

Handbook for Construction Traffic Control Persons



The contents contained in this publication are for general information only. This publication should not be regarded or relied upon as a definitive guide to government regulations or to safety practices and procedures. The contents of this publication were, to the best of our knowledge, current at the time of printing. However, no representations of any kind are made with regard to the accuracy, completeness, or sufficiency of the contents. The appropriate regulations and statutes should be consulted. Readers should not act on the information contained herein without seeking specific independent legal advice on their specific circumstance. The Infrastructure Health & Safety Association is pleased to answer individual requests for counselling and advice.

© Infrastructure Health & Safety Association, 1981

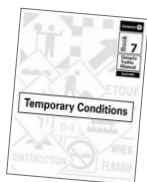
All rights reserved. This publication may not be reproduced, in whole or in part, or stored in any material form, without the express written permission of the copyright owner.

ISBN 978-1-894761-20-8

REVISED EDITION, February 1988
SECOND REVISED EDITION, August 1991
THIRD REVISED EDITION, July 2000
FOURTH REVISED EDITION, April 2003
FIFTH REVISED EDITION, April 2006
SIXTH REVISED EDITION, November 2010
SEVENTH REVISED EDITION, April 2013
EIGHTH REVISED EDITION, May 2014
NINTH REVISED EDITION, August 2022

Handbook for Construction Traffic Control Persons

The 2022 edition of IHSA's *Handbook for Construction Traffic Control Persons* (B016) has been updated to reflect the changes in the April 2022 edition of the *Ontario Traffic Manual (OTM) Book 7 - Temporary Conditions*.



The contents are, to the best of our knowledge, current at the time of printing. However, readers are always advised to consult the latest edition of the *Occupational Health and Safety Act and Regulations for Construction Projects* (aka, the green book).

Date	
Site	
Location	

Attention: Supervisors

Traffic control persons (TCPs) must be given adequate written and oral instructions regarding their duties. This handbook is designed to help supervisors meet the requirement for **written instructions** as set out in the Construction Projects regulation (O. Reg. 213/91, s.69(4)(d)):

69. (4) *A worker who is required to direct vehicular traffic,*
- (a) shall be a competent worker;*
 - (b) shall not perform any other work while directing vehicular traffic;*
 - (c) shall be positioned in such a way that he or she is endangered as little as possible by vehicular traffic; and*
 - (d) shall be given adequate written and oral instructions, in a language that he or she understands, with respect to directing vehicular traffic, and those instructions shall include a description of the signals that are to be used.*

In addition, the written instructions must be kept at the project. (O. Reg. 213/91, s.69(5))

What are the objectives of traffic control?

- To protect construction workers and the motoring public by regulating traffic flow.
- To stop traffic whenever required by the progress of work. Otherwise to keep traffic moving at reduced speeds to avoid tie-ups and delays.
- To allow construction to proceed safely and efficiently.
- To ensure that public traffic has priority over construction equipment.

What equipment do I need?

Personal Protective Equipment (PPE)

- **Hard hat:** CSA Class E, Type 2 (recommended) or Type 1; Or ANSI Class E, Type I or Type II.
- **Safety boots:** CSA-certified Grade 1 workboots (i.e., as indicated by a green triangular CSA patch outside or label inside).



These will have a steel toe and insole to protect against falling objects and punctures. A white label with an orange Omega symbol indicates protection against electric shock.

- **Eye protection:**

CSA-approved Class 1 safety glasses with side protection. Clear lenses are recommended for night-time work or overcast conditions and tinted lenses for sunny conditions. Consider using CSA-approved Class 2 goggles for extreme dust and windy conditions.



- **Garment:** Covers the upper body and meets the requirements in the Construction Projects regulation (s.69.1):

- Fluorescent blaze (i.e., safety orange) or international orange in colour



- Retro-reflective and fluorescent stripes. Two vertical yellow stripes on front that are 5 cm (2 in) wide, 225 mm (9 in) apart, and cover at least 500 cm² (77.5 in²). Two diagonal yellow stripes on back that are 5 cm (2 in) wide, arranged in an X pattern, and cover at least 570 cm² (88 in²).
- Retro-reflective silver stripes that encircle each arm and leg, or side visibility-enhancing stripes that cover at least 50 cm² (7.75 in²) per side, are required during night-time work.
- If the garment is a vest, it is to have an adjustable fit.
- If the garment is a vest made of nylon, it is to have a side and front tear-away feature.

NOTE: Garments that comply with CSA Z96-09: *High-Visibility Safety Apparel*, Class 2 or Class 3, are also acceptable. So background material can be fluorescent yellow-green, fluorescent orange-red, fluorescent red, bright yellow-green, or bright orange-red in colour.

