-55A) should be used where posted speed is 60 km/h or less and the oversize NO STOPPING sign (with days) (Rb-155A) should be used where posted speed is 70 km/h or greater.

The NO STOPPING sign (with days and times) must be used where stopping is prohibited at specified times on specified days. The standard size NO STOPPING sign (with days and times) (Rb-56) should be used where posted speed is 60 km/h or less and oversize NO STOPPING sign (with days and times) (Rb-156) should be used where posted speed is 70 km/h or greater.

Guidelines for Use

Parking Control Legends

Parking prohibition and stopping prohibition signs must use the interdictory symbol. Parking duration restriction signs, on the other hand, must use the permissive symbol, which expresses the duration limit more directly than a sign based on the interdictory concept could.

Short arrows pointing outward to the right and/or left at the bottom of some general parking control signs indicate the direction(s) in which the regulation applies.

General parking control signs should display as much of the following information as applicable, from the top to the bottom of the sign, in the order listed below:

- (1) Prohibition or restriction (symbol and/or text);
- (2) Duration of restriction (text);
- (3) Time period (other than 24 hours a day) when prohibition or restriction applies (text);
- (4) Days of week (other than seven days a week) when prohibition or restriction applies (text); and/or
- (5) Direction(s) in which prohibition or restriction is applicable (arrows).

Days, Times and Durations

The days of the week for which parking control regulations apply must be shown as standard abbreviations specified in Table 3. English abbreviations are used unless the sign is in a designated bilingual area (see Book 1). If no days are specified, the parking control regulation must be in effect seven days a week.

The time period(s) specified indicate when the parking control regulation applies. The preferred format for time periods is in full hours of the clock, e.g., 7 AM – 9 AM or 9 AM – 6 PM. If no times are specified, the parking control regulation must be in effect 24 hours a day on the applicable days.

Within a series of general parking control signs that apply only at specific times, the times should be consistently shown in the same position on the sign. If, on some signs in the series, one of the time periods does not apply, blank space should be left in

Table 3 – Standard Abbreviations for Days of Week

English		French	
Saturday	SAT	SAM	Samedi
Sunday	SUN	DIM	Dimanche
Monday	MON	LUN	Lundi
Tuesday	TUE	MAR	Mardi
Wednesday	WED	MER	Mercredi
Thursday	THU	JEU	Jeudi
Friday	FRI	VEN	Vendredi

the position where that time period would normally appear. This convention assists motorists in determining from a distance the times during which a parking control regulation applies.

Time limits on parking duration restriction signs must be specified as follows:

- When less than one hour, the duration must be shown in minutes, e.g., 15 minutes instead of 1/4 hour; and
- The duration must be specified in numerals together with the metric abbreviation for minutes or hours, e.g., 15 min, 30 min, 1 h, 2 h.

Location Criteria

The following location criteria apply to general parking control signs:

 Signs must be placed at the upstream and downstream limits of a parking control area, with single arrows pointing in the direction in which the regulation applies;

- (2) Signs must be placed at intermediate points throughout the parking control area, with two arrows indicating that the regulation applies in each direction:
- (3) A parking control regulation which applies in a given direction must terminate at an intersection with a cross street or highway or at another parking control sign. A sign with one arrow must be used to indicate the termination;
- (4) Signs should be installed at an angle of 30 to 45 degrees to the flow of traffic, and should always be visible to approaching traffic;
- (5) In rural areas, signs should be spaced at 150 m or less:
- (6) In urban areas and in business areas, signs must be spaced at 50 m or less; and
- (7) If two signs are placed on the same post, the more restrictive regulation should appear on top.

The following location criteria apply to the NO PARKING, EMERGENCY PARKING ONLY sign (Rb-58):

- (1) The sign must be installed on freeways downstream of each interchange. If a SLOWER TRAFFIC KEEP RIGHT sign (Rb-34) is posted in this area, the Rb-58 sign must be installed approximately 150 m beyond it. Otherwise, the Rb-58 sign must be installed approximately 150 m beyond the MAXIMUM SPEED sign (Rb-1, Rb-1A, Rb-1t, Rb-2, Rb-3, Rb-7t).
- (2) If the distance between interchanges is greater than 8 km, additional signs must be placed so that the maximum sign spacing is 8 km.

Legal Status

Highway Traffic Act, Section 170 (R.S.O. 1990).

Highway Traffic Act, Regulations 604, 605, 615, Sections 13,14,15, 24, 25, 26 and 27, and Regulation 622 (R.R.O. 1990).

Municipal by-laws consistent with the provisions of the Highway Traffic Act may be enacted by the proper authorities for the control of parking, standing or stopping of vehicles.

To implement parking controls that are not statutory, the Road Authority must make proposed recommendations supported by studies, and then institute and legalize the proposed recommendations under the Highway Traffic Act and applicable municipal by-laws.

The NO PARKING sign (with days) (Rb-51 A) is not included in HTA Regulation 615, but is expected to be included by September 30, 1998.

The "h" text, representing hours on the PARKING RESTRICTION sign (with days, times and duration) (Rb-53) is not included in HTA Regulation 615, but is expected to be included by September 30, 1998.

The NO STOPPING sign (with days) (Rb-55A) is not included in HTA Regulation 615, but is expected to be included by September 30, 1998.

HTA Regulation 615 shows a version of the PARKING RESTRICTION sign (with days, times and duration) (Rb-53) that is different than that in OTM Book 5. The HTA version uses the text "M" instead of "min" to represent minutes.

HTA Regulation 615 is expected to be revised to be consistent with the OTM by September 30, 1998. As of January 1, 1999, all new signs installed must match the version shown in the OTM (and revised HTA). As of January 1, 2004, all existing signs must be replaced with the version shown in the OTM (and revised HTA).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

10.2 Disabled Parking Control Exemption Signs

DISABLED PARKING PERMIT Sign



Rb-93 30 cm x 45 cm

Font Helvetica Bold Condensed Colour Interdictory Symbol – Red

Interdictory Symbol – Red Reflective Symbol of Access and Symbol Border –

Blue Reflective

Legend & Border – Black Background – White Reflective

DISABLED STANDING EXEMPTION Sign



Rb-94

30 cm x 60 cm

Font Colour Helvetica Bold Condensed "NO STANDING" Legend – Red Reflective Symbol of Access and Symbol Border – Blue Reflective Rest of Legend & Border – Black

Background - White Reflective

DISABLED STOPPING EXEMPTION Sign



Rb-95

30 cm x 75 cm

Font Colour Helvetica Bold Condensed Interdictory Symbol – Red Reflective Symbol of Access and Symbol Border – Blue Reflective Legend & Border – Black Background – White Reflective

Purpose and Background

Typically demand for parking is highest closest to common destinations, such as shops, medical centres and cinemas. These high demand parking spaces are also those needed by persons with disabilities. To ensure that persons with disabilities can access facilities by vehicle, parking spaces need to be reserved for them. Disabled parking control exemption signs fulfill this function by prohibiting all vehicles, except those used by persons with disabilities, from parking in designated spaces. Vehicles using the reserved parking spaces must display a valid Disabled Persons Parking Permit.

Sign Types

The **DISABLED PARKING PERMIT sign (Rb-93)** must be used to exempt vehicles displaying a valid a Disabled Persons Parking Permit from parking prohibitions at designated parking spaces, and thereby to indicate parking spaces designated for use by disabled persons possessing a valid Disabled Persons Parking Permit.

The **DISABLED STANDING EXEMPTION sign** (**Rb-94**) must be used to exempt vehicles displaying a valid Disabled Persons Parking Permit from standing prohibitions.

The **DISABLED STOPPING EXEMPTION sign** (**Rb-95**) must be used to exempt vehicles displaying a valid Disabled Persons Parking Permit from stopping prohibitions.

Guidelines For Use

Disabled parking control exemption signs may be augmented, but not replaced, by pavement markings.

When multiple parking stalls are to be designated with the Rb-93 sign, each parking stall must have an individual sign.

Location Criteria

For parallel parking stalls:

- The DISABLED PARKING PERMIT sign must be placed adjacent to the stall within its longitudinal limits:
- The sign placement must clearly indicate which stall the sign applies to;

- The sign must not interfere with passengers entering or leaving the vehicle; and
- The sign should be mounted at a height of 2 m to 3 m, measured from the top of the curb to the bottom of the sign.

For angle parking or parking perpendicular to the roadway:

- The DISABLED PARKING PERMIT sign must be placed at the side of the road, midway between the lateral limits of the stall; and
- The sign should be mounted at a height of 1.5 m to 2.5 m, measured from the top of the curb to the bottom of the sign.

Legal Status

Highway Traffic Act, Regulation 581 (R.R.O. 1990).

Signs are also enforceable in municipalities by municipal by-law.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

11. Specific Vehicle Class Control Signs

Specific vehicle class control signs restrict or direct trucks, bicycles, dangerous goods carriers, school buses and other classes of vehicles on specific aspects of road use. Aspects of regulatory control in this section include permitted and prohibited routes for specific vehicle classes, weight and dimensions limits and instructions directed at vehicles of specific classes.

Specific vehicle class control signs deal only with vehicles. Regulatory signs directed at pedestrians and other non-vehicular road users (e.g., in-line skaters) are covered in Section 15 (Miscellaneous Control Signs).

11.1 General Truck Control Signs

General truck control signs should be used to restrict the movements or specify required actions of trucks, in general. (The sub-class of trucks known as Dangerous Goods Carriers is covered in Section 11.2 below.) Where truck routes are designated, or certain commercial vehicles are prohibited from travelling on certain roads, these routes and/or restrictions must be indicated by general truck control signs. Restricting trucks to designated roads is necessary to protect road infrastructure that cannot bear the loads of heavy trucks, or that is otherwise unsuitable for truck traffic (e.g., residential streets, roads with narrow lanes, roads where trucks are incompatible with other road users).

Truck routes are typically identified by permissive signing (based on the permissive green annular band symbol), supplemented by prohibitive signing (based on the interdictory red annular band symbol). The permissive signs indicate a continuous route preferred for heavy truck use. If supported by

municipal by-law, the permissive signs can be given a mandatory function, that is, the signs can prohibit heavy trucks from travelling anywhere but on a truck route identified by permissive signing. Whether or not a permissive signing system is enforceable by municipal by-law, supplementary prohibitive signs may be used where problems have been encountered with heavy trucks using roads from which they are prohibited. (See Book 1b, Section 6.2, for a discussion of interdictory and permissive symbols.)

TRUCK ROUTE Sign



Rb-61 60 cm x 60 cm Font N/A

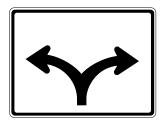
Colour

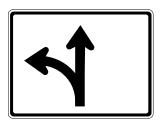
Permissive Symbol – Green Reflective Legend & Border – Black Background – White Reflective

105

MOVEMENTS PERMITTED Tab Sign







Rb-61t

45 cm x 60 cm

Font

N/A

Colour Lea

Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the permissive TRUCK ROUTE sign is to indicate roads, especially continuous routes through or around an area, upon which heavy trucks are designated to travel. In some cases, municipal by-laws expressly prohibit trucks from making any movements other than those indicated on permissive TRUCK ROUTE signs.

Sign Types

The **TRUCK ROUTE sign (Rb-61)** is the standard permissive sign.

The MOVEMENTS PERMITTED tab sign (Rb-61t) indicates permitted truck movements at intersections. Movements other than those illustrated may be shown on the tab with the appropriate choice of arrows.

Guidelines for Use

The Rb-61 TRUCK ROUTE sign and the Rb-61t MOVEMENTS PERMITTED tab sign should only be used on continuous truck routes.

The Rb-61 TRUCK ROUTE sign on its own may be used to indicate that truck travel along the signed road is permitted.

The Rb-61 sign with the Rb-61t tab sign attached must be used at intersections to indicate permitted left-turn, right-turn and/or straight-through movements to access designated truck routes. By implication, movements not indicated on the tab sign may be prohibited.

Where a truck route can be accessed by turning left and/or right at an intersection, the sign-tab combination must be installed immediately upstream of the intersection to which it applies.

Where a truck route can only be accessed by a straight-through movement at an intersection, the sign-tab combination showing the straight-through arrow may be installed immediately upstream of the intersection to which it applies. Rb-61 and Rb-61t signs at this location confirm that the intersecting road is not a truck route.

The NO HEAVY TRUCKS sign (Rb-62) may be used to supplement permissive truck route signing, where problems have been encountered with heavy trucks using roads from which they are prohibited.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

No Highway Traffic Act reference.

Enforceable in municipalitites by municipal by-law which:

- Specifies that heavy trucks are prohibited from all roads other than truck routes indicated by the permissive truck route signing system;
- Specifies a schedule of roads on which trucks are permitted, corresponding to the roads included in the permissive truck route signing system; or
- Specifies a schedule of roads on which trucks are prohibited, corresponding to the roads excluded from the permissive truck route signing system.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

NO HEAVY TRUCKS Sign



Rb-62 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol - Red Reflective

Legend & Border - Black Background - White Reflective

NO HEAVY TRUCKS Sign (With Time Restriction)



Rb-62A 60 cm x 75 cm
Font Highway Gothic

Font Highway Gothic D
Colour Interdictory Symbol – Red Reflective

Legend & Border – Black
Background – White Reflective

Purpose and Background

The purpose of the prohibitive NO HEAVY TRUCKS sign is to indicate roads on which heavy trucks are prohibited. A time restriction may be used in conjunction with the sign, to prohibit trucks from travelling on certain roads and streets when they would most adversely affect other users of the road and street. The time restriction typically applies at night, when noise and vibrations could be disruptive, particularly in residential areas.

The definition of a heavy truck may vary from municipality to municipality, and should be specified under municipal by-law.

Sign Types

The **NO HEAVY TRUCKS sign (Rb-62)** applies at all times.

The **NO HEAVY TRUCKS sign (with time restriction) (Rb-62A)** applies only during the time periods specified on the sign.

Guidelines for Use

The Rb-62 and Rb-62A signs are not used on provincial highways. Instead, permissive truck route signing may be provided on King's Highways to support municipal signing to regulate and manage truck traffic.

The Rb-62 and Rb-62A NO HEAVY TRUCKS signs may be used to supplement a permissive signing system for continuous truck routes.

The NO HEAVY TRUCKS signs may be used to indicate restrictions on the movements of heavy trucks on highways, at all times (Rb-62) or at certain times of day (Rb-62A).

The Rb-62 NO HEAVY TRUCKS sign must be used at the entrance to streets, mainly in residential areas, where the municipality wishes to prohibit truck movements. Heavy trucks making deliveries on residential streets are exempt from the prohibition. Municipalities should provide information about heavy truck prohibitions on residential streets to trucking companies operating in the municipality.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Highway Traffic Act, Regulation 615, Section 33 (R.R.O. 1990).

Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

LANE USE RESTRICTION Sign (Trucks, Overhead)



Rb-39

90 cm x 150 cm

Font Colour

Interdictory Symbol - Red Reflective Legend & Border - Black Background - White Reflective

LANE USE RESTRICTION Sign (Trucks, Ground-mounted)



Rb-39A

Font Colour 90 cm x 150 cm

Highway Gothic D Interdictory Symbol - Red Reflective Legend & Border - Black Background - White Reflective

LANE USE RESTRICTION Sign (Length-based, Overhead)

8 OVER 6.5 m 5.8.10

Rb-40 Font Colour 90 cm x 150 cm Highway Gothic D Interdictory Symbol – Red Reflective Legend & Border – Black Background – White Reflective

LANE USE RESTRICTION Sign (Length-based, Ground-mounted)



Rb-40A 90 cm x 150 cm

Font Highway Gothic D
Colour Interdictory Symbo

Interdictory Symbol - Red Reflective

Legend & Border – Black Background – White Reflective

BEGINS Tab Sign



Rb-184t 30 cm x 90 cm

Font Highway Gothic C

Colour Legend & Border - White Reflective

Background – Black

ENDS Tab Sign



Rb-185t 30 cm x 90 cm Font Highway Gothic C

Colour Legend & Border - White Reflective

Background - Black

Purpose and Background

LANE USE RESTRICTION signs are used to prohibit heavy or long trucks from travelling on designated left lanes of highways with three or more lanes in each direction, where they may impede the flow and/or visibility of other traffic. The lane use restrictions are organized into zones, delimited by BEGINS and ENDS tab signs attached, respectively, to the first and last LANE USE RESTRICTION signs in the zone.

Sign Types

The LANE USE RESTRICTION sign (Rb-39) (trucks, overhead) restricts heavy trucks from using the restricted lane, and is mounted overhead.

The LANE USE RESTRICTION sign (Rb-39A) (trucks, ground-mounted) is the ground-mounted version of the Rb-39 sign.

The LANE USE RESTRICTION sign (Rb-40) (length-based, overhead) restricts certain vehicles longer than 6.5 m from using the restricted lane, and is mounted overhead.

The LANE USE RESTRICTION sign (Rb-40A) (length-based, ground-mounted) is the ground-mounted version of the Rb-40 sign.

The **BEGINS** tab sign (184t) indicates the beginning of the restricted lane zone.

The **ENDS** tab sign (185t) indicates the end of the restricted lane zone.

Guidelines for Use

If the lane use restriction is based on weight, then the Rb-39 or Rb-39A LANE USE RESTRICTION signs must be used. The weight-based LANE USE RESTRICTION signs must be used to restrict commercial vehicles heavier than 4.5 tonnes (or the maximum weight specified by municipal by-law) from travelling in the left lane of designated zones of municipal roads, as controlled by by-law.

If the lane use restriction is based on length, then the Rb-40 or Rb-40A LANE USE RESTRICTION signs must be used. The length-based LANE USE RESTRICTION signs must be used to restrict commercial vehicles (or commercial vehicles towing other vehicles) that are longer than 6.5 m from travelling in the left lane of designated zones of King's Highways or of municipal roads, as controlled by by-law. Buses and emergency vehicles are excepted from this restriction on provincial highways.

The roads on which LANE USE RESTRICTION signs are used must have three or more lanes in each direction and a posted speed of 80 km/h or greater.

LANE USE RESTRICTION signs may either be ground-mounted or placed overhead.

LANE USE RESTRICTION sign numbers having an "A" suffix are ground-mounted versions of the overhead signs with the corresponding numbers. Ground-mounted signs may be used when there is insufficient opportunity to install overhead signs and adequate visibility is assured. Otherwise, overhead LANE USE RESTRICTION signs should be used.

BEGINS and ENDS tab signs should be attached, respectively, to the first and last LANE USE RESTRICTION signs in the zone.

Lane use restrictions do not apply:

- to road building or maintenance equipment while maintaining the road or removing snow from the lane use restriction zone; or
- in an emergency.

Location Criteria

Overhead versions of the LANE USE RESTRICTION signs must be installed directly above the left lane, in order to be visible to drivers of commercial motor vehicles entering or travelling along the highway.

Spacing of LANE USE RESTRICTION signs should typically be in the range of 4 km to 8 km. They should be posted immediately downstream of each interchange or intersection.

Legal Status

Highway Traffic Act, Regulation 608 (R.R.O. 1990).

