Appendix A: Glossary

Contents

[1] For sign acronyms and abbreviations, see *Section 4.2: Traffic Signs* and *Section 4.3: Dynamic Message Signs.*

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Appendix A: Glossary

A.1 Terms

barricade
A frangible device that is relatively forgiving when struck by an errant vehicle. It is normally placed at or nearly at right angles to approaching traffic to provide visual identification of hazardous locations and to delineate travel paths.

barrier
A device typically filled with water, or concrete, and designed to contain and deflect errant vehicles at a small angle, thereby preventing them from entering a closed or hazardous area. It is normally placed parallel to or nearly parallel to approaching traffic.

bicycle lane
A lane designated for bicycle use only, and may be marked with both a diamond and a bicycle symbol.

brief-duration work
Work that is generally planned in nature, but for which the extent of the work required or the location may not be fully known. The total time to complete brief-duration work is less than 15 minutes.

buffer space
An area preceding a work activity area that provides protection for workers and a recovery space for traffic. It is the area where devices may be positioned to protect workers and drivers, and may include such items as empty space, buffer vehicles, crash attenuators, and/or barricades.

See also *Section 6.2.3: Work Zone Components – Buffer Space.*

buffer vehicle
A vehicle positioned in the buffer space in advance of a work activity area to enhance worker safety. It is usually stationary, and shall display a flashing arrow board (FAB) or 360-degree flashing yellow lights and 4-way flashers.

changeable message sign
See “dynamic message sign”.

chase vehicle
A separate traffic control vehicle used in a rolling slowdown operation, following the slowest or last public vehicle ahead of the blockade (see *Section 10.6: Rolling Slowdown*).

clear zone	The total roadside border area—starting at the edge of the travel lane—that is available for errant vehicles. A clear zone may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area.
Construction Speed Zone	A lowered legal speed zone authorized by the Road Authority, normally through a long-duration work zone.
continuously slow-moving work	Work that is continuously moving such that the use of normal traffic control procedures is impracticable. This can include stops of up to 15 minutes. Examples include hydro-seeding, spraying for dust control, grading, mowing, brushing, flushing, striping, and sweeping.
conventional pavement marking	A form of pavement marking in which the paint dries slowly (drying time is 5 minutes or more), and from which paint could be tracked into travel lanes by vehicles driving over the marking. It requires advance warning signage and protection of the painted area by using signs, cones, barricades, and other devices until the paint is dry. See also "quick-dry pavement marking" in this *Glossary* and *Section 14.1: General Information* on pavement marking.
detour route	A travel route that takes traffic off the normal route and uses existing roadways or new temporary roadways to guide traffic around a work zone, identified by appropriate detour signs. At least one week prior to closing a roadway and opening a detour, it is advisable to erect "Closing Notice" signs at strategically selected locations.
directional dividing line	A yellow line that separates traffic traveling in opposite directions. Directional dividing lines are also used to mark the left edge line of divided highways and one-way roadways, including portions of highway ramps, and to mark both sides of two-way left-turn lanes.
downstream	Like the flow of a river, a location away from a present location, in the direction of vehicular travel. See also "upstream" in this *Glossary*.
drawings	Scale diagrams of the roadway in the vicinity of the work zone that identify the planned arrangement of traffic control devices in accordance with this Manual. Drawings include dimensions and show all painted markings and physical features (signs, no-post guardrail, lamp standards, etc.) that may affect traffic operations, roadway geometry, and lane configurations.

drop-off

An abrupt change in the road level created by construction activities—such as milling, paving, or excavating—that is steeper than 3:1 (i.e., a non-traversable slope).

See also *Section 6.5: Treatment of Drop-Offs and Travel Lane Excavations.*

dynamic message sign

A programmable traffic control device that displays messages composed of letters, symbols/graphics, or both, and is used to provide drivers with highway condition information or to warn or manage traffic.

The acronym for dynamic message sign is DMS. It may also be called a changeable message sign (CMS) or a variable message sign (VMS).

See also *Section 4.3: Dynamic Message Signs.*

emergent work

Unplanned, quick-response work necessitated by an unanticipated situation that presents a risk to road users.

Each entry onto the travelled portion of the highway to perform emergent work takes less than 1 minute, and the total time required to complete the work is less than 5 minutes. (This does not apply for emergency incidents.)

escort vehicle

A vehicle used in quick-dry paint operations on two-lane, two-way roadways as a warning device to the travelling public.

Typically driven ahead of the paint truck, it carries supplies, transports personnel between job sites, and communicates information about highway conditions, hazards, and traffic flow to other vehicles involved in the painting operation.

flasher

A yellow flashing warning light.

freeway

A multi-lane public highway with a continuous, non-traversable divided median and grade-separated interchanges, typically with a posted speed limit of 80 km/h or higher.

high speed

A speed of 70 km/h or higher.

See also “low speed” in this *Glossary*.

high-volume roadway

During work, a roadway which carries 1,000 or more vehicles per day.

See also “low-volume roadway” in this *Glossary*.

highway

A roadway that carries vehicular traffic and typically has a speed limit of 70 km/h or higher.

Implementation Plan	A sub-plan within a Traffic Management Plan that identifies the designated Traffic Control Manager and Traffic Control Supervisor and their qualifications, responsibilities, and duties, as well as procedures for ensuring that traffic management sub-plans are implemented in a coordinated manner (see *Section 3: Traffic Management Plans*).
inactive work site	A portion of roadway or right-of-way on which work has commenced but has temporarily ceased, and which has not been returned to normal operating conditions.
Incident Management Plan	A sub-plan within a Traffic Management Plan that documents a plan for detecting incidents and managing incident response operations (see *Section 3: Traffic Management Plans*). It includes priorities and procedures for incident detection, response actions that will restore traffic flow as quickly as possible, and a review and analysis process for reducing incident frequency and severity.
intermittently-moving work	A road maintenance activity with a frequently changing work zone (e.g., some mowing operations) or one that involves frequent stops that last 30 minutes or less (temporary patching, group re-lamping of street lights, Benkleman beam testing, crack sealing, etc.).
isolated pothole patching	The patching of one or two potholes within a 1 km length of roadway. See also "multiple pothole patching" in this *Glossary*.
Lane Closure Request Form	The Ministry's "Work Notification/Lane Closure Request and Approval Form" that is completed by the Prime Contractor and submitted to the District Manager of Transportation for approval. It identifies the proposed work zone location and traffic control measures, and is the minimum level of documentation required from the Prime Contractor. See Appendix E: Lane Closure Request Form for a sample of the form and a link to it.
lane drop	The closure of a through lane by using appropriate temporary traffic control devices, including flashing arrow boards and merge tapers.
layout	A schematic diagram of the roadway showing the placement and general arrangement of traffic control devices. See also *Section 3.2: Traffic Management Sub-Plans* and the traffic control layouts in *Sections 7 through 19*.
line-type utility vehicle	A vehicle carrying personnel who are working on utility lines, such as power, phone, or fibre optic lines.

long-duration work

Planned work that occupies one location for more than one daylight period. Night work lasting more than 15 minutes is also considered long-duration work.

See also "short-duration work" in this *Glossary*.

low speed

A speed of 60 km/h or less.

See also "high speed" in this *Glossary*.

low-volume roadway

During work, a roadway which carries fewer than 1,000 vehicles per day.

See also "high-volume roadway" in this *Glossary*.

Manual

This Traffic Management Manual for Work on Roadways (TMM).

Ministry

The British Columbia Ministry of Transportation and Infrastructure, which is the provincial government entity responsible for work on Provincial roadways and rights-of-way.

When Ministry responsibilities are identified in this Manual, municipal Road Authorities may have similar responsibilities for work on municipal roads and rights-of-way.

mobile work

Continuously slow-moving work or intermittently-moving work, with short stops of 30 minutes or less. The traffic control devices for mobile work are typically vehicle-mounted.

multilane divided roadway

A roadway with two or more travel lanes in each direction, including passing or climbing lanes, where the directions of travel are physically separated by a physical barrier.

multilane roadway

A roadway with two or more travel lanes in at least one direction, including climbing and passing lanes.

multiple pot-hole patching

The patching of multiple clusters of potholes along a stretch of roadway such that the work crew needs to stop several times in succession within 1 kilometre. It is a type of mobile work.

See also "isolated pothole patching" in this *Glossary*.

near miss

An unplanned event that did not result in injury, illness, or damage, but had the potential to do so.

pilot car

For the purposes of this Manual, a vehicle marked with warning signs and lights that is used to guide a queue of vehicles through a work zone or detour (sometimes called "pilot vehicle").

(For links to information on piloting extraordinary loads, see the websites cited at the beginning of *Section 4.11.9: Pilot Cars for Work Zones*).

platoon

A group of vehicles or pedestrians travelling together, either voluntarily or involuntarily, because of traffic signal controls, other traffic control devices, road geometrics, or other factors.

portable signal

See "temporary traffic control signal" in this *Glossary*.

Prime Contractor	The organization directly constructing or maintaining works on a Provincial highway and responsible for: • obtaining Ministry authorization to carry out the works • developing an acceptable Traffic Management Plan • implementing the Plan in accordance with Ministry requirements
project	A work operation or activity undertaken on a roadway or right-of-way and requiring temporary traffic control.
project category	A project classification (Category 1, 2, or 3) based on the project's anticipated effect on traffic operations and the traffic control required for the works (see *Section 3: Traffic Management Plans*).
Public Information Plan	A sub-plan within a Traffic Management Plan that identifies actions and procedures for informing the travelling public, project stakeholders, and Ministry staff of current traffic operations and planned changes to traffic operations (see *Section 3: Traffic Management Plans*).
queue clearing time	the minimum amount of time that the highway must remain open to clear queued traffic and restore free-flow operation prior to implementing a subsequent Road Closure.
quick-dry pavement marking	A form of pavement marking in which the paint dries rapidly (typically in 90 seconds or less), and where paint is not tracked into the travel lanes by vehicles driving over the marking. See also "conventional pavement marking" in this Glossary and *Section 14.1: General Information - Pavement Marking*.
random minor traffic interruption(s)	A very brief stoppage in traffic in one or more directions for construction activities.
Road Authority	The jurisdiction that is responsible for operating the road. For Provincial jurisdictions, the Road Authority is typically the District Manager of Transportation or delegate.
roadside diversion	A deviation from the normal roadway where a section of the road is closed by road works and a short detour is therefore required, usually within the right-of-way, to bypass the work activity area.
roadway	The portion of a street or highway that is normally used for vehicular traffic. The roadway excludes the shoulder.
road closure(s)	A stoppage of traffic in one or both directions for the purpose of blasting rock, tie-ins, girder erection and paving activities, etc.

road users	Anyone who uses or crosses a road, including but not limited to vehicles, cyclists, pedestrians, and mobility devices.
shadow vehicle	A vehicle used primarily in slow-moving operations as a mobile advance warning and sign support device. It may travel on the roadway or on the shoulder.
short-duration work	Planned work which occupies one location for more than 15 minutes during a single daylight period. See also "long-duration work" in this *Glossary*.
simple project	A Category 1 or Category 2 project which may not require an Incident Management Plan, or a Public Information Plan, and for which no specific risk issues have been identified (see *Section 3: Traffic Management Plans*).
single lane alternating traffic (SLAT)	A traffic control practice typically used on a two-lane, two-way roadway whereby one direction of traffic is held while the other is permitted to proceed, and then vice versa. This process is repeated successively so that traffic continues to flow with minimal delays. It is a method acceptable to Road Authorities because delays are typically less than 5 minutes.
spot obstruction	A roadway hazard that is less than a car length in size, such as debris on the road, a manhole, or a sink hole.
stakeholders	Individuals and organizations using the roadway or affected by the road project or works.
steep grade	A grade greater than 6%.
stop bar	A solid white line, normally 30 cm to 60 cm (12" to 24") wide, extending across one or more lanes to indicate the point behind which vehicles are required to stop.
street	A public road used for the movement of vehicles within a municipal area.
tangent distance	The distance between the end of one taper and the beginning of the next for the same direction of travel.
taper	For a lane or shoulder closure, the gradual narrowing of the lane or shoulder using successive channelizing devices to safely guide drivers into the next lane.

taper length	For a lane or shoulder closure, the taper distance along a section of roadway required to achieve the full closure of the lane or shoulder.
Temporary Speed Zone	A temporarily lowered legal speed limit installed in a short-duration work zone at the discretion of the Supervisor and signed with Crew Working C-002 signage.
temporary stop bar	A solid white line, minimum 10" wide, which helps define the stop location in advance of a TCP.
temporary traffic control signal	A set of red, yellow, and green lights on the road or in an intersection used to temporarily control the flow of vehicles and/or pedestrians. It may be a portable signal. The design specifications for temporary signals shall be pre-approved by the Road Authority.
traffic control	The effective use of temporary traffic control devices to protect workers and move road users safely through a work zone. Traffic Control is implemented using a Traffic Management Plan.
Traffic Control Manager	The individual designated by the Prime Contractor to prepare, implement, and manage the Traffic Control Plan. It may be the Prime Contractor's employee or sub-contractor, and it may be the Traffic Control Supervisor for simple projects.
Traffic Control Person	A person trained and certified in a manner acceptable to WorkSafeBC to direct traffic through a work zone while ensuring the safety of public traffic and workers as defined by Part 18 of WorkSafeBC's Occupational Health and Safety Regulation.
Traffic Control Plan	A sub-plan within a Traffic Management Plan that documents how traffic control will be achieved (see Section 3: Traffic Management Plans). It includes a combination of text, layouts, and drawings (if required) that define specifically what traffic control measures and devices will be provided for the project, how they will be implemented, and on what schedule.
Traffic Control Supervisor	The individual designated by the Prime Contractor to supervise traffic control and personnel

Traffic Engineer	A Professional Engineer licensed by the Association of Professional Engineers and Geoscientists of British Columbia and qualified and experienced in traffic management planning and highway safety.
traffic management	The strategies designed to safely mitigate the impact of construction, rehabilitation, maintenance, incident management and special events on roadways to maintain mobility and worker safety. The documentation of strategies is completed using a Traffic Management Plan.
Traffic Management Plan	The Prime Contractor's project-specific plan that details the strategies for protecting workers and safely and efficiently moving road users through the work zone, including any requirements of the Road Authority. It includes one or more of the following sub-plans, integrated into a single document that demonstrates an understanding of the site-specific issues and project requirements: • Traffic Control Plan • Incident Management Plan • Public Information Plan • Implementation Plan
traffic space	The portion of roadway on which traffic is routed through the work zone (see *Figure 6.1: Five Work Zone Components*).
two-lane, two-way roadway	A two-way roadway with one through lane in each direction.
upstream	Like the flow of a river, the location in front of a present location, against the direction of vehicular traffic. See also "downstream" in this *Glossary*.
utility	An organization that supplies a basic utility service, such as electricity, natural gas, water, or fibre optic service.
variable message sign	See "dynamic message sign" in this *Glossary*.
work	The undertaking with the use of equipment or personnel of construction, rehabilitation, maintenance, incident management, or special events on or near a roadway that may impact road users.

work activity area	The specific area within a work zone where active work is taking place (see *Section 6.1: Introduction to Work Zone Components* and *Section 6.2.4: Work Activity Area*). It typically involves the presence of workers and equipment. Several work activity areas may exist within a given work zone, some separated even by several kilometres.
work zone	An area of roadway or right-of-way where road users are warned of potentially changing conditions through to the resumption of regular traffic flow. These changing conditions are typically associated with construction, maintenance, or utility work, or with a situation requiring emergency incident management on or alongside the roadway (see *Section 6.1: Introduction to Work Zone Components* and *Section 6.2: Work Zones Components*). The work zone is typically defined to extend from the first traffic control device to the last traffic control device as seen by the travelling public.

A.2 Acronyms[1]

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic (both directions)
AFAD	Automated Flagger Assistance Device
ASTM	American Society for Testing and Materials
CF	Counter-Flow Lane within Work Zone
CMB	Concrete Median Barrier
CMS	Changeable Message Sign
CRB	Concrete Roadside Barrier
DMI	Distance Measuring Instrument
DMS	Dynamic Message Sign
DMT	District Manager of Transportation
DT	Day-Time Work
DTN	Day-Time Work with Traffic Control Devices in Place at Night
FAB	Flashing Arrow Board
FHWA	Federal Highway Administration (USA)
FR	Flame Resistant
GPS	Global Positioning System
HOV	High-Occupancy Vehicle
LED	Light-Emitting Diode
LKI	Landmark Kilometre Inventory
LoC	Limits of Construction
MoT	Ministry of Transportation and Infrastructure
MUTCD	Manual of Uniform Traffic Control Devices (USA)
NCHRP	National Cooperative Highway Research Program (USA)
NT	Night-Time Work
PTS	Portable Traffic Signal

[1] This Manual generally avoids using acronyms to ensure clarity for non-Ministry users.

Appendix A.2 defines acronyms commonly found in other Ministry publications, as well as the few that are used in the Manual.

RPM	Raised Pavement Marker
RTE	Regional Traffic Engineer
RTMC	Regional Traffic Management Centre
SLAT	Single Lane Alternating Traffic
SSD	Stopping Sight Distance
STE	Senior Traffic Engineer
TAC	Transportation Association of Canada
TCM	Traffic Control Manual for Work on Roadways
TCP	Traffic Control Person
TMG	Traffic Management Guidelines for Work on Roadways
TMM	Traffic Management Manual for Work on Roadways[1]
TMP	Traffic Management Plan
TOM	Temporary Overlay Marker
VMS	Variable Message Sign
WZ	Work Zone

[1] This Manual.

Appendix B: Standard Construction Signs

Contents[1]

[1] The signs provided in Appendix B are commonly used in construction applications. Additional signs are available in the Ministry's Catalogue of Standard Traffic Signs, accessible online at http://www.th.gov.bc.ca/publications/eng_publications/geomet/geometsigns.htm.

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Appendix B: Standard Construction Signs

See also Section 4.2: Traffic Signs.

B.1 Sign Illustrations at a Glance

Appendix B.1 shows standard signs used temporarily for construction, maintenance, and utility work.

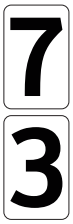
For detailed information on these signs, see *Appendix B.2: Sizes and Applications of Individual Signs*.