Sign

A sign used to direct traffic must be:

- Octagonal in shape, 450 mm (8 in) wide, and mounted on a pole 1.2 m (4 ft) long
- Made of material with at least the rigidity of plywood 6 mm (1/4 in) thick
- On one side, high-intensity retro-reflective red with STOP printed in high-intensity retro-reflective white 150 mm (6 in) high
- On the other side, high-reflectivity retro-reflective micro-prismatic fluorescent chartreuse with a black diamond-shaped border at least 317 mm x 317 mm (12.5 in) and with SLOW printed in black 120 mm (5 in) high.



Night-time Equipment

During night-time hours or in low-light conditions, the following measures are recommended:

- Wear a hard hat with reflective tape that does not alter the dielectric properties of the safety hat and is visible from all angles (a minimum of 80 cm² (12.5 in²) is recommended).

- Use a flashlight with a red cone attachment and carry spare batteries.
- Place flashing amber lights ahead of your post.
- Stand in a lighted area under temporary or street lighting or be illuminated by light from a parked vehicle. NOTE: Stand fully in the light without creating a silhouette.

What are the requirements of a good traffic control person?

- Sound health, mental and physical alertness, and good vision and hearing
- Mature judgment and a pleasant manner
- A good eye for speed and distance to gauge oncoming traffic
- A driver's licence, preferably
- The ability to give motorists simple directions, explain hazards, and answer questions
- A liking, understanding, and respect for the responsibilities of the job.

How do I prepare for each job?

Before starting work, make sure that you know:

- ✓ The type of construction that will be done—paving, installing pipe, grading, cut and fill, etc.
- ✓ The type of equipment that will be used—scrapers, trucks, compactors, graders, etc.
- ✓ How the equipment will be operating—crossing the road or working along the shoulder, in culverts, on a bridge, etc.
- ✓ Whether you will have to protect workers setting up components of the traffic control system such as signs, delineators, cones, and barriers
- ✓ Any special conditions of the contract governing road use (e.g., many contracts forbid work during urban rush hours)
- ✓ How public traffic will flow (e.g., along a two-lane highway, around curves or hills, by detour, or on a road narrowed to a single lane).

NOTE: This last situation is a very common one and requires two TCPs to ensure that vehicles do not move in opposing directions at the same time (see page 13). In some cases,

where the two TCPs cannot see one another, a third TCP is necessary to keep both TCPs in view and relay instructions (see pages 14-15).

What should I check each day?

- Make sure that the STOP-SLOW sign is clean, undamaged, and meets height and size requirements.
- Place the **TRAFFIC CONTROL PERSON AHEAD** sign (TC-21) at an appropriate distance to give motorists enough warning. (Refer to OTM Book 7, p. 174.)



- Remove or cover all traffic control signs at quitting time or when traffic control is temporarily suspended.
- Arrange with your supervisor for meal, coffee, and toilet breaks.

Where should I stand?

- Stand the correct distance from the work area, based on the posted speed. Refer to the TCP Table on page 12.
- Do not stand on the travelled portion of a roadway and always face oncoming traffic.
- Be alert at all times. You need to be aware not only of oncoming traffic on the roadway but also of the construction traffic around you. This will help you avoid the danger of being backed over or hit by your own equipment.
- Stand alone. Do not allow a group to gather around you.
- Stand at your post. Sitting is hazardous because your visibility is reduced and it is more difficult for a motorist to see you.
- Adjust your distance to suit the weather, speed, and conditions of the road. Traffic must have room to react to your directions to stop (e.g., on wet or icy roads, a vehicle may need twice the stopping distance). Stand where you can see and be seen by approaching traffic—at least 150 m (500 ft).

- Hills and curves call for the use of three TCPs or some other means of communication. The job of the TCP in the middle is to relay signals between the other two (see page 15).
- Once you have been assigned a traffic control position by your supervisor, look over the area for methods of escape in case a driver disregards your signals (i.e., a place to get to in order to avoid being injured by a vehicle heading your way). If this should happen, protect yourself by moving out of the path of the vehicle and then warn the rest of the crew.

(See also OTM Book 7, p. 174-6.)

Where am I not allowed to direct traffic?