Rb-40 and Rb-40A signs are also enforceable in municipalities by municipal by-law.

Rb-39 and Rb-39A signs are only enforceable in municipalities by municipal by-law.

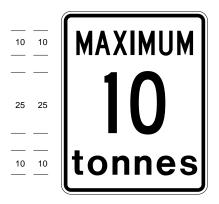
Minimum Sheeting Requirement

Type I

Special Considerations

N/A

MAXIMUM TONNES Sign (Single Gross Weight)



Rb-63 60 cm x 75 cm Rb-163 60 cm x 90 cm

Font Highway Gothic C, Helvetica Medium
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

Under some circumstances, such as structural weakness, it is necessary to limit the gross weight of vehicles on bridges on a temporary, seasonal or more permanent basis. In some cases, the configuration of the heavy vehicle (that is, its division into tractor and trailer units) is not critical to the safety of the bridge. Rather it is the overall vehicle weight that impacts the bridge structure, and the same maximum weight restriction applies to both single and combination vehicles. If so, the MAXIMUM TONNES sign (single gross weight) (Rb-63) is used to limit loads on constrained bridges.

Sign Types

The standard size MAXIMUM TONNES sign (single gross weight) (Rb-63) should be used where posted speed limit is 60 km/h or less. Typically the sign must be used on local streets and minor roads.

The oversize MAXIMUM TONNES sign (single gross weight) (Rb-163) should be used where posted speed limit is 70 km/h or greater.

Guidelines for Use

The MAXIMUM TONNES sign (single gross weight) must be used on bridges where the same maximum gross weight applies to single and combination vehicles.

A structural assessment of the bridge is required prior to passing a by-law authorizing the weight restriction.

Where no legal authority has been established, but an advisory load limit notice is desired, the Wa-63 warning sign must be used. The Wa-63 MAXIMUM TONNES ADVISORY sign (single gross weight) is identical to the Rb-63 sign, except that the advisory sign background is yellow instead of white. (For more details on the Wa-63 sign, see Book 6 (Warning Signs).)

Location Criteria

The sign must be located immediately upstream of the bridge to which it applies, or mounted on the bridge structure itself. A supplementary sign may be placed on the left side of the roadway approaching the bridge. If the weight restriction applies at an intermediate point along a road where there is no alternative route, truck route signing should be provided to divert heavy vehicles to the nearest intersection where a suitable alternative route is available.

Legal Status

Highway Traffic Act, Section 123 (R.S.O. 1990).

Highway Traffic Act, Regulations 103, 598 and 615, Section 4 (R.R.O. 1990).

HTA Regulation 615 shows a version of the MAXIMUM TONNES sign (Single Gross Weight) (Rb-63) that is different than that in OTM Book 5. The HTA version uses the text "maximum weight" instead of "maximum".

HTA Regulation 615 is expected to be revised to be consistent with the OTM by September 30, 1998. As of January 1, 1999, all new signs installed must match the version shown in the OTM (and revised HTA). As of January 1, 2004, all existing signs must be replaced with the version shown in the OTM (and revised HTA).

Minimum Sheeting Requirement

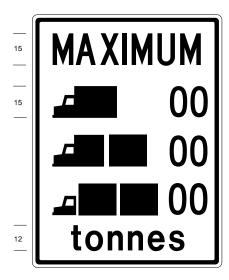
Type I

Special Considerations

N/A

al • March 2000 113

MAXIMUM TONNES Sign (Differentiated by Truck Type)



Rb-63A

90 cm x 120 cm

Font Colour Highway Gothic C, Helvetica Medium Legend & Border – Black Background – White Reflective

Purpose and Background

Like the Rb-63 MAXIMUM TONNES sign (single gross weight), the Rb-63A MAXIMUM TONNES sign (differentiated by truck type) is used to limit weights of heavy vehicles on weak bridges. In some situations, vehicle configuration and the weight distribution of the different vehicle components across the bridge structure is critical to the safety of the bridge. The Rb-63A sign must be used where structural engineers have set individual load restrictions prescribing the maximum permitted gross vehicle weights for a single vehicle unit (e.g., a cube truck), a combination of two vehicle units (e.g., a tractor and trailer), and a combination of three vehicle units (e.g., a tractor and two trailers). The Rb-63A sign indicates the maximum weight for each vehicle combination.

Sign Types

There is one type of MAXIMUM TONNES sign (differentiated by truck type): Rb-63A.

Guidelines for Use

The MAXIMUM TONNES sign (differentiated by truck type) must be used on bridges where different maximum gross weights apply to single and combination vehicles.

A structural assessment of the bridge is required prior to passing a by-law authorizing the weight restriction.

Where no legal authority has been established, but an advisory load limit notice is desired, the Wa-63A warning sign must be used. The Wa-63A MAXIMUM TONNES ADVISORY sign (differentiated by truck type) is identical to the Rb-63A sign, except that the advisory sign background is yellow instead of white. (For more details on the Wa-63A, see Book 6 (Warning Signs).)

Location Criteria

The sign must be located immediately upstream of the bridge to which it applies, or mounted on the bridge structure itself. A supplementary sign may be placed on the left side of the roadway approaching the bridge.

If the weight restriction applies at an intermediate point along a road where there is no alternative route, truck route signing should be provided to divert heavy vehicles to the nearest intersection where a suitable alternative route is available.

Legal Status

Highway Traffic Act, Subsections 123.(1) and (2) (R.S.O. 1990).

Highway Traffic Act, Regulations 103, 598 and 615, Section 41 (R.R.O. 1990).

The sign must only be used under the authority of Highway Traffic Act Regulation or municipal by-law.

HTA Regulation 615 shows a version of the MAXIMUM TONNES sign (Differentiated By Truck Type) (Rb-63A) that is different than that in OTM Book 5. The HTA version uses the text "maximum weight" instead of "maximum".

HTA Regulation 615 is expected to be revised to be consistent with the OTM by September 30, 1998. As of January 1, 1999, all new signs installed must match the version shown in the OTM (and revised HTA). As of January 1, 2004, all existing signs must be replaced with the version shown in the OTM (and revised HTA).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

LOAD RESTRICTION IN EFFECT Sign



Rb-76 60 cm x 75 cm

Font Highway Gothic D, Helvetica Bold Condensed Colour Legend & Border – Black

Legend & Border - Black Background - White Reflective

Purpose and Background

The purpose of the LOAD RESTRICTION IN EFFECT sign (Rb-76) is to protect designated sections of road from being damaged by heavy commercial vehicles and trailers. The sign is designed for temporary or seasonal application of the restriction, as appropriate. For example, weight bearing capacity under spring thaw conditions is lower for some roads.

The LOAD RESTRICTION IN EFFECT sign must be used on designated road sections to indicate that commercial motor vehicles or trailers are restricted from using the signed road without a permit. The restriction applies to any commercial vehicle or trailer which transmits more than 5 tonnes of weight to the highway with at least one of its axles.

Sign Types

There is one type of **LOAD RESTRICTION IN EFFECT sign: Rb-76**.

Guidelines for Use

The period of time (starting and ending dates), and the roadway limits upon which the reduced load restriction applies, may be designated by the Road Authority as supported by municipal by-law. Rb-76 signs must be installed on the starting date of the restriction. Once the restriction is lifted, the signs must be removed immediately.

Location Criteria

The Rb-76 sign must be installed at the beginning of the restricted zone and immediately downstream of each major intersection. At intersections with non-restricted roadways, the signs should be angled toward motorists about to turn onto the restricted roadway, to notify them of the regulation prior to actually making the turn.

Legal Status

Highway Traffic Act, Subsections 122.(5) and (7) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 40 (R.R.O. 1990).

Time periods that the sign is in effect and roadway limits are specified in municipalities by municipal by-law.

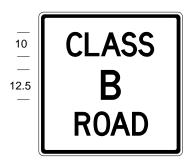
Minimum Sheeting Requirement

Type I

Special Considerations

N/A

CLASS B ROAD Sign



Rb-77 60 cm x 60 cm Font Highway Gothic D

Colour Legend & Border – Black Background – White Reflective

Purpose and Background

The CLASS B ROAD sign must be used only on hard-surfaced township or county roads to identify roads that have been designated as Class B roads by municipal by-law. Class B roads are associated with specific vehicle weight restrictions. Also, it is important that Class B roads be identified to drivers of trucks and other heavy vehicles, since weight regulations associated with spring thaw conditions sometimes apply only to Class B roads. These seasonal weight restrictions further limit the vehicle weights generally allowed on Class B roads.

Sign Types

There is one type of **CLASS B ROAD sign: Rb-77**.

Guidelines for Use

The following vehicles are prohibited from using Class B roads:

 Vehicles with axle spacings of 2.4 m or more, for which the weight on any one axle exceeds 8.2 tonnes; and

 Vehicles with axle spacings of less than 2.4 m, for which the weight on any one axle exceeds 5.5 tonnes.

The Rb-77 CLASS B ROAD sign must not be used on Class A roads such as:

- Any road within a city, town or incorporated village, except where heavy trucks are prohibited by municipal by-law; or
- Any hard-surfaced county or township road, unless designated as a Class B road by county or township by-law.

CLASS B ROAD signs are not required for Class B roads having a gravel road surface, such as township or county roads.

Location Criteria

The Rb-77 sign should be installed at the beginning of all Class B, hard-surfaced roadways, at intervals along the roadway and immediately downstream of each intersection. At intersections with roads that are not Class B roads, the signs should be angled toward motorists about to turn onto the Class B road, to notify them of the type of road prior to actually making the turn.

Legal Status

Highway Traffic Act, Section 120 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Class B roads are designated in municipalities by municipal by-law.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING Sign



Rb-96 120 cm x 240 cm

Font Highway Gothic D

Colour Legend & Border – Black

Background – White Reflective

Purpose and Background

The purpose of the TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING sign (Rb-96) is to convey to heavy trucks that they must report to an inspection station during the times that the beacons on the sign are flashing.

Sign Types

There is one type of **TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING sign: Rb-96**.

Guidelines for Use

The TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING sign should be used in the context of truck inspection station information signing, as described in Book 8 (Directional Guide Signs), Section 5.5. There are two other signs in the truck inspection station series:

- TRUCK INSPECTION STATION 1 KM sign (G.s-15);
- INSPECTION STATION turn-off sign (G.s-17).

The times that the sign is in effect must correspond to the operating hours of the inspection station.

The double amber beacons must be flashed at a rate of 50 to 60 on and off flashes per minute, with the duration of the on and off flashes being approximately equal. (For more information on the operation of the flashing beacons on the Rb-96 sign, see Book 12 (Traffic Signals).)

Location Criteria

The TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING sign must be located 300 m or more upstream of the exit to the inspection station.

Legal Status

Highway Traffic Act, Section 124 (R.S.O. 1990) for authority to have loads weighed.

No Highway Traffic Act Regulation to support this sign.

Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

The former sign number of the TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING sign is G.s-16, from the King's Highway Guide Signing Policy Manual.

VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER Sign



Rb-97 120 cm x 240 cm Rb-197 240 cm x 540 cm Font Highway Gothic D

Colour

Express Toll Route (ETR) Legend –

Blue Reflective

with Yellow Reflective Stripe

Border Around 407 Legend - Blue Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER sign is to indicate to heavy vehicles that they are required to have valid toll devices known as transponders when travelling on toll roads. The signs should be located so that heavy vehicles without valid transponders have an opportunity to safely take an alternate route prior to being committed to entering the toll facility.

A transponder is a device used on highways with toll systems that either have automatic toll lanes within their toll collection plazas, or are entirely automated, eliminating the need for any toll plazas. The transponder transmits information about the vehicle, such as time of travel and/or class of vehicle, to roadside beacons that read the information electronically and send it to a central system for processing. The information transmitted enables the system to bill the road user accordingly. Alternatively, stored monetary values on the transponder card may be debited upon passing a beacon.

In the case of toll systems that are partially automated, it is desirable that a large number of vehicles use the transponder lanes, since vehicles in these lanes can be processed much faster than those in the manual collection lanes of the toll plaza. Increased use of the automatic lanes translates to improved traffic flow on the facility.

If the entire facility is automated, use of transponders does not impact the efficiency of the facility. However, processing vehicle data for billing purposes is more straightforward for vehicles with transponders, and therefore facilitates the overall operation of the toll road.

Sign Types

The standard size VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER sign

(Rb-97) must be used on highways that do not have controlled access and that are approach roads to toll highways. The sign should be used where posted speed is 80 km/h or less.

The oversize VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER sign (Rb-197)

must be used on controlled access toll highways and on the toll facilities themselves. The sign should be used where posted speed is 90 km/h or greater.

Guidelines for Use

The VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER sign applies to vehicles having a gross weight or registered gross weight of greater than five tonnes.

The criteria for mandating transponders may vary depending on the nature of the each individual toll facility. The sign text must convey the requirements specific to the toll facility on which the signs are used.

The highway number of the toll road and the logo of the toll system would normally appear at the top of the sign (replacing the "407 ETR Express Toll Route" text shown in the sign diagram above).

Location Criteria

The signs must be placed on all approaches to toll highways. The location of the sign should enable vehicles without transponders to safely choose an alternate route prior to being committed to entering the toll facility.

Where problems with compliance have been experienced, the sign may be installed on the toll highway itself, upstream of interchanges where vehicles may exit the toll facility.

Legal Status

Highway Traffic Act, Regulation 615, Section 43.1 (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

11.2 Dangerous Goods Carrier Control Signs

Dangerous goods carriers are vehicles carrying products, substances or organisms that are listed as dangerous goods in the federal Transportation of Dangerous Goods Act, due to the potential environmental and health hazards they pose. Collisions and fires involving dangerous goods carriers are especially hazardous. Therefore, dangerous goods carriers may be prohibited on certain routes where there is a greater risk of collisions which could have serious impacts, e.g., high volume traffic areas, heavily populated residential areas.

The purpose of DANGEROUS GOODS ROUTE signs is to indicate regulations related solely to the road transport of dangerous goods by vehicles classified as dangerous goods carriers. The signs apply to vehicles which are required to display dangerous goods placards with the diamond symbol. The signs identify permitted or prohibited dangerous goods routes to the dangerous goods carriers.

Dangerous goods routes are typically identified by permissive signing (based on the permissive green annular band symbol), supplemented by prohibitive signing (based on the interdictory red annular band symbol). The permissive signs indicate a continuous route preferred for use by dangerous goods carriers. Supplementary prohibitive signs may be used where problems have been encountered with dangerous goods carriers using roads from which they are prohibited. (See Book 1b, Section 6.2, for a discussion of interdictory and permissive symbols.)

DANGEROUS GOODS ROUTE Sign



Rb-82 60 cm x 60 cm

Font N/A

Colour Permissive Symbol - Green Reflective

Legend & Border - Black Background - White Reflective

DANGEROUS GOODS ROUTE Tab Sign



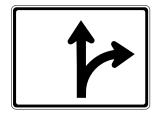
Rb-82t 30 cm x 60 cm

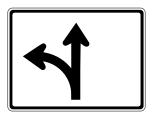
Font Helvetica Bold Condensed Colour Legend & Border – Black

Background - White Reflective

MOVEMENTS PERMITTED Tab Sign







Rb-61t 45 cm x 60 cm

Font N/A

Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

The purpose of the permissive DANGEROUS GOODS ROUTE sign is to indicate roads, especially continuous routes through or around an area, designated for vehicles prescribed by federal legislation as dangerous goods carriers.

The sign features a solid black diamond symbol to denote dangerous goods. This is the same symbol shape displayed on the placard of dangerous goods carriers.

Sign Types

The **DANGEROUS GOODS ROUTE sign (Rb-82)** is the standard permissive sign.

The MOVEMENTS PERMITTED tab sign (Rb-61t) indicates permitted truck movements at intersections. Movements other than those illustrated may be shown on the tab, with the appropriate choice of arrows.

The DANGEROUS GOODS ROUTE educational tab sign (Rb-82t) may be used until familiarity of the symbol sign is established.

Guidelines for Use

The Rb-82 DANGEROUS GOODS ROUTE sign and the Rb-61t MOVEMENTS PERMITTED tab sign should only be used on continuous dangerous goods carrier routes.

The Rb-82 DANGEROUS GOODS ROUTE sign on its own may be used to indicate that truck travel along the signed road is permitted.

The Rb-82 sign with the Rb-61t tab sign attached must be used at intersections to indicate permitted left-turn, right-turn and/or straight-through movements to access designated dangerous goods routes. By implication, movements not indicated on the tab sign may be prohibited.

Where a dangerous goods route can be accessed by turning left and/or right at an intersection, the sign-tab combination must be installed immediately upstream of the intersection to which it applies.

Where a dangerous goods route can only be accessed by a straight-through movement at an intersection, the sign-tab combination showing the straight-through arrow may be installed immediately

upstream of the intersection to which it applies. Rb-82 and Rb-61t signs at this location confirm that the intersecting road is not a dangerous goods route.

The NO DANGEROUS GOODS sign (Rb-83) may be used to supplement permissive dangerous goods route signing, where problems have been encountered with dangerous goods carriers using roads from which they are prohibited.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

No Highway Traffic Act reference. Permissive signing system is not enforceable.

Municipalities *do not* have the specific authority to designate dangerous goods routes.

The DANGEROUS GOODS ROUTE sign (Rb-82) and the DANGEROUS GOODS ROUTE tab sign (Rb-82t) are not included in HTA Regulation 615, but are expected to be included by September 30, 1998.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

NO DANGEROUS GOODS Sign



Rb-83 60 cm x 60 cm

Font

Colour Interdictory Symbol - Red Reflective

Legend & Border - Black Background - White Reflective

DANGEROUS GOODS CARRIERS PROHIBITED Tab Sign



Rb-83t 45 cm x 60 cm

Font Helvetica Bold Condensed Colour Legend & Border - Black

Background - White Reflective

Purpose and Background

The purpose of the prohibitive NO DANGEROUS GOODS sign is to indicate roads on which dangerous goods carriers are prohibited.

Like the DANGEROUS GOODS ROUTE sign (Rb-82), the Rb-83 sign features a solid black diamond symbol to denote dangerous goods. The symbol is also displayed on the dangerous goods carriers, in the form of a dangerous goods placard.

Sign Types

The NO DANGEROUS GOODS sign (Rb-83) is the standard prohibitive sign.

The DANGEROUS GOODS CARRIERS PROHIBITED educational tab sign (Rb-83t) may be used until familiarity of the symbol sign is established.

Guidelines for Use

The Rb-83 NO DANGEROUS GOODS sign may be used to supplement a permissive signing system for continuous routes designated for dangerous goods carriers.

The Rb-83 sign must be installed along a street or highway on which dangerous goods carriers are prohibited, at its intersection with a dangerous goods route, to prohibit illegal entry.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

No Highway Traffic Act reference.

Municipalities do not have the specific authority to designate dangerous goods routes.

The NO DANGEROUS GOODS sign (Rb-83) and the DANGEROUS GOODS CARRIERS PROHIBITED tab sign (Rb-83t) are not included in HTA Regulation 615, but are expected to be included by September 30, 1998.