B.1.1 Construction and Maintenance Signs

C-001-1
C-001-1xx

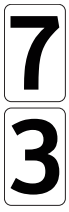
C-001-2

C-002-1
C-002-1x



C-002-1 OL
C-002-1 OL-x

C-002-2
C-002-2x



C-002-2 OL
C-002-2 OL-x

C-003
C-003-x

C-004
C-004-xx

C-005-A

C-005-LR1

C-005-LR2

C-006-A
C-006-Axx

C-006-LR
C-006-LRxx

C-007
C-007-x

C-008-1
C-008-1xx

C-008-2
C-008-2xx

C-008-OL
C-008-OLxx

C-010-LR
C-010-LRxx

C-011
C-011-xx

C-011-T
C-011-Txx

C-012
C-012-x

C-013-LR
C-013-LRxx

C-014
C-014-x

C-015
C-015-x

C-016
C-016-x

C-017
C-017-x

C-018-1A
C-018-1Axx

C-018-2A
C-018-2Axx

C-018-3A
C-018-3Axx

C-018-4A
C-018-4Ax

C-018-6A
C-018-6Ax
C-018-6Axx

C-018-7
C-018-7x
C-018-7xx

C-019

C-019-T

C-022
C-022-x
C-022-xx

C-024
C-024-x
C-024-xx

C-027

C-028
C-028-xx

C-029
C-029-xx

C-030-1A
C-030-1Axx

C-030-2
C-030-2xx

C-030-3A
C-030-3Axx

C-030-4A
C-030-4Axx

C-030-5AL
C-030-5ALxx

C-030-5AR
C-030-5ARxx

C-030-6A
C-030-6Axx

C-030-7A
C-030-7Axx

C-030-8
C-030-8xx

C-030-14
C-030-14x
C-030-14xx

C-030-15
C-030-15x
C-030-15xx

C-031
C-031-x

C-032
C-032-xx

C-033
C-033-x

C-034
C-034-x

C-036

C-037-1
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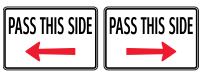
C-041-xx



C-042-LR

C-042-SLR

C-043

C-044-xx

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C-045-2A
C-045-2Axx

C-046
C-046-x

C-047-1
C-047-1x

C-047-2
C-047-2x

C-048-1-DS

C-048-2

C-049
C-049-x

C-050-1
C-050-1x

C-050-2
C-050-2x

C-051
C-051-x

C-052-L
C-052-Lxx

C-052-R
C-052-Rxx

C-053
C-053-xx

C-057
C-057-x

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C-058-x

C-059-1
C-059-1x

C-059-2
C-059-2x

C-061
C-061-x
C-061-xx

C-062
C-062-x
C-062-xx

C-063
C-063-xx

C-064
C-064-xx

C-066
C-066-xx

C-067
C-067-x
C-067-xx

C-067-T
C-067-Tx
C-067-Txx

C-069
C-069-x

C-072
C-072-xx

C-074
C-074-x

C-076
C-076-x

C-080-T
C-080-Tx
C-080-Txx

C-082
C-082-xx

C-084
C-084-x

C-086-1

C-086-2

C-088
C-088-x

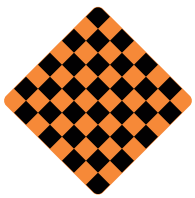
C-089
C-089-x
C-089-xx

C-090

C-092

C-111
C-111-x

C-112
C-112-x



C-114
C-114-x

C-115
C-115-x

C-116
C-116-x

C-117-L
C-117-Lx
C-117-Lxx

C-117-R
C-117-Rx
C-117-Rxx

C-118-L
C-118-Lx
C-118-Lxx

C-118-R
C-118-Rx
C-118-Rxx

C-119-L
C-119-Lx
C-119-Lxx

C-119-R
C-119-Rx
C-119-Rxx

C-128

C-130-L
C-130-Lx
C-130-Lxx

C-130-R
C-130-Rx
C-130-Rxx

C-130-T
C-130-Tx
C-130-Txx

C-132
C-132-x

C-134
C-134-xx

C-135
C-135-x

C-135-Ta
C-135-Tax

C-136-L
C-136-Lx

C-136-R
C-136-Rx

C-137-1
C-137-1x

C-137-2
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C-137-7xx

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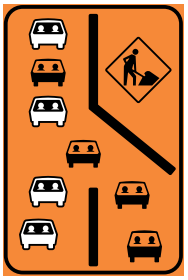
C-137-8xx



C-138

C-138-Te

C-141
C-141-x

C-149
C-149-x

C-154-D

C-154-L

C-154-R

C-162
C-162-x
C-162-xx

C-170-L
C-170-Lx

C-170-R
C-170-Rx

C-172-L
C-172-Lx

C-172-R
C-172-Rx

C-172-T
C-172-Tx

C-180
C-180-x

C-183

C-183-Ta

C-183-Tb

C-183-Tc

C-184
C-184x
C-184xx

C-185-1
C-185-1x

C-185-1Ta
C-185-1Ta-x

C-185-1Tb
C-185-1Tb-x

C-185-2
C-185-2x

C-185-2Ta
C-185-2Ta-x

C-185-2Tb
C-185-2Tb-x

C-185-3
C-185-3x

C-187
C-187-x

C-187-T
C-187-Tx

C-190
C-190-x

C-190-TaA
C-190-TaA-x

C-190-TaLR
C-190-TaLR-x

C-202
C-202-x
C-202-xx

C-203-L
C-203-Lx
C-203-Lxx

C-203-R
C-203-Rx
C-203-Rxx

C-204

C-205-A
C-205-Ax
C-205-Axx

B-C-002

B-C-004-1A

B-C-004-1L

B-C-004-1R

B-C-004-2

B-C-004-Ta

B-C-004-Tb

B-C-004-Tc

B-C-020

B-C-020-T

C-121-1

C-121-Ta

C-121-Tb

B.1.2 Regulatory Signs

R-001
R-001-x
R-001-xx

R-001-Ta
R-001-Tax
R-001-Taxx

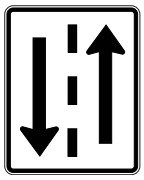
R-001-Tb
R-001-Tbx
R-001-Tbxx

R-001-Tc
R-001-Tcx
R-001-Tcxx

R-002
R-002-x

R-003
R-003-x
R-003-xx

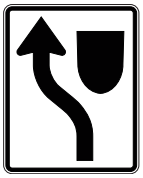
R-004
R-004-x
R-004-xx



R-010

R-012

R-012-T



R-014-L

R-014-R

R-015-L
R-015-Lx
R-015-Lxx

R-015-R
R-015-Rx
R-015-Rxx

R-017-2

R-018
R-018-x

R-020
R-020-x

R-022-1
R-022-1x
R-022-1xx

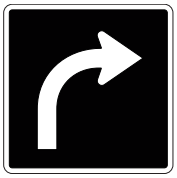
R-023
R-023-x
R-023-xx

R-025-L

R-025-R

R-056-1
R-056-1x

R-082-L
R-082-Lx



R-082-R1
R-082-R1x

R-082-R2u
R-082-R2
R-082-R2x

R-083-L

R-083-R

B-R-101-1

B-R-101-2

B-R-101-Tb

B-R-101-Tc

B.1.3 Other Signs

P-081-1

P-081-2

P-081-Ta

P-081-Tb

P081-Tc

W-132-1u
W-132-1
W-132-1x

W-132-1Tu
W-132-1T
W-132-1Tx

C-326
Hinged

C-326-OL
Series

Note: Those wishing to use Z series signs on Provincial roadways shall first obtain Ministry permission and the Ministry's specification sheets.

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B.2 Sizes and Applications of Individual Signs

Appendix B.2 provides:

- images of traffic signs
- dimensions of each sign in millimetres
- intended use of each sign

Sign sizes used in work zones should not be smaller than those normally required on the roadway.

Sign sizes are related to the roadway type—local road, low-speed road, arterial road, expressway, or freeway:

- Smaller dimensions apply to urban roadways where the regular posted speed is ≤ 60 km/h.
- Larger dimensions apply to rural roadways with a regular posted speed limit of ≥70 km/h, provided that there is sufficient room to accommodate the larger signs.
- Multilane divided roadways typically use oversized signs on both the right and the left side of the roadway. Signs erected on the left side may be erected in a closed lane, shoulder, or median. If sufficient width is not available on the left shoulder or median, a smaller sized sign may be used.

Sign Sizes Marked with Asterisk (*)

Sign sizes marked with an asterisk (*) may not be in the Ministry's Catalogue of Standard Traffic Signs. Confirm appropriate sign sizes for specific roadways and work activities.

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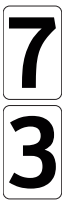
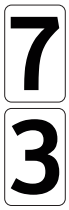
B.2.1 Construction and Maintenance Signs

Construction signs are used to give notification of a roadway condition that is changed for, or potentially hazardous to, public traffic and workers.

The fluorescent orange sign colour indicates the temporary nature of the condition.

Signs should generally be placed sufficiently in advance of the condition to provide drivers with time to understand the information and respond appropriately. See *Section 6.6* and *Sections 7 through 19.*

C-001 Series Traffic Control Person Ahead		
 C-001-1  C-001-2	Sign sizes (mm) C-001-1 (750 x 750) C-001-1xx (1200 x 1200) C-001-2 (750 x 750) C-001-2xx (1200 x 1200)	The TRAFFIC CONTROL PERSON AHEAD C-001-1 sign should be used in advance of any point at which a Traffic Control Person is stationed to control traffic through a work activity area. It is always used in conjunction with other construction and maintenance signs. The FLAGGER AHEAD C-001-2 sign may be used in advance of the C-001-1 sign in areas that require additional advance warning. C-001-1 and C-001-2 signs should be promptly removed or covered whenever a Traffic Control Person is not on the roadway.

C-002 Series Crew Working - Maximum XX km/h		
 C-002-1 C-002-1x  C-002-1 OL C-002-1 OL-x  C-002-2 C-002-2x  C-002-2 OL C-002-2 OL-x	Sign sizes (mm) C-002-1 (450 x 900) C-002-1x (600 x 1200) C-002-1 OL (175 x 280) C-002-1 OL-x (233 x 372) C-002-2 (450 x 900) C-002-2x (600 x 1200) C-002-2-OL (175 x 280) C-002-2-OL-x (233 x 372)	The SURVEY CREW WORKING – MAXIMUM XX km/h C-002-1 sign is used to establish a Temporary Speed Zone, typically when survey crews are working on the travelled portion of the roadway (road lanes and shoulders) The CREW WORKING – MAXIMUM XX km/h C-002-2 sign is used to establish a Temporary Speed Zone, typically when crews are working on the travelled portion of the roadway (road lanes and shoulders). Distance overlays C-002-1 OL and C-002-2 OL may be used to show alternative speed options. See also the SURVEY CREW WORKING AHEAD C-003 sign below.

C-003 Survey Crew Working Ahead		
 C-003	Sign sizes (mm) C-003 (750 x 750) C-003-x (900 x 900)	The SURVEY CREW WORKING AHEAD C-003 sign should be used where survey work is in progress on or immediately adjacent to a travelled roadway that has not been closed to traffic. It may be used alone or in conjunction with the SURVEY CREW – MAXIMUM XX km/h C-002-1 sign if the survey crew supervisor decides that conditions warrant the temporary speed zone.
C-004 Crew Working Ahead		
 C-004	Sign sizes (mm) C-004 (750 x 750) C-004-xx (1200 x 1200)	The CREW WORKING AHEAD C-004 sign is the primary warning sign for short-duration work. It provides advance warning of crews and equipment carrying out a variety of tasks on or adjacent to a travelled roadway.
C-005 Detour Markers		
 C-005A   C-005-LR1   C-005-LR2	Sign sizes (mm) C-005A (600 x 450) C-005-LR1 (600 x 450) C-005-LR2 (600 x 450)	The DETOUR C-005 markers are signs used to mark detour routes on low-speed local roads or arterial highways. C-005 markers with appropriate directional arrows should be used in advance of and beyond all decision points (and for confirmation where necessary) to assure drivers that they are following the detour. Where the detour involves a numbered route, appropriate C-005 markers should be erected below the appropriately numbered route marker. For all work other than short-duration work, C-005 markers should be post-mounted. The approach to the beginning of a detour will generally be indicated by the DETOUR AHEAD C-006-LR markers.

C-006 Detour Ahead		
 C-006-A  C-006-LR	Sign sizes (mm) C-006-A (750 x 750) C-006-Axx (1200 x 1200) C-006-LR (750 x 750) C-006-LRxx (1200 x 1200)	The DETOUR AHEAD C-006-A sign is used to warn traffic of the beginning of a detour. If the departure is abrupt, which is often the case in an urban block system, it may be necessary to: • substitute for DETOUR AHEAD C-006-LR signs, or • in higher speed/volume situations, use C-006-LR signs in advance of the detour, and a C-006-A signs further upstream. If the bypass route is short and adjacent to a work activity area—i.e., within the highway right-of-way—it is better to use a ROADSIDE DIVERSION AHEAD C-052-L/R sign. They may also be used for turns on a detour route instead of DETOUR C-005-LR markers where special emphasis is required.
C-007 Broken Pavement		
 C-007	Sign sizes (mm) C-007 (750 x 750) C-007-x (900 x 900)	The BROKEN PAVEMENT C-007 sign should be used where sections of badly broken or potholed pavement exceed 20 metres in length. Where a speed reduction is deemed necessary because of the pavement condition, an ADVISORY SPEED C-022 tab may be posted with the C-007 sign. If the length of broken pavement is 2 kilometres or more, an ADVISORY DISTANCE C-024 distance tab may be included. TEMPORARY HAZARD C-090 markers should be used with C-007 signs to mark the actual locations of the irregularities.

C-008-1 Paving Next X km – Please Obey Signs		
 C-008-1	Sign sizes (mm) C-008-1 (1200 x 900) C-008-1xx (2440 x 1220)	The PAVING NEXT X km – PLEASE OBEY SIGNS C-008-1 sign should be installed in advance of all paving projects. The C-008-1 specifies the distance in kilometres of the paving project. Distance overlays C-008-OL are available for revising existing signs that are in good condition.
C-008-2 Seal Coating – Loose Gravel Next X km		
 C-008-2  C-008-OL	Sign sizes (mm) C-008-2 (1200 x 900) C-008-2xx (2440 x 1220) C-008-OL (230 x 200) C-008-OLxx (350 x 230)	The SEAL COATING – LOOSE GRAVEL NEXT X km C-008-2 sign should be installed in advance of all seal coating projects. The C-008-2 specifies the distance in kilometres of the sealcoating project. Distance overlays C-008-OL are available for revising existing signs that are in good condition.

C-010 Uneven Pavement on Left/Right		
 C-010-LR	Sign sizes (mm) C-010-LR (750 x 750) C-010-LRxx (1200 x 1200)	The UNEVEN PAVEMENT ON LEFT/RIGHT C-010 sign warns of a difference in elevation between pavement lifts on adjacent travel lanes. (The LOW SHOULDER C-013 sign warns of a difference in elevation between the shoulder and the outer edge of a newly paved roadway.) On two-lane, two-way roadways, the uneven hazard (high or low) will generally be on the centreline, and C-010-L signs are used for both directions of travel in advance of the section (and as required for confirmation throughout). On multilane roadways, the uneven hazard will generally be on the lane line. In such cases, C-010-L signs are placed on the right shoulder and, where space is available, C-010-R signs are placed on the left or median shoulder. The UNEVEN PAVEMENT ENDS C-016 sign is be used to mark the end of an uneven section of pavement.
C-011 Grooved Pavement **C-011-T Median and Shoulders Tab**		
 C-011  C-011-T	Sign sizes (mm) C-011 (750 x 750) C-011-xx (1200 x 1200) C-011-T (600 x 300) C-011-Txx (900 x 450)	The GROOVED PAVEMENT C-011 sign should be used in advance of sections of milled pavement (and as required for confirmation throughout) which affects the handling of vehicles. The MEDIAN AND SHOULDERS C-011-T tab may be used with the C-011 sign only where the grooved pavement condition is found on the median and shoulders and not in the travel lane(s).

C-012 Soft Shoulder		
 C-012	Sign sizes (mm) C-012 (750 x 750) C-012-x (900 x 900)	The SOFT SHOULDER C-012 sign should be used in advance of a section of shoulder that is either newly laid and not compacted or so softened by weather or other conditions that it presents a hazard to vehicles pulling off the travelled roadway. If the soft shoulder condition is extensive, confirmatory C-012 signs may be required.
C-013 Low Shoulder on Left/Right		
 C-013-LR	Sign sizes (mm) C-013-LR (750 x 750) C-013-LRxx (1200 x 1200)	The LOW SHOULDER ON LEFT/RIGHT C-013 sign should be used on unfinished paving projects where the shoulders have not been brought up to the level of the new pavement and the drop-off is potentially hazardous. • The C-013-R sign is erected on the right side of the roadway in advance of a low shoulder. • Where traffic is required to use the left side of a roadway with a low shoulder, a C-013-L sign is erected on the left shoulder.
C-014 Fresh Oil		
 C-014	Sign sizes (mm) C-014 (750 x 750) C-014-x (900 x 900)	The FRESH OIL C-014 sign should be used to warn drivers of freshly sprayed liquid asphalt (prime or tack coat) on the road surface on paving, extensive machine patching, and seal coating projects. Asphalt can be slippery until it has cured, and the work may damage other vehicles. Even after the spray has cured, C-014 signs should be retained until the sprayed area has been covered with new pavement or a sand/chip seal coat. The C-014 sign is placed in advance of the sprayed area and repeated at intervals for confirmation throughout long sections. If a cured sprayed section is to remain exposed when work is not in progress, C-014 signs should be augmented with SLIPPERY WHEN WET C-141 signs to warn of potentially increased slipperiness in the event of rain.

C-015 Loose Gravel		
 C-015	Sign sizes (mm) C-015 (750 x 750) C-015-x (900 x 900)	The LOOSE GRAVEL C-015 sign should be placed in advance of a loose gravel condition that is potentially hazardous. It may also be required at intervals throughout the length of roadway on which the condition exists, especially in advance of curves. Examples of scenarios in which the C-015 sign may be required include: • freshly-graded gravel roads • sections of new, unswept chip seal coat • areas where gravel has been deposited on the pavement edge by shouldering • construction areas with uncompacted gravel
C-016 Uneven Pavement Ends		
 C-016	Sign sizes (mm) C-016 (600 x 600) C-016-x (900 x 900)	The UNEVEN PAVEMENT ENDS C-016 sign should be used to mark the end of an uneven section of pavement. It is typically used on paving jobs in conjunction with one of the following signs: • C-007 Broken Pavement • C-010-LR Uneven Pavement on Left/Right • C-011 Grooved Pavement • C-013-LR Low Shoulder on Left/Right • C-017 Bump or Rough Roadway Ahead Note: The positioning of C-016 and other signs requires frequent adjustment as paving progresses.
C-017 Bump or Rough Roadway Ahead		
 C-017	Sign sizes (mm) C-017 (750 x 750) C-017-x (900 x 900)	The BUMP OR ROUGH ROADWAY C-017 sign should be used to warn of sharp changes in the road profile that are sufficiently abrupt to create a potentially hazardous condition, and in advance of temporary rumble strips. This sign should replace the TEMPORARY SLOW C-090 marker in advance of short potholed sections, frost heaves, fill settlements, etc. when the hazards are unlikely to be removed promptly.