Ontario's Construction Projects regulation (213/91) specifies that:

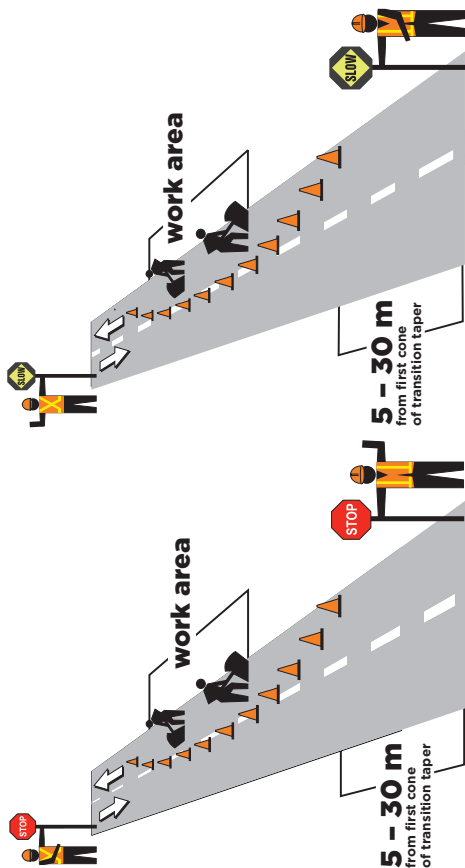
69. (2) *A worker shall not direct vehicular traffic for more than one lane in the same direction.*
- (3) *A worker shall not direct vehicular traffic if the normal posted speed limit of the public way is more than 90 kilometres per hour.*

Recommended Placement of Traffic Control Persons (TCPs)

Normal Posted Regulatory Speed	50 km/h	60 km/h	70 km/h	80 km/h	90 km/h
Taper	15 m	20 m	25 m	30 m	30 m
Longitudinal Buffer Areas (LBAs)	(30 m)*	(40 m)*	50 m	60 m	75 m
TCP Position from First Cone	10 m	10 m	10 m	10 m	10 m

Based on Table 4.6 (p. 175) in *Ontario Traffic Manual, Book 7: Temporary Conditions*, 2022 ed.

*LBAs at speeds of 60 km/h or lower are optional; However, they should be used if space permits.

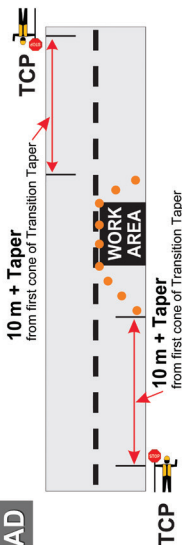


Based on Figure 4.7 (p. 173) in *Ontario Traffic Manual, Book 7: Temporary Conditions*, 2022 ed.

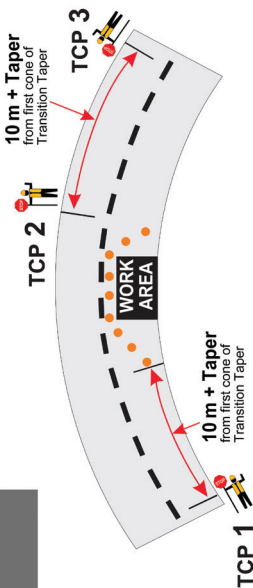
Typical Arrangement of TCPs on a Two-Lane Roadway

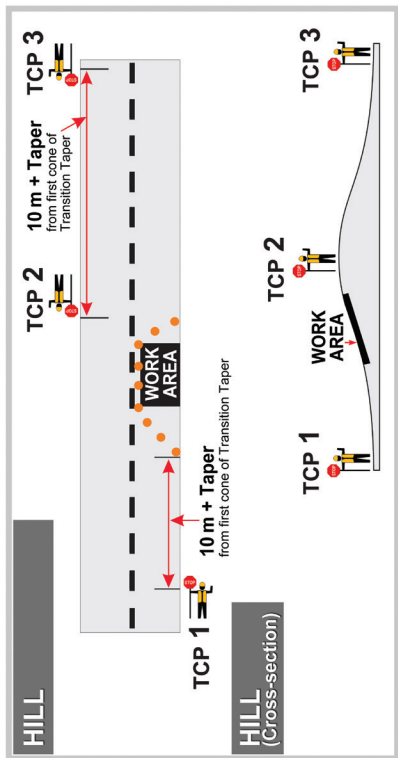
Positioning of Traffic Control Persons (TCPs)

STRAIGHT ROAD



CURVE



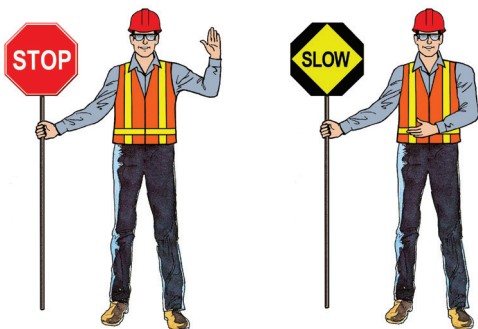


NOTE: On curves and hills, three TCPs or some other means of communication are required. The duty of TCP 2 is to relay signals between TCP 1 and TCP 3.

Based on Figure 4.8 (p. 176) in *Ontario Traffic Manual, Book 7: Temporary Conditions*, 2022 ed.