Minimum Sheeting Requirement

Type I

Special Considerations

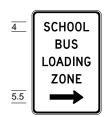
N/A

11.3 Control of Other Specific Vehicle Classes Signs

The group of signs in this subsection cover restrictions, prohibitions and instructions directed at vehicle classes other than trucks and dangerous goods carriers. Vehicle classes in this group include school buses, tractors, bicycles and snowmobiles.

The signs in this section are intended for use on the road. Smaller off-roadway signs for bicycles are covered in Section 14 (Off-roadway Facility Control Signs).

SCHOOL BUS LOADING ZONE Sign



Rb-89 30 cm x 45 cm
Rb-189 45 cm x 60 cm

Font Highway Gothic D
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

A school bus loading zone is an area designated by municipal by-law, where school children are picked up or dropped off near their school. The SCHOOL BUS LOADING ZONE sign is used to protect school bus users while they are boarding and exiting the bus, and to caution drivers to be on guard for unexpected or erratic school bus pedestrian traffic.

Sign Types

The standard SCHOOL BUS LOADING ZONE sign (Rb-89) should be used where posted speed is 50 km/h or less.

The oversize **SCHOOL BUS LOADING ZONE sign (Rb-189)** should be used where posted speed is 60 km/h or greater.

Guidelines for Use

School bus loading zones are established by municipalities on roads within their jurisdiction.

School bus loading zones may be designated on only one side of the road, the same side as the school facility.

Location Criteria

One sign with a single-headed arrow pointing towards the loading zone must be installed at each end of the school bus loading zone. Where the length of the loading zone exceeds 60 m, additional signs with double-headed arrows must be placed at intervals of no more than 45 m.

The SCHOOL BUS LOADING ZONE sign should be set at an angle of 30 degrees to the direction of traffic flow, and should always be visible to approaching traffic.

Legal Status

Highway Traffic Act, Subsections 175.(10) and (13) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 28 and 29 (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

NO TRACTORS Sign



Rb-60

60 cm x 60 cm

Font Colour

N/A

Interdictory Symbol – Red Reflective Legend & Border – Black Background – White Reflective

Purpose and Background

The NO TRACTORS sign (Rb-60) is used to indicate the prohibition of tractors and other farm vehicles from travelling on designated sections of freeways and staged freeways. The intent of the sign is to keep slow-moving vehicles off high speed freeways and staged freeways, where they present a hazard to other road traffic, as well as to the farm vehicles themselves.

While the sign may refer to other farm vehicles than tractors, the tractor symbol must be used to represent the other types of farm vehicles. Using the same symbol eliminates the need for many different signs serving similar purposes and better promotes consistency and driver familiarity with sign appearance.

Sign Types

There is one type of **NO TRACTORS sign: Rb-60**.

Guidelines for Use

The NO TRACTORS sign must be used on specifically designated sections of freeway, staged freeway or other roads with a posted speed of 90 km/h or more where specific farm vehicles are prohibited.

The following types of vehicles are prohibited by the NO TRACTORS sign:

- Farm tractors:
- Self-propelled farm implements (implements of husbandry), e.g., combine harvester, threshing machine:
- Motor vehicles designed to draw ploughs;
- Mowing machines;
- Other farm implements used for hauling loads;
- Horses: and
- Horse-drawn vehicles.

The above vehicles are exempted from the prohibition when:

- Crossing a freeway or staged freeway to access lands where no other means of access exists; or
- Performing highway maintenance activities.

This sign may be used in areas with many farms.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Highway Traffic Act, Regulation 609 (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

BICYCLE ROUTE Sign



Rb-169 Rb-69 60 cm x 60 cm 45 cm x 45 cm

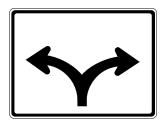
Font Colour

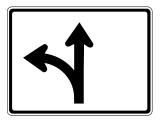
Permissive Symbol – Green Reflective Legend & Border – Black

Background – White Reflective

MOVEMENTS PERMITTED Tab Sign







Rb-61t 45 cm x 60 cm

Font N/A

Colour Legend & Border - Black
Background - White Reflective

Purpose and Background

The purpose of the BICYCLE ROUTE sign is to indicate the presence of designated roads or off-roadway facilities, especially continuous routes through or around an area, upon which bicycles are permitted to travel.

Sign Types

The **standard BICYCLE ROUTE sign (Rb-169)** may be used to advise motorists and cyclists of officially designated bicycle routes along municipal roadways, where bicycles and vehicles are both permitted.

The **reduced size BICYCLE ROUTE sign (Rb-69)** may be used to guide cyclists along officially designated bicycle routes, such as pathways, that do not carry vehicular traffic.

The MOVEMENTS PERMITTED tab sign (Rb-61t) indicates permitted bicycle movements at intersections. Movements other than those illustrated may be shown on the tab, with the appropriate choice of arrows.

Guidelines for Use

The Rb-169 BICYCLE ROUTE sign and the Rb-61t MOVEMENTS PERMITTED tab sign should only be used on continuous bicycle routes.

The Rb-169 BICYCLE ROUTE sign on its own may be used to indicate that bicycle travel along the signed road is permitted.

The Rb-169 sign with the Rb-61t tab sign attached should be used at intersections to indicate left-turn, right-turn and/or straight-through movements to access designated bicycle routes.

Where a bicycle route can be accessed by turning left and/or right at an intersection, the Rb-169 sign together with the Rb-61t tab sign should be installed immediately upstream of the intersection to which it applies.

Where a bicycle route can only be accessed by a straight-through movement at an intersection, the Rb-169 sign together with the Rb-61t tab sign may be installed immediately upstream of the intersection to which it applies. Placing the signs at this location confirms that the intersecting road is not a designated bicycle route.

The NO BICYCLES sign (Rb-67) may be used to supplement permissive bicycle route signing, where problems have been encountered with bicycles using roads from which they are prohibited.

The Rb-169 and Rb-69 signs are not used on King's Highways.

The Rb-69 sign must not be used on roadways for motorized vehicles. See Section 14 (Off-roadway Facility Control Signs), for relevant use of the sign. See also Book 18 (Bicycle Facilities).

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Official sign: not enforceable. However, the prohibitive version of this sign is enforceable under:

- Highway Traffic Act, Subsections 185.(1) and (2) (R.S.O. 1990).
- Highway Traffic Act, Regulations 615, Sections 36 and 38 and Regulation 630 (R.R.O. 1990).
- Municipal by-law.

Minimum Sheeting Requirement

Type I

Special Considerations

The reduced size BICYCLE ROUTE sign (Rb-69) is proposed to be relocated to Section 14 (Off-roadway Facility Control Signs) in the next version of Book 5.

NO BICYCLES Sign



Rb-67 Font Colour 60 cm x 60 cm N/A Interdictory Symbol – Red Reflective Legend & Border – Black Background – White Reflective

NO PEDESTRIANS OR BICYCLES Sign



Rb-68 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

The NO BICYCLES sign (Rb-67) and the NO PEDESTRIANS OR BICYCLES sign (Rb-68) prohibit the access of bicycles and/or pedestrians to designated freeways, highways or bridges where their presence may create a hazard both to motorized traffic and to the riders and pedestrians themselves. While pedestrian control signs are covered in Section 15 (Miscellaneous Control Signs), the Rb-68 sign is included here, since it combines prohibitions for both bicycles (a specific vehicle class) and pedestrians.

Sign Types

There is one type of **NO BICYCLES sign: Rb-67**.

There is one type of **NO PEDESTRIANS OR BICYCLES sign: Rb-68**.

Guidelines for Use

The NO BICYCLES sign (Rb-67) and the NO PEDESTRIANS OR BICYCLES sign (Rb-68) must be used on approach ramps to freeways, highways or bridges where the use of the facility by bicycle riders is prohibited by Highway Traffic Act Regulation or municipal by-law.

The NO BICYCLES sign (Rb-67) may be used to supplement a permissive signing system for continuous bicycle routes.

See Book 15 (Pedestrian Control and Protection) and Book 18 (Bicycle Facilities) for further information on the sign.

Location Criteria

The signs must be placed so that they are visible primarily to cyclists and/or pedestrians about to enter the prohibited area, rather than to motorists.

Legal Status

Highway Traffic Act, Subsections 185.(1) and (2) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 36, 38 and Regulation 630 (R.R.O. 1990).

Sign is also enforceable in municipalities by municipal by-law.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

SNOWMOBILE ROUTE Sign



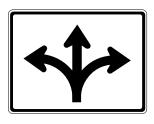
Rb-64 60 cm x 60 cm

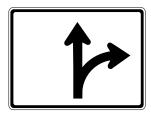
Font N/A

Colour Permissive Symbol – Green Reflective

Legend & Border – Black Background – White Reflective

MOVEMENTS PERMITTED Tab Sign





Rb-61t 45 cm x 60 cm

Font N/

Colour Legend & Border - Black
Background - White Reflective

Purpose and Background

Snowmobiles are permitted only on sections of road where their presence does not create a hazard to other traffic and the snowmobiles themselves. The purpose of the SNOWMOBILE ROUTE sign (Rb-64) is to indicate roads, especially continuous routes through or around an area, upon which motorized snow vehicles known as snowmobiles are permitted to travel. In some cases, municipal by-laws expressly prohibit snowmobiles from making any movements other than those indicated on permissive SNOWMOBILE ROUTE signs.

Sign Types

The **SNOWMOBILE ROUTE sign (Rb-64)** is the standard permissive sign.

The MOVEMENTS PERMITTED tab sign (Rb-61t) indicates permitted snowmobile movements at intersections. Movements other than those illustrated may be shown on the tab, with the appropriate choice of arrows.

Guidelines for Use

The Rb-64 SNOWMOBILE ROUTE sign and the Rb-61t MOVEMENTS PERMITTED tab sign should only be used on continuous snowmobile routes.

The Rb-64 SNOWMOBILE ROUTE sign on its own may be used to indicate that snowmobile travel along the signed road is permitted.

The Rb-64 sign with the Rb-61t tab sign attached must be used at intersections to indicate permitted left-turn, right-turn and/or straight-through movements to access designated snowmobile routes. By implication, movements not indicated on the tab sign may be prohibited.

Where a snowmobile route can be accessed by turning left and/or right at an intersection, the signtab combination must be installed immediately upstream of the intersection to which it applies.

Where a snowmobile route can only be accessed by a straight-through movement at an intersection, the sign-tab combination showing the straight-through arrow may be installed immediately upstream of the intersection to which it applies. Rb-64 and Rb-61t signs at this location confirm that the intersecting road is not a snowmobile route.

The NO SNOWMOBILES sign (Rb-65) may be used to supplement permissive snowmobile route signing, where problems have been encountered with snowmobiles using roads from which they are prohibited.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

No Highway Traffic Act reference.

Enforceable in municipalites by municipal by-law which:

- Specifies that snowmobiles are prohibited from all roads other than snowmobile routes indicated by the permissive snowmobile route signing system;
- Specifies a schedule of roads on which snowmobiles are permitted, corresponding to the roads included in the permissive snowmobile route signing system; or

 Specifies a schedule of roads on which snowmobiles are prohibited, corresponding to the roads excluded from the permissive snowmobile route signing system.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

NO SNOWMOBILES Sign



Rb-65 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol - Red Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

The purpose of the NO SNOWMOBILES sign is to indicate streets and highways on which snowmobile travel is prohibited.

Sign Types

There is one type of **NO SNOWMOBILES sign: Rb-65**

Guidelines for Use

The Rb-65 NO SNOWMOBILES sign may be used to supplement a permissive signing system for continuous snowmobile routes.

The Rb-65 sign, when used, must be installed at the entrance to streets, primarily in residential areas, or at specified locations on highways.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

No Highway Traffic Act reference.

Supporting legislation defining the area and extent of the prohibition should be enacted by municipal bylaw, or should be secured under statutes of the Motorized Snow Vehicles Act.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

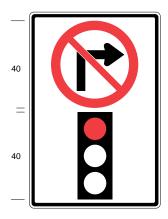
12. Supplementary Traffic Signal Control Signs

Supplementary traffic signal control signs must be used to regulate the actions of motorists at traffic signal control intersections:

- Where the intended response to signals is not clear (for example, STOP HERE ON RED SIGNAL sign (Rb-78)); or
- Where the normal rules of the road do not apply (for example, NO RIGHT TURN ON RED sign (Rb-79R)).

For more information on traffic signal operations and signal control equipment, see Book 12 (Traffic Signals).

NO RIGHT TURN ON RED Sign



Rb-79R

60 cm x 90 cm

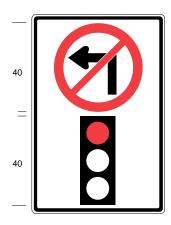
Font Colour

Interdictory Symbol and Signal Indication -

Red Reflective

Legend & Border – Black Background – White Reflective

NO LEFT TURN ON RED Sign



Rb-79L 60 cm x 90 cm

Font N/

Colour Interdictory Symbol and Signal Indication -

Red Reflective

Legend & Border - Black Background - White Reflective

Purpose and Background

The NO RIGHT TURN ON RED sign (Rb-79R) or the NO LEFT TURN ON RED sign (Rb-79L) must be used to indicate that right or left turns, respectively, that would otherwise be legal are prohibited during the red phase of the traffic signal.

Sign Types

The **NO RIGHT TURN ON RED Sign (Rb-79R)** prohibits a right turn, that without the sign would be legal, during the red phase of the traffic signal.

The **NO LEFT TURN ON RED Sign (Rb-79L)** prohibits a left turn, that without the sign would be legal, during the red phase of the traffic signal.

Guidelines for Use

The no right/left turn on red prohibition may be implemented and the corresponding signs may be used where:

- There is evidence, through observation and/or related collision experience, that many drivers are not stopping for a red signal prior to making a right or left turn, as required by the Highway Traffic Act;
- A multiple-phase traffic signal operation is used, where right turns and/or left turns are controlled independently;
- There is evidence of a relatively large number of vehicle or vehicle-pedestrian accidents, which cannot be reduced by other methods; or
- There are a significant number of crossings by children, elderly or disabled people.

Location Criteria

The NO RIGHT TURN ON RED sign should be mounted adjacent to, or as close as possible to, the primary signal head on the right side of the intersection. The NO LEFT TURN ON RED sign should be mounted adjacent to, or as close as possible to, the secondary signal head on the left side of the intersection. (See Book 12 (Traffic Signals) for more information on the primary and secondary signal heads.)

Legal Status

Highway Traffic Act, Regulation 615, Subsections 21.(3) and (6) (R.R.O. 1990).

HTA Regulation 615 shows versions of the NO RIGHT TURN ON RED sign (Rb-79R) and the NO LEFT TURN ON RED sign (Rb-79L) that are different than those in OTM Book 5. The HTA versions use the text "on red" instead of a symbol of a traffic signal head during the red signal phase.

HTA Regulation 615 was revised to be consistent with the OTM on June 18, 1998. As of September 1, 1998, all new signs installed must match the version shown in the OTM (and revised HTA). As of January 1, 2003, all existing signs must be replaced with the version shown in the OTM (and revised HTA).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

STOP HERE ON RED SIGNAL Sign



Rb-78

60 cm x 90 cm

Font Colour Highway Gothic C, D Legend & Border – Black Background – White Reflective

Purpose and Background

The point at which vehicles must stop at a signalized intersection during the red phase is typically indicated by a stop line pavement marking upstream of the signal head. However, the appearance of the traffic signals and the geometry of the intersection provide additional context clues as to the stop location of the first vehicle in the stop queue. In some cases, these context clues are not present, and the STOP HERE ON RED SIGNAL sign (Rb-78) is used instead to provide supplementary quidance on where drivers must stop.

Sign Types

There is one type of **STOP HERE ON RED SIGNAL** sign: Rb-78.

Guidelines for Use

The STOP HERE ON RED SIGNAL sign must be used if:

- The stop location associated with a traffic signal is different than usual, for example where auxiliary traffic signal heads stop traffic in advance of an intersection; or
- The physical conditions fail to indicate clearly the intended stopping position, for example, at midblock traffic control signals related to pedestrian crossings, and at portable lane control signals within construction zones.

More information on stop lines is provided in Book 11 (Markings and Delineation), on pedestrian crossings in Book 15 (Pedestrian Control and Protection) and on portable lane control signals for construction in Book 7 (Temporary Conditions).

Location Criteria

The sign must be placed on the right side of the roadway, directly in line with the point at which motorists are intended to stop, usually indicated by a stop line pavement marking.

An additional sign must be provided on the left side of a one-way roadway, or on the median of a divided highway. The sign should be directly in line with the stop line pavement marking. In this case, the same sign text is used, but the arrow points down to the right, rather than down to the left, and the positions of the arrow and the "on red" text are reversed.

Legal Status

Highway Traffic Act, Subsection 144.(5)(c) (R.S.O. 1990).

Highway Traffic Act, Regulation 606, Subsection 4.(2) (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

ADVANCED GREEN WHEN FLASHING Sign



Rb-80 60 cm x 75 cm

Font Highway Gothic C
Colour Legend & Border – Black

Background - White Reflective

Purpose and Background

The flashing green signal does not have the same meaning throughout North America. Therefore, it may be necessary to inform drivers when an advanced green phase is added in an area where drivers are unfamiliar with the concept. The ADVANCED GREEN WHEN FLASHING sign is used to provide this information.

Sign Types

There is one type of **ADVANCED GREEN WHEN FLASHING sign: Rb-48**.

Guidelines for Use

The ADVANCED GREEN WHEN FLASHING sign may be used to supplement the flashing green signal to advise motorists that they are permitted to turn left, turn right or proceed straight through at an intersection while conflicting traffic is stopped.

The sign is normally required only for an educational period of one year. However, consideration may be given to installing the sign on a permanent basis in areas with many tourists and visitors, e.g., near borders and airports.

Location Criteria

The sign should be mounted adjacent to the primary traffic signal head displaying the flashing green phase, located on the right side of the road.

At wide intersections, it may be beneficial to repeat the sign adjacent to the secondary traffic signal head displaying the flashing green phase, located on the left side of the road or on a median island.

For more information about the flashing green phase and primary and secondary signal heads, see Book 12 (Traffic Signals).

Legal Status

No Highway Traffic Act reference. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

LEFT-TURN SIGNAL Sign



Rb-81 45 cm x 60 cm

Font Highway Gothic D

Colour Legend & Border – Black

Background – White Reflective

Purpose and Background

The purpose of the LEFT-TURN SIGNAL sign (Rb-81) is to make motorists aware that there is a separate traffic signal head exclusively for left turns, in addition to the signal head for all other movements.

Sign Types

There is one type of **LEFT-TURN SIGNAL sign: Rb-81**.

Guidelines for Use

The Rb-81 sign must be used to supplement a traffic signal head which is exclusively controlling left turns.

Location Criteria

The LEFT-TURN SIGNAL sign must be mounted directly beside all left-turn signal heads allocated exclusively to left turns, facing the left-turn lane.