C-018 Series Construction Ahead		
 C-018-1A	Sign sizes (mm) C-018-1A (750 x 750) C-018-1Axx (1200 x 1200)	• The CONSTRUCTION AHEAD C-018-1A sign should be erected in the advance warning area on long duration work, typically no further than one kilometre in advance of the work activity area. • The CONSTRUCTION AHEAD – 2 km C-018-2A sign may be used for long-duration work zones on roadways where the normal speed limit is 70 km/h or higher to extend the advance warning. • The ROAD WORK AHEAD C-018-3A sign or ROAD SURVEY AHEAD C-018-4A sign may be erected in advance warning areas for short-duration work instead of—or in addition to—the CREW WORKING AHEAD C-004 sign or SURVEY CREW WORKING AHEAD C-003 sign. *continued →*
 C-018-2A	C-018-2A (750 x 750) C-018-2Axx (1200 x 1200)	
 C-018-3A	C-018-3A (750 x 750) C-018-3Axx (1200 x 1200)	
 C-018-4A	C-018-4A (750 x 750) C-018-4Ax (900 x 900)	

C-018 Series Construction Ahead (continued)		
 C-018-6A	Sign sizes (mm) C-018-6A (750 x 750) C-018-6Ax (900 x 900) C-018-6Axx (1200 x 1200)	• The SHOULDER WORK AHEAD C-018-6A sign and the SHOULDER WORK C-018-7 sign may be used in advance of short-duration work on a shoulder as a supplement to the C-004 sign or vehicle lights. For long-duration work on a shoulder, the SHOULDER WORK AHEAD C-018-6A sign may be used instead of the CONSTRUCTION AHEAD C-018-1A sign. • For work in progress, the SHOULDER WORK C-018-7 sign may be positioned at the beginning of the shoulder taper in advance of the work.
 C-018-7	C-018-7 (750 x 750) C-018-7x (900 x 900) C-018-7xx (1200 x 1200)	
C-019 Series Motorcycle Rough Surface		
 C-019	Sign sizes (mm) C-019 (750 x 750) C-019-x (900 x 900) C-019-T (600 x 300) C-019-Tx (750 x 400)	The MOTORCYCLE ROUGH SURFACE C-019 sign should be used when construction activity has created a rough or irregular riding surface (e.g., a temporary gravel surface, scarified or milled asphalt, etc.). Whenever a temporary gravel surface is present, the GRAVEL SURFACE C-019-T tab should be used in conjunction with the C-019 sign.
 C-019-T		

C-022 Advisory Speed Tab		
 C-022	Sign sizes (mm) C-022 (600 x 600) C-022-x (750 x 750) C-022-xx (900 x 900)	The ADVISORY SPEED C-022 tab may be used with construction signs to indicate the maximum advisory speed around a curve or through a hazard. This tab should never be used as a standalone device. The C-022 tab should be mounted below the sign it supplements, with the bottom edge of the tab at least 1.2 metres above the travelled roadway edge. Except in emergencies, C-022 tabs should not be erected until a suitable speed has been determined by applying an accepted engineering analysis. The C-022 tab is only used when traffic must slow at least 20 km/h below the normal speed limit.
C-024 Advisory Distance Tab		
 C-024	Sign sizes (mm) C-024 (600 x 600) C-024-x (750 x 750) C-024-xx (900 x 900)	The ADVISORY DISTANCE C-024 tab may be used below construction signs when the distance over which the warning is in effect is 2 kilometres or more. The C-024 tab should be mounted below the sign it supplements, with the bottom edge of the tab at least 1.2 metres above the travelled roadway edge.

C-027 Traffic Control Paddle		
 C-027	Sign sizes (mm) C-027 (400 x 400)	The TRAFFIC CONTROL PADDLE C-027 is used by Traffic Control Persons to control traffic. See *Section 5: Traffic Control Persons* and Part 18 of WorkSafeBC's Occupational Health and Safety Regulation for approved methods of using the paddle and associated devices. When it is to be used for an extended period, the handle can be extended by fitting a dowel approximately 2.5 cm in diameter and 1.3 metres long into the short handle, thereby allowing the Traffic Control Person to display the paddle comfortably at the recommended height. If only the message on one side of the paddle is required, the message on the other side is covered or shielded to avoid showing an inappropriate message to drivers approaching from the opposite direction.
C-028 Proceed only when Directed		
 C-028	Sign sizes (mm) C-028 (600 x 450) C-028-xx (900 x 600)	The PROCEED ONLY WHEN DIRECTED C-028 sign should be used when a partially controlled work zone or a pilot car system is in place. The C-028 sign should accompany one of these signs: • C-001-1 Traffic Control Person Ahead • C-029 Prepare To Stop • C-049 Follow Pilot Car
C-029 Prepare to Stop		
 C-029	Sign sizes (mm) C-029 (750 x 750) C-029-xx (1200 x 1200)	The PREPARE TO STOP C-029 sign should be used in advance of these signs to give additional notice: • C-001-1 Traffic Control Person Ahead • C-111 Stop Ahead • C-112 Signal Ahead • R-056-1 Yield to Oncoming Traffic The C-029 sign must never be used alone to warn of a hazard.

C-030 Series Roadway/Lane Closed		
 C-030-1A	Sign sizes (mm) C-030-1A (750 x 750) C-030-1Axx (1200 x 1200)	• The CENTRE LANE CLOSED AHEAD C-030-1A and CENTRE LANE CLOSED C-030-2 signs are used advance of a centre lane closure where approaching traffic is directed to the right or left of a work zone in the centre lane. The upstream C-030-1A sign may also display a bottom-mounted C-130-T distance tab indicating the distance to the beginning of the lane closure taper. If space is available in the median, secondary C-030-1A and C-030-2 signs should be erected in the median across from the shoulder signage.
 C-030-2	C-030-2 (750 x 750) C-030-2xx (1200 x 1200)	• The LEFT LANE CLOSED C-030-3A sign and the RIGHT LANE CLOSED C-030-4A sign may be used in addition to the LANE CLOSURE C-130-L/R signs to provide additional advance notice of a lane closure. The C-030-3A and C-030-4A signs may also be used to indicate a lane closure in complex lane arrangements where the graphical C-130-L/R signs may not be sufficiently clear.
 C-030-3A	C-030-3A (750 x 750) C-030-3Axx (1200 x 1200)	• The LEFT/RIGHT TWO LANES CLOSED C-030-5A sign may be used in advance of, and in addition to, C-130-L/R signs to inform drivers that there are two lane closures ahead. The C-030-5A sign provides drivers with advance warning that two lanes are closed ahead. Lane closures should be established one at a time with adequate tangent length between lane closure tapers. *continued →*
 C-030-4A	C-030-4A (750 x 750) C-030-4Axx (1200 x 1200)	
 C-030-5AL	C-030-5AL (750 x 750) C-030-5ALxx (1200 x 1200)	
 C-030-5AR	C-030-5AR (750 x 750) C-030-5ARxx (1200 x 1200)	

C-030 Series Roadway/Lane Closed (continued)		
 C-030-6A  C-030-7A  C-030-8	Sign sizes (mm) C-030-6A (750 x 750) C-030-6Axx (1200 x 1200) C-030-7A (750 x 750) C-030-7Axx (1200 x 1200) C-030-8 (750 x 750) C-030-8xx (1200 x 1200)	• The ROAD CLOSED C-030-6A sign and ONE LANE ROAD C-030-7A sign provide advance notice of a complete or partial road closure ahead. The C-030-7A sign is applicable only to a two-lane, two-way roadway. It is typically followed by a single lane alternating traffic setup or a "yield to oncoming traffic" situation. The C-030-6A and the C-030-7A should typically be positioned following the CREW WORKING AHEAD C-004 sign or the CONSTRUCTION AHEAD C-018-1A sign. • The SINGLE LANE TRAFFIC C-030-8 sign should be used in advance of work activity areas on two-lane, two-way roadways where the usable roadway width has been reduced, and where traffic in both directions is therefore restricted to the alternating use of a single lane. *continued →*

C-030 Series Roadway/Lane Closed (continued)		
 C-030-14	Sign sizes (mm) C-030-14 (750 x 750) C-030-14x (900 x 900) C-030-14xx (1200 x 1200)	• The LEFT TWO LANES CLOSED C-030-14 sign may be used in advance of a closure of the left two lanes where there are three or more lanes per direction. It should typically be applied in advance of the first LANE CLOSED AHEAD C-130 sign with a bottom-mounted tab indicating the distance to the beginning of the first lane closure taper. This sign provides drivers with advance warning that two lanes are closed ahead. Lane closures should be established one at a time with adequate tangent length between lane closure tapers. Where adequate space is available on the left or median side, the signing should be repeated on the median across from the shoulder signage.
 C-030-15	C-030-15 (750 x 750) C-030-15x (900 x 900) C-030-15xx (1200 x 1200)	• The RIGHT TWO LANES CLOSED C-030-15 sign may be used in advance of a closure of the right two lanes where there are three or more lanes per direction. It should typically be applied in advance of the first LANE CLOSED AHEAD C-130 sign with a bottom-mounted tab indicating the distance to the beginning of the first lane closure taper. This sign provides drivers with advance warning that two lanes are closed ahead. Lane closures should be established one at a time with adequate tangent length between lane closure tapers. Where adequate space is available on the left or median side, the signing should be repeated on the median across from the right shoulder signage.

C-031 Oncoming Traffic		
 C-031	Sign sizes (mm) C-031 (750 x 750) C-031-x (900 x 900)	The ONCOMING TRAFFIC C-031 sign should be used where the normal traffic pattern has been changed such that there may be unexpected oncoming traffic. For example, it may be used for a median crossover, or when traffic is directed to travel in an oncoming lane.
C-032 Reduce Speed		
 C-032	Sign sizes (mm) C-032 (750 x 750) C-032-xx (1200 x 1200)	The REDUCE SPEED C-032 sign may be used in conjunction with LANE CLOSED C-030 and C-130 signs in the advance warning area on multilane highways where the speed limit is 70 km/h or higher. It is not required where a Construction Speed Zone has been established, but can be useful in slowing traffic without imposing a lower legal speed limit.
C-033 and C-034 Blasting Zone		
 C-033  C-034	Sign sizes (mm) C-033 (600 x 750) C-033-x (750 x 900) C-034 (600 x 600) C-034-x (750 x 750)	The BLASTING ZONE C-033 and C-034 signs should be used on all occasions when blasting is carried out in the vicinity of a public roadway. The signs should be positioned as follows: • The C-033 sign is placed at least 500 metres in advance of the blasting zone. • The C-034 sign is placed 300 metres beyond the blasting area. The C-033 and C-034 signs should be removed or covered immediately after a set of charges has been exploded, and should not be displayed again until just before the commencement of further drill-hole loading.

C-035 Construction Project

CONSTRUCTION PROJECT C-035 signs must be erected for capital rehabilitation and expansion projects with an approximate value of $500,000 or greater. They may also be erected for a smaller project if its construction duration is expected to be longer than two months and the project is located in a high-traffic area.

C-035 signs should be erected at an appropriate time either for announcements or near the date on which project construction activity will commence.

The sign information must specify:

- Project Location
- Project Description
- Expected Completion Date (by season) - e.g., Summer/2016
- Full Project Value - e.g., Value $8.8 Million

The Project Manager is responsible for the timely ordering of C-035 signs from a sign manufacturer, providing the appropriate project information for producing the signs, and arranging delivery to the Prime Contractor.

The C-035 sign fabrication records for manufacturing purposes are available at:

http://www.th.gov.bc.ca/publications/eng_publications/geomet/geometsigns.htm

The END OF PROJECT C-035-EOP sign must be erected just beyond the project's limit-of-construction boundary and placed on the shoulder facing the oncoming flow of traffic.

Upon project completion, the COMPLETED C-035-CMPL tab is applied to the C-035 sign. The sign and tab should not be installed for greater than six months after the completion of the project at which time they can be removed from the right-of-way.

The COMPLETED tab may be stored and re-used if it remains in good condition following the completion of a project.

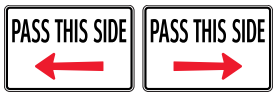
On projects where federal or other sponsor signs are also used, those signs should be removed at the same time as the C-035 signs.

Policy information and sign design for the C-035 sign are updated frequently so Project Managers should check the Ministry's current technical circulars for current information:

http://www2.gov.bc.ca/gov/content/transportation/transportation-infrastructure/engineering-standards-guidelines/technical-circulars

C-036 Slow Moving Vehicle		
 C-036	Sign sizes (mm) C-036 (350 x 350 x 350)	In accordance with Sections 7B.01 to 7B.04 of the Motor Vehicle Act Regulation, the SLOW MOVING VEHICLE C-036 marker is displayed temporarily on the rear of any vehicle or mobile equipment employed in a work area and required to travel on a roadway at a speed of 40 km/h or less. This requirement applies to any vehicle involved in continuously slow-moving road work. When the vehicle is travelling at normal highway speeds, the C-036 marker should be covered or removed. The C-036 marker should also be displayed on the rear of mobile equipment units involved in road work which is incapable of moving consistently at speeds above 40 km/h. It may be displayed permanently on these units. The SLOW MOVING VEHICLE C-036 marker must be mounted in the orientation shown, as close as possible to the rear/centre of the unit, and 90 to 150 cm above ground level.
C-037 Series Wet Paint and Wet Paint – Keep Off		
 C-037-1  C-037-2	Sign sizes (mm) C-037-1 (600 x 200) C-037-2 (600 x 300)	The WET PAINT C-037-1 and WET PAINT – KEEP OFF C-037-2 signs may be used in areas where road markings have been applied to advise that wet paint has been applied to the roadway and drivers should refrain from driving on the freshly-painted lines.

C-038 Truck Stopped on Road Next 2 km		
 C-038	Sign sizes (mm) C-038 (750 x 750) C-038-xx (1200 x 1200)	The TRUCK STOPPED ON ROAD NEXT 2 km C-038 sign should be used in advance of intermittently-moving work such as crack sealing, temporary patching, Benkleman beam testing, retroreflective road stud installation, etc. The maximum distance between two opposing C-038 signs should not exceed 2 kilometres.
C-039 Caution – This Truck Stops Frequently		
 C-039	Sign sizes (mm) C-039 (750 x 300) C-039-x (1525 x 600)	The CAUTION – THIS TRUCK STOPS FREQUENTLY C-039 sign is a special-purpose sign that should be displayed on the rear of vehicles involved with intermittently-moving work on an open travel lane. It should be removed or covered when work is not in progress.
C-040D Prepare to Stop		
 C-040D	Sign sizes (mm) C-040D (2440 x 915)	The PREPARE TO STOP C-040D sign is a double-sided plywood sign that may be mounted atop Benkleman beam testing vehicles and other vehicles involved in intermittently-moving work in a travel lane on a two-lane, two-way roadway. It should be lowered or removed when the vehicle is not blocking the travel lane. To address difficulties mounting the C-040D sign on some types of vehicles, a squarer version may be used if the face area and letter height are not compromised.

C-041-xx Road Marking		
 C-041-xx	Sign sizes (mm) C-041-xx (1200 x 1200)	The ROAD MARKING C-041 sign is a double-sided sign. The ROAD MARKING IN PROGRESS side of the C-041 sign should face approaching traffic in advance of conventional pavement marking operations on two-lane, two-way rural roads (see Section 14.8: Conventional Long-Line Marking – Multilane Roadway and Section 14.9: Left-Turn Arrow Marking). The WET PAINT side of the C-041 sign should be displayed towards traffic approaching freshly painted lines that have been marked with traffic cones. The maximum distance shown on the sign should be 10 kilometres.
C-042 Series Pass This Side / Traffic Control Person Operating		
 C-042-LR  C-042-SLR	Sign sizes (mm) C-042-LR (900 x 600) C-042-SLR (900 x 600)	The PASS THIS SIDE C-042-LR sign should be displayed on the rear of paint trucks and shadow vehicles, or as required on other vehicles involved in a pavement-marking operation where a flashing arrow board (FAB) in arrow mode is unavailable or not used. It is also available with a TRAFFIC CONTROL PERSON OPERATING C-042-SLR sign displayed on the reverse side of the C-42-LR sign. The C-042-SLR sign is to be displayed on the rear of the paint truck when a Traffic Control Person is controlling traffic from the back of that truck.

C-043 Caution – Paint Spray Truck Ahead		
 C-043	Sign sizes (mm) C-043 (1200 x 900)	The CAUTION – PAINT SPRAY TRUCK AHEAD C-043 sign should be displayed on the front of an escort vehicle that is preceding a working paint truck. The escort vehicle may straddle the line to be painted, thereby forcing opposing traffic away from the paint truck and minimizing collision risk and overspray problems.
C-044-xx Slow Vehicle Next X km		
 C-044-xx	Sign sizes (mm) C-044-xx (1200 x 1200)	The SLOW VEHICLE NEXT X km C-044-xx sign should be used in advance of continuously slow-moving work—such as hydro-seeding, flushing, sweeping, etc.—where a travel lane is or may be obstructed. The maximum distance between two opposing C-044-xx signs should not exceed 8 kilometres.
C-045 Slow Vehicle(s) Ahead		
 C-045-1A  C-045-2A	Sign sizes (mm) C-045-1A (750 x 750) C-045-1Axx (1200 x 1200) C-045-2A (750 x 750) C-045-2Axx (1200 x 1200)	When a shadow vehicle on the shoulder follows a work vehicle involved in continuously slow-moving work, the SLOW VEHICLE(S) AHEAD C-045 sign or another appropriate sign should be displayed prominently on the rear of the shadow vehicle. Examples of other signs are: • C-072 Grader Working • C-074 Mower Working • C-076 Sweeper Working The SLOW VEHICLES AHEAD C-045-2A sign should be displayed downstream of the initial ROAD MARKING C-041 sign for two-lane, two-way operations. Confirmatory ROAD MARKING C-041 and C-045-2A signs should also be displayed alternately at intervals throughout a road-marking work zone.