How should I signal?

- Use the STOP/SLOW sign and your arms as shown below.



- Stand off the travelled portion of the roadway and hold your sign firmly in full view of oncoming traffic.
- Give the motorist plenty of warning. Do not show the STOP sign if the motorist is too close. The average stopping distance for a vehicle travelling at 50 km/h (30 mph) is 45 m (150 ft). Higher speeds require more stopping distance.
- When showing the SLOW sign, avoid bringing traffic to a complete halt. When motorists have slowed down, signal them to keep moving slowly.

- When showing the STOP sign, use firm hand signals and indicate where you want traffic to stop.
- When traffic has stopped, you may move to a point on the road where traffic in the queue can see you.
- Before moving traffic from a stopped position, make sure the opposing traffic has stopped and that the last opposing vehicle has passed your post. Then turn your sign and step back on the shoulder of the road.
- Stay alert, keep your eyes on approaching traffic, make your hand signals crisp and positive.
- Coordinate your effort with nearby traffic signals to avoid unnecessary delays, tie-ups, and confusion.
- Do not use flags to control traffic.

How can I improve safety for myself and others?

- Do not be distracted by talking to fellow workers or passing pedestrians. If you must talk to motorists, stay at your post and keep the conversation brief.

- Two-way radios are the best way of communicating. When using two-way radios to communicate with another TCP, take the following precautions:
 - Establish clear voice signals for each situation and stick to them.
 - Be crisp and positive in your speech.
 - Test the units before starting your shift and carry spare batteries.
 - Avoid unnecessary chit-chat.
 - Do not use two-way radios in blasting zones.
- When two TCPs are working together, they should always be able to see each other in order to coordinate their STOP/SLOW signs. Signals between them should be understood. If one changes their sign from STOP to SLOW or vice-versa, they must signal to the other person by moving the sign up and down or sideways. This will ensure that traffic control is coordinated.

What are my rights under the law?

- Additional requirements for traffic control by any persons or agencies performing construction, maintenance, or utility work on roadways in Ontario are spelled out in *Ontario Traffic Manual, Book 7: Temporary Conditions* (April 2022 edition).
- Under the Construction Projects regulation (213/91), TCPs must be protected from hazards. This includes providing protective clothing, equipment, and devices and putting measures in place to guard against the dangers of vehicular traffic. Safety should receive prime consideration in planning for traffic control. Regulations under OHSA are enforced by Ontario's Ministry of Labour, Immigration, Training and Skills Development.
- Under Ontario's *Highway Traffic Act*, drivers must obey the STOP/SLOW sign displayed by a TCP. If problems arise:
 - Report dangerous motorists to your supervisor.
 - Keep a pad and pencil to jot down violators' licence numbers.

- Ask your supervisor for assistance from police in difficult or unusual traffic situations.
- Never restrain a motorist forcibly or take out your anger on any vehicle.
- Always be alert to emergency services. Ambulance, police, and fire vehicles have priority over all other traffic.

REMEMBER

- Always face traffic.
- Plan an escape route.
- Wear personal protective clothing.
- Maintain proper communication with other TCPs.
- Stay alert at all times.
- Be courteous.

Traffic control is a demanding job, and often a thankless one. But it is always an important job. How well you succeed will depend largely on your attitude.

Signature	
Date	

How IHSA Can Help

*IHSA Has the Products
& Training You Need*



Handbook for Construction Traffic Control Persons (B016) is also available in French. Order *Manuel pour les signaleurs de construction routière* (B016F).



Traffic control requires the use of jointly established procedures for communication. IHSA offers pocket-sized *Hand Signals for On-Site Traffic Control* (V006) cards to make sure that everyone on site is using the same agreed-upon hand signals.



TCPs must be given adequate written and oral instructions for directing vehicular traffic. IHSA offers the following in-person or online courses:

- Traffic Control—Temporary Work Zones (classroom-based and virtual)
- Signaller and Traffic Control Person
- Traffic Control and Backing Vehicles (eLearning)

Guidelines for Training Traffic Control Persons (M019) can help supervisors and industry trainers meet the requirements for training TCPs.



About IHSA

The Infrastructure Health and Safety Association (IHSA) is Ontario's trusted health and safety resource. Our goal is to improve the lives of Ontario workers. We provide the resources and training that control and eliminate safety hazards in work environments involving high-risk activities.

IHSA's vision is safe and healthy workplaces free from incidents, injuries, illnesses or fatalities.

Infrastructure Health & Safety Association (IHSA)

21 Voyager Court South, Etobicoke, ON M9W 5M7
Tel: 1-800-263-5024 • info@ihsa.ca

Find out what we can do for you at ihsa.ca