Legal Status

No Highway Traffic Act reference. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

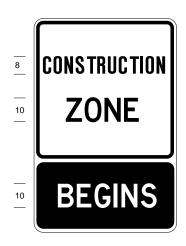
Special Considerations

N/A

13. Regulatory Construction Traffic Control Signs

Regulatory construction traffic control signs are regulatory signs primarily used in the context of temporary conditions works, and as such are also included in Book 7 (Temporary Conditions). However, some of these regulatory signs are also used for applications that extend beyond the scope of temporary conditions work.

CONSTRUCTION ZONE BEGINS Sign



Rb-90A

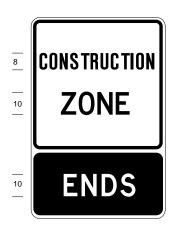
60 cm x 90 cm

Font Colour Helvetica Bold Condensed, Highway Gothic D Top Section of Sign:

Legend & Border – Black Background – White Reflective Bottom Section of Sign:

Legend & Border – White Reflective Background – Black

CONSTRUCTION ZONE ENDS Sign



Rb-90B

60 cm x 90 cm

Font Colour Helvetica Bold Condensed, Highway Gothic D Top Section of Sign:

Legend & Border – Black
Background – White Reflective
Bottom Section of Sign:
Legend & Border – White Reflective
Background – Black

Purpose and Background

The purpose of CONSTRUCTION ZONE BEGINS/ ENDS signs are to indicate to motorists the start and end limits, respectively, of a construction zone. Construction zones are defined by Highway Traffic Act Regulation and municipal by-law. They may include lower speed limits, the use of unlicensed vehicles on-site by construction personnel and higher fines for drivers who violate speed restrictions.

CONSTRUCTION ZONE BEGINS sign alerts drivers to proceed with caution and respond to modified driving conditions that may include rough terrain, unusual alignments, narrow lanes, machinery and other objects that pose hazards, and congestion. Conversely, the CONSTRUCTION ZONE ENDS sign indicates the end of these driving conditions.

Sign Types

The **CONSTRUCTION ZONE BEGINS sign (Rb-90A)** indicates the start of a construction zone.

The **CONSTRUCTION ZONE ENDS sign (Rb-90B)** indicates the end of a construction zone.

Guidelines for Use

The CONSTRUCTION ZONE BEGINS/ENDS signs must be used to indicate a construction zone on a King's Highway. They may also be required for construction zones established according to municipal by-law.

See Book 7 (Temporary Conditions) for how the signs are used within the context of temporary conditions works.

Location Criteria

The CONSTRUCTION ZONE BEGINS sign must be placed 30 m or more upstream of the start point of the construction zone.

The CONSTRUCTION ZONE ENDS sign must be placed 30 m or more downstream of the end of the construction zone.

For placement of the signs in the context of other Temporary Conditions signs, see Book 7 (Temporary Conditions).

Legal Status

Highway Traffic Act, Subsection 128.(8) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Section 42 (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

Former sign number for Rb-90A is TC-41A, and for Rb-90B is TC-41B, from the Ontario MUTCD, Section A-5 (Temporary Conditions).

YIELD TO ONCOMING TRAFFIC Sign



Rb-91 Font 90 cm x 120 cm

Font Highway Gothic C Colour Yield Symbol – Red Reflective

Legend & Border – Black Background – White

Purpose and Background

The YIELD TO ONCOMING TRAFFIC sign is primarily used during temporary conditions works when only one lane is available for low volume traffic. Vehicles travelling in the direction of the closed lane must share the open lane with oncoming traffic, and the purpose of the sign is to warn these vehicles that traffic in the oncoming direction has the right-of-way.

Sign Types

There is one type of **YIELD TO ONCOMING TRAFFIC sign:** (**Rb-91**).

Guidelines for Use

The YIELD TO ONCOMING TRAFFIC sign must be used within temporary conditions works where only one lane is available for traffic and the traffic volume is too low to warrant the installation of portable lane control signals or the use of Traffic Control Persons (TCPs) on duty 24 hours per day. Table 4 provides typical traffic volumes for various single lane lengths, below which the YIELD TO ONCOMING TRAFFIC sign should be used. Above these volumes, portable lane control signals must be used. As the length of the single lane increases, the risk of conflict increases, and therefore allowable traffic volumes are lowered to compensate for the increased risk.

If Traffic Control Persons are on duty for only part of the day, the sign must be covered or removed when a Traffic Control Person is on duty.

The sign may be used for applications that are not associated with temporary conditions works, e.g., at narrow bridges that can accommodate only one traffic lane.

Table 4 – Maximum One-way Volumes for Rb-91 Use

Length of Single Lane [m]	Maximum One-way Volume [vehicles/h]
15	625
30	570
45	530
60	470
75	440
90	420
105	370
120	360
135	340
150	315
165	305
180	295
195	315
210	285
225	300
240	255
255	275
270	250
285	220
300	240
315	215
330	195
345	200
360	175

Location Criteria

The sign must face traffic detouring from the closed lane, and must be located upstream of the lane closure at the distance specified in Table 5.

For placement of the sign in the context of other temporary conditions signs, see Book 7 (Temporary Conditions).

Table 5 – Placement of Rb-91 Upstream of Lane Closure

Posted Speed [km/h]	Sign Placement Upstream of Lane Closure [m]
Short Duration Work	
<= 60	20 – 30
>= 70	50 – 60
Long Duration Work	
<= 50	40 – 50
60 – 70	100 – 150
80 – 90	150

Legal Status

No Highway Traffic Act reference. Sign must be supported by municipal by-law to be enforceable in municipalities.

Highway Traffic Act, Regulation 615, Section 17, provides the meaning of the yield symbol.

Minimum Sheeting Requirement

The sign must be Type III or IV as of January 1, 2006.

Type I is minimum requirement prior to the date indicated.

Special Considerations

Former sign number is TC-43, from the Ontario MUTCD, Section A-5 (Temporary Conditions).

ROAD CLOSED Sign



Rb-92 Font Colour 90 cm x 120 cm

Highway Gothic E

Top Section of Sign:
 Legend – Red Reflective
 Border – Black
 Background – White Reflective

Bottom Section of Sign:
 Legend & Border – Black
 Background – White Reflective

Purpose and Background

The purpose of the ROAD CLOSED sign (Rb-92) is used to indicate to motorists that a road is closed, and therefore inaccessible to all traffic.

Sign Types

There is one type of ROAD CLOSED sign: Rb-92.

Guidelines for Use

The ROAD CLOSED sign must be used when a road is temporarily closed due to construction activities.

The sign may also be used for temporary road closures (e.g., due to weather-related damages) and for permanent road closures (e.g., abandoned road due to construction of new alignment).

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

For placement of the sign in the context of other temporary conditions signs, see Book 7 (Temporary Conditions).

Legal Status

Public Transportation and Highway Improvement Act, Subsections 28.(3) (R.S.O. 1990).

Minimum Sheeting Requirement

The sign must be Type III or IV as of January 1, 2006.

Type I is minimum requirement prior to the date indicated.

Special Considerations

Former sign number is TC-46, from the Ontario MUTCD, Section A-5 (Temporary Conditions).

14 Community Safety Zone Sign

COMMUNITY SAFETY ZONE signs inform drivers that they are entering a zone that the community has designated as an area where the safety of its children/citizens is paramount. Traffic related offences committed within the zone are subject to increased fines (many set fines are doubled such as speeding and traffic signal related offences).

COMMUNITY SAFETY ZONE Sign



Rc-9: 60 cm x 90 cm

Font: Helvetica Bold Condensed
Colour: Legend & Border - Black
Background - White Reflective

All zones require a sign with a BEGINS tab indicating the start of the designated area and a sign with an ENDS tab indicating where the zone concludes. Additional signs may be located within the zone and are a legal requirement for zones greater than 1000 metres in length.

To designate a zone on a municipal road, a municipal by-law is required. For portions of the King's Highway and roadways not under municipal jurisdiction, a regulation under the Highway Traffic

Act is required to designate a zone. These Community Safety Zone designations do not take effect until the required signs are installed. All zones have designated times and days defining the time period when increased fines are in effect; however, these times/days/months do not to appear on the signs.

BEGINS Sign



Rb-84t: 20 cm x 60 cm Font: Highway Gothic C

Colour: Legend & Border - White Reflective

Background - Black

ENDS Sign



Rb-85t: 20 cm x 60 cm Font: Highway Gothic D

Colour: Legend & Border - White Reflective

Background - Black

Purpose and Background

The purpose of a COMMUNITY SAFETY ZONE sign is to indicate to the motorist that they are within a zone where fines have been increased through a special designation under the Highway Traffic Act. The signs that include the BEGINS and ENDS tabs define the legal limits of the zone. The rules of the road do not change within the zone; only the penalties for violations of the traffic laws are substantially increased.

Community Safety Zones were introduced to Ontario in the Fall of 1998. These are sections of roadway where public safety is of special concern. Community Safety Zones may include roadways near schools, day care centres, playgrounds, parks, hospitals, senior citizen residences and may also be used for collision-prone areas within a community.

Sign Types

The COMMUNITY SAFETY ZONE sign (Rc-9) is the English-only version of the sign. The BEGINS tab sign (Rb-84t) and the ENDS tab sign (Rb-85t) are used at the corresponding start and finish points of the zone. Within the zone the Rc-9 is to be used.

Guidelines for Use

Identification

The knowledge and expertise of local decision-making bodies such as municipal council, municipal engineering staff, police services board as well as input from local ratepayers associations or community policing committees can be employed in the identification of Community Safety Zones. Ideally, there should be documented evidence that public safety is of special concern in the area being considered for a Community Safety Zone.

Designation

After the review processes and need determination, the exact location of where the boundary signs will be posted is required. This information is necessary for the legal description of the boundaries of the zone. A Community Safety Zone on a municipal road requires the establishment of a municipal bylaw. For a designation on a King's Highway, an Ontario Regulation approved by the Solicitor General, is required by the Highway Traffic Act.

Individuals, groups and municipalities may apply for a Community Safety Zone designation on a King's Highway. The Ministry of the Solicitor General administers the approval process and has established application guidelines. The document: Community Safety Zone Application Guidelines for Provincial Highways is available through O.P.P. detachments and MTO Regional Traffic Offices/ Sections.

Location

The legislation does not specify limits on the size of a Community Safety Zone, only that the designation applies to <u>parts</u> of a highway. The designation of the entire length of a particular highway/roadway is not an intended application of the Community Safety Zone concept. Public safety concerns must be evident for the part of the roadway selected as a Community Safety Zone.

Enforcement

The ability of the police to effectively enforce moving offences must be taken into consideration when establishing the size of a Community Safety Zone. A zone that is too long can result in enforcement not being appropriately targeted, too short and it may not be clear whether the driver has committed a moving offence within the zone. The number and location of Community Safety Zones within each policing area will be critical to successful enforcement.

Location Criteria

The Community Safety Zone signs ("begins" and "ends") must be located at the limits of the zone as prescribed in the designating municipal by-law or Ontario Regulation. Signs must be posted for the zone to be in effect. Zone "begins" and "ends" signs should be located upstream or downstream of intersections.

For zones equal to / or less than 1000 metres in length, a sign including a "begins" tab and a sign with an "ends" tab is required in each direction (four signs in total). Additional signs may be placed within the zone. Placement of signs at or near each intersecting roadway within the zone is also not a legal requirement. However, if a significant feeder road intersects the zone, additional signs may be desirable to inform the new motorists entering the Community Safety Zone.

For zones greater than 1000 metres in length, additional Community Safety Zone signs are required within the limits of the zone. The spacing of additional signs is dependent on the designated maximum speed limit of the roadway. When the speed limit is 60 km/h or less, signs are required every 300 metres, or less. Where the speed limit is greater than 60 km/h, additional signs are required).

every 2 kilometres, or less (Note: higher speed zones require a greater length; however, if a shorter zone was established, under 4 km in length, a minimum of 1 additional sign would be required).

Legal Status

Highway Traffic Act, Sections 214.1 (R.S.O. 1990)

Highway Traffic Act, Regulation 615, Section 5.2 (R.R.O. 1990)

The application of the sign by municipalities requires legal approval by municipal by-laws.

Minimum Sheeting Requirements

Type 1

Special Considerations

N/A

15. Off-roadway Facility Control Signs

Signs for off-roadway facilities are oriented to off-roadway users, such as pedestrians, cyclists, in-line skaters and horse-riders. In general, the same design principles regarding standardization, lettering, colour, application, location, orientation and number of signs apply to off-roadway signs as to on-roadway signs. Special thought, however, is required to address lateral and vertical placement of signs, as well as sign dimensions.

Currently, different versions of off-roadway signs are used by different jurisdictions. The sign designs and the policies governing the use of these signs need to be discussed and standardized prior to inclusion in the Ontario Traffic Manual. The next version of Book 5 is to include a section on off-roadway facility control signs.

16. Miscellaneous Control Signs

Miscellaneous control signs include regulatory signs that do not fall under one of the categories previously discussed in Sections 2 to 13. Along with other miscellaneous traffic control signs, control of specific non-vehicle road users, such as pedestrians, is covered under this section.

WALK ON LEFT FACING TRAFFIC Sign



Rc-1 45 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

On roads where no sidewalks are provided, pedestrians are safer when they walk on the left edge of the road facing oncoming traffic. The purpose of the WALK ON LEFT FACING TRAFFIC sign (Rc-1) is to encourage pedestrians to adopt this practice.

Sign Types

There is one type of **WALK ON LEFT FACING TRAFFIC sign: Rc-1**.

Guidelines for Use

The WALK ON LEFT FACING TRAFFIC sign should be used only on roads with no sidewalks where:

- there are narrow highway shoulders; or
- collision experience involving pedestrians demonstrates the need for the sign.

Location Criteria

The WALK ON LEFT FACING TRAFFIC sign should be placed on the right side of the road, to address pedestrians not already walking on the left side.

The sign should be mounted at the outside edge of the usable shoulder of the road.

Legal Status

Highway Traffic Act, Section 179 (R.S.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

NO FISHING FROM BRIDGE Sign



Rc-2 45 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

The purpose of the NO FISHING FROM BRIDGE sign is to prohibit persons from fishing where their presence may create a hazard both to other road users and themselves.

Sign Types

There is one type of **NO FISHING FROM BRIDGE Sign: Rc-2**.

Guidelines for Use

The NO FISHING FROM BRIDGE sign must be used on bridges where, in the opinion of the Road Authority, the presence of people fishing constitutes a hazard to road users and themselves.

Location Criteria

The NO FISHING FROM BRIDGE sign, where used, must be placed at both ends of the bridge facing approaching pedestrians.

Legal Status

No Highway Traffic Act reference. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

VEHICLES WITH LUGS PROHIBITED Sign



Rc-3 45 cm x 60 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

Lugs are metal or hard rubber studs or ridges on tires or tracks used to improve traction on dirt surfaces. Driving vehicles with lugs on their tires on paved roads can cause serious damage to the pavement. The purpose of the VEHICLES WITH LUGS PROHIBITED sign (Rc-3) is to prohibit vehicles with lugs from driving on designated sections of road.

Sign Types

There in one type of **VEHICLES WITH LUGS PROHIBITED sign: (Rc-3)**.

Guidelines for Use

The VEHICLES WITH LUGS PROHIBITED sign must be used where, in the opinion of the Road Authority, there is evidence of vehicles with lugs damaging:

- Pavement:
- Open-mesh decks of lift bridges; or

• Other structures with temporary decking.

Location Criteria

The VEHICLES WITH LUGS PROHIBITED sign (Rc-3) must be installed on roadways crossing those which prohibit vehicles with lugs, immediately upstream of the intersection.

The signs, where required, must also be installed:

- On both ends of lift bridges;
- At the approaches to temporary structures; and
- Appropriately spaced along the highway sections where it is evident that vehicles with lugs have been travelling.

Legal Status

Highway Traffic Act, Subsection 69.(2) (R.S.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

NO LITTERING Sign



Rc-4 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol - Red Reflective

Legend & Border – Black Background – White Reflective

MAXIMUM FINE FOR LITTERING Tab Sign



Rc-4t 30 cm x 60 cm Font Highway Gothic

Font Highway Gothic D Colour Legend & Border – Black

Background - White Reflective

NO LITTERING AND MAXIMUM FINE FOR LITTERING Sign



Rc-4A 60 cm x 90 cm Font Highway Gothic D

Colour Interdictory Symbol – Red Reflective

Legend & Border - Black Background - White Reflective

Purpose and Background

Litter on the road and in the air interferes with the driving task, and also detracts from the appearance of roads. The purpose of the NO LITTERING sign is to remind road users not to litter and to inform them of the consequences of doing so.

Sign Types

The **NO LITTERING sign (Rc-4)** is the standard symbol sign.

The supplementary **MAXIMUM FINE FOR LITTERING tab sign (Rc-4t)** may be attached to the Rc-4 sign to indicate the maximum fine for contravention.

The NO LITTERING AND MAXIMUM FINE FOR LITTERING sign (Rc-4A) incorporates the Rc-4 and Rc-4t signs on a single blank.

Guidelines for Use

The NO LITTERING sign may be installed adjacent to roadways where it is found necessary to inform road users of regulations that prohibit littering. Evidence of non-compliance in the form of excessive litter would be a reason for using the sign.

Location Criteria

The location criteria for this sign are as described for signs in general, in Book 1b, Section 12 (Sign Position). No exceptional location criteria are noted.

Legal Status

Highway Traffic Act, Section 180 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

NO IN-LINE SKATING Sign



Rc-10 60 cm x 60 cm

Font N/

Colour Interdictory Symbol – Red Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

The NO IN-LINE SKATING sign prohibits the access of persons travelling on in-line skates to freeways, bridges or other designated highway sections where their presence may pose a hazard to vehicles or themselves.

Sign Types

There is one type of **NO IN-LINE SKATING sign**: **Rc-10**.

Guidelines for Use

The NO IN-LINE SKATING signs may be used on approach ramps to freeways or bridges where the use of the facility by in-line skaters is prohibited by municipal by-law.

Location Criteria

The signs must be placed so that they are visible primarily to in-line skaters entering the prohibited area, rather than to motorists.

Legal Status

No Highway Traffic Act reference. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

N/A

KEEP OFF MEDIAN Sign



Rc-11 45 cm x 75 cm

Font Highway Gothic C
Colour Legend & Border – Black
Background – White Reflective

Purpose and Background

The KEEP OFF MEDIAN sign is used to prevent motorists from illegally crossing over the median strip between interchanges and at-grade intersections.

Sign Types

There is one type of **KEEP OFF MEDIAN sign**: **Rc-11**.

Guidelines for Use

The KEEP OFF MEDIAN sign must be placed on the median strip of divided highways only at locations where there is evidence that motorists are illegally crossing over the median strip.

Location Criteria

The KEEP OFF MEDIAN sign, if used, must be installed on the median strip.

Two signs, back to back on the same post, must be installed so as to be visible by both directions of traffic flow.

Legal Status

Highway Traffic Act, Section 156 (R.S.O. 1990).