C-046 No Road Lines		
 C-046	Sign sizes (mm) C-046 (750 x 750) C-046-x (900 x 900)	The NO ROAD LINES C-046 sign should be used if a roadway that would normally have pavement markings has none. If there are temporary markings in place, the TEMPORARY ROAD LINES/PAVEMENT MARKINGS C-047 sign should be used instead. These scenarios typically occur in work zones that involve paving, seal coating, milling, centreline crack sealing, etc. If the section without permanent pavement markings is more than 2 kilometres long, an ADVISORY DISTANCE C-024 tab may be mounted below the C-046 or C-047 sign.
C-047 Series Temporary Road Lines/Pavement Markings		
 C-047-1  C-047-2	Sign sizes (mm) C-047-1 (750 x 750) C-047-1x (900 x 900) C-047-2 (750 x 750) C-047-2x (900 x 900)	The TEMPORARY ROAD LINES C-047-1 sign should be used where temporary markings are used to replace longitudinal lines. The TEMPORARY PAVEMENT MARKINGS C-047-2 sign may be more appropriate at intersections and at other complex locations where the temporary markings represent more than just longitudinal lines.

C-048-1-DS Pilot Car / Pilot Car – Do Not Pass		
 C-048-1-DS	Sign sizes (mm) C-048-1-DS (1200 x 900)	The PILOT CAR / PILOT CAR – DO NOT PASS C-048-1-DS sign is a double-sided sign. It should be mounted atop the pilot vehicle, with the PILOT CAR message facing forward and the PILOT CAR – DO NOT PASS message facing backward. The C-048-1-DS sign must be removed or folded down whenever the vehicle is not piloting traffic.
C-048-2 Pilot Car		
 C-048-2	Sign sizes (mm) C-048-2 (1830 x 305)	The PILOT CAR C-048-2 sign should be mounted above a pilot vehicle that is piloting vehicles through construction zones. This sign may be used instead of the PILOT CAR / PILOT CAR – DO NOT PASS C-048-1-DS sign, and used in one of two ways: • If it is to be used as a double-sided sign, the sign should be mounted atop of the pilot vehicle with the message displayed so that it is clear and visible from both the front and the rear. • If it is to be used as a back-lit sign, the sign material must allow light to pass through it so that it can be easily read in low-light and night applications. The sign should be removed or folded down whenever the vehicle is not piloting traffic.
C-049 Follow Pilot Car		
 C-049	Sign sizes (mm) C-049 (750 x 750) C-049-x (900 x 900)	The FOLLOW PILOT CAR C-049 sign should be placed in advance of work where traffic is piloted through a work activity area. It is also used intermittently through the work area as a reminder and warning to drivers who may be unable to see the pilot car because they are in a long platoon of vehicles.

C-050 Workers Below		
 C-050-1  C-050-2	Sign sizes (mm) C-050-1 (600 x 600) C-050-1x (900 x 900) C-050-2 (750 x 750)* C-050-2x (900 x 900)*	The WORKERS BELOW C-050-1 and C-050-2 signs should be used to indicate that workers are present below the main travelling surface. These signs may be used for bridge or overpass/underpass applications, and in other situations in which workers are below the highway elevation and not visible to passing motorists. Either version of the sign may be used to indicate workers below. Typically, the C-050-2 sign is used as a standalone sign and the C-050-1 sign is used as a tab below another sign.
C-051 Bridge Repair		
 C-051	Sign sizes (mm) C-051 (750 x 750) C-051-x (900 x 900)	The BRIDGE REPAIR C-051 sign may be used instead of the CREW WORKING AHEAD C-004 sign and the CONSTRUCTION AHEAD C-018 sign. It may also be used in advance of bridge repair projects when the structure is still open to traffic on a restricted basis.
C-052 Roadside Diversion Ahead		
 C-052-L  C-052-R	Sign sizes (mm) C-052-L (750 x 750) C-052-Lxx (1200 x 1200) C-052-R (750 x 750) C-052-Rxx (1200 x 1200)	A roadside diversion is a “mini-detour”—usually adjacent to the normal route—by which traffic is diverted around a short work activity area. The transition away from and back to the normal route should not be abrupt. The ROAD SIDE DIVERSION AHEAD C-052-L/R sign should be used in advance of the diversion to indicate the path for drivers to follow. Diversions can involve both lanes of a two-lane, two-way roadway or a one- or two-lane section on a multilane highway. In the latter case, if the multilane highway is divided and space is available for a sign in the median, C-052 signs should be placed on both sides of the roadway approaching the diversion.

C-053 Lane Closure Arrow		
 C-053	Sign sizes (mm) C-053 (750 x 750) C-053-xx (1200 x 1200)	The LANE CLOSURE ARROW C-053 sign may replace a flashing arrow board to indicate the closure of a lane on a low-speed roadway. The C-053 sign are also be used for lane shifts on multi-lane roadway. It is positioned just inside the closed-off area at the beginning of the lane closure taper, and should be mounted high enough above the taper devices to be seen clearly by approaching drivers. The sign is oriented with the arrow pointing 45 degrees above horizontal, in the direction of the shift. For a short-duration work activity area in the centre of a two-lane, two-way roadway where traffic moving in both directions is required to pass the site on the right, and flashing arrow boards (FABs) are not required, a C-053 sign may be provided for one or both directions if the intended paths for drivers are not self-evident.
C-057 Avalanche Control		
 C-057	Sign sizes (mm) C-057 (750 x 750) C-057-x (900 x 900)	The AVALANCHE CONTROL C-057 sign should be used in advance of road closures for avalanches and avalanche control works. All signs relating to avalanche closures must be removed or covered when not required.

C-058 Emergency Scene		
 C-058	Sign sizes (mm) C-058 (750 x 750) C-058-x (900 x 900)	The ACCIDENT SCENE C-058 sign may be used instead of CREW WORKING AHEAD C-004 and CONSTRUCTION AHEAD C-018-1A signs for motor vehicle incidents and recovery operations that could affect the normal movement of traffic. In addition, a C-058 sign may be used by emergency services personnel.
C-059 Road Flooded / Washout		
 C-059-1  C-059-2	Sign sizes (mm) C-059-1 (750 x 750) C-059-1x (900 x 900) C-059-2 (750 x 750) C-059-2x (900 x 900)	The ROAD FLOODED C-059-1 sign should be used where water extends into the travelled roadway. The WASHOUT C-059-2 sign should be used where part of the shoulder or part of the roadway has washed out. There may still be sufficient width for two vehicles to pass safely at a reduced speed. Where the washout has encroached far enough to require the closure of a lane, additional traffic control will be required.

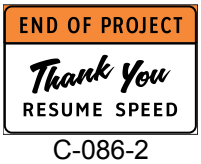
C-061 Closed		
 C-061	Sign sizes (mm) C-061 (750 x 300) C-061-x (900 x 350) C-061-xx (1200 x 450)	The CLOSED C-061 tab may be installed below a runaway or exit guide sign for a runaway lane or exit ramp that is closed and unavailable for use. See C-062 below if additional signage is needed for advance locations leading to runaway lanes and exit ramps.
C-062 Exit Closed		
 C-062	Sign sizes (mm) C-062 (1220 x 300) C-062-x (1444 x 350) C-062-xx (1905 x 450)	The EXIT CLOSED C-062 banner may be used on advance signing for a runaway lane or exit ramp that is closed and unavailable for use. The banner may be overlaid across the advance signing, typically at a 45-degree angle, to indicate the closure.
C-063 Traffic Pattern Changed		
 C-063	Sign sizes (mm) C-063 (750 x 750) C-063-xx (1200 x 1200)	The TRAFFIC PATTERN CHANGED C-063 sign should be used in advance of a work zone after the completion of construction to advise drivers of significant traffic pattern changes where: • the travel path has been altered; • lanes have been added or removed; and/or • traffic control has been changed at an intersection (e.g., signal added, two-way stop changed to four-way stop). The C-063 sign typically remains in place for three months following the change.

C-064 Signal Operation Changed		
 C-064	Sign sizes (mm) C-064 (750 x 750) C-064-xx (1200 x 1200)	The SIGNAL OPERATION CHANGED C-064 sign should be used in advance of the work zone after the completion of construction to advise drivers that the operation of an existing signalized intersection has been altered. Examples may include the addition of protected left turns or other changes to the signal phasing. The C-064 sign typically remains in place for three months following the change. Note: The use of this sign requires the approval of the Road Authority.
C-066 Signal Out of Order		
 C-066	Sign sizes (mm) C-066 (750 x 750) C-066-xx (1200 x 1200)	The SIGNAL OUT OF ORDER C-066 sign should be used in advance of an intersection where an existing signal has temporarily been set to flash or turned off because of construction activities. If traffic is still using the intersection, it should be controlled and directed safely through the intersection by Traffic Control Persons or police officers.

C-067 Runaway Lane Closed		
 C-067  C-067-T	Sign sizes (mm) C-067 (750 x 750) C-067-x (900 x 900) C-067-xx (1200 x 1200) C-067-T (450 x 600) C-067-Tx (600 x 750) C-067-Txx (750 x 900)	The RUNAWAY LANE CLOSED C-067 sign should be used in advance of any closure of a runaway lane. The C-067 sign and XXX m AHEAD C-067-Tab distance tab should typically be positioned at least 200 metres or Distance A—whichever is greater—in advance of the closed lane. Distance A values are those shown for Construction Sign Spacing in *Table B – Device Spacing Lengths*—see *Section 6.6 or Appendix F*. The C-067 sign should be covered or removed as soon as possible once the runaway lane is available again.
C-069 Barrier Removed		
 C-069	Sign sizes (mm) C-069 (750 x 750) C-069-x (900 x 900)	The BARRIER REMOVED C-069 sign should be used in advance of locations where an existing median or roadside barrier has been removed because of construction activity.

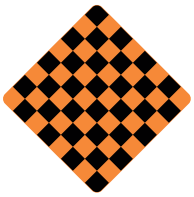
C-072 Grader Working		
 C-072	Sign sizes (mm) C-072 (750 x 750) C-072-xx (1200 x 1200)	The GRADER WORKING C-072 sign should be used in advance of a section where a grader is operating for roadway or shoulder gravelling. Where a roadway (rather than a shoulder) is being graded, a second C-072 sign should be erected to face opposing traffic beyond the end of the section being graded (maximum 8 kilometres), and a YIELD TO ONCOMING TRAFFIC R-056-1 sign should be displayed on the rear of the grader. If the grading operation uses a shadow vehicle on the shoulder behind the grader, the C-072 sign for traffic travelling in the direction of the operation may be displayed conspicuously on the rear of the shadow vehicle.
C-074 Mower Working		
 C-074	Sign sizes (mm) C-074 (750 x 750) C-074-x (900 x 900)	The MOWER WORKING C-074 sign should be used to warn drivers that a mower is working adjacent to the roadway and that the operator may encroach onto the shoulder—or even into the travel lane if the shoulder is narrow—to avoid obstructions like culvert ends, sign posts, delineators, etc. This is continuously slow-moving work, as shown in *Section 10: Traffic Control Layouts – Mobile Work*. The sign is not required if the mower is consistently working well clear of the travelled roadway and shoulder. If the mowing operation uses a shadow vehicle on the shoulder behind the mower, the C-074 sign for traffic travelling in the direction of the operation may be displayed conspicuously on the rear of the shadow vehicle.
C-076 Sweeper Working		
 C-076	Sign sizes (mm) C-076 (750 x 750) C-076-x (900 x 900)	The SWEEPER WORKING C-076 sign should be used in advance of a section where a mechanical sweeper is being used to clean a paved roadway or shoulder. This is continuously slow-moving work, as shown in *Section 10: Traffic Control Layouts – Mobile Work*. Where a travel lane (rather than a shoulder) is being swept on a two-lane, two-way roadway, a second C-076 sign should be erected to face opposing traffic beyond the end of the section being cleaned (maximum 8 kilometres), and a YIELD TO ONCOMING TRAFFIC R-056-1 sign must be displayed on the rear of the sweeper. If the sweeping operation uses a shadow vehicle on the shoulder behind the sweeper, the C-076 sign for traffic travelling in the direction of the operation may be displayed conspicuously on the rear of the shadow vehicle.

C-080-T Construction Speed Zone Tab		
 C-080-T	Sign sizes (mm) C-080-T (600 x 300)* C-080-Tx (750 x 450)* C-080-Txx (900 x 450)*	**Construction Speed Zones may be installed only with the approval of the Road Authority.** The CONSTRUCTION SPEED ZONE C-080-T tab, when erected below the MAXIMUM SPEED AHEAD R-003 and MAXIMUM SPEED R-004 signs, establishes a legally lowered Construction Speed Zone. These signs are normally post-mounted. Construction Speed Zones are generally established for long-duration projects on which a reduction in the normal speed limit is considered necessary. If there are any R-003 or R-004 signs showing the normal maximum speed on the approach to a Construction Speed Zone or within it, they are covered or removed whenever the lower speed limit is in effect. The end of a Construction Speed Zone should be indicated by an R-004 sign showing the normal maximum speed.
C-082 Min $196 Fine –Speeding in Work Zones		
 C-082	Sign sizes (mm) C-082 (900 x 450) C-082-xx (1830 x 915)	The MINIMUM $196 FINE – SPEEDING IN WORK ZONES C-082 sign may be used as a speed management tool in areas where drivers have been failing to adjust speed or failing to adhere to the regulatory or construction speed limit. When used in work zones in which a Construction Speed Zone exists, the C-082 sign should be posted in the advance warning area ahead of the work activity area. C-082 signs may also be installed ahead of TCP locations. The C-082 sign may also be used as a standalone sign for speed management throughout the work zone.

C-084 Police Enforcement Ahead		
 C-084	Sign sizes (mm) C-084 (750 x 750)* C-084-x (900 x 900)*	The POLICE ENFORCEMENT AHEAD C-084 sign may be used when a police enforcement event is under way within or in close proximity to a work zone. It should be positioned 100 to 500 metres ahead of the enforcement location. The C-084 sign should be removed or covered when there is no police presence.
C-086-1 and C-086-2 Thank You – Resume Speed		
 C-086-1  C-086-2	Sign sizes (mm) C-086-1 (450 x 900) C-086-2 (1830 x 1220)*	The THANK YOU – RESUME SPEED C-086-1 sign should be used to mark the end of a reduced speed zone that has been established as a Temporary Speed Zone or a Construction Speed Zone. It may also be used at the downstream end of a work activity area through which traffic has been warned to reduce speed by a REDUCE SPEED C-032 sign. On large projects where a CONSTRUCTION PROJECT C-035 sign is used, the END OF PROJECT – THANK YOU RESUME SPEED C-086-2 sign should be used at the end of the work zone if a lowered or reduced speed zone was in effect in the work zone.
C-088 Work Zone Ends		
 C-088	Sign sizes (mm) C-088 (600 x 600) C-088-x (900 x 900)	The WORK ZONE ENDS C-088 sign should be used to indicate the end of a work zone. This sign may be useful to identify the end of a large project that has multiple work activity areas within one large project area. The C-088 sign is generally not required for projects that are very short in length, or for projects for which the end of the work is self-evident.

C-089 Left Lane Must Turn Left		
 C-089	Sign sizes (mm) C-089 (750 x 750) C-089-x (900 x 900) C-089-xx (1200 x 1200)	The LEFT LANE MUST TURN LEFT C-089 sign is used in advance of a lane closure at a multilane intersection where the typical lane assignment is disrupted by a lane closure, and traffic in the left lane can now turn only left, whereas previously that lane may have been a left or through lane.
C-090 Temporary Slow Marker		
 C-090	Sign sizes (mm) C-090 (300 x 300)	The TEMPORARY SLOW C-090 marker is warranted for emergency use only in conjunction with the TEMPORARY HAZARD C-092 marker (see below). It may be erected in advance of temporary hazards such as shoulder washouts, fallen rock, potholes, frost heaves, etc. C-090 and C-092 markers are generally mounted on stakes driven into the shoulder so that each marker is approximately one metre above the level of the travelled roadway. Do not use the TEMPORARY SLOW C-090 marker if it appears that the hazard will not be removed promptly. Instead, erect an appropriate temporary warning sign, such as: • C-007 Broken Pavement • C-017 Bump or Rough Roadway Ahead • C-059-2 Washout If the severity or length of a hazard is such that either the ADVISORY SPEED C-022 tab or the ADVISORY DISTANCE C-024 tab is required, or both are required, use an appropriate temporary warning sign instead of the C-090 or C-092 marker.

C-092 Temporary Hazard Marker		
 C-092	Sign sizes (mm) C-092 (300 x 300)	The TEMPORARY HAZARD C-092 marker is used with the TEMPORARY SLOW C-090 marker (see above) and other temporary warning signs. It is erected on the shoulder to mark the actual site of a hazardous condition. C-090 and C-092 markers are generally mounted on stakes driven into the shoulder so that each marker is approximately one metre above the level of the travelled roadway. Individual bumps, potholes, or pavement breaks generally require only one C-092 marker for each direction of travel. In the case of a washout or minor rock fall, several C-092 markers may be required to delineate the hazard.
C-111 Stop Ahead		
 C-111	Sign sizes (mm) C-111 (750 x 750) C-111-x (900 x 900)*	The STOP AHEAD C-111 sign is used where the stopping sight distance to a temporary STOP sign is inadequate for the approach speed. It is also used where a STOP sign is temporarily required in a location where regular users of the route would not expect to stop.
C-112 Signal Ahead		
 C-112	Sign sizes (mm) C-112 (750 x 750) C-112-x (900 x 900)*	SIGNAL AHEAD C-112 signs should be used in advance of portable traffic signal installations. The sign is normally post-mounted.