No Highway Traffic Act Regulation to support this sign. Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

NO PEDESTRIANS Sign



Rc-12 60 cm x 60 cm

Font N/A

Colour Interdictory Symbol - Red Reflective

Legend & Border – Black Background – White Reflective

Purpose and Background

This NO PEDESTRIANS sign prohibits the access of pedestrians to freeways, bridges or other designated highway sections where their presence may create a hazard to both motorized traffic and themselves.

Sign Types

There is one type of **NO PEDESTRIANS sign:** Rc-12.

Guidelines for Use

The NO PEDESTRIAN sign must be used on approach ramps to freeways, highways or bridges where the use of the facility by pedestrians is prohibited by Highway Traffic Act Regulation or municipal by-law.

Location Criteria

The signs must be placed so that they are visible primarily to pedestrians entering the prohibited area, rather than to motorists.

Legal Status

Highway Traffic Act, Subsection 185.(1) (R.S.O. 1990).

Highway Traffic Act, Regulation 615, Sections 37 and Regulation 627 (R.R.O. 1990).

Sign must be supported by municipal by-law to be enforceable in municipalities.

Minimum Sheeting Requirement

Type I

Special Considerations

Where a pedestrian prohibition is combined with a bicycle prohibition, the Rb-68 NO PEDESTRIANS OR BICYCLES sign is used. This sign is discussed under Section 11 (Specific Vehicle Class Control Signs), since it includes a prohibition for bicycles (a specific vehicle class).

FASTEN SEAT BELT Sign



Rc-13 60 cm x 60 cm

Font N/A

Colour Legend & Border – Black
Background – White Reflective

COMPULSORY Tab Sign



Rc-13t 20 cm x 60 cm

Font Helvetica Bold Condensed Colour Legend & Border – Black

Background - White Reflective

Purpose and Background

The purpose of the FASTEN SEAT BELT sign is to remind passengers in vehicles to ensure that their seat belts are fastened while the vehicle is travelling. Due to proven safety benefits, the use of seat belts is mandatory. For maximum effectiveness, the sign is placed where vehicles are about to enter the roadway, where passengers are most likely to require reminding about seat belts.

Sign Types

The **FASTEN SEAT BELT sign (Rc-13)** is the standard symbol sign.

The **COMPULSORY** tab sign (Rc-13t) is a supplementary tab sign indicating that use of seat belts is mandatory by law.

Guidelines for Use

The FASTEN SEAT BELT sign is typically used at exits from various facilities which lead to the road and highway system. Signs are not normally visible to motorists travelling on the roads and highways.

The FASTEN SEAT BELT sign should be considered at exits from locations which generate a large percentage of foreign or tourist traffic, where drivers may be unfamiliar with Ontario seat belt laws. The COMPULSORY tab sign may also be used at these locations.

Location Criteria

The FASTEN SEAT BELT sign may be installed at exits from the following:

- Provincial and municipal buildings (particularly those generating high public traffic volumes, such as court buildings, licensing offices, hospitals, police stations, travel information centres);
- · Freeway service centres;
- Border crossings;
- · Ferry crossings;
- Airports;
- Roadside parks; and
- · Provincial parks.

Where major traffic generators have exits leading to a highway, the installation of FASTEN SEAT BELT signs should be considered, including locations such as the following:

- Shopping plazas;
- Industrial parking lots;
- · Racetrack exits; and
- · Hospitals and high schools.

Legal Status

Highway Traffic Act, Section 106 (R.S.O. 1990). Highway Traffic Act, Regulation 613 (R.R.O. 1990).

Minimum Sheeting Requirement

Type I

Special Considerations

The former sign number of the FASTEN SEAT BELT sign is G.s-13, and of the COMPULSORY tab sign is G.s-13t, both from the King's Highway Guide Signing Policy Manual.

17. Signs Renumbered, Added or Proposed for Relocation to Other Books

17.1 Signs Renumbered or Added

In general, sign numbers used in Book 5 are consistent with those in the Ontario Manual of Uniform Traffic Control Devices (MUTCD). In a few instances, however, it was necessary to renumber signs or add new sign numbers. Signs were renumbered or added for the following reasons:

- To simplify numbering conventions, such as double-letter suffixes;
- To maintain consistency with other sign numbers;
- To accommodate changes in sign sub-classes, for example from miscellaneous control signs (sub-class Rc) to road use control signs (subclass Rb); or
- To accommodate signs from other sources, including MUTCD signs that were previously not regulatory signs, signs from the King's Highway Guide Signing Policy Manual (KHGSPM), signs included in the Highway Traffic Act and signs from municipalities.

Table 6 lists signs that have been renumbered for, or added to, Book 5, and their sources (other than MUTCD Section A-2 (Regulatory Section)), if applicable.

17.2 Signs Proposed for Relocation to Other Books

As a result of a Technical Advisory Committee review for Book 5, specific signs have been proposed for relocation from Book 5 to other Books of the Ontario Traffic Manual. Until these Books are revised, placeholders for the signs proposed for relocation have been retained in Book 5. For each sign in this category, a note stating that the sign has been earmarked for relocation is included under the "Special Considerations" heading of the sign description.

Signs proposed to be relocated from Book 5 are listed in Table 7.

Table 6 – Signs Proposed for Relocation from Book 5 to Other OTM Books

Book 5 Sign Information		Proposed New Location	
Sign Name	Sign Number	Book Name	Book Number
PEDESTRIAN PUSHBUTTON Sign	Ra-11	Warning Signs	Book 6
PASSING LANE 2 KM AHEAD	Rb-30	Warning Signs or Directional Guide Signs	Book 6 or Book 8

Table 7– Signs Renumbered or Added

New Number	Previous Number	Sign Name	Source*
Ra-9A	Ra-9Alt	CROSS OTHER SIDE Sign	
Rb-1A	Rb-1Alt	MAXIMUM SPEED Sign with KM/H included	
Rb-7t	Rb-7	км/н Тар	
Rb-21	Rb-21A	ONE-WAY Sign	
Rb-39	-	LANE USE RESTRICTION Sign (trucks, overhead)	Regional Municipality of Ottawa- Carleton
Rb-39A	_	LANE USE RESTRICTION Sign (trucks, ground-mounted)	Regional Municipality of Ottawa- Carleton
Rb-62A	-	NO HEAVY TRUCKS Sign (with time restriction)	City of Toronto
Rb-96	G.s-16	TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING Sign	King's Highway Guide Signing Policy Manual
Rb-97	-	VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER Sign	Highway Traffic Act
Rb-84t	Rb-84ta	BEGINS Tab	
Rb-85t	Rb-84tb	ENDS Tab	
Rb-184t	Rb-85ta	BEGINS Tab (oversize)	
Rb-185t	Rb-85tb	ENDS Tab (oversize)	
Rb-88	-	3 OR MORE PERSONS Sign	City of Toronto
Rb-89	Rc-5	SCHOOL BUS LOADING ZONE Sign	
Rb-90A, Rb-90B	TC-41 A, TC-41 B	CONSTRUCTION ZONE BEGINS/ENDS Sign	MUTCD Temporary Conditions (Section A-5)
Rb-91	TC-43	YIELD TO ONCOMING TRAFFIC	MUTCD Temporary Conditions (Section A-5)
Rb-92	TC-46	ROAD CLOSED Sign	MUTCD Temporary Conditions (Section A-5)
Rb-93	Rc-6	DISABLED PARKING PERMIT Sign	
Rb-94	=	DISABLED STANDING EXEMPTION Sign	Highway Traffic Act
Rb-95	-	DISABLED STOPPING EXEMPTION Sign	Highway Traffic Act
Rc-10	-	NO IN-LINE SKATING Sign	Canadian MUTCD
Rc-11	Rb-74	KEEP OFF MEDIAN Sign	
Rc-12	Rb-66	NO PEDESTRIANS Sign	
Rc-13	G.s-13	FASTEN SEAT BELT Sign	King's Highway Guide Signing Policy Manual
Rc-13t	G.s-13t	COMPULSORY Tab Sign	King's Highway Guide Signing Policy Manual

^{*} Other than MUTCD Regulatory Section

Subject Index

A

Advanced green phase, 12 All-way stop controls, 2 Application of regulatory signs, 1.1

В

Bicycles, 9.2, 11, 11.3, 15, 16 Bicycle route, 11.3

C

Changeable message signs, 1.7 Class B road, 11.1 Classification of regulatory signs, 1.2 Community Safety Zone signs, 14 Construction zone, 13 Continuous wide median, 7, *Figure 7*

D

Dangerous goods carrier, 11.2

Dangerous goods carrier control signs, 11.2

Dangerous goods placard, 11.2

Dangerous goods route, 11.2

Design of regulatory signs, 1.3

Diamond lanes, 9.2

Disabled parking control exemption signs, 10.2

Disabled Persons Parking Permit, 10.2

DO NOT ENTER sign, Application of at freeway exit ramps, 7, Figure 8

DO NOT ENTER sign, Application of on continuous wide median, 7, Figure 7

DO NOT ENTER sign, Use of time restrictions with, 7

DO NOT ENTER / WRONG WAY sign, Application of at freeway exit ramps, 7, Figure 8

DO NOT ENTER / WRONG WAY sign, Application of on continuous wide median, 7, *Figure 7* Dynamic sign technologies, 1.7

F

Enforceability of signs, 1.1 External illumination, 1.4

F

Farm vehicles, 11.3 Flashing beacons, 1.6

G

General parking control signs, 10.1 General truck control signs, 11.1

Н

Heavy vehicle configuration, 11.1
High intensity sheeting, 1.4, *Table 1*High intensity sheeting, Prescribed implementation dates, 1.4, *Table 1*High intensity sheeting, Specifications, 1.4
High occupancy vehicles, 9.2
Highway Traffic Act, Enforceability under, 1.1

I

In-line skating, 15, 16
Interdictory symbol, 4.1, 6, 8, 10.1, 10.2, 11.1, 11.2, 11.3, 12, 16
Internal illumination, 1.4
Islands, Traffic, 8

K

KEEP RIGHT sign, Location of at signalized urban intersection, 8, Figure 10KEEP RIGHT sign, Need for illumination, 8KEEP RIGHT sign, Use of flashing beacons with, 8, Figure 9

Lane designation signs, 9
Lane use restriction, length-based, 11.1
Lane use restriction signs, Overhead and ground-mounting, 11.1
Lane use restriction, weight-based, 11.1
Legal authority, 1.1
Location of signs, 1.5
Lugs, Vehicles with, 15

M

Median strips, Raised or Depressed, 8 Miscellaneous control signs, 1.2, 15, 16 Multi-way traffic control signs, 8 Municipal by-law, Enforceability under, 1.1

0

Off-roadway facility control signs, 15
Official signs, 1.1
One-way and two-way traffic control signs,
 Applications of at continuous wide medians, 7, 8,
 *Figure 7*ONE-WAY signs, Typical locations of, 7, *Figure 6*One-way traffic control signs, 7
Ontario Traffic Manual Committee, 1.1
Other specific vehicle classes, Signs for control of,
 11.3

P

Parking control legends, 10.1, *Table 3*Parking control signs, 10
Parking control signs, benefits of, 10
Parking duration restrictions, 10.1
Parking prohibitions, 10.1
Passing lane, 8
Passing prohibition, Exceptional situations, 8
Passing prohibition, On passing lanes in single lane direction, 8
Passing prohibition, Typical situations, 8

Pedestrian crossings, 4.1 Pedestrian crossing signs, 4 Pedestrian crossover, Use on one-way roads, 4.2 Pedestrian crossovers, 4.1, 4.2 Pedestrian crossovers, Pavement markings associated with, 4.2 Pedestrian crossovers, Warning signs associated with, 4.2 Pedestrian rules of the road, 4.1 Pedestrians, 1.2, 2, 4.1, 4.2, 8, 11.3, 12, 15, 16 Permissive snowmobile route, By-law support of, 11.3 Permissive symbol, 6, 8, 10.1, 11.1, 11.2, 11.3 Permissive truck route, By-law support of, 11.1 Piers, 8 Prescribed signs, 1.1

R

Regulatory construction traffic control signs, 13 Regulatory signs, Definition of, 1.1 Renumbered signs, 17.1, Table 7 Reserved lane signs, 9.2 Reserved lane signs, Overhead and groundmounting, 9.2 Reserved lane signs, Pavement markings for, 9.2 Retroreflectivity, 1.4, Table 1 Right-of-way control, Amendment of at intersections, Right-of-way control, Increasing levels of, 2 Right-of-way control, Rules of the road for, 2 Right-of-way control signs, 1.2, 2, 3, 4 Road classifications for determining sign types, 1.1, Figure 1 Road use control signs, 1.2, 5, 6, 7, 8, 9, 10, 11, 12, 13 Rural freeways, 1.1, Figure 1 Rural non-freeways, 1.1, Figure 1

S Time-of-day restrictions for turn lane designation signs, 9.1 School bus flashing signals, 8 Toll roads, 11.1 School bus loading zone, 11.3 Traffic Control Persons, 2, 13 School Bus Route, 8 Transponder, 11.1 School zone, 5 Truck climbing lane, 8 School zone, Speed reduction at, 5 Truck inspection station, 11.1 School zones, Application on high speed roads, 5 Truck route, 11.1 Seasonal load restrictions, 11.1 Turn control, Bus exception, 6 Seat belts, 16 Turn control, permissive signs for, 6 Sign design, Environment, 1.3 Turn control signs, 6 Sign dimensions, 1.3 Turn control signs, Application for one-way control, 6 Sign size, Factors impacting, 1.2, 1.3 Turn control signs, Typical locations at unsignalized Sign size, Speed ranges, 1.2 intersection, 6, Figure 5 Signs proposed for relocation to other books, Table 7 Turn control signs, Use of for time restricted entry Snowmobile route, 11.3 prohibition, 6 Specific vehicle class control signs, 11 Turn lane designation signs, 9.1 Speed control, 5 Turn lane designation signs, For centre lane optional, Speed limit control devices, Placement of, 5, 9.1, Figure 15 Figure 4 Turn lane designation signs, For double left turns, Speed limit signs, Use of tabs and single blank 9.1, Figure 14 signs, 5 Turn lane designation signs, For double right turns, Speed zone, Advance warning of, 5 9.1, Figure 13 Standing, Definition of, 10 Turn lane designation signs, Overhead and ground-Standing prohibitions, 10.1 mounting, 9.1 Statutory speeds, 5 Turn lane designation signs, Pavement markings for, Stop line, 12 9.1 STOP signs, Conditions warranting, 2 Two-way left-turn lane, 9.1 STOP signs, Typical locations of, 2, Figure 2 Two-way traffic control signs, 8 STOP signs, Use of flashing beacons with, 2 TWO-WAY TRAFFIC sign, Typical locations of, 7, 8, Stopping, Definition of, 10 Figure 6 Stopping prohibitions, 10.1 Sub-classes of regulatory signs, 1.2 U Supplementary traffic signal control signs, 12 Unenforceable signs, 1.1 Urban freeways, 1.1, Figure 1 Т Urban non-freeways, 1.1, Figure 1 Tab signs, Educational, 3, 4.1, 7, 8, 9.2, 11.2, 12 Temporary conditions works, 13 W Time-of-day restrictions for reserved lane signs, 9.2 Walk signal pushbutton, 4.1

Time-of-day restriction for turn control, 6

Y

YIELD signs, Conditions warranting, 3
YIELD signs, Use at acceleration lanes and/or tapers, 3, Table 2
YIELD signs, Use at roundabouts, 3
YIELD TO ONCOMING TRAFFIC sign, Placement, 13, Table 5
YIELD TO ONCOMING TRAFFIC sign, Volumes warranting use, 13, Table 4

Sign Name Index

3 OR MORE PERSONS Sign (Rb-88), 9.2, 17.1, *Table 7*

A

ADVANCED GREEN WHEN FLASHING Sign (Rb-80), 12 ALL MOVEMENTS PERMITTED Sign (Rb-46), 9.1

ALL MOVEMENTS PERMITTED Sign (Rb-46), 9.1 ALL-WAY Tab Sign (Ra-1t), 2, Figure 1

B

BEGINS Tab Sign (Rb-84t), 5, 9.2, 14, 17.1, *Table 7*BEGINS Tab Sign (Rb-184t), 9.2, 11.1,17.1, *Table 7*BICYCLE ROUTE Sign (Rb-69), 11.3
BOTH DIRECTIONS Tab Sign (Rb-37t), 8
BUSES EXCEPTED Tab Sign (Rb-10t), 6

C

CLASS B ROAD Sign (Rb-77), 11.1

COMMUNITY SAFETY ZONE SIGN (Rc-9), 14

COMPULSORY Tab Sign (Rc-13t), 16, 17.1, Table 7

CONSTRUCTION ZONE BEGINS/ENDS Sign (Rb-90A, Rb-90B), 13, 17.1, Table 7

CROSS ON GREEN LIGHT ONLY Sign (Ra-6), 4.1

CROSS ON WALK SIGNAL ONLY Sign (Ra-7), 4.1

CROSS ONLY AT CROSSOVER Sign (Ra-8), 4.1

CROSS OTHER SIDE Sign (Ra-9, Ra-9A), 4.1, 16.1, Table 6, Figure 3

D

DANGEROUS GOODS CARRIERS PROHIBITED Tab Sign (Rb-83t), 11.2 DANGEROUS GOODS ROUTE Symbol Sign (Rb-82), 11.2 DANGEROUS GOODS ROUTE Tab Sign (Rb-82t), 11.2 DISABLED PARKING PERMIT Sign (Rb-93), 10.2, 17.1, *Table 7* DISABLED STANDING EXEMPTION Sign (Rb-94), 10.2, 17.1, *Table 7*

DISABLED STOPPING EXEMPTION Sign (Rb-95), 10.2, 17.1, *Table 7*

DO NOT ENTER Sign (Rb-19), 7, Table 1, Figure 6, Figure 7, Figure 8

DO NOT ENTER / WRONG WAY Sign (Rb-20), 7, Table 1 Figure 7, Figure 8

DO NOT ENTER Tab Sign (Rb-19t), 7, Table 1
DO NOT PASS Sign (Rb-31), 8, Table 1

Ε

ENDS Tab Sign (Rb-85t), 9.2, 14,17.1, *Table 7* ENDS Tab Sign (Rb-185t), 9.2, 11.1, 17.1, *Table 7*

F

FASTEN SEAT BELT Sign (Rc-13), 16, 17.1, Table 7

K

KEEP OFF MEDIAN Sign (Rc-11), 16, 17.1, *Table 7*KEEP RIGHT EXCEPT TO PASS Sign (Rb-33), 8, *Figure 11, Figure 12*KEEP RIGHT Sign (Rb-25), 8, *Table 1, Figure 7, Figure 8, Figure 9, Figure 10*KM/H Tab Sign (Rb-7t), 5, 17.1, *Table 7*

L

LANE USE RESTRICTION Sign (length-based, ground-mounted) (Rb-40A), 11.1

LANE USE RESTRICTION Sign (length-based, overhead) (Rb-40), 11.1

LANE USE RESTRICTION Sign (trucks, ground-mounted) (Rb-39A), 11.1, 17.1, *Table 7*