C-114, C-115, and C-116 Checkerboards		
 C-114  C-115  C-116	Sign sizes (mm) C-114 (750 x 750) C-114-x (1200 x 1200)* C-115 (750 x 750) C-115-x (1200 x 1200)* C-116 (750 x 750) C-116-x (1200 x 1200)*	All CHECKERBOARD signs are diamond-shaped warning signs and should never be mounted as squares. The C-114 sign may be used in conjunction with Type III barricades and the ROAD CLOSED R-012 sign to mark roads that have been temporarily dead-ended and where no alternative route is available. The C-114 sign should be post-mounted in the centre of the closed roadway, just behind the barricades. When alternative routes are available, the C-115 and C-116 signs are used as follows: • Where one alternative option to the closed road is available either to the right or the left, the C-115 sign is substituted for the C-114 sign and similarly positioned. The C-115 may also be used to mark the apex of a sharp temporary curve, in which case it should be post-mounted just off the shoulder on the outside of the curve, and directly in line with the path of approaching traffic. • Where two alternative options to the closed road are available in the form of both a right turn and left turn, the C-116 sign is substituted for the C-114 sign, and similarly positioned. The C-116 sign may also be used to mark a temporary T-intersection by post-mounting the sign on the far side of the intersecting road to face traffic approaching from the stem of the T. It should be placed in line with the projected centreline of the stem roadway. If necessary, the mounting height of checkerboards may be adjusted above or below the normal height to allow for vertical curvature on the approach.

C-117, C-118, and C-119 Lane Shift		
 C-117-L  C-117-R  C-118-L  C-118-R  C-119-L  C-119-R	Sign sizes (mm) C-117-L/R (750 x 750) C-117-L/Rx (900 x 900) C-117-L/Rxx (1200 x 1200) C-118-L/R (750 x 750) C-118-L/Rx (900 x 900) C-118-L/Rxx (1200 x 1200) C-119-L/R (750 x 750) C-119-L/Rx (900 x 900) C-119-L/Rxx (1200 x 1200)	A LANE SHIFT sign should be used to indicate the path vehicles should follow where the roadway alignment is changed because of a lane shift or diversion. A LANE SHIFT sign should also be used again where the roadway shifts back to its original alignment if space allows and the sign is appropriate. These signs must not be used to indicate a lane closure or a merge condition. The number of arrows shown on the sign should reflect the number of lanes being shifted. If the highway is divided and space is available for a sign in the median, LANE SHIFT signs should be placed on both sides of the roadway approaching the diversion.

C-130 Lane Closed Ahead **C-130-T Distance Tab**		
 C-130-L  C-130-R  C-130-T	Sign sizes (mm) C-130-L/R (750 x 750) C-130-L/Rx (900 x 900) C-130-L/Rxx (1200 x 1200)* C-130-T (600 x 300) C-130-Tx (750 x 400) C-130-Txx (900 x 450)*	The LANE CLOSED AHEAD C-130-L/R sign should be used in temporary conditions to indicate that the left or right lane is closed ahead on a roadway that has two or more lanes travelling in the same direction. The C-130-L/R sign should be repeated where the speed limit in the advance warning area is 70 km/h or higher, such as shown in *Section 8.6: Right Lane Closed* and *Section 8.7: Left Lane Closed.* The upstream sign of the pair should also display a bottom-mounted distance tab indicating the distance to the beginning of the lane closure taper. C-130-L/R signs are generally placed on the right shoulder, but where adequate space is available on the left or median side, the signing should be repeated on the median across from the right shoulder signage. On conventional highways, the C-130-T distance tab should generally display: • 200 m - for speed limits of 70 or 80 km/h • 400 m - for speed limits of 90 or 100 km/h • 600 m - for speed limits of 110 or 120 km/h
C-132 Two-Way Traffic Ahead		
 C-132	Sign sizes (mm) C-132 (750 x 750) C-132-x (900 x 900)*	The TWO-WAY TRAFFIC AHEAD C-132 sign is used to warn drivers of a temporary, undivided, two-lane, two-way roadway. A typical application is where one roadway of a divided highway is closed and the other roadway must carry traffic in both directions. Appropriate signing and other devices should be used to merge traffic on a multilane, one-way roadway into a single lane well in advance of the point where that traffic enters the two-way roadway. A C-132 sign should be mounted on the right of the single lane section and, if space is available, on the left as well. See the TWO-WAY TRAFFIC R-010 sign for information on two-way signing at the beginning of a two-lane, two-way roadway.

C-134 Road Narrows Ahead		
 C-134	Sign sizes (mm) C-134 (750 x 750) C-134-xx (1200 x 1200)	The ROAD NARROWS AHEAD C-134 sign should be used on two-way roads in advance of a temporary reduction in the width of either or both lanes that makes it necessary to warn drivers so that they may pass safely. The reduced width at which safe passing is still possible will depend on such factors as traffic composition, traffic speed and volume, highway alignment, sight distance, etc., but it will generally be about 5.5 metres. If the reduced width is too narrow for safe passing, even at reduced speeds, a one-way operation must be implemented. The C-134 sign is not intended for use on narrow minor roads that have low travel speeds and carry little traffic.
C-135 Narrow Structure Ahead **C-135-Ta One Lane Tab**		
 C-135  C-135-Ta	Sign sizes (mm) C-135 (750 x 750) C-135-x (900 x 900) C-135-Ta (600 x 300) C-135-Tax (750 x 400)	The NARROW STRUCTURE AHEAD C-135 sign is used on a two-lane, two-way roadway in advance of a bridge that has a temporary clear deck width of 5.5 metres or more but less width than the roadway approach. Where the temporary clear width of a bridge deck is less than 5.5 metres, ONE LANE C-135-Ta tabs are placed below the C-135 signs, and a YIELD TO ONCOMING TRAFFIC R-056-1 sign is erected on the approach with the best sight distance across the bridge. Depending on road conditions, such as traffic composition, traffic speed and volume, approach alignment, sight distance, etc., it may be appropriate to designate some bridges as one-way even when the temporary clear deck width is 5.5 metres or more.

C-136 Merging Traffic Ahead		
 C-136-L  C-136-R	Sign sizes (mm) C-136-L (750 x 750) C-136-Lx (900 x 900) C-136-R (750 x 750) C-136-Rx (900 x 900)	The MERGING TRAFFIC AHEAD C-136-L/R sign should be used in advance of all temporary on-ramps and acceleration lanes under repair. The sign is required to warn traffic on the main roadway, regardless of whether the ramp traffic is controlled by a YIELD R-002 sign or a MERGE C-137-1 sign.
C-137-1 Merge		
 C-137-1	Sign sizes (mm) C-137-1 (750 x 750)* C-137-1x (900 x 900)*	The MERGE C-137-1 sign should be used at a temporary freeway on-ramp where there is an acceleration lane of sufficient length for vehicles to reach the freeway speed limit before entering a through lane.
C-137-2 Alternate When Merging		
 C-137-2	Sign sizes (mm) C-137-2 (750 x 750) C-137-2x (900 x 900)	The ALTERNATE WHEN MERGING C-137-2 sign may be used in conjunction with the MERGE C-137-1 sign. It is positioned downstream of the C-137-1 sign at the merge point, which is usually immediately ahead of the beginning of the acceleration lane taper. The C-137-2 sign may also be used to manage merging situations created by lane drops in high-volume areas.

C-137-7 and C-137-8 Through Traffic Merge Left/Right		
 C-137-7  C-137-8	Sign sizes (mm) C-137-7 (750 x 750) C-137-7x (900 x 900) C-137-7xx (1200 x 1200) C-137-8 (750 x 750) C-137-8x (900 x 900) C-137-8xx (1200 x 1200)	A THROUGH TRAFFIC MERGE LEFT C-037-7 sign or a THROUGH TRAFFIC MERGE RIGHT C-037-8 sign is used ahead of a lane closure at a multilane intersection where the typical lane assignment is disrupted by the lane closure. For example, it is used at a multilane intersection where a through lane is closed and drivers must use either the right lane or the left lane to go through the intersection. The C-037-7 and C-037-8 signs are typically positioned following the initial CREW WORKING AHEAD C-004 or CONSTRUCTION AHEAD C-018-1A sign, and may be used either singly or in pairs. When the signs are used in pairs, the upstream sign should include a distance tab.
C-141 Slippery Ahead When Wet		
 C-141	Sign sizes (mm) C-141 (750 x 750) C-141-x (900 x 900)	The SLIPPERY AHEAD WHEN WET C-141 sign should be used when there is a possibility of rain or heavy dew on work that has rendered a finished or unfinished road surface potentially more slippery than normal. It may also be required for confirmation on long sections. When appropriate, the C-141 sign may be used in conjunction with the FRESH OIL C-014 sign or other warning-type signs.
C-149 Pavement Ends		
 C-149	Sign sizes (mm) C-149 (750 x 750) C-149-x (900 x 900)	The PAVEMENT ENDS C-149 sign should be used where an asphalt, concrete, or other finished pavement surface ends and a gravel or dirt section begins. If the start of a paved section of roadway appears to be a hazard, the sign may be flipped to warn of the end of a gravel section.

C-154 Hazard Markers		
 C-154-D  C-154-L  C-154-R	Sign sizes (mm) C-154-D (300 x 900) C-154-L (300 x 900) C-154-R (300 x 900)	HAZARD C-154 markers should be used to mark: • The inside edge of temporary obstructions—such as bridge end posts—that encroach into a through lane or onto the normal shoulder of a highway. • The ends or corners of traffic islands that face, and are adjacent to, oncoming traffic. The hazard marker stripes slope downward towards the side or sides of the obstruction by which traffic is allowed to pass: • DOUBLE HAZARD C-154-D markers are used where traffic travelling in one direction is allowed to proceed to both the left and the right of an obstruction. • HAZARD LEFT C-154-L markers are used to mark obstructions on the driver's left. • HAZARD RIGHT C-154-R markers are used to mark obstructions on the driver's right. When used to mark obstructions like bridge end posts, the C-154-L/R markers are positioned to mark the inside edge of the obstructions. C-154-L/R markers are mounted on posts immediately in advance of the obstruction being identified, and generally with the bottom of the markers about one metre above the level of the travelled roadway. These are low-mounted devices placed very close to traffic. They will therefore become dirty more quickly than other signs and will require more frequent cleaning, especially to maintain effectiveness at night.
C-162 Chevron Alignment Marker		
 C-162	Sign sizes (mm) C-162 (600 x 750) C-162-x (750 x 900) C-162-xx (900 x 1200)*	CHEVRON ALIGNMENT C-162 markers may be used on the outside of temporary but severe changes in horizontal alignment in conjunction with advance warning signs and other delineation devices. C-162 markers must be placed so that at least three are used and two of them are always visible to drivers as they negotiate the change in alignment.

C-170 Logging Trucks Crossing/Entering Highway		
 C-170-L	Sign sizes (mm) C-170-L (750 x 750) C-170-Lx (900 x 900)	The LOGGING TRUCKS CROSSING/ENTERING HIGHWAY C-170-L/R sign should be used temporarily in advance of logging road accesses where logging trucks frequently cross, enter, or leave a roadway. The direction of the sign indicates the direction from which the logging truck will enter the roadway. A NO PASSING FOR 150 m C-172-T sign may be post-mounted below a C-170-L/R sign for the direction of travel in which normal pavement markings indicate that overtaking is permissible. A second C-170-L/R sign and, if required, a C-172-T sign, may be placed on the left shoulder if this is considered necessary. C-170-L/R signs and C-172-T signs should be covered or removed whenever truck hauls are not in progress.
 C-170-R	C-170-R (750 x 750) C-170-Rx (900 x 900)	
C-172 Trucks Crossing/Entering Highway		
 C-172-L	Sign sizes (mm) C-172-L (750 x 750) C-172-Lx (900 x 900)	The TRUCKS CROSSING/ENTERING HIGHWAY C-172-L/R sign should be used temporarily in advance of gravel pit accesses, haul road crossings, etc., where long and/or slow-moving trucks frequently cross, enter, or leave a roadway. The direction of the sign indicates the direction from which the truck will enter the roadway. A NO PASSING FOR 150 m C-172-T sign may be post-mounted below the C-172-L/R sign for the direction of travel in which normal pavement markings indicate that overtaking is permissible. A second C-172-L/R sign and, if required, a C-172-T sign, may be placed on the left shoulder if this is considered necessary. C-172 and C-172-T signs should be covered or removed whenever truck hauls are not in progress.
 C-172-R	C-172-R (750 x 750) C-172-Rx (900 x 900)	
C-172-T No Passing for 150 m		
 C-172-T	Sign sizes (mm) C-172-T (600 x 450) C-172-Tx (750 x 600)	The NO PASSING FOR 150 m C-172-T sign is used only immediately below C-170-L/R and C-172-L/R signs. It is not required where overtaking is already prohibited by a barrier line, but it should be used in locations where the normal pavement markings permit passing.

C-180 Cattle Drive		
 C-180	Sign sizes (mm) C-180 (750 x 750) C-180-x (900 x 900)	The CATTLE DRIVE C-180 sign should be used instead of the CREW WORKING AHEAD C-004 sign for traffic control involving cattle drives.
C-183 Series Bike Hazard		
 C-183  C-183-Ta  C-183-Tb  C-183-Tc	Sign sizes (mm) C-183 (450 x 450) C-183-Ta (400 x 200) C-183-Tb (400 x 200) C-183-Tc (400 x 200)	The BIKE HAZARD C-183 series is typically used on local or low-speed arterial roadways to advise cyclists of potentially hazardous road conditions in the work zone, including changes to the pavement surface that could affect stability. The BIKE HAZARD C-183 sign should be assembled with the appropriate tab to provide specific information: • Use the CYCLISTS USE CAUTION C-183a tab to tell the cyclist what to do. • Use the UNEVEN ROAD C-183b tab or the UNEVEN PATHWAY C-183c tab to describe the nature of the hazard. The C-183 sign and tab should be erected just in advance of the hazard, subject to practical field limitations.
C-184 Cyclist Right-of-Way		
 C-184	Sign sizes (mm) C-184 (750 x 750) C-184x (900 x 900) C-184xx (1200 x 1200)	The CYCLIST RIGHT-OF-WAY “Take the Lane” C-184 sign is to be used where there is limited space for side-by-side vehicle and cyclist operations, and the cyclist should use the centre of the travel lane. It should be used only on low-speed roadways for a limited distance (typically less than 150 metres).

C-185-1 Smoke Ahead **C-185-1 Tabs**		
 C-185-1  C-185-1Ta  C-185-1Tb	Sign sizes (mm) C-185-1 (750 x 750)* C-185-1x (900 x 900)* C-185-1Ta (600 x 300)* C-185-1Ta-x (750 x 450)* C-185-1Tb (600 x 300)* C-185-1Tb-x (750 x 450)*	The SMOKE AHEAD C-185-1 sign should be placed in advance of an area where smoke from a nearby forest fire or controlled burn may obscure the view ahead for drivers. The appropriate CONTROLLED BURN C-185-1Ta tab or FOREST FIRE C-185-1Tb tab must accompany the SMOKE AHEAD sign. The C-185-1 sign and tab should be positioned so that they are seen by drivers who have not yet encountered smoke on the roadway but may be able to see it in the distance. Depending on the situation and the severity of the smoke hazard, the C-185-1 sign may be followed by additional signage, such as the REDUCE SPEED C-032 sign or the PREPARE TO STOP C-029 sign. Depending on the wind conditions, the C-185-1 signage may have to be adjusted frequently to remain in advance of the smoke.
C-185-2 Reduced Visibility Hazard **C-185-2 Tabs**		
 C-185-2  C-185-2Ta  C-185-2Tb	Sign sizes (mm) C-185-2 (750 x 750)* C-185-2x (900 x 900)* C-185-2Ta (600 x 300)* C-185-2Ta-x (750 x 450)* C-185-2Tb (600 x 300)* C-185-2Tb-x (750 x 450)*	The REDUCED VISIBILITY HAZARD C-185-2 sign may be used where visibility is reduced by temporary conditions like dust, smoke, or other blowing or suspended particulate matter. If the reduced visibility is expected to continue over two or more kilometres, the signs should be used in conjunction with appropriate tabs explaining the reason for the reduced visibility and the distance over which it will be encountered. The sign should not be used in a work zone as a substitute for dust control methods.

C-185-3 Use Headlights – Extreme Dust		
 C-185-3	Sign sizes (mm) C-185-3 (750 x 750) C-185-3x (900 x 900)	The USE HEADLIGHTS – EXTREME DUST C-185-3 sign should be used when a severe dust condition obscures the view ahead for drivers. This may occur on seal coat or graveling operations. To the extent possible, the sign should be positioned in advance of the point at which drivers encounter the dust condition. It may have to be repositioned frequently because of changing wind and weather conditions.
C-187 Turn on Headlights in Tunnel **C-187-T Tunnel Lighting Work in Progress Tab**		
 C-187  C-187-T	Sign sizes (mm) C-187 (750 x 750)* C-187-x (900 x 900)* C-187-T (600 x 450)* C-187-Tx (750 x 450)*	The TURN ON HEADLIGHTS IN TUNNEL C-187 sign and the TUNNEL LIGHTING WORK IN PROGRESS C-187-T tab should be used in advance of tunnels in which workers are present and normal tunnel lighting may be affected.

C-190 Evacuation Route **C-190 Tabs**		
 C-190  C-190-TaA  C-190-TaLR	Sign sizes (mm) C-190 (750 x 750)* C-190-x (900 x 900)* C-190-TaA (600 x 300)* C-190-TaA-x (750 x 400)* C-190-TaLR (600 x 300)* C-190-TaLR-x (750 x 400)*	The EVACUATION ROUTE C-190 signs and tabs should be used in the event of a natural disaster or other event that requires the evacuation of an area. They should be set up to guide drivers along the evacuation route out of the affected area. The setup for C-190 signs is similar to that for detour route signs, with appropriate directional arrows used in advance of and, where necessary for confirmation, beyond all decision points along the evacuation route to assure drivers that they are following the intended path.
C-202 Sidewalk Closed		
 C-202	Sign sizes (mm) C-202 (900 x 450) C-202-x (1200 x 600) C-202-xx (1830 x 915)	The SIDEWALK CLOSED C-202 sign should be used where it is necessary to close a sidewalk. It should be placed on a barricade immediately in advance of the closed area, on both approaches to the closed area.

C-203 Sidewalk Closed – Cross Here		
 C-203-L  C-203-R	Sign sizes (mm) C-203-L (900 x 450) C-203-Lx (1200 x 600) C-203-Lxx (1830 x 915) C-203-R (900 x 450) C-203-Rx (1200 x 600) C-203-Rxx (1830 x 915)	The SIDEWALK CLOSED – CROSS HERE C-203-L/R sign is usually mounted on a barricade. It is positioned in advance of the sidewalk closure at an appropriate crossing location so that pedestrians are directed to an appropriate crossing facility, usually an existing intersection or mid-block crosswalk.
C-204 Exit Open		
 C-204	Sign sizes (mm) C-204 (1200 x 900)	The EXIT OPEN C-204 sign is used in advance of an exit ramp that is open but for which the open status may not be clear to drivers because of road work taking place in the immediate vicinity of the ramp. This sign may be placed as a standalone sign or mounted below a guide sign for the exit.
C-205-A Exit Closed Ahead		
 C-205-A	Sign sizes (mm) C-205-A (750 x 750) C-205-Ax (900 x 900) C-205-Axx (1200 x 1200)	The EXIT CLOSED AHEAD C-205-A sign should be used in advance of a temporarily closed exit ramp. In areas where there are two or more exits in close proximity, a C-130-T distance tab may be used with the C-205-A sign to provide clarity about which exit is closed.