LANE USE RESTRICTION Sign (trucks, overhead) (Rb-39), 11.1, 17.1, *Table 7*

LEFT LANE Tab Sign (Rb-41t), 9.1

LEFT OR RIGHT TURN ONLY Sign (Rb-45), 9.1, Figure 15

LEFT TURN ONLY Sign (Rb-41), 9.1, Figure 14, Figure 15

LEFT-TURN SIGNAL Sign (Rb-81), 12 LOAD RESTRICTION IN EFFECT Sign (Rb-76), 11.1

M

MAXIMUM FINE FOR LITTERING Tab Sign (Rc-4t), 15

MAXIMUM SPEED AHEAD Sign (Rb-5), 5, Figure 4
MAXIMUM SPEED BEGINS Sign (Rb-2), 5, Figure 4
MAXIMUM SPEED KM/H and BEGINS Sign (on one blank) (Rb-3), 5

MAXIMUM SPEED Sign (Rb-1), 5, Figure 4
MAXIMUM SPEED Sign with KM/H included
(Rb-1A), 5, 17.1, Table 7

MAXIMUM TONNES Sign (differentiated by truck type) (Rb-63A), 11.1

MAXIMUM TONNES Sign (single gross weight) (Rb-63), 11.1

MOVEMENTS PERMITTED Tab Sign (Rb-61t), 11.1, 11.2, 11.3

N

NO BICYCLES Sign (Rb-67), 11.3

NO DANGEROUS GOODS Symbol Sign (Rb-83), 11.2

NO FISHING FROM BRIDGE Sign (Rc-2), 16

NO HEAVY TRUCKS Sign (Rb-62), 11.1

NO HEAVY TRUCKS Sign (with time restriction) (Rb-62A), 11.1, 17.1, *Table 7*

NO IN-LINE SKATING Sign (Rc-10), 16, 17.1, Table 7 $\,$

NO LEFT TURN ON RED Sign (Rb-79L), 12

NO LEFT TURN Sign (Rb-12), 6, Table 1, Figure 6

NO LEFT TURN Sign (specified times) (Rb-12A), 6, *Table 1, Figure 5*

NO LITTERING AND MAXIMUM FINE FOR LITTERING Sign (Rc-4A), 16

NO LITTERING Sign (Rc-4), 16

NO PARKING, EMERGENCY PARKING ONLY Sign (Rb-58), 10.1

NO PARKING Sign (Rb-51), 10.1

NO PARKING Sign (with days) (Rb-51A), 10.1, *Table 3*

NO PARKING Sign (with days and times) (Rb-52), 10.1, *Table 3*

NO PARKING, SNOW ROUTE Sign (Rb-57), 10.1

NO PASSING HERE TO CROSSING Sign (Ra-10), 4.2

NO PEDESTRIANS Sign (Rc-12), 16, 17.1, Table 7

NO PEDESTRIANS OR BICYCLES Sign (Rb-68), 11.3

NO RIGHT TURN ON RED Sign (Rb-79R), 12

NO RIGHT TURN Sign (Rb-11), 6, Table 1

NO RIGHT TURN Sign (specified times) (Rb-11A), 6, *Table 1, Figure 5*

NO SNOWMOBILES Sign (Rb-65), 11.3

NO STANDING Sign (Rb-54), 10.1

NO STANDING Sign (with days and times) (Rb-54A), 10.1, *Table 3*

NO STOPPING Sign (Rb-55), 10.1

NO STOPPING Sign (with days) (Rb-55A), 10.1, *Table 3*

NO STOPPING Sign (with days and times) (Rb-56), 10.1, *Table 3*

NO STRAIGHT THROUGH OR LEFT TURN Sign (Rb-14), 6, *Table 1*

NO STRAIGHT THROUGH OR RIGHT TURN Sign (Rb-13), 6, *Table 1*

NO STRAIGHT THROUGH Sign (Rb-10), 6, *Table 1* NO STRAIGHT THROUGH Sign (specified times)

(Rb-10A), 6, *Table 1*

NO TRACTORS Sign (Rb-60), 11.3

NO TURNS Sign (Rb-15), 6, Table 1, Figure 5

NO U-TURNS Sign (Rb-16), 6, Table 1, Figure 5

0

ONE-WAY Sign (Rb-21), 7, 17.1, Table 1, Table 7, Figure 6, Figure 7

P

PARKING RESTRICTED Sign (with days, times and duration) (Rb-53), 10.1, *Table 3*PASS WITH CARE Tab Sign (Rb-35t), 8

PASSING LANE 2 KM AHEAD Sign (Rb-30), 8, 17.2, Table 6, Figure 11, Figure 12 PASSING PERMITTED Sign (Rb-35), 8
PEDESTRIAN MUST PUSH BUTTON TO RECEIVE

WALK SIGNAL Symbol Sign (Ra-13), 4.1

PEDESTRIAN PUSHBUTTON Sign (Ra-11), 4.2, 17.2, *Table 6*

PEDESTRIAN PUSHBUTTON Symbol Sign (with directional arrow) (Ra-12), 4.1

PEDESTRIAN X Crossover Sign (Ra-4), 4.2, Figure 3

R

RESERVED BICYCLE LANE Sign (ground-mounted) (Rb-84A), 9.2

RESERVED BICYCLE LANE Sign (overhead) (Rb-84), 9.2

RESERVED LANE Sign (multiple vehicle classes, ground-mounted, no days and times) (Rb-86A), 9.2

RESERVED LANE Sign (multiple vehicle classes, overhead, no days and times) (Rb-86), 9.2

RESERVED LANE Sign (one or multiple vehicle class(es), ground-mounted, days and times) (Rb-87A), 9.2

RESERVED LANE Sign (one or multiple vehicle class(es), overhead, days and times) (Rb-87), 9.2

RESERVED LANE Sign (one vehicle class, ground-mounted, no days and times) (Rb-85A), 9.2

RESERVED LANE Sign (one vehicle class, overhead, no days and times) (Rb-85), 9.2

RIGHT LANE Tab Sign (Rb-42t), 9.1

RIGHT TURN ONLY Sign (Rb-42), 9.1, Figure 13, Figure 15

ROAD CLOSED Sign (Rb-92), 13, 17.1, *Table 1, Table 7*

S

SCHOOL BUS LOADING ZONE Sign (Rb-89), 11.3, 17.1, Table 7

SCHOOL ZONE MAXIMUM SPEED Sign (Rb-6), 5 SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING Sign (Rb-6A), 5

SLOWER TRAFFIC KEEP RIGHT Sign (Rb-34), 8

SNOWMOBILE ROUTE Sign (Rb-64), 11.3

STOP FOR PEDESTRIANS Tab Sign (Ra-4t), 4.2, Figure 3

STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING Sign (Rb-37), 8

STOP HERE ON RED SIGNAL Sign (Rb-78), 12

STOP Sign (Ra-1), 2, Table 1, Figure 2, Figure 7, Figure 8

STRAIGHT THROUGH ONLY Sign (Rb-47), 9.1

STRAIGHT THROUGH OR LEFT TURN ONLY Sign (Rb-43), 9.1

STRAIGHT THROUGH OR RIGHT TURN ONLY Sign (Rb-44), 9.1

Т

THROUGH TRAFFIC KEEP RIGHT Sign (Rb-27), 8
TRUCK ROUTE Sign (Rb-61), 11.1
TRUCKS ENTER INSPECTION STATION WHEN
LIGHTS FLASHING Sign (Rb-96), 11.1, 17.1,
Table 7
TWO-WAY LEFT-TURN LANE Sign (Rb-48), 9.1
TWO-WAY LEFT-TURN LANE, CENTRE LANE ONLY
Sign (Rb-48A), 9.1
TWO-WAY TRAFFIC Sign (Rb-24), 8, Table 1,
Figure 6

V

VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER (Rb-97), 11.1, 17.1, *Table 7* VEHICLES WITH LUGS PROHIBITED Sign (Rc-3), 15

W

WALK ON LEFT FACING TRAFFIC Sign (Rc-1), 16

Y

YIELD CENTRE LANE TO OPPOSING TRAFFIC Sign (Rb-36), 8, *Table 1, Figure 11*YIELD Sign (Ra-2), 3, *Table 1, Table 2, Figure 7*YIELD Tab Sign (Ra-2t), 3, *Table 1*YIELD TO ONCOMING TRAFFIC Sign (Rb-91), 13, 17.1, *Table 1, Table 4, Table 5, Table 7*

Sign Number Index

Ra Signs

Ra-1 (STOP), 2, *Table 1, Figure 2, Figure 7, Figure 8* Ra-1t (ALL-WAY tab), 2, *Table 1*

Ra-2 (YIELD), 3, Table 1, Table 2, Figure 7

Ra-2t (YIELD tab), 3, Table 1

Ra-4 (PEDESTRIAN X Crossover), 4.2, Figure 3

Ra-4t (STOP FOR PEDESTRIANS tab), 4.2, Figure 3

Ra-6 (CROSS ON GREEN LIGHT ONLY), 4.1

Ra-7 (CROSS ON WALK SIGNAL ONLY), 4.1

Ra-8 (CROSS ONLY AT CROSSOVER), 4.1

Ra-9, Ra-9A (CROSS OTHER SIDE), 4.1, 171, Table 7, Figure 3

Ra-10 (NO PASSING HERE TO CROSSING), 4.2 Ra-11 (PEDESTRIAN PUSHBUTTON), 4.2, 17.2, Table 6

Ra-12 (PEDESTRIAN PUSHBUTTON Symbol with directional arrow), 4.1

Ra-13 (PEDESTRIAN MUST PUSH BUTTON TO RECEIVE WALK SIGNAL Symbol), 4.1

Rb Signs

Rb-1 (MAXIMUM SPEED), 5, Figure 4

Rb-1A (MAXIMUM SPEED with KM/H included), 5, 17.1, *Table 7*

Rb-2 (MAXIMUM SPEED BEGINS), 5, Figure 4

Rb-3 (MAXIMUM SPEED KM/H and BEGINS on one blank), 5

Rb-5 (MAXIMUM SPEED AHEAD), 5, Figure 4

Rb-6 (SCHOOL ZONE MAXIMUM SPEED), 5

Rb-6A (SCHOOL ZONE MAXIMUM SPEED WHEN FLASHING), 5

Rb-7t (KM/H tab), 5, 17.1, Table 7

Rb-10 (NO STRAIGHT THROUGH), 6, Table 1

Rb-10A (NO STRAIGHT THROUGH with specified times), 6, *Table 1*

Rb-10t (BUSES EXCEPTED tab), 6

Rb-11 (NO RIGHT TURN), 6, Table 1

Rb-11 A (NO RIGHT TURN specified times), 6, *Table 1, Figure 5*

Rb-12 (NO LEFT TURN), 6, Table 1, Figure 6

Rb-12A (NO LEFT TURN specified times), 6, *Table 1, Figure 5*

Rb-13 (NO STRAIGHT THROUGH OR RIGHT TURN), 6, *Table 1*

Rb-14 (NO STRAIGHT THROUGH OR LEFT TURN), 6, *Table 1*

Rb-15 (NO TURNS), 6, Table 1, Figure 5

Rb-16 (NO U-TURNS), 6, Table 1, Figure 5

Rb-19 (DO NOT ENTER), 7, *Table 1, Figure 6, Figure 7, Figure 8*

Rb-19t (DO NOT ENTER tab), 7, Table 1

Rb-20 (DO NOT ENTER / WRONG WAY), 7, Table 1, Figure 7, Figure 8

Rb-21 (ONE-WAY), 7, 16.1, *Table 1, Table 6, Figure 6, Figure 7*

Rb-24 (TWO-WAY TRAFFIC), 8 , Table 1, Figure 6

Rb-25 (KEEP RIGHT), 8, *Table 1, Figure 7, Figure 8, Figure 9, Figure 10*

Rb-27 (THROUGH TRAFFIC KEEP RIGHT), 8

Rb-30 (PASSING LANE 2 KM AHEAD), 8, 17.2, Table 6, Figure 11, Figure 12

Rb-31 (DO NOT PASS), 8, Table 1

Rb-33 (KEEP RIGHT EXCEPT TO PASS), 8, Figure 11, Figure 12

Rb-34 (SLOWER TRAFFIC KEEP RIGHT), 8

Rb-35 (PASSING PERMITTED), 8

Rb-35t (PASS WITH CARE tab), 8

Rb-36 (YIELD CENTRE LANE TO OPPOSING TRAFFIC), 8, *Table 1, Figure 11*

Rb-37 (STOP FOR SCHOOL BUS WHEN SIGNALS FLASHING), 8

Rb-37t (BOTH DIRECTIONS tab), 8

Rb-39 (LANE USE RESTRICTION trucks, overhead), 11.1, 17.1, *Table 7*

Rb-39A (LANE USE RESTRICTION trucks, ground-mounted), 11.1, 17.1, *Table 7*

Rb-40 (LANE USE RESTRICTION length-based, overhead), 11.1

Rb-40A (LANE USE RESTRICTION length-based, ground-mounted), 11.1

Rb-41 (LEFT TURN ONLY), 9.1, Figure 14, Figure 15

Rb-41t (LEFT LANE tab), 9.1

Rb-42 (RIGHT TURN ONLY), 9.1, Figure 13, Figure 15

Rb-42t (RIGHT LANE tab), 9.1

Rb-43 (STRAIGHT THROUGH OR LEFT TURN ONLY), 9 1

Rb-44 (STRAIGHT THROUGH OR RIGHT TURN ONLY), 9.1

Rb-45 (LEFT OR RIGHT TURN ONLY), 9.1, Figure 15

Rb-46 (ALL MOVEMENTS PERMITTED), 9.1

Rb-47 (STRAIGHT THROUGH ONLY), 9.1

Rb-48 (TWO-WAY LEFT-TURN LANE), 9.1

Rb-48A (TWO-WAY LEFT-TURN LANE, CENTRE LANE ONLY), 9.1

Rb-51 (NO PARKING), 10.1

Rb-51 A (NO PARKING with days), 10.1, Table 3

Rb-52 (NO PARKING with days and times), 10.1, *Table 3*

Rb-53 (PARKING RESTRICTED with days, times and duration), 10.1, *Table 3*

Rb-54 (NO STANDING), 10.1

Rb-54A (NO STANDING with days and times), 10.1, *Table 3*

Rb-55 (NO STOPPING), 10.1

Rb-55A (NO STOPPING with days), 10.1, Table 3

Rb-56 (NO STOPPING with days and times), 10.1, *Table 3*

Rb-57 (NO PARKING, SNOW ROUTE), 10.1

Rb-58 (NO PARKING, EMERGENCY PARKING ONLY), 10.1

Rb-60 (NO TRACTORS), 11.3

Rb-61 (TRUCK ROUTE), 11.1

Rb-61t (MOVEMENTS PERMITTED tab), 11.1, 11.2, 11.3

Rb-62 (NO HEAVY TRUCKS), 11.1

Rb-62A (NO HEAVY TRUCKS with time restriction),11.1, 17.1, *Table 7*

Rb-63 (MAXIMUM TONNES single gross weight), 11.1

Rb-63A (MAXIMUM TONNES differentiated by truck type), 11.1

Rb-64 (SNOWMOBILE ROUTE), 11.3

Rb-65 (NO SNOWMOBILES), 11.3

Rb-67 (NO BICYCLES), 11.3

Rb-68 (NO PEDESTRIANS OR BICYCLES), 11.3

Rb-69 (BICYCLE ROUTE), 11.3

Rb-76 (LOAD RESTRICTION IN EFFECT), 11.1

Rb-77 (CLASS B ROAD), 11.1

Rb-78 (STOP HERE ON RED SIGNAL), 12

Rb-79L (NO LEFT TURN ON RED), 12

Rb-79R (NO RIGHT TURN ON RED), 12

Rb-80 (ADVANCED GREEN WHEN FLASHING), 12

Rb-81 (LEFT-TURN SIGNAL), 12

Rb-82 (DANGEROUS GOODS ROUTE), 11.2

Rb-82t (DANGEROUS GOODS ROUTE tab), 11.2

Rb-83 (NO DANGEROUS GOODS), 11.2

Rb-83t (DANGEROUS GOODS CARRIERS PROHIBITED tab), 11.2

Rb-84 (RESERVED BICYCLE LANE overhead), 9.2

Rb-84A (RESERVED BICYCLE LANE ground-mounted), 9.2

Rb-84t (BEGINS tab), 5, 9.2, 14,17.1, Table 7

Rb-85t (ENDS tab), 9.2, 14,17.1, Table 7

Rb-85 (RESERVED LANE one vehicle class, overhead, no days and times), 9.2

Rb-85A (RESERVED LANE one vehicle class, ground-mounted, no days and times), 9.2

Rb-86 (RESERVED LANE multiple vehicle classes, overhead, no days and times), 9.2

Rb-86A (RESERVED LANE multiple vehicle classes, ground-mounted, no days and times), 9.2

Rb-87 (RESERVED LANE one or multiple vehicle class(es), overhead, days and times), 9.2

Rb-87A (RESERVED LANE one or multiple vehicle class(es), ground-mounted, days and times), 9.2

Rb-88 (3 OR MORE PERSONS), 9.2, 17.1, *Table 7*

Rb-89 (SCHOOL BUS LOADING ZONE), 11.3, 17.1, *Table 7*

Rb-90A, Rb-90B (CONSTRUCTION ZONE BEGINS/ENDS), 13, 17.1, *Table 7*

Rb-91 (YIELD TO ONCOMING TRAFFIC), 13, 17.1, Table 1, Table 4, Table 5, Table 7

Rb-92 (ROAD CLOSED), 13, 17.1, *Table 1, Table 7* Rb-93 (DISABLED PARKING PERMIT), 10.2, 17.1, *Table 7*

Rb-94 (DISABLED STANDING EXEMPTION) 10.2, 17.1, *Table 7*

Rb-95 (DISABLED STOPPING EXEMPTION), 10.2, 17.1, *Table 7*

Rb-96 (TRUCKS ENTER INSPECTION STATION WHEN LIGHTS FLASHING), 11.1, 17.1, *Table 7*

Rb-97 (VEHICLES OVER 5 TONNES MUST HAVE VALID TRANSPONDER), 11.1, 17.1, *Table 7*

Rb-184t (BEGINS tab), 9.2, 11.1, 17.1, *Table 7* Rb-185t (ENDS tab), 9.2, 11.1, 17.1, *Table 7*

Rc Signs

Rc-1 (WALK ON LEFT FACING TRAFFIC), 16

Rc-2 (NO FISHING FROM BRIDGE), 16

Rc-3 (VEHICLES WITH LUGS PROHIBITED), 16

Rc-4 (NO LITTERING), 16

Rc-4t (MAXIMUM FINE FOR LITTERING tab), 16

Rc-4A (NO LITTERING AND MAXIMUM FINE FOR LITTERING), 16

Rc-9 (COMMUNITY SAFETY ZONE), 14

Rc-10 (NO IN-LINE SKATING), 16, 17.1, Table 7

Rc-11 (KEEP OFF MEDIAN), 16, 17.1, Table 7

Rc-12 (NO PEDESTRIANS), 16, 17.1, *Table 7*

Rc-13 (FASTEN SEAT BELT), 16, 17.1, *Table 7*

Rc-13t (COMPULSORY tab), 16, 17.1, Table 7

Appendix A • Definitions

A

Acceleration

A rate of change of speed (km/h/sec or m/sec²) resulting in an increase in travel speed.

Acceleration Lane

A speed change lane for the purpose of:

- (1) enabling a vehicle entering a roadway to increase its speed to a rate at which it can more safely merge with through traffic:
- (2) providing the necessary merging distance; and
- (3) giving the main road traffic the necessary time to make appropriate adjustments.

Access

A way of entering or travelling towards a location. It is used wh-en describing which vehicle movements may be permitted at an intersection (such as with an access-only barrier). It is also used when describing the location of driveways and walkways which provide an entrance to a property. See Egress and Ingress.

Accident

See Collision.

Advisory Speed

The speed, determined to the nearest 5 km/h, at which traffic may safely negotiate a potential hazard under favourable driving conditions.

All-red Interval (Traffic Signal)

The time in seconds of a red indication for all intersection traffic. It is used following an Amber Clearance Interval to permit vehicles or pedestrians to clear the intersection before conflicting traffic receives a green indication.

Amber Clearance Interval (Traffic Signal)

The clearance interval in which the signal indication for that Phase is amber. A clearance interval to warn approaching traffic to clear the intersection before conflicting traffic receives a green indication.

Approach Nose

The end of a traffic island first encountered by a road user approaching from a given direction; also called the Upstream End. Depending on the situation, traffic may pass only to the right of the island, or on both sides. Each traffic island has two approach ends, one for each direction of travel.

Approach Speed

The maximum safe speed that can be maintained over a short section of highway immediately in advance of a potentially hazardous location, taking into account pavement and shoulder width, horizontal and vertical alignment, sight distance, and other controlling factors. The approach speed does not necessarily coincide with the design speed.

Arterial Road

A Major Road, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement. Intersections are spaced relatively far apart and are frequently signalized. See also Collector Road and Local Road.

ASTM

American Society for Testing and Materials.

At-grade Intersection

An intersection of two roadways where there is no vertical separation between the two roadways at their point of intersection.

B

Bicycle

A vehicle having only two tandem wheels, propelled solely by human power, upon which typically one or two persons may travel. The HTA definition of bicycle includes tricycles and uni-cycles and excludes motorassisted bicycles.

Bicycle Facility

A general term denoting a facility with improvements and provisions made or administered by public agencies to accommodate or encourage bicycling, including bikeways and bikeway parking facilities.

Bicycle Lane

A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bicycle Path

A bikeway physically separated from the motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way.

Bicycle Route

A segment of a system of bikeways designated by the jurisdiction having authority, with appropriate directional and information markers, with or without a specific bicycle route number.

Bicycle Trail

An unimproved bikeway.

Blank Number

See Sign Blank Number.

Broken Line

A Pavement Marking consisting of a cycle of marking segments and gaps. Broken lines are permissive and inform drivers that they are permitted to cross a broken line, (two-lane, two-way highways) or that there is a change in use of a particular lane (continuity lines).

Built-up Area

The territory contiguous to a highway not within a city, town, village or police village where:

- not less than 50% of the frontage upon one side of the highway for a distance of not less than 200 m is occupied by dwellings, buildings used for business purposes, schools or churches;
- (2) not less than 50% of the frontage upon both sides of the highway for a distance of not less than 100 m is occupied by dwellings, buildings used for business purposes, schools or churches:
- (3) not more than 200 m of the highway separates any territory described in clause (1) or (2) from any other territory described in clause (1) or (2); and signs are displayed as required.

Bus

Any motor vehicle designed, constructed and/or used in the transportation of ten or more seated passengers.

Bus Lane

A street or highway lane intended exclusively or primarily for buses, either all day, or during specified periods. See also Reserved Lane and Transit Lane.

Business District

The territory contiguous to and including a highway when within 180 m along such highway there are buildings in use for business or industrial purposes, including but not limited to, hotels, banks or office buildings which occupy at least 90 m of frontage on one side or 90 collectively on both sides of the highway.

C

Centreline

See Directional Dividing Line.

CGSB

Canadian General Standards Board.

Changeable Message Sign

An electrical, electro-optical, electro-mechanical, or mechanical sign which permits the sign message to be changed dynamically, either locally or remotely.

Channelization

The separation or regulation of traffic movements into definite paths of travel by use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movement of traffic, both vehicular and pedestrian.

Collector Road

A road for which vehicle movement and access are of equal importance. Direct access to adjacent properties may be permitted in some cases, typically in lower-density residential areas. Intersections are spaced at varying intervals and are typically only signalized where the collector road intersects an arterial road or in some cases another collector road. See Arterial Road and Local Road.

Collision

An incident resulting in property damage, personal injury or death and involving the loss of control and/ or the striking of one or more vehicles with another vehicle, a person, an animal or an inanimate object.

Commercial Motor Vehicle

A motor vehicle having a permanently attached truck or delivery body, including fire apparatus, buses, and truck tractors and trailers (combination units) used for hauling purposes on the highways, and requiring a Commercial Vehicle Operating Registration (CVOR).

Comprehension

The ability of drivers to understand the meaning of a sign message, including any symbols or abbreviations

Conflict

A Collision or near-collision which requires evasive action on the part of one or more persons. Conflicts can occur between two motorists, between a motorist and cyclist, between a motorist and pedestrian, and between a cyclist and pedestrian.

Conspicuity

The ability of a traffic control device to attract or command attention, given the visual setting in which it is placed.

Construction Zone

A highway work area located on or near the roadway. A construction zone must be designated and signed in order to have enforceable maximum speed limits.

Continuous Wide Median

On a divided highway, a median that has a continuous width of 10 m or more. See also Divided Highway.

Controlled Intersection

An intersection where traffic approaching from any or all directions is regulated by some form of traffic control device.

Controller (Traffic Signal)

The general usage term for the Controller Unit, cabinet and associated appurtenances.

Controller Unit (Traffic Signal)

That part of the Controller which performs the basic timing and logic functions. A microprocessor based or electro-mechanical timing unit.

Crossover

See Pedestrian Crossover.

Crosswalk

See Pedestrian Crosswalk.

Curb

A vertical or sloping construction element along the edge of a pavement or shoulder forming part of a gutter, strengthening or protecting the edge, and clearly defining the edge to vehicle operators. The surface of the curb facing the general direction of the pavement is called the "face".

Curve

A horizontal or vertical deviation in the roadway. A horizontal curve appears as a bend in the roadway, requiring drivers to turn the steering wheel. A vertical curve appears either as a "crest" or a "sag" to provide for a change in gradient on the profile of the roadway.

Cyclist

A person riding a bicycle.

D

Dangerous Goods Carrier

A commercial goods carrier which transports goods deemed dangerous by the relevant provincial and federal legislation.

Deceleration Lane

A speed change lane for the purpose of enabling a vehicle that is to make an exit from a roadway to slow to the safe speed on the exit after it has left the main stream of traffic.

Delineation

One, or a combination of several types of devices (excluding Guide Signs) that regulate, warn, or provide tracking information and guidance to drivers.

Device (Traffic Calming)

A physical feature of the roadway, constructed for the purpose of affecting the movement of motor vehicles, bicycles and/or pedestrians.

Directional Dividing Line

A yellow Pavement Marking indicating the division of the roadway between traffic travelling in opposite directions.

Divided Highway

A multi-lane highway consisting of roadways for opposing traffic which are separated by an unpaved area or other physical barrier, including a curbed island. See also Continuous Wide Median.

Double Line

A pavement marking used on two-way, undivided roadways to inform the driver of a "no-passing" zone in both directions of travel.

Driver

A person who operates a vehicle on a highway.

Driver Response

The driver action taken as a result of reading a traffic sign or encountering another traffic control device.

Driveway

A private road giving access from a public way to a building or property on abutting grounds.

E

Edge Line

A painted line marking the edge of the roadway.

Egress

A way of exiting or travelling away from a location. Is used when describing which vehicle movements may be permitted at an intersection (such as with an egress-only barrier). Is used when describing the location of driveways and walkways which provide an exit from a property.

Electronic Changeable Message Sign

See Changeable Message Sign.

Engineering Grade Material

A retroreflective sign sheeting material meeting ASTM Specification for Type I material or CGSB Specification 62-GP-11M for Reflectivity Level II material.

Expectancy

Used in traffic engineering to describe a driver's anticipation of upcoming road design and traffic control conditions. Driver expectancy is usually affected by previous experience and the consistency and continuity of traffic control devices encountered. Violation of driver expectancy should be avoided whenever possible.

Expressway

A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

F

Farm Tractor

A self-propelled vehicle designed and used primarily as an implement for drawing ploughs, mowing machines and other implements of husbandry and not designed or used for carrying a load.

Faze

See Movement (Traffic Signal).

Field Advertizing

Commercial advertizing signs located off the highway right-of-way, or, in bush country, located on, and at the edge of, the highway right-of-way.

Flasher (Traffic Signal)

A device used to open and close signal circuits at a repetitive rate.

Flow

Movement of traffic:

- (1) Interrupted Non-continuous movement of traffic:
- (2) Uninterrupted Continuous movement of traffic.

Freeway

An expressway with full control of access and interchanges in place of At-grade Intersections. This term includes Toll Highways built to a freeway configuration.

G

Geometry

When referring to roadway design, geometry refers to the physical characteristics and dimensions of parts of the roadway.

Grade Separation

The vertical separation of two or more intersecting roadways or a roadway and another transportation mode, e.g., railroad, thus permitting traffic on all roads to cross traffic on all other roads without interference.

Gross Axle Weight

That part of the gross vehicle weight in kilograms transmitted to the highway by an axle unit.

Gross Vehicle Weight

The total weight in kilograms transmitted to the highway by a vehicle or combination of vehicle and load.

Guide Sign

A Traffic Sign used to direct traffic along a route towards a destination.

Guideline

A recommended (but usually not required) practice, method or value for a specific design feature or operating practice.

Н

Hazard Marker

See Object Marker.

High Intensity Material

A retroreflective sign sheeting material meeting ASTM Specification for Type III or higher or CGSB Specification 62-GP-11M for Reflectivity Level I material.

High Occupancy Vehicle (HOV)

A vehicle that carries a defined minimum number of persons (typically two or three).

High Occupancy Vehicle (HOV) Lane

Exclusive roadway or lane limited to high-occupancy vehicles, such as buses, vanpools, carpools and emergency vehicles. Some road authorities also permit motorcycles.

Highway

A general term denoting a public way for purposes of vehicular and pedestrian travel, including the entire area within the right-of-way. This includes King's Highways, regional and county roads, rural roads, municipal roads and streets.

Highway Traffic Act (HTA)

The Ontario Highway Traffic Act.

Human Factors

The consideration of human physical, perceptual and mental limitations in engineering design, so as to optimize the relationship between people and things. The objective is to reduce error and increase user comfort.

Ingress

A way of entering or travelling into a location. Is used when describing which vehicle movements may be permitted at an intersection (such as ingress-only barriers). Is also used when describing the location of driveways and walkways which provide access into a property.

In-line Skater

A person using a manufactured or assembled device consisting of a shoe, boot, or other foot covering, with a frame or chassis holding two or more ball bearing wheels aligned in a single straight line, and used to skate, or glide, by means of muscle power.

Installation

The process or act of placing, erecting, and/or connecting a traffic control device or system into its functional position and state of operational readiness.

Interchange

A system of interconnecting roadways in conjunction with one or more grade separations, providing for the interchange of traffic between two or more roadways on different levels.

Interdictory Symbol

An annular (circular) red band with a diagonal red stroke at 45 degrees, or as close to 45 degrees as practical, signifying that whatever is depicted within the symbol is prohibited.

Intermittent

Not continuous. As used for traffic control devices, usually means regularly spaced either in time (flashing beacon) or space (broken pavement lines). Otherwise, may mean regularly or irregularly spaced (such as intermittent hazard).

Intersection

The area embraced by the prolongation of lateral curb lines or, if none, of the rights-of-way of two or more highways that join one another at an angle, whether or not one highway crosses the other.

Intersection Approach

That part of an intersection leg used by traffic approaching the intersection.

Intersection Channelization

Raised or painted islands at an intersection that prevent specific movement(s) from being made or provide better definition of large uncontrolled areas of pavement.

Intersection Leg

That part of any one of the roadways radiating from the intersection which is close to the intersection but outside the area of the intersection proper.

J

Junction

See Intersection.

Jurisdiction

A legal or other authority with responsibility and control for specific actions within a defined area.



Kilometre

A measure of distance equal to 1000 m (.622 miles).

King's Highway

A highway, including secondary and tertiary roads designated under the Public Transportation and Highway Improvement Act.

km

Abbreviation for kilometre.

L

Lane

A defined width of road intended to accommodate a single line of moving vehicles.

Lane Designation Sign

An overhead or ground-mounted sign, erected at or in advance of an intersection, or over a lane or lanes, to regulate traffic on an approach by assigning certain traffic movements to specific lanes or a reserved lane. These signs should not be confused with Turn Control Signs.

Lane Line

A pavement marking, other than a directional dividing line, which separates two traffic lanes assigned to traffic moving in the same direction.

Left-turn Lane

A lane reserved for left-turning vehicles and so designated by pavement markings and/or lane-use signs.

Left-turn Slip-around

An additional lane or width of pavement provided for through traffic to separate this traffic from leftturning traffic at an intersection.

Legal Authority

The authority provided, by legislation and regulation, to a jurisdiction or enforcement body for the actions it takes.

Legibility Distance

The distance at which a sign can be read by a given driver under prevailing conditions.

Legibility Distance, Required

The distance at which a sign must be legible, based on the travel speed and the sum of Reading Time, Perception-reaction Time, and Manoeuvre Time.

Local Road

A street or road primarily for access to residence, business or other abutting property.

Local Traffic

Traffic which originates from or is destined to a location within a Neighbourhood.

Low Volume/High Volume Roadway

The volume of a roadway is normally expressed as a daily volume and includes the combined traffic in both directions. Low volume roadways are typically defined as having volumes less than 3,000 vehicles per day. The appropriate value can be obtained from the local road authority.

Lugs

Metal or hard rubber studs or ridges on tires used to improve traction on dirt surfaces.

Luminance

The luminous flux in a light ray, emanating from a surface or falling on a surface, in a given direction, per unit of projected area of the surface as viewed from that direction, per unit of solid angle. (Reflective light.)

M

m

Abbreviation for metre.

Maintenance

The upkeep of highways, traffic control devices, other transportation facilities, property and/or equipment.

Major Road

The principal route of two roads at an intersection. Also called Main Road.

Manoeuvre Time

The time to complete any required manoeuvre before reaching a sign, other traffic control device, or decision point.

Marking (Pavement)

See Pavement Marking.

Maximum Speed

The maximum speed drivers are permitted to travel. The maximum speed is imposed by the Highway Traffic Act, or municipal by-laws.

May

Indicates a permissive condition. No requirement for design or application is intended. However, mandatory requirements apply to some specific options if and when they are selected.

Median

That portion of a divided highway separating the travelled ways for traffic in opposite directions.

Median Barrier

A raised island, wall or structure located on the Centreline of a roadway through an intersection or along a road that prevents left turns or straight through movements from being made to and from a side street or private/commercial driveway.

Median Island

A zone or physical island constructed in the centre of a roadway to separate opposing directions of traffic. In the context of traffic calming, it may be used to reduce the overall width of the travel lanes.

Median Strip

An expanse of hard surface material separating opposing lanes on a highway. The hard surface is flush or nearly flush with the adjacent lanes.

Merging

The convergence of separate streams of traffic into a single stream.

Ministry

The Ministry of Transportation, Ontario.

Minor Road

The lesser of two roads at an intersection.

Motor Vehicle

Includes an automobile, motorcycle, motor-assisted bicycle (moped), and any other vehicle propelled or driven other than with muscular power, but does not include a streetcar, or other vehicles designed to operate on rails, or a motorized snow vehicle, traction engine, farm tractor and implements of husbandry or road-building machine.

Motorist

See Driver.

Movement (Traffic Signal)

A movement is the direction of traffic flow and may be straight ahead (a "through movement"), a green left arrow (a "left-turn movement"), etc. Several movements may be allowed within a phase (such as with an advanced green arrow and a circular green display). In some cases, a movement is called a Faze since it is normally part of a Phase.

MTO

The Ministry of Transportation Ontario.

Multi-lane Highway

A roadway with two or more travelled lanes carrying traffic in each direction.

Multi-use Path

Any off-road dedicated facility for non-motorized traffic such as bicycles, pedestrians and in-line skaters.

Must

Indicates a mandatory condition. Where certain requirements in the design or application of the device are described with the "must" stipulation, it is mandatory that these requirements be met when an installation is made.

MUTCD

The Manual of Uniform Traffic Control Devices for Ontario, 1995.

N

Neighbourhood

A cohesive urban area defined by geographic features, the road network or socio-economic characteristics. With respect to traffic calming, neighbourhood boundaries are often defined by the arterial roadway network, which typically presents a significant barrier to travel and interaction.

No Parking

See Parking and Parking Restriction.

No Standing

The prohibition of the halting of a vehicle whether occupied or not, except for the purpose of and while actually engaged in the receiving or discharging of passengers.

No Stopping

The prohibition of the halting of a vehicle, even temporarily, whether occupied or not, except where necessary to avoid conflict with other vehicles, or in compliance with the directions of a police officer or Traffic Control Signal.

O

Object Marker

A traffic sign mounted temporarily or permanently on an obstruction, within or adjacent to the roadway, to make the obstruction as highly visible as possible.

Off Ramp

That part of an interchange connecting a Deceleration Lane to a crossroad.

Off-road Bikeway

A bicycle path which is not immediately adjacent to a roadway.

Official Sign

Any sign approved by the Ministry of Transportation.

Older Driver

A driver aged 55 years or older.

On Ramp

That part of an interchange connecting a crossroad to an Acceleration Lane leading onto a Major Road.

On-street Parking

The use of vehicle parking on the roadway surface or on the adjacent shoulder.

Opposing Traffic (Traffic Signal)

Traffic progressing in the opposite direction to the traffic being considered on a roadway.

Overhead Sign

A Traffic Sign mounted above the roadway, usually with 4.5 m to 5.3 m of vertical clearance and preferably located over the lane or lanes to which the sign applies.

Oversize Sign

A Traffic Sign with greater proportional dimensions than the minimum dimensions specified in this Manual. Such signs are generally required on higher speed highways, or on other highways in special cases.

P

Parking

The stationary storage or leaving of a vehicle unoccupied or unattended.

Parking Control Sign

A sign which identifies the times of day and days of week parking, stopping or standing restrictions are in place on the section of road adjacent to the sign.

Parking and Stopping Signs

A Traffic Sign of the regulatory type which informs drivers of the parking and stopping regulations in effect on facilities where such signs are erected.

Parking Restriction

A limitation which prevents vehicles from being parked in specific locations, at specific times, or for specific types of vehicle. Most often used to control on-street parking.

Parking Space Marking

Markings intended to inform drivers where they are permitted to park.