B-C-002 Bicycle Lane Closed		
 B-C-002	Sign sizes (mm) B-C-002 (450 x 450)*	The BICYCLE LANE CLOSED B-C-002 sign should be used where a bicycle lane or route is temporarily closed. Wherever possible, this sign should be accompanied by BICYCLE DETOUR B-C-004 signs to direct cyclists around the closed area.
B-C-004 Bicycle Detour		
 B-C-004-1A  B-C-004-1L  B-C-004-1R  B-C-004-2	Sign sizes (mm) B-C-004-1A (450 x 450)* B-C-004-1L (450 x 450)* B-C-004-1R (450 x 450)* B-C-004-2 (450 x 450)*	The appropriate BICYCLE DETOUR B-C-004 sign should be used immediately in advance of all decision points along a cycling detour route. Confirmation signs should also be placed following decision points to assure cyclists that they are following the intended route. • The BICYCLE DETOUR AHEAD B-C-004-1A sign may be used after a BICLYCLE LANE CLOSED B-C-002 sign to indicate that the detour is ahead, and as a confirmation sign along the detour route. • The BICYCLE DETOUR LEFT B-C-004-1L and BICYCLE DETOUR RIGHT B-C-004-1R signs should be used to indicate decision points along the detour route. • At the end of the detour, the BICYCLE DETOUR ENDS B-C-004-2 sign should be used to indicate that cyclists are now returned to the original route. • The B-C-004 tabs indicate distances related to the detour route: - Tab B-C-004-Ta should be used at the beginning of the detour to inform cyclists of the overall length of the detour. - Tabs B-C-004-Tb and B-C-004-Tc may be used in conjunction with the appropriate B-C-004-1 sign to indicate the distance between decision points for improved cyclist navigation. *continued →*

B-C-004 Bicycle Detour		
 B-C-004-Ta  B-C-004-Tb  B-C-004-Tc	B-C-004 Ta (400 x 200)* B-C-004 Tb (400 x 200)* B-C-004 Tc (400 x 200)*	Where the detour route for drivers and cyclists is the same, bicycle detour signs are not necessary because cyclists may follow the general purpose C-005 and C-006 construction detour signs.
B-C-020 Bicycles and Pedestrians Slow **B-C-020-T Watch for Pedestrians Tab**		
 B-C-020  B-C-020-T	Sign sizes (mm) B-C-020 (450 x 450)* B-C-020-T (400 x 200)*	The BICYCLE AND PEDESTRIANS SLOW B-C-020 sign should be used where pedestrian-cyclist interaction is changed because of construction activity. Examples of situations where this sign should be used are: • a shared path that is narrowed during construction • a formerly exclusive cycling facility that is now temporarily shared with pedestrians • a location at which pedestrians may be unexpectedly crossing a cycling facility The WATCH FOR PEDESTRIANS B-C-020-T tab should be used in conjunction with the B-C-020 sign to clarify why cyclists are expected to slow.
C-121-1 Series Roundabout Right-Turn Truck Signs		
 C-121-1  C-121-Ta  C-121-Tb	Sign sizes (mm) C-121-1 (750 x 750) C-121-Ta (750 x 300) C-121-Tb (750 x 300)	The signs in the C-121 series should be used to convey the right-turn path for trucks in a roundabout. The right-turn movement is typically the most challenging for trucks in roundabouts. If the work activity encroaches into the space needed by right-turning trucks in the roundabout, it may still be possible to allow trucks to make the right-turn manoeuvre by instructing drivers to continue around the roundabout so that they re-approach the exit at a wider angle.

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B.2.2 Regulatory Signs

Regulatory signs impose legal requirements and may not be used without permission from the Road Authority. They are typically either square or rectangular—with the long dimension vertical—and typically display black messages on white backgrounds or vice versa.

R-001 Stop **R-001 Tabs**		
 R-001	Sign sizes (mm) R-001 (750 x 750) R-001-x (900 x 900) R-001-xx (1200 x 1200)*	The STOP R-001 sign may be required to assign the normal right-of-way rule at temporary intersections. The R-001 sign should be mounted at a height of approximately 1.5 to 2.0 metres and in approximately the same position as a permanent STOP sign. Where all approaches to a three- or four-leg temporary intersection are controlled by R-001 signs, the signs should be supplemented with R-001 tabs indicating the number of approaches involved. If a temporary STOP sign is not clearly visible for the safe stopping distance on the approach, a STOP AHEAD C-111 sign is required to alert drivers to the upcoming R-001 sign. A STOP AHEAD C-111 sign may also be needed if a temporary STOP sign is to be installed at a location where drivers would not normally expect to find one.
 R-001-Ta	R-001-Ta (450 x 250) R-001-Tax (600 x 300) R-001-Taxx (750 x 400)	
 R-001-Tb	R-001-Tb (450 x 250) R-001-Tbx (600 x 300) R-001-Tbxx (750 x 400)	
 R-001-Tc	R-001-Tc (450 x 250) R-001-Tcx (600 x 300) R-001-Tcxx (750 x 400)	

R-002 Yield		
 R-002	Sign sizes (mm) R-002 (900 x 900) R-002-x (1200 x 1200)	The YIELD R-002 sign may be used in temporary situations where the normal right-of-way rule cannot be applied safely but where a STOP R-001 sign would be overly restrictive. An example of appropriate use of an R-002 sign would be at a temporary freeway on-ramp or other such one-way approach that merges with a through roadway at a narrow angle. A MERGE C-137-1 sign is used instead of a YIELD R-002 sign if an acceleration lane of sufficient length exists for on-ramp traffic to reach the through roadway speed limit before entering a through lane. The YIELD R-002 sign should be mounted at a height of approximately 1.5 to 2.0 metres and in approximately the same position as a permanent YIELD sign.

R-003 Maximum XX km/h Ahead **R-004 Maximum XX km/h**		
 R-003	Sign sizes (mm) R-003 (600 x 750) R-003-x (750 x 900)* R-003-xx (900 x 1200)*	The MAXIMUM SPEED AHEAD R-003 and MAXIMUM SPEED R-004 signs are mounted above CONSTRUCTION SPEED ZONE C-080-T tabs to implement a regulatory Construction Speed Zone where the need for and speed limit of such a zone has been established by the Road Authority. The R-004 and C-080-T assembly shows the approved speed limit, marks the beginning of the Construction Speed Zone, and is used for confirmation throughout the zone. The R-003 and C-080-T combination, showing the same speed limit, is placed upstream of the beginning of the zone. Wherever possible on freeways and other one-way roadways, secondary assemblies should also be mounted on the median or left side.
 R-004	R-004 (600 x 750) R-004-x (750 x 900)* R-004-xx (900 x 1200)*	A confirmatory R-004 and C-080-T assembly should be erected 300 to 600 metres downstream of the beginning of the Construction Speed Zone. Other confirmatory assemblies may be required beyond all intervening intersections and on-ramps, and at other intermediate positions on long, uninterrupted rural sections. The oversized R-003 and R-004 signs may be used occasionally at the beginning of other Construction Speed Zones if additional emphasis is required. The standard-sized 600 x 750 mm R-004 sign may be used for confirmation within the zone. The end of a Construction Speed Zone is indicated by an R-004 sign showing the normal maximum speed. Where the end of the Construction Speed Zone coincides with the end of a work zone, the R-004 is preceded by a WORK ZONE ENDS C-088 sign.

R-010 Two-Way Traffic		
 R-010	Sign sizes (mm) R-010 (600 x 750)	The TWO-WAY TRAFFIC R-010 signs are required on both sides of a two-lane, two-way roadway at the point where the two-way section begins. In advance of that point, TWO-WAY TRAFFIC C-132 or W-020 signs must be used to provide advance warning to drivers that the one-way roadway will become a two-lane, two-way roadway. Confirmatory R-010 signs should be installed every 1.0 to 1.5 kilometres along the two-way roadway, and beyond as considered necessary. Locations beyond access points should also be considered for placement of R-010 signs. Special care is required where one direction of a divided roadway is being used temporarily to carry two-way traffic because, among other things, the normal pavement markings are not the correct colours. The R-010 sign should be used at locations where a divided highway illusion may cause drivers to think they are on a one-way roadway when in fact they are on a two-lane, two-way roadway. Typical situations requiring R-010 signs are: • construction sites where an expressway or freeway becomes a two-lane highway • locations where grading for a full-width expressway or freeway has been completed but only two lanes are operational • locations where a centreline or median crossover is being implemented

R-012 Road Closed **R-012-T Local Traffic Only Tab**		
 R-012  R-012-T	Sign sizes (mm) R-012 (600 x 450) R-012-T (600 x 300)	The ROAD CLOSED R-012 sign is used to mark any roadway that has been temporarily closed to all public traffic for the purpose of road construction or maintenance, or because of a temporary emergency condition such as high water or a slide. Barricades should be used to close off the travelled roadway as detailed in *Section 4.5.7: Barricades.* An R-012 sign should be mounted on the highest rail of a barricade placed as close as possible to the centre of the travelled roadway. The LOCAL TRAFFIC ONLY R-012-T tab is used with the R-012 sign if access to private property is being maintained for local traffic along the closed section. In these cases, the positioning of barricades at the closure point should leave enough room at one or both sides for local traffic to enter and leave the closed section safely. The R-012-T tab is erected immediately below or to the right of the R-012 sign.
R-014 Keep Left/Right		
 R-014-L  R-014-R	Sign sizes (mm) R-014-L (600 x 750) R-014-R (600 x 750)	The KEEP LEFT/RIGHT R-014-L/R sign may be used in temporary situations in which traffic must be diverted from its normal path and there is no opportunity to use channelizing devices. Such situations can occur in the vicinity of intersections, as shown in *Section 11.12: Two-Lane Closure – Multilane Intersection*.

R-015 Turn Control Left/Right
R-017-2 No Straight Through
R-018 Turn

R-015-L

R-015-R

R-017-2

R-018

Sign sizes (mm)

R-015-L (600 x 600)

R-015-Lx (750 x 750)

R-015-Lxx (900 x 900)*

R-015-R (600 x 600)

R-015-Rx (750 x 750)

R-015-Rxx (900 x 900)*

R-017-2 (600 x 600)

R-017-2x (750 x 750)

R-017-2xx (900 x 900)*

R-018 (600 x 600)

R-018-x (750 x 750)

The TURN CONTROL signs are used at intersections in both temporary and permanent situations to indicate to approaching traffic that the specified turning or through movements are either prohibited (R-015-L/R and R-017-2) or allowed (R-018).

At intersections without traffic signals, the signs are normally post-mounted.

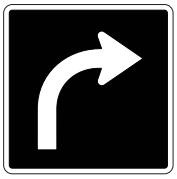
At intersections with traffic signals, the signs should be positioned in the vicinity of the applicable traffic signal heads.

TURN CONTROL signs apply to all traffic approaching an intersection.

These signs should not be confused with, or substituted for, LANE USE signs, which regulate traffic in individual lanes.

R-020 No Passing for XXX m		
 R-020	Sign sizes (mm) R-020 (600 x 450) R-020-x (750 x 600)	The NO PASSING FOR XXX m R-020 sign is used only immediately below DO NOT PASS R-022-1 signs when the passing prohibition is relatively short (i.e., ≤ 900 metres). It is not required where overtaking is already prohibited by a barrier line, but should be used in locations where the normal pavement markings permit passing.
R-022-1 Do Not Pass **R-023 Passing Permitted**		
 R-022-1  R-023	Sign sizes (mm) R-022-1 (600 x 600) R-022-1x (750 x 750) R-022-1xx (900 x 900)* R-023 (600 x 600) R-023-x (750 x 750) R-023-xx (900 x 900)	This pair of signs may be used temporarily on two- or three-lane, two-way roadways where it is necessary to reinforce barrier line markings or where normally permitted passing should be prohibited due to construction activity. A PASSING PERMITTED R-023 sign should always be used in conjunction with a preceding DO NOT PASS R-022-1 sign to mark the end of the No Passing Zone. If the section of road over which passing is prohibited is of considerable length, one or more intermediate R-022-1 signs may be required for confirmation.

R-025 Stop Line		
 R-025-L  R-025-R	Sign sizes (mm) R-025-L (450 x 600) R-025-R (450 x 600)	The STOP LINE RIGHT R-025-R sign is required only at temporary traffic signal or temporary lane control signal installations where a stop line cannot be placed or where an installed stop line needs additional emphasis. It should generally be post-mounted at the intended stop location and to the right of approaching traffic. On a one-way roadway or in other situations where more than one lane approaches the temporary signal from the same direction, a STOP LINE LEFT R-025-L sign should be post-mounted on the left side of approaching traffic if a secure location can be found for it. When properly positioned, the arrows on R-025 signs always point inward towards the travelled roadway.
R-056-1 Yield to Oncoming Traffic		
 R-056-1	Sign sizes (mm) R-056-1 (750 x 900)* R-056-1x (900 x 1200)*	The YIELD TO ONCOMING TRAFFIC R-056-1 sign is used to control a single-lane traffic section on what is principally or usually a two-lane, two-way roadway. It is used with other signs, such as: • C-030-8 Single Lane Traffic • C-135 Narrow Structure Ahead • C-135-Ta One Lane tab The R-056-1 sign is displayed for only one direction of travel, and should be used only where adequate sight distance, low traffic volumes, and low speeds make it unnecessary to use Traffic Control Persons, temporary traffic signals, or temporary lane control signals. It may also be used on the rear of a work vehicle involved in continuously slow-moving work on a two-lane, two-way roadway.

R-082 and R-083 Lane Use		
 R-082-L  R-082-R1  R-083-L  R-083-R	Sign sizes (mm) R-082-L (750 x 750) R-082-Lx (900 x 900)* R-082-R1 (750 x 750) R-082-R1x (900 x 900)* R-083-L (750 x 750) R-083-Lx (900 x 900)* R-083-R (750 x 750) R-083-Rx (900 x 900)*	The LANE USE R-082-L, R-082-R1, R-083-L, and R-083-R signs are used for both temporary and permanent situations to indicate that drivers should use a specific lane on an approach to an intersection. LANE USE signs regulate the lane assignments on approaches to intersections, and should be used where the movement is contrary to either driver expectations or the normal rules of the road. Unlike TURN CONTROL signs, these signs are placed in advance of intersections and apply only to specific lanes. For short-duration operations, they may be post-mounted or placed on a temporary sign stand, preferably at least 25 metres in advance of the intersection. For long-duration work, they should be either post-mounted or preferably mounted at a minimum height of 5.5 metres over the centre of the lane or lanes to which they apply. The R-082-L, R-082-R1, R-083-L, and R-083-R signs may be used in a shoulder application when overhead mounting is not practical. A RIGHT LANE or LEFT LANE tab should be mounted below the sign if post-mounted on the shoulder of the roadway.
R-082-R2 Right Lane Must Turn Right		
 R-082-R2	Sign sizes (mm) R-082-R2u (600 x 750) R-082-R2 (750 x 900) R-082-R2x (900 x 1200)*	The RIGHT LANE MUST TURN RIGHT R-082-R2 sign may be used instead of the LANE USE R-082-R1 sign described above if no suitable location can be found to display the R-082-R1 sign.

B-R-101 Series Cycling Restriction		
 B-R-101-1	Sign sizes (mm) B-R-101-1 600 x 600	The BICYCLE PROHIBITED B-R-101-1 sign and the WALK BICYCLE B-R-101-2 sign may be used to convey a cycling restriction: • The BICYCLE PROHIBITED B-R-101-1 sign indicates that bicycle riding is prohibited beyond this point. • The WALK BICYCLE B-R-101-2 sign is intended for cycling restrictions that are limited in length and where it is feasible to have cyclists dismount and walk their bikes. The B-R-101-Tb tab or the B-R-101-Tc tab should be used in conjunction with the WALK BICYCLE B-R-101-2 sign to provide additional direction to cyclists.
 B-R-101-2	B-R-101-2 600 x 600	
 B-R-101-Tb	B-R-101-Tb 600 x 300	
 B-R-101-Tc	B-R-101-Tc 600 x 300	

B.2.3 Other Signs

P-081 Idle Reduction

P-081-1

Sign sizes (mm)

P-081-1 (600 x 750)*

P-081-2

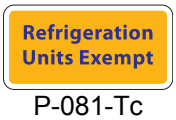
P-081-2 (600 x 750)*

P-081-Ta

P-081-Ta (600 x 300)*

P-081-Tb

P-081-Tb (600 x 300)*



P-081-Tc

P-081-Tc (600 x 300)*

Rehabilitation or Expansion Projects:

If required by special provisions in the project contract, the IDLE REDUCTION – TURN ENGINE OFF P-081-1 sign or the IDLE REDUCTION – NO IDLING P-081-2 sign can be incorporated into work zone traffic control signage where queues form under the direction of a Traffic Control Person or traffic control devices during daylight hours.

Smaller Projects:

Projects under $500,000 in value can incorporate P-081 signs into work zone traffic control signage if:

- the project duration is expected to exceed three weeks;
- the project is located in a high-traffic area; and
- the Road Authority approves the use of these signs.

Installation Instructions:

The sign must be placed downstream of the TRAFFIC CONTROL PERSON AHEAD C-001-1 sign.

The DAYLIGHT HOURS ONLY P-081-Tb tab must be installed if traffic stoppages occur before—or extend beyond—daylight hours.

In the event of prolonged stoppages that result in long traffic queues, additional P-081-1 or P-081-2 signs must be placed upstream as required.

Exceptions:

The use of Idle Reduction signs for traffic control is not recommended if temperatures are consistently below freezing or during night-time projects involving traffic stoppages unless the queue area is lit.

The intent of the signs is to encourage drivers to reduce greenhouse gas emissions from idling vehicles. The signs should not be used in circumstances where they could decrease road safety, adversely affect human health, or impede workers' ability to do their jobs.

W-132 Share the Road		
 W-132-1  W-132-1T	Sign sizes (mm) W-132-1u (600 x 600) W-132-1 (750 x 750) W-132-1x (900 x 900) W-132-1Tu (450 x 300) W-132-1T (600 x 300) W-132-1Tx (750 x 450)	The SHARE THE ROAD W-132-1 sign is used to warn motorists that they are to provide adequate driving space for cyclists and other vehicles on the road. The sign also advises motorists and cyclists to use extra caution on the upcoming stretch of road. The W-132-1 sign is to be used where bicycles and motor vehicles share the roadway in a side-by-side operation, such as on narrow lanes or where a road configuration changes, as when a paved shoulder or bicycle lane is discontinued. The SHARE THE ROAD W-132-1T tab may be used to enhance road users' understanding of the W-132-1 sign.
C-326 Series Runaway Lane Closed		
 C-326 Hinged  C-326-OL Series	Sign sizes (mm) C-326 (2440 x 915) C-326-OL (300 x 300)	The RUNAWAY LANE CLOSED C-236 sign is one option available for informing truck drivers of a runaway lane closure. It is typically used for long-duration work extending over multiple days in areas where there are multiple runaway lanes. The C-326 signs are used in conjunction with RUNAWAY LANE CLOSED C-067 signs, and may require alteration of the existing W-322 and W-323 runaway lane signs in order to provide a unique letter identifier for each runaway lane. The C-326 sign should be positioned at the upstream brake check location, in advance of the hill, below an existing STEEP GRADE AHEAD sign as shown at the top of the left column here. Other options for providing advance notice of a runaway lane closure include the use of variable message signs (VMS) and customized signs. Advance notice of a runaway lane closure should be provided at—or in advance of—the nearest upstream brake check location. C-326 signs, VMS, and customized signs may be used in combination.

C-138 Series Zipper Merge		
 C-138-L  C-138-Te	Sign sizes (mm) C-138-L (1220 x 2440) C-138-Te (1220 x 305)	The ZIPPER MERGE C-138 sign may be used at merge locations in addition to—or instead of—the ALTERNATE WHEN MERGING C-137-2 sign to promote efficient merging behaviour in congested conditions. The C-138 sign should typically be positioned at the merge point, immediately in advance of the beginning of the acceleration lane taper. The C-138-Te tab should be used below the sign when the sign is positioned in advance of the merge point because of sight distance problems, conflicts with other signs, or the absence of appropriate mounting space. See the Provincial Sign Catalogue for additional tabs.
C-128 Series Construction Speed Limit Ahead		
 	C-128-x (900 x 900) C-128-xx (1200 x 1200)	The CONSTRUCTION SPEED LIMIT AHEAD C-128 is used in advance of R-003 and R-004 Construction Speed Zone signs to replace any transition speed zones installed for speed reductions in excess of 30 km/h. They can also be used to provide additional emphasis, where deemed necessary, of a Construction Speed Zone.

Note: Those wishing to use Z series signs on Provincial roadways must first obtain Ministry permission and the Ministry's specification sheets by emailing the Provincial Sign Program at TRANPSP@gov.bc.ca.

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Appendix C: Templates for Traffic Management Plans

Appendix Contents

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Appendix C: Templates for Traffic Management Plans

Appendix C contains three templates:

1. **Template for Category 1 Traffic Management Plan:** This template is designed to assist Project Supervisors and Traffic Control Supervisors in assessing traffic control factors and developing a site-appropriate Traffic Management Plan for a Category 1 project.
2. **Daily Sign Check Form:** This form is designed for recording information about the periodic sign checks carried out each day during the course of a project.
3. **Template for Category 2 and 3 Traffic Management Plans:** This template sets out a fundamental approach for organizing and developing Traffic Management Plans for Category 2 and Category 3 projects, and is designed to assist Prime Contractors and Ministry staff with the development and review of Traffic Management Plans for Category 2 and Category 3 projects.

As indicated throughout this Manual, the requirements for each project will vary with the characteristics of the traffic, the roadway, and the project itself, and with the contract provisions and conditions established by the Ministry for the Prime Contractor. Each Traffic Management Plan must reflect those project-specific characteristics, provisions, and conditions.

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1. This form is designed to assist Project Supervisors and Traffic Control Supervisors in assessing traffic control factors and developing a Category 1 Traffic Management Plan appropriate to the work site.
2. The purpose of traffic control is to clearly direct and control the flow of traffic with as little disruption to the normal traffic flow as possible.
3. The misuse, overuse, or deficient use of traffic control devices can increase traffic hazards for workers on this and other work sites. All unnecessary signs must be turned or removed as soon as possible. For details, see the **Ministry's Traffic Management Manual for Work on Roadways**.

IMPLEMENTATION PLAN	
Date	**Site Name**
Exact Site Location	
Project Supervisor	**Organization**
Traffic Control Supervisor	**Organization**
Traffic Control Person(s)	**Employer**
Description of Work Activity	

CONSIDER:	**Site Factors**
Road alignment: windy, straight, hilly, banked, etc.	
Road type: divided, undivided, number of lanes.	
Sight distance: signs, trees, buildings, and other obstructions to driver sight lines.	
Approaches: hills, curves, intersections, accesses.	
Site length: total length, active length.	
Regulated speed:	
Average daily traffic volumes:	
Traffic types: local, tourist, commercial, emergency, bus, etc.	
Shoulder types and widths:	
Surrounding land uses: commercial, industrial, residential, etc.	
Residential areas: driveways, school buses, etc.	
Weather conditions: clear, icy, wet, foggy, limited visibility, etc.	
Other: _____	
_____	
_____	

CONSIDER:	Procedural Factors
Work on roadway Work off roadway Site access and egress Stationary work site Continually slow-moving work site Amount of work site activity Activity changes as work progresses Hours of work – day / night Other: ____________________ ____________________ ____________________ ____________________	

TRAFFIC CONTROL PLAN CONSIDERATIONS

Traffic Control Hierarchy: Consider traffic control devices such as signs, barricades, delineators, flashing arrow boards, changeable message signs, cones, and other traffic control methods before using Traffic Control Persons.

Temporary / Construction Speed Zones: Keep reduced speed zones as small as possible. Temporary Speed Zones should not extend more than 1 km outside the active work area.

Site Factors: Traffic control decisions should reflect site factors identified on the previous page.

CONSIDER:	Traffic Control Plan
Site and procedural factors Types of traffic control devices Spacing of devices Advanced warning area Transition area Buffer area Work area Termination area Delineation during off hours Moving signs Turning and removing signs Checking devices Traffic Control Persons: - qualifications - hours of work - communications - relief - site instructions, location Other: ____________________ ____________________ ____________________ ____________________ ____________________ ____________________ ____________________	

Site Diagram

Persons Involved in Developing Traffic Plan		
Attended site discussion of plan:		
Name	Organization	Signature

INCIDENT MANAGEMENT PLAN (if required)

PUBLIC INFORMATION PLAN (if required)

DAILY SIGN CHECK FORM

Project Name and Number			**Project Location**	
Type of Work			**Highway Location**	
Date yyyy/mm/dd	**Time of Inspection**	**Location and Deficiency Type**	**Comments**	**Initials**

This side of the page may be used for additional records if necessary.

Date yyyy/mm/dd	Time of Inspection	Location and Deficiency Type	Comments	Initials

TRAFFIC MANAGEMENT PLAN

<Name of Category 2 or Category 3 Project>
<PROJECT No.>

<Date>

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Table of Contents

1. Category Definition

Based on the steps outlined in Section 3.2: Project Category Determination in the **Ministry's Traffic Management Manual for Work on Roadways**, the <Project Name> Project calls for a Category <#> Traffic Management Plan.

A Category <#> Traffic Management Plan is characterized by:

-
-
-
-

A Category <#> Traffic Management Plan consists of:

- Traffic Control Plan
- Public Information Plan
- Incident Management Plan
- Implementation Plan

The aim of a Category <#> Traffic Management Plan is to minimize the site-specific risks that were identified for the project.

2. Traffic Control Plan

See also Appendix A: Traffic Control Plan Drawings in this Traffic Management Plan for the proposed layouts of traffic control devices for the project.

Plan Date	Date when plan was initiated.
Latest Revision	Date of latest revision.
Site Name	Name of project.
Plan Developed By	Name of person who developed the plan.
Exact location, direction, and distance to nearest landmarks	Highway number and name of location, LKI, etc.
Project Supervisor	Name of Project Supervisor.
Prime Contractor	Name of Prime Contractor.
Traffic Control Manager	Name of Traffic Control Manager (if applicable).
Traffic Engineer	Name of Traffic Engineer (if applicable).
Traffic Control Supervisor	Name of Traffic Control Supervisor and company.
Traffic Control Persons	Names of TCPs and company.
Project Start Date	
Project Completion Date	

1. Site Factors (Risk Assessment)

Road Alignment	Windy, straight, hilly, banked, etc.
Road Type	Primary, secondary, urban, rural, divided, undivided, arterial, expressway, freeway, number of lanes.
Driver Sight Distances	Consider signs, trees, buildings, and other obstructions that limit visibility.
Approaches	Hill, curves, intersection, accesses, etc.
Work Zone Length	
Affected Lanes	
Regulated Speed	
Reduced Speed Limit	
Traffic Volumes	Approximate traffic volume and type (commercial, residential, agricultural, etc.).
Shoulders	Width, material, etc.
Surrounding Land Use	Commercial, industrial, residential, agricultural, etc.
Residential Areas	Driveways, school buses, etc.
Pedestrians/Cyclists	Is project in an area with potential pedestrians and cyclists?
Weather Conditions	Clear, icy, wet, foggy, snowy, etc.
Site Hazards	List of hazards within project limits.
Concrete Roadside Barriers	Will concrete barriers be removed? If so, what traffic control measures will be in place?

2. Procedural Factors (Risk Assessment)

Work Activity	Type of work: stationary, slow-moving, emergency, brief, short-duration, or long-duration work?
Work On/Off Roadway	Is the work on or off the roadway?
Site Access/Egress	How will equipment access and exit from the site?
Intersections affected by work zone or traffic control devices	
Delays, Closures, Diversions, and Detours	Will delays, closures, diversions, and/or detours be in place? If so, illustrate in Appendix B: Detour Traffic Control Plan Drawing. What is the design speed for the detour? Can it withstand the traffic that will be using the road? For what duration will these be in place?
Hours of Work	The hours during which the work will occur. The time period during which the work will affect traffic.
Dump Site	Location of dump site and access/exit requirements.
Construction Equipment	How will construction equipment be protected during working hours? During off-hours?

3. Special Provisions

Traffic Control Supervisor	Name of Traffic Control Supervisor and company.
Traffic Control Persons	Name of TCPs and company.
Off-Hours Traffic Control	Types of traffic control devices.
Means of Communication	How will TCPs communicate?
Signage	Are signs installed for short-duration or long-duration work? Are the signs spaced in accordance with posted speed?
Portable Dynamic Message Signs (PDMS)	Will PDMS be required? Who will be responsible for updating the sign message(s)?
Dynamic Message Signs (DMS)	Are DMS required? Where will they be located? Who will be responsible for updating the sign message(s)?
Intersections affected by work zone or traffic control devices	Are intersections affected by the work zone or traffic control devices? If so, how will the intersections be controlled? Will additional traffic control devices be required?
Flexible Drums	Will flexible drums be used to delineate lane drops? Will they be used to identify construction accesses to the work activity area?

Traffic Stoppages	Are there any anticipated traffic stoppages? If so, for how long? Will there be single lane alternating traffic?
Layout of Devices	Identify spacing between traffic control devices.
Emergency Vehicles	Will emergency vehicles have clear, unobstructed access to the site? What procedures will be in place to ensure that emergency vehicles are able to access the site without delay?

3. Incident Management Plan

The Incident Management Plan defines processes for responding to unplanned events or traffic incidents in the work zone so that incident response operations within the work site are managed effectively.

The Incident Management Plan requirements are partially determined by the project category (see Section 3.2: Traffic Management Plan Sub-Plans and Section 3.4: Traffic Management Plan Requirements by Category in the **Traffic Management Manual for Work on Roadways**).

Traffic Control Supervisor and Qualifications	Name and qualifications.
Traffic Control Manager and Qualifications	Name and qualifications.
Emergency Response Agencies and Contact Information	Name and contact information (may be listed in Section 6: Contact List).
Types of traffic incident that could occur within work zone	Motor vehicle incident, motor vehicle incident with injuries, vehicle stalls, emergency vehicle transit of work zone, dangerous goods incident, wide load passing, etc.
Procedures for responding to traffic incident that occurs within work zone	Will there be a radio announcement? Who will evaluate the incident? Who will call 911? Will traffic be stopped or will there be single lane alternating traffic? Who will assist the emergency responders through the site, and how? Who will assist if it is necessary to clear vehicles, and how?

Procedures to restore traffic flow around incident site as quickly as possible	How will traffic movement be restored? Will traffic control devices be used? If so, how?
Procedures to clear incident and restore normal project traffic operations as soon as possible	How will the incident be cleared to restore traffic movement? How many TCPs are required?
Procedure to inform and update Ministry regarding incident in work zone	What is the procedure for advising the Ministry that an incident occurred, what response measures are being taken, what clearance measures are required, and what the estimated clearance time will be?
Procedure to inform travelling public of estimated duration of delay and alternative routes (if applicable)	Will DMS or PDMS be used to display information? Will the information be on DriveBC?
Incident Reporting	Who will provide details to the Ministry? What is the process for incident follow-up?
Investigation Process	Who will lead the incident investigation? What investigation process will be used to assess the incident and those involved?
Review and Continuous Improvement Process	How incidents will be reviewed and followed up to reduce the severity and frequency of future incidents?

4. Public Information Plan

The Public Information Plan identifies actions and procedures for informing the travelling public, project stakeholders, and the Ministry of current traffic operations and planned changes to traffic operations.

See also Section 3.2: Traffic Management Plan Sub-Plans and Section 3.4: Traffic Management Plan Requirements by Category in the **Traffic Management Manual for Work on Roadways.**

Process for routinely notifying Ministry of changes to scheduled work plans	Who will be responsible for the changes? What is the person's title?
Process for notifying travelling public of scheduled traffic delays and project duration	Identify the forms of communication to be used [DriveBC, radio, project signs, overhead Dynamic Message Signs (DMS), Portable Dynamic Message Signs (PDMS), public meetings, etc.].
Process for notifying travelling public of unscheduled traffic delays	Identify the forms of communication to be used [DriveBC, radio, Twitter, overhead Dynamic Message Signs (DMS), Portable Dynamic Message Signs (PDMS), etc.].
Major user groups for alternating lane closures or road closures	Identify the major user groups (BC Trucking Association, BC Transit, emergency response agencies, school districts, etc.).

5. Implementation Plan

The Implementation Plan identifies responsibilities and procedures for ensuring that traffic management sub-plans are developed and implemented in a coordinated manner.

It identifies the qualifications, responsibilities, and duties of supervisory and management personnel responsible for implementing the Traffic Management Plan and includes the designation of a Traffic Control Manager and a Traffic Control Supervisor.

See also Section 3.2: Traffic Management Plan Sub-Plans and Section 3.4: Traffic Management Plan Requirements by Category in the **Traffic Management Manual for Work on Roadways.**

Traffic Control Manager and Responsibilities	Name, qualifications, responsibilities, and duties.
Traffic Control Supervisor and Responsibilities	Name, qualifications, responsibilities, and duties.
Person who will manage emergency traffic control operations	Name and title.
Person who will maintain daily traffic control logs	Name and title.
Person who will manage Incident Management Plan	Name and title.
Person who will manage Public Information Plan	Name and title.
Person who will monitor inactive work site	Name, title, and responsibilities.

6. Contact List

1. Emergency Response Agencies/Assistance

Agency/Assistance	Contact 1	Contact 2
RCMP		
BC Ambulance		
Fire and Rescue		
HazMat **24 hr**	**1-800-663-3456**	
PEP **24 hr**	**1-800-663-3456**	
Towing Company		
Road Authority Contacts		
Other		

2. Non-Emergency Contacts

Agency	Name	Phone/Fax	Address
WorkSafeBC			
BC Hydro			
Telus			
Maintenance Contractor			
CP Railway			
Local City Office			
First Aid			
Traffic Control Supervisor			
Traffic Control Company			
Other			

3. Prime Contractor's Contact Numbers

Name and Position	Office Number	Cell Phone Number

Appendix A: Traffic Control Plan Drawings

Site Diagram
(Use additional pages as necessary.)

Show all site factors affecting traffic control, traffic control devices, spacing, signs, explanatory notes, North arrow, etc.

Appendix B: Detour Traffic Control Plan Drawings

Site Diagram
(Use additional pages as necessary.)

Show all site factors affecting traffic control, traffic control devices, spacing, signs, explanatory notes, North arrow, etc.

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Appendix D: Traffic Management Plan Audit Forms

Contents

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Appendix D: Traffic Management Plan Audit Forms

Appendix D contains two Traffic Management Plan audit forms that are intended for use by Ministry personnel:

1. The **Traffic Management Plan Documentation Audit Form** is used by Ministry staff to audit a Prime Contractor's Traffic Management Plan prior to the commencement of project works.
2. The **Traffic Management Plan Field Audit Form** is used by Ministry staff to conduct field audits on the effectiveness of the Prime Contractor's Traffic Management Plan and its traffic control layouts or drawings as they relate to the actual site setup.

   It is also used by Ministry staff to conduct field audits on road works being undertaken by Ministry crews (e.g., rock scaling, centreline operations, or day labour construction).

The audit forms may also guide traffic management planning by other Road Authorities, and by Prime Contractors if they wish to use the forms or are instructed to do so.

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Traffic Management Plan Documentation Audit Form		
Project Name _____ Project # _____ Location _____ Duration of Work _____ Description of Work _____ Auditor _____ Audit # _____		
DOCUMENTATION AUDIT – PRIOR TO COMMENCEMENT OF WORK Rate the Items and Conditions in the Documentation Audit form using these three indicators: ✓ acceptable X not acceptable N/A not applicable		
Item	**Conditions**	**Rating**
Traffic Management Plan	The Prime Contractor submitted a Traffic Management Plan to the Road Authority. It was submitted within an acceptable time—i.e., at least 15 working days before the planned commencement of project works or as defined by the Standard Specifications. The Project Category determination process was followed for the Traffic Management Plan. The Traffic Management Plan has all the required sub-plans for the identified Project Category (Traffic Control Plan, Incident Management Plan, Public Information Plan, and Implementation Plan). It has been engineered as required by the contract. It was developed as required by the Special Provisions.	