Passing Sight Distance

The length of highway required for a vehicle to execute a normal passing manoeuvre as related to design conditions and design speed.

Pavement Marking

A coloured marking applied to the pavement to provide drivers with roadway alignment information.

Pedestrian

Any person who is not in or upon a vehicle, motorized or otherwise propelled.

Pedestrian Crossover

Any portion of a Roadway, designated by by-law of a municipality, at an intersection or elsewhere, distinctly indicated for pedestrian crossing by signs on the highway and lines or other markings on the surface of the roadway as prescribed by the regulation and the HTA, with associated signs Ra-4, Ra-4t, Ra-10 and Ra-11.

Pedestrian Crosswalk

Any portion of the roadway, at an intersection or elsewhere, distinctly indicated for pedestrian crossing by appropriate pavement markings and/or signs, or by the projections of the lateral lines of the sidewalk on opposite sides of the road.

Pedestrian Facility

A facility where pedestrians are controlled and protected from other road users.

Pedestrian Signal (Traffic Signal)

A Traffic Signal head or indication showing either a white walking pedestrian on a black background (when pedestrians are permitted to cross) or an orange hand on a black background (when pedestrians are not permitted to cross, if continuous, or are not permitted to start crossing, if flashing).

Perception-reaction Time

The time required to make a decision, after reading or encountering a traffic control device, and initiate a manoeuvre if required.

Permissive

Refers to areas where a driver is permitted to travel.

Permissive Symbol

An annular (circular) green band used on a sign to signify that whatever is depicted within the symbol is permitted.

Phase (Traffic Signal)

A part of a cycle where one or more traffic movements receive a green indication at the same time. Phase time is the time required from the start to the finish of the phase including Amber and All-red Interval times.

Portable Lane Control Signal

A portable lane control signal may be used as an alternative to Traffic Control Persons and is used only to stop vehicles intermittently when traffic must use a single lane in situations where the road is normally a two-way operation. Portable lane control signals must comply in all respects with Section 125 or Regulation 478 under the HTA.

Posted Speed Zone

A section of highway upon which the maximum speed is indicated by appropriate Regulatory Signs.

Prescribed Sign

The Highway Traffic Act (HTA), Section 182 (R.S.O. 1990), provides for the regulation of various signs, their type and location on the roadway. The criteria and specifications for application, dimensions, location and orientation are prescribed and illustrated under Regulations 615, 608, 581, 599 (R.R.O 1990) and are indicated as such in this Manual. Signs erected in accordance with the Regulations, and pursuant to the Highway Traffic Act, are enforceable under various provisions of the Act. Enforcement is permitted under the particular section under the authority of which a prescribed sign may be erected to indicate a traffic regulation, or HTA Section 182 (R.S.O. 1990), which requires obedience to prescribed signs.

Progression (Traffic Signal)

- The time relationship between adjacent signals on a roadway which permits a platoon of vehicles to proceed through the signals at a planned rate of speed;
- (2) The act of various Controller Units providing specific green indications in accordance with a time schedule to permit continuous operation of groups (platoons) of vehicles along the road at a planned speed.

Provincial Highway

Any public highway under the jurisdiction of the Ministry of Transportation of Ontario (MTO). See King's Highway.

Public Roadway

Any roadway under the jurisdiction of and maintained by a public authority and open to public travel.

R

Raised Crosswalk

A marked Pedestrian Crosswalk at an intersection or mid-block, constructed to the same elevation as adjacent curbs and sidewalks.

Ramp

An interconnecting roadway of a traffic interchange, or any connection between highways at different levels or between parallel highways, on which the vehicles may enter or leave a designated roadway.

Reading Time

The time required to read a sign with a given message.

Reflectance

See Reflectivity.

Reflectivity

A measure of the degree to which a surface reflects incident light. A related term, reflectance, is the amount of light reflected back from a sign, relative to the amount of light shining on the sign. See Retroreflectivity, Coefficient of (R).

Reflectorization

A method of incorporating light-reflective material on the approach face of a Traffic Sign so that the face will reflect light during the hours of darkness while retaining the same colours as by day.

Refuge Island

An island provided in a street for the safety of pedestrians, either as a Median Island on a wide street, where the width may not permit pedestrians to cross the street on a single Pedestrian Signal indication, or as a loading island for transit, such as Streetcars.

Regulation

A prescribed rule, supported by legislation, such as any regulation made under the HTA or municipal bylaw. Regulations provide the legal basis for enforcement.

Regulatory Sign

A Traffic Sign advising drivers of action they should or must do (or not do), under a given set of circumstances. Disregard of a regulatory sign would usually constitute an offence.

Reserved Lane

A street or highway lane reserved for use by specific classes of vehicles, either all day, or during specified periods. These classes may include any or all of buses, carpools, taxis or bicycles.

Reserved Lane Controls

All controls, including Traffic Control Devices and physical devices, intended to ensure that a Reserved Lane functions in accordance with its intended purpose.

Residential District

That portion of a municipality, or an area within the influence of a municipality, in which the dominant land use is residential development, but where small business areas may be included.

Restrictive

Refers to areas where, or times when, a driver is not permitted to travel.

Retroreflective Material

A type of material applied in either strips or sheets which reflects illumination back to its source.

Right-of-way

- (1) Allocation of right of movement to a road user, in preference over other road users;
- (2) The width of the road allowance from the property line on one side to the property line on the opposite side of the roadway.

Right-of-way Rule

Although these may vary in specific localities, generally a vehicle approaching an uncontrolled intersection must yield to a vehicle approaching on the leg to its right.

Right Turn on Red (RToR)

A right-turning movement permitted on a red signal indication after coming to a stop and ensuring that a right turn can be made safely. Allowed by the HTA, but subject to site-specific local by-laws.

Road

See Highway.

Road Authority

The body (Municipal, Provincial or private) that has legal jurisdiction over a roadway.

Road Closure

The closing of a highway to road users. Road closures are covered by Regulation 599 of the HTA.

Roadway

The part of the highway that is improved, designed or ordinarily used for vehicular traffic, but does not include the shoulder, and, where a highway includes two or more separate roadways, the term "roadway" refers to any one roadway separately and not to all of the roadways collectively.

Rollerblader

See In-line Skater.

Roundabout

A raised circular island located in the centre of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island. Roundabouts are typically used on arterial and collector roads, and are distinguished by YIELD signs and raised Median Islands on all approaches, and in some cases, gradual widening of the entry approach to two or more lanes.

Rumble Strip

Raised buttons, bars or depressions closely spaced at regular intervals on the roadway or shoulder that create both noise and vibration in a moving vehicle to alert the driver or cyclist of an upcoming situation, or of a potentially hazardous deviation from the normal travel way. Also called Singing Strip.

Rural Area

An area outside of the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area.

S

Safe Speed

See Advisory Speed.

Safe Stopping Distance

The distance required to bring a vehicle completely and safely to rest with normal braking and road conditions.

School Bus

Any bus which is used for the express purpose of transporting students to and from school. Ontario registered vehicles must be Chrome Yellow in colour.

School and Pedestrian Signs

A group of signs, both Regulatory and Warning, used to control vehicles and protect pedestrians wherever students and pedestrians are likely to be present and conflict with vehicles may occur.

School Zone

A roadway section with a mandatory 40 km/h maximum speed zone in effect every school day at designated times, in the vicinity of a school. The HTA also makes provision for 60 km/h speed zones on King's Highways.

Shall

Means the same as "must".

Shared Roadway

Any roadway upon which a Reserved Lane is not designated and which may be legally used by a variety of vehicle types regardless of whether such facility is specifically designated. This includes bicycles, buses, taxis, and carpools.

Short Duration Work

Any daytime maintenance activity, construction project or utility work which requires a separate work area for less than one day in duration.

Should

Indicates an advisory condition. Where the work "should" is used, the action is advised; recommended but not mandatory. This term is meant to suggest good practice in most situations but also to recognize that in some situations, for good reasons, the recommended action cannot or need not be followed.

Shoulder

The portion of a highway between the outer edge of the roadway and the curb, or point of intersection of the slope lines at the outer edge of the roadway and the fill, ditch, or median slope, for the accommodation of stopped vehicles, for emergency use, and for lateral support.

Side Road (Traffic Signal)

The roadway approach or approaches at an intersection normally carrying the least volume of vehicular traffic. (Also called Minor Road.)

Sidewalk

That portion of a road, adjacent to the travelled roadway, which has been improved for the use of pedestrians.

Sight Distance

The distance visible to the driver of a passenger vehicle, measured along the normal travel path of a roadway, to the roadway surface or to a specified height above the roadway, when the view is unobstructed by traffic.

Sign

A Traffic Control Device mounted on a fixed or portable support which conveys a specific message by means of symbols or words, and is officially erected for the purpose of regulating, warning, or guiding traffic.

Sign Blank Number

The number given to a given size of standard sign blank (substrate), for purposes of identification, inventory and fabrication.

Sign Pattern

The full-size drawings of individual signs, showing sufficient detail and dimensional accuracy for sign fabrication.

Sign Sheeting

The Retroreflective Material used on the surface of a Sign to provide good daytime and nighttime visibility.

Sign Support

The physical means of holding a sign in its intended position.

Sign Symbol

A pictogram, depiction, arrow, silhouette or figure, and/or Interdictory or Permissive Symbol, used to simplify or represent a word message on a sign.

Signal Indication (Traffic Signal)

The illumination of one or more lenses in a signal head which conveys a message to traffic approaching the signal from one direction.

Signalized Control

The use of a traffic signal control device to control traffic on a road section or intersection.

Singing Strip

See Rumble Strip.

Single Axle Weight

The total weight transmitted to the roadway by all wheels whose centres may be included between two parallel transverse vertical planes 1 m apart, extending across the full width of the vehicle.

Snow Route

A highway where parking is prohibited for purposes of snow removal as decreed by municipal by-law.

Snowmobile

A motorized vehicle solely designed to operate on snow or ice.

Solid Line

A continuous Pavement Marking. Solid lines are restrictive; drivers are being informed that they are not to cross a solid line.

Speed Controls

Speed zoning, enforcement, and non-enforcement measures to control speeds.

Speed Limit

The maximum vehicular speed allowed within any given posted or unposted Speed Zone.

Speed Zone

A specific section of roadway upon which a maximum speed limit has been imposed. Such zones may be posted or unposted.

Speeding

Operating at a speed, possibly below the posted limit, above that at which a reasonable and prudent person would operate under the circumstances, or operating at a speed above the legal limit.

Staged Freeway

A highway designated as a possible future freeway, being constructed by stages with either two or four lanes and with both At-grade Intersections and Interchanges. One consequence of the staged freeway designation is the restriction on Field Advertizing.

Standard

A rule, principle, pattern or measure, which practice or theory has shown to be appropriate for a given set of conditions, and applicable, as the case may be, to planning, design, traffic control devices, operations or maintenance.

Standing

The halting of a vehicle whether occupied or not, except for the purpose of and while actually engaged in the receiving or discharging of passengers.

Statutory Speed Limit

A maximum speed limit automatically in effect on all roads, unless otherwise signed. The statutory speed limit applies even where no maximum speed limits are signed.

Stop Bar

A Pavement Marking placed laterally across the approach half of a travelled roadway at the site of a STOP sign, Traffic Signal, or Pedestrian Crosswalk. The line indicates the point beyond which the foremost part of a vehicle must not protrude, should the vehicle be required to stop. Also called Stop Line.

Stop Line

See Stop Bar.

Stopping

The halting of a vehicle, even temporarily, whether occupied or not, except where necessary to avoid conflict with other vehicles, or in compliance with the directions of a police officer or Traffic Control Signal.

Stopping Sight Distance

The distance required by a driver of a vehicle, travelling at a given speed, to bring the vehicle to a stop after an object on the roadway becomes visible. It includes the distance travelled during the Perception-reaction Time and the vehicle braking distance.

Street

An Urban Highway.

Streetcar/Tram

An electrically powered rail car that is operated singly or in short trains in mixed traffic on track in city streets.

Substrate

The surface to which the Sign Sheeting is applied.

Suburban Area

An area, primarily residential, generally located between an urban centre of a community and the surrounding rural area.

Surface

The top of the pavement material, Substrate, or Sign Sheeting.

Т

Tab Sign

A sign smaller than the primary sign with which it is associated, and mounted below it. There are two types of tab signs:

- (1) Supplementary Tab Sign contains additional, related information:
- (2) Educational Tab Sign conveys the meaning of symbols during their introductory period.

Taxi

A "for-hire" vehicle for the transport of passengers between points not along a fixed route or schedule.

TC

Abbreviation for Temporary Conditions.

Temporary Conditions

Roadway and traffic control conditions related to non-permanent construction, maintenance and utility work on any highway open to the public.

Temporary Sign

A Regulatory, Warning, or Guide Sign, intended to be used for Temporary Conditions.

Through Roadway

- (1) The portion of the roadway used by through traffic as opposed to the parts used by traffic which is stopping or turning; or
- (2) A road at which vehicular traffic from intersecting roads is required to stop before crossing or entering.

Through Traffic

- (1) Traffic using a through roadway; or
- (2) Traffic proceeding through an area and not having an origin and destination therein.

Timing

When referring to traffic signals, timing describes the amount of time allotted to each Phase within each signal cycle.

Toll Highway

A highway, often built to freeway configuration, where a fee (toll) is charged for use of the highway.

Traffic Accident

See Collision.

Traffic Circle

A confluence of three or more intersection legs at which traffic merges into and emerges from a one-way roadway in a counterclockwise direction around a central area. Traffic circles are typically used on local streets, and may have either no right-of-way control devices, or YIELD signs. See also Roundabout.

Traffic Control Device

Any sign, signal, marking, or device placed upon, over or adjacent to a roadway by a public authority or official having jurisdiction, for the purpose of regulating, warning, guiding or informing road users.

Traffic Control Person

A person, duly trained and authorized, to direct traffic at a work zone, through the use of a "Stop" and "Slow" paddle.

Traffic Control Signal (Traffic Signal)

Any power-operated Traffic Control Device, whether manually, electrically or mechanically operated, by which traffic is alternately directed to stop and permitted to proceed. Traffic Signal:

- (1) When used in general discussion, a traffic signal is a complete installation including signal heads, wiring, controller, poles and other appurtenances.
- (2) When used specifically, the terms refers to the signal head which conveys a message to the observer.
- (3) That part of a traffic control signal system that consists of one set of no less than three coloured lenses, red, amber and green, mounted on a frame and commonly referred to as a signal head.

Traffic Island

A raised or painted island designed to separate streams of vehicular traffic.

Traffic Sign

A device (other than Delineators and Traffic Control Signals) which may be erected beside or above a roadway for the purpose of regulating, warning or guiding traffic.

Trailer

A vehicle that is drawn upon a highway by a motor vehicle, except an implement of husbandry, a mobile home, or motorcycle side car.

Transit Lane

A street or highway lane intended exclusively or primarily for transit vehicles, including buses, streetcars and trolleys, either all day, or during specified periods.

Transponder

A small electronic device which, when mounted in or on a vehicle and interrogated electronically by a roadside reader, responds with its transponder identification and possibly additional information, enabling the reader to identify the passage of a specific vehicle. (Used in electronic toll collection systems and other applications.)

Truck

A commercial vehicle exceeding a specified weight or length as defined by the Highway Traffic Act, municipal by-law, or toll agency.

Turn Control Sign

A Traffic Sign, generally erected at an intersection, indicating by arrows and an Interdictory Symbol the movement or movements traffic on that approach must not take. These signs should not be confused with Lane Designation Signs.

Turn Lane

A lane designed to facilitate vehicular turn movements from the through roadway.

Turn Prohibition

A regulation prohibiting a straight-through movement or a left or right turn at an intersection. Turn prohibitions are sometimes used in association with barriers that physically prevent a turn from being made.

Two-lane Highway

An undivided two-way facility having one lane for traffic moving in each direction.

Two-way Left-turn Lane

The centre lane on some three, five or seven lane sections of undivided highway which is designed to facilitate left turns from each direction.



Uncontrolled Intersection

An intersection which does not have right-of-way control devices on any of the approaches.

Undivided Highway

A multi-lane highway with no continuous median, or with a paved flush dividing strip (including a Rumble Strip), or with a two-way left-turn lane.

Uniformity

Consistency in the design and application of traffic control devices and operations.

Upstream End (of an Island)

See Approach Nose.

Urban Area

An indefinite area of land used primarily for residential, commercial, and/or industrial purposes, usually associated with a given area size, population, and density.

Urban Highway

Any highway, road, or street within the boundaries of an urban area.



Vehicle

Includes a motor vehicle, trailer, traction engine, farm tractor, road-building machine, bicycle, and any vehicle drawn, propelled or driven by any kind of power, including muscular power, but does not include a motorized snow vehicle or motorcycle sidecar.

Vehicle Occupancy

The number of persons, including the driver and passenger(s), in a vehicle at a given time.

Vehicles with Lugs

See Lugs.

Volume

The number of vehicles or pedestrians that pass over a given section of a lane or a roadway or make a particular movement during a specific time period (such as one hour or 24 hours).



Warning Sign

A sign which indicates conditions on or adjacent to a highway or street that are actually or potentially hazardous to traffic operations.

Warrant

A criterion or set of criteria by which justification for a given type of Traffic Control Device or other application is determined.



Yield

To cede the right-of-way.

Appendix B • References

Referenced Documents

- Highway Traffic Act (HTA); Office Consolidation, Revised Statues of Ontario, 1990, Chapter H.8 and the Regulations thereunder (as amended), 1996
- King's Highway Guide Signing Policy Manual; Ministry of Transportation Ontario, 1990
- Manual of Uniform Traffic Control Devices; Ministry of Transportation Ontario, 1985
- Motorized Snow Vehicles Act; Ministry of Transportation Ontario, 1995
- Ontario Traffic Manual; Books 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19, 1998
- Public Transportation and Highway Improvement Act; Revised Statutes of Ontario 1990, Revised Regulations of Ontario, 1986
- Specification 62-GP-11M; Canadian General Standards Board, 1978 (Amendment No. 1, 1987)
- Specification D 4956-95; American Society for Testing and Materials, 1995
- Transportation of Dangerous Goods Act (Canada); 1992

Additional References

- Highway Capacity Manual; Transportation Research Board, 1994
- HOV Best Practices Guidelines; Ministry of Transportation Ontario, 1997
- HOV Facilities on Provincial Highways (Draft); Ministry of Transportation Ontario, 1997
- High Occupancy Vehicle Opportunities, Incentives and Examples; Ministry of Transportation Ontario, 1997
- *In-line Skating Review Phase 2;* Transportation Association of Canada, 1997
- Manual of Uniform Traffic Control Devices; U.S. Department of Transportation, 1997
- Manual of Uniform Traffic Control Devices; Transportation Association of Canada, 1997
- Municipal Act; Revised Statues of Ontario, 1990
- Ontario Traffic Manual; Books 22 and 23, 1998
- *Traffic Engineering Handbook;* Institute of Transportation Engineers, 1992
- *Transportation Planning Handbook;* Institute of Transportation Engineers, 1992