Item	Conditions	Rating
Traffic Control Plan	The Traffic Control Plan meets the Ministry's minimum requirements for the Project Category identified in the contract or in the Project Category determination process. It includes text descriptions of the location of the work zone, proposed work activities, proposed traffic control measures, and the specific times and dates when work will be undertaken on the roadway. It includes traffic control layouts (schematic diagrams) of the roadway showing the placement and general arrangement of traffic control devices. It includes customized layouts where standard layouts are inadequate. Layouts need not be to scale, but should include dimensions and site-specific characteristics. (Drawings are required for a Traffic Control Plan only if standard layouts are not adequate.) It may include customized drawings of the roadway in the vicinity of the work zone that identify the arrangement of traffic control devices in accordance with the standards identified in Sections 6 through 19 (Traffic Control Layouts) of the Ministry's Traffic Management Manual for Work on Roadways. The drawings include dimensions, and show all painted markings, physical features that may affect traffic operations (signing, guard rails, lamp standards, etc.), road geometry, and lane configurations. The Traffic Control Plan is detailed to the extent appropriate for the complexity of the work or incident. It was prepared by the Prime Contractor, and was shared with all responsible parties before the commencement of the work.	

Item	Conditions	Rating
Incident Management Plan	For large, complex projects, the Incident Management Plan addresses procedures for handling unplanned events and incidents, and includes provisions for incident response. The Incident Management Plan specifically identifies: • types of traffic incidents that may occur in the work zone and planned estimated resumption times • procedures for detecting and verifying incidents that occur within the work zone • procedures for responding to incidents • procedures for restoring traffic flow around an incident site as quickly as possible, including the use of detours • procedures for clearing the incident and restoring pre-incident traffic operations as soon as possible • procedures for identifying estimated resumption times • procedures for immediately informing the Road Authority of the incident occurrence, response measures taken, clearance measures planned, estimated clearance time, and actual incident clearance time • procedures for informing major user groups and the travelling public of anticipated delays and the estimated duration of the unplanned traffic pattern change • procedures for reviewing incidents and proposing modifications to the Traffic Management Plan that will enhance the work site's safety and ease of use • duties and responsibilities of the Traffic Control Manager, Traffic Control Supervisor, and Traffic Control Persons with respect to incident response operations • a contact list for emergency response agencies	

Item	Conditions	Rating
Public Information Plan	The Public Information Plan identifies: • major stakeholders and road users that may be affected by the work • types of communication processes that will be used to notify stakeholders and road users of the work • actions/procedures for informing the Road Authority, travelling public, and project stakeholders of current traffic operations and planned changes to traffic operations • actions/procedures for informing major user groups and the travelling public of anticipated delays • actions/procedures for informing major user groups of the estimated duration of unplanned traffic pattern changes	
Implementation Plan	The Implementation Plan identifies: • project phases and milestones for periods when traffic operations may change • specific changes required to traffic operations during various phases of the work • responsibilities and procedures for ensuring that the sub-plans in the Traffic Management Plan are implemented • qualifications, responsibilities, and duties of the management and supervisory personnel who are responsible for implementing the Traffic Management Plan (i.e., Traffic Control Manager and Traffic Control Supervisor)	

Comments:

Items for follow-up:

Auditor signature: _____ **Date:** _____

Recipient signature: _____ **Date:** _____

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Traffic Management Plan Field Audit Form		
Project Name _____ Project # _____ Location _____ Duration of Work _____ Description of Work _____ Auditor _____ Audit # _____		
FIELD AUDIT – DURING WORK ACTIVITIES Rate the Items and Conditions in the Field Audit form using these three indicators: ✓ acceptable X not acceptable N/A not applicable		
Item	**Conditions**	**Rating**
Traffic Management Plan and Traffic Control Plan	The Traffic Management Plan has been updated as the project progresses (changes to work activities that alter traffic control requirements, changes in work activity scheduling, changes to project initiation and/or completion dates, changes to sub-plans, etc.). The Traffic Management Plan has been modified and the changes have been recorded as the work changes.	
Traffic Control Manager (may be same person as Traffic Control Supervisor)	The Traffic Control Manager has: • exercised full line authority over all onsite Traffic Control Persons • finalized traffic control measures • directed implementation of the Traffic Control Plan • monitored traffic operations to determine the effectiveness of the Traffic Control Plan • overseen Traffic Management Plan modifications necessitated by construction changes and the accommodation of special events • kept the Traffic Management Plan up-to-date	

Item	Conditions	Rating
Traffic Control Supervisor (may be same person as Traffic Control Manager)	The Traffic Control Supervisor is not the same person as the Site Supervisor. The Traffic Control Supervisor is qualified and available at all times (i.e., night-time and during weekends). The Traffic Control Supervisor has ensured that: • the required traffic control devices are in place • the daily traffic control logs are maintained • the work of Traffic Control Persons is coordinated on the work site • Traffic Control Persons are using the required personal protective clothing and equipment • Traffic Control Persons are positioned in safe locations clear of potential environmental hazards (i.e., rock slides and avalanches) • Traffic Control Persons are performing traffic control duties competently and safely	

Item	Conditions	Rating
Traffic Control Persons	Signs associated with the Traffic Control Persons are appropriately displayed, and are covered or removed when not required. The Traffic Control Persons working on the project: • are qualified and carrying up-to-date certification on the work site • are used appropriately • are wearing appropriate personal protective equipment as stipulated in Part 18 of WorkSafeBC's Occupational Health & Safety Regulation (hard hat with retroreflective strip, safety vest, CSA-approved footwear, wrist and ankle bands) • are using standard signals for traffic control as described in Part 18 of WorkSafeBC's Occupational Health and Safety Regulation • are using traffic control paddles that meet the requirements for a C-027 Traffic Control Paddle • are using adequate and effective communication • are using a red signaling wand during night work and in conditions of poor visibility • are standing in the best possible positions unless circumstances or space requirements are restricted • are aware of a clear escape route • are using precise motions to direct traffic • are clearly directing and adequately controlling traffic	

Item	Conditions	Rating
Traffic Control Signs and Devices	Signs are appropriate in size and have diamond-grade retroreflectivity. Signage is adequate, and is spaced appropriately in accordance with the Traffic Management Plan for the project or regulatory speed limits throughout the project. Signage adequately communicates the necessary information to all road users (drivers, pedestrians, and cyclists). Signs are visible, clear of debris, free from obstruction, in good condition, and properly displayed. Sign patterns are displayed consistently in both directions throughout the work zone. Speed drops are appropriate to highway and road speed. Signs and devices are installed in accordance with the Traffic Control Plan. Contradicting signs are covered or removed (e.g., normal 100 km/h sign covered or removed when construction speed is 50 km/h; inapplicable signs covered or removed when work site is inactive). All side roads, intersections, and interchanges have been considered, and are signed accordingly. Delineation is suitable and provides a clear message for directing traffic through the work site. Delineation is properly set up and spaced to provide a suitable buffer. Changeable message boards and speed readers are positioned properly in locations most suitable for project and driver visibility, are in good working condition, and are functioning properly. Night hazards have been addressed. Floodlights have been installed where required and are positioned so that they will not create visibility problems for drivers.	

Item	Conditions	Rating
Traffic Control Layout	Sight distance is adequate as drivers approach the work zone, and at all points within the work zone. Layout is consistent with the Traffic Management Plan and Traffic Control Plan (i.e., detours and road closures are considered, and the proper traffic control devices are being used). Layout is organized and clear. Layout is uniform and consistent to ensure that drivers respond properly. Drivers, pedestrians, and cyclists can move easily through the work zone. Layout is such that it encourages drivers, pedestrians, and cyclists to reduce risk. Standard layouts are used for signage and other traffic control devices to meet traffic control requirements. The work zone has an advance warning area in which drivers can adjust their driving in accordance with the conditions. The transition area is easily identified with the proper traffic control devices (i.e., delineator tapers). The buffer space is adequate and allows drivers to stop at a safe distance. The buffer space is free of equipment, workers, materials, and workers' vehicles, with the exception of a buffer vehicle. The work activity area is closed off to drivers by appropriate traffic control devices (i.e., delineators, barricades, or other channelizing devices). The work activity area provides a safe entrance and exit for work vehicles. The termination area provides an adequate distance for traffic to clear the work zone and return to normal travel lanes.	

Item	Conditions	Rating
Inactive Work Site	The site has been left in a functional condition that allows for the safe movement of all road users, including pedestrians, cyclists, and vehicles. Construction signs that are not being used are covered to prevent driver confusion. Signage and traffic control devices are appropriate. A specific person has been identified as being responsible for 24-hour maintenance and emergency response, and has accepted this responsibility. The traffic control layout is consistent with the Traffic Management Plan regarding inactive work sites.	
Maintenance	The road surface is free from gravel, mud, and other debris. Signage and traffic control devices are properly used, displayed, and set up, and are free from mud, debris, and obstruction. A specific person routinely monitors, inspects, and maintains traffic control signs and devices.	

Comments:

Items for follow-up:

Auditor signature: _____ **Date:** _____

Recipient signature: _____ **Date:** _____

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Appendix E: Lane Closure Request Form

Appendix E contains a sample of the Ministry's Work Notification/Lane Closure Request and Approval Form (H1080).

The online form is available at http://www.th.gov.bc.ca/forms/getForm.aspx?formId=649.

It can be populated online, and then printed for submission to the Ministry.

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BRITISH COLUMBIA | Ministry of Transportation and Infrastructure

File Number _____
Permit Number _____
Date (yyyy/mm/dd) 20 / /

WORK NOTIFICATION/LANE CLOSURE REQUEST AND APPROVAL

NOTE: This form is to be submitted ten (10) working days prior to start of work or closure.

If you have a DriveBC account, you can enter this data directly into DriveBC through the Web Input Utility (WIU). Otherwise, please submit prior to 6:30 a.m. or 24 hours in advance to: Ministry of Transportation District Office, and cc the Regional Transportation Management Centre (RTMC) at RTMC@gov.bc.ca. The RTMC requires 24/7 emergency phone numbers for all projects.

To _____ (District Manager Transportation) _____ (District Office) Telephone _____ Fax _____

From _____ (Organization) _____ (Contact Person) Telephone _____ Fax _____

☐ I request approval to **work** within the Ministry right-of-way (check as many boxes below as required):

☐ North Bound ☐ South Bound ☐ East Bound ☐ West Bound

☐ I request approval to **close** the Ministry right-of-way indicated below (check as many boxes below as required):

☐ North Bound ☐ South Bound ☐ East Bound ☐ West Bound

Indicate all lanes affected: ☐ Right Turn Lane ☐ Middle Lane ☐ Left Turn Lane ☐ Work on Shoulder ☐ Curb/Outside Lane ☐ Centre/Inside Lane ☐ All Lanes ☐ No Lane Closure

on Highway _____ (Number) between _____ (Landmark) and _____ (Landmark)

from _____ ☐ a.m./ ☐ p.m. to _____ ☐ a.m./ ☐ p.m. on the following dates (yyyy/mm/dd) 20 / /

to 20 / / ; for the purpose of constructing the following works: _____

In the above noted directions, the highway is ☐ one (1) / ☐ two (2) / ☐ three (3) or more lanes wide and ☐ zero (0) / ☐ one (1) / ☐ two (2) lanes of traffic will be maintained in the same directions as the closure.

PLEASE ATTACH THE FOLLOWING:

a) Traffic control diagram figure number _____ as per "Traffic Management Manual";
b) A detailed Traffic Management Plan (format available at the Highways District Office)

APPROVAL SECTION

☐ Request denied ☐ Request approved as submitted ☐ Request approved with the following changes:

☐ This approval is granted subject to traffic queues being monitored continuously by the Ministry or Project Representative while lane closures or traffic diversions are under way. Delays are not to _____ minutes over the normal travel time.

☐ This approval is granted subject to traffic queues being monitored continuously by the Ministry or Project Representative while lane closures or traffic diversions are under way. Standards will be set as to what delays are acceptable to the public in the Traffic Management Plan and then work will commence until these standards are not met, at which time the Traffic Management Plan will be adjusted and re-approved accordingly.

The Ministry's Regional Transportation Management Centre 1-866-707-7862, must be contacted as follows:

- **At the installation of the lane closure,**
- **Upon removal of the lane closure.**

This approval must be kept on-hand at the work site.

_____ District Manager Transportation (or Designate) _____ Date (yyyy/mm/dd)

H1080 (2015/02) **Distribution:** Original - District Manager Transportation Copy - Highways Maintenance Contractor
Copy – Regional Transportation Management Centre (RTMC)

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Appendix F: Tables A to D

Contents

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TABLE A – TAPER LENGTHS

Taper Types (m)		Regulatory Speed Limit before Work Begins (km/h)							
		≤50	60	70	80	90	100	110	120
Merge Taper Length	L_M	35	55	160	190	210	230	250	280
Lane Shift Taper Length	L_L	30	50	80	100	110	120	130	140
Downstream Taper Length	L_D	30	30	30	30	30	30	30	30
TCP, Signal, and Shoulder Taper Length (min. 5 devices)	L_S	5	8	15	15	15	15	15	15
Minimum Tangent Length between Tapers	L_T	30	60	160	190	210	230	250	280
Run-In Length on Centreline	L_R	40	50	60	60	70	80	90	100

Table A Notes	
L_M = Merge Taper Length	Merge length required to close lane on approach to work area. For speeds ≥ 70 km/h, merge length should be at least = $\frac{\text{(lane width of 3.7 m)} \times \text{(Posted Speed in km/h)}}{1.6}$, rounded to nearest 10 m.
L_L = Lane Shift Taper Length	Used when a lateral shift is needed within the work area. Lane Shift Taper = ½ x L_M, rounded up to nearest 10 m.
L_D = Downstream Taper Length	May be used in work zone termination area to provide a visual cue to drivers that they may return to the original lane or path that was closed.
L_S = TCP, Signal, and Shoulder Taper Length	Shoulder Taper: Used to close shoulders within activity area, or when shoulders might be mistaken for driving lanes. May be increased to 1/3 x L_M on higher-speed highways and freeways where shoulder width is ≥ 2.5 m. Signal and TCP Tapers: Used in advance of a work activity area where traffic is controlled so that the road is used alternately by traffic moving in each direction.
L_T = Minimum Tangent Length between Tapers	Used between successive tapers or at other decision or conflict points to provide time for drivers to become accustomed to the first change and observe traffic control devices for the second change. L_T = L_M, but for high-speed/high-volume freeways and/or night work, it may be doubled (2 x L_T) to increase time for drivers to become accustomed to the first change.

L_R = Run-In Length on Centreline	May be used on centrelines as minimum tangent length before development of lane departures or lane shifts. Run-in length = 0.8 x speed (in km/h) (US Manual of Uniform Traffic Control Devices).

TABLE B – DEVICE SPACING LENGTHS									
Device Spacing (m)		**Regulatory Speed Limit before Work Begins (km/h)**							
		≤50	**60**	**70**	**80**	**90**	**100**	**110**	**120**
Construction Sign Spacing	**A**	40	60	80	100	150	150	200	200
Buffer Space	**B**	30	40	60	80	110	140	170	200
Channelizing Device Spacing for Tapers	**C**	10	10	15	15	15	15	15	15
Channelizing Device Spacing on Curves and Tangents	**D**	10	10	30	30	40	40	40	50

Table B Notes	
A = Construction Sign Spacing	Recommended minimum spacing for signage. Spacing may be adjusted to accommodate site constraints and/or where high numbers of access points exist. Signs within the work zone should be spaced on the basis of the pre-construction, regulatory speed limit. Maximum Construction Sign Spacing: • Spacing for the sign closest to the work activity area should remain as close as possible to Distance A. • For other construction signs in the advance warning area, spacing may be adjusted up to a maximum distance of 2 x Distance A. • Signs that include a distance measurement (e.g., Construction Ahead Next 2 km) should be placed in accordance with the distance cited on the sign or tab.
B = Buffer Space	The longitudinal distance in advance of the work activity area that provides space for the protection of workers and a recovery area for errant vehicles. Typically used on high-speed roadways but should be considered for all works where space allows. Distance is based on the braking distance on level ground for wet pavement as defined in the Transportation Association of Canada's Geometric Design Guide for Canadian Roads (1999).
C = Channelizing Device Spacing for Tapers	Maximum spacing between channelizing devices for tapers.
D = Channelizing Device Spacing on Curves and Tangents	Maximum spacing between channelizing devices on curves and tangents. Tighter spacing is acceptable. Maximum device spacing is calculated as 0.4 x speed (in km/h), rounded to the nearest 10 m.

TABLE C – RISK EVALUATION FOR EMERGENT OR BRIEF-DURATION WORK

Risk Evaluation Category	Risk Criteria	Criteria Met?
1. Work Duration	Can the work be completed in 5 minutes or less?	Yes / No
2. Sight Distance Distance from parked location to furthest point that can be seen on the road.	For the posted speed limit, is the minimum sight distance met?	Yes / No
3. Traffic Volume	Is the traffic volume in lanes that will be entered by workers estimated to be less than 5 vehicles per lane per minute?	Yes / No
4. Environmental Conditions	Is visibility unrestricted (no fog, blowing snow, etc.) **and** are road conditions not slippery?	Yes / No

Speed Limit (km/h)	50 - 70	80 - 90	100 - 110	120
Minimum Sight Distance (m)	100	170	250	300

Table C Notes

A Risk Evaluation has three possible outcomes:

1. **Answers to all risk criteria questions are Yes:** Traffic control devices may be installed in accordance with the appropriate Emergent Work traffic control layout.

2. **Answers to one or two risk criteria questions are No:** Traffic control devices may be installed in accordance with the appropriate Brief-Duration Work traffic control layout.

3. **Answers to three or more risk criteria questions are No:** Additional traffic control measures are required beyond those described and illustrated for Emergent and Brief-Duration Work. The standard layout(s) for the appropriate short-duration, long-duration, or mobile work should be applied instead, which may necessitate calling in additional resources.

TABLE D – MINIMUM DISTANCES FOR MOBILE WORK						
	Regulatory Speed Limit (km/h)					
	≤50	60	70 - 80	90	100	≥ 110
Minimum Distance Moved (m) Every 30 Minutes	100	130	170	220	260	300

Table D Notes

To be considered mobile work, the operation must move at least the distance shown in Table D for the posted speed limit every 30 minutes or less.

If the work does not regularly move the specified distance, it should be treated as a stationary operation, and the appropriate layout should be used.

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