

29 TRAFFIC CONTROL



The green book (OHSA and Construction Regs) makes it mandatory for traffic control persons (TCPs) to be protected from hazards. This includes not only wearing personal protective clothing and equipment but also putting measures and devices in place to guard against the dangers of vehicular traffic. Safety should receive prime consideration in planning for traffic control.

Objectives

The objectives of traffic control are as follows:

- 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.

Instructions

Section 69(4) of the Construction Projects regulation (213/91) requires that TCPs be given written and oral instructions regarding their duties.

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.*

These written instructions must be kept on the project.

Equipment

Protective Devices

Section 67(2) of the Construction Projects regulation (213/91) requires that all workers at a project on a highway who may be endangered by traffic must be protected by using as many of the following measures as is necessary:

1. Barriers
2. Barricades
3. Delineators
4. Lane control devices
5. Warning signs
6. Flashing lights
7. Flares
8. Traffic control devices
9. Blocker trucks
10. Crash trucks
11. Sign trucks
12. Speed control devices
13. Longitudinal buffer areas.

Personal Protective Equipment

- Hard hat that meets regulated requirements.
- Safety boots, CSA-certified, Grade 1 (green triangular CSA patch outside, green rectangular label inside).
- Garment, usually a vest, covering upper body and meeting these requirements:
 - The main material should be fluorescent blaze or international orange in colour according to the construction regulations. However, any colour listed in the CSA standard is acceptable (i.e., fluorescent/bright yellow-green, fluorescent/bright orange-red, fluorescent red).
 - It must have retroreflective and fluorescent stripes—two vertical stripes (5 cm wide) on the front that cover at least 500 cm² and two diagonal stripes (5 cm wide) on the back that are arranged in an X pattern and cover at least 570 cm².
 - For nighttime work, additional retroreflective silver stripes or bands that encircle each arm and leg are required.
 - If the garment is a vest, it must have an adjustable fit. If the vest is made of nylon, it must have a side and front tear-away feature.

We recommend that garments comply with Canadian standard CSA Z96-15: *High-Visibility Safety Apparel*. In particular, a Class 2 garment, Level 1 or Level 2.

After Dark

Section 69.1(4) of the Construction Projects regulation (213/91) requires workers who may be endangered by traffic to wear retroreflective silver stripes encircling each arm and leg, or equivalent side visibility-enhancing stripes with a minimum area of 50 cm² per side.

The following measures are also recommended:

- Wear a hard hat with reflective tape.
- Use a flashlight with a red cone attachment as well as the sign and carry spare batteries.
- Place flashing amber lights ahead of your post.
- Stand in a lighted area under temporary or street lighting, or illuminated by light from a parked vehicle (stand fully in the light without creating a silhouette).

Sign

A sign used to direct traffic must have the following features.

- Octagonal in shape, 450 mm wide, and mounted on a pole 1.2 m long
- Made of material with at least the rigidity of plywood 6 mm thick
- High-intensity retroreflective red colour on one side, with STOP printed in high-intensity retroreflective white letters 150 mm high
- On the other side, high-intensity retroreflective micro-prismatic fluorescent chartreuse colour, with a black diamond-shaped border, at least 317 mm x 317 mm, with SLOW printed in black letters 120 mm high.

Preparation

Before starting work, make sure that you know the following:

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

This last point is a very common situation and requires two traffic control persons to ensure that vehicles do not move in opposing directions at the same time (Figure 29-1). In some cases, such as on a curve or hill where the two cannot see one another, a third TCP is necessary to keep both in view and relay instructions (Figure 29-1).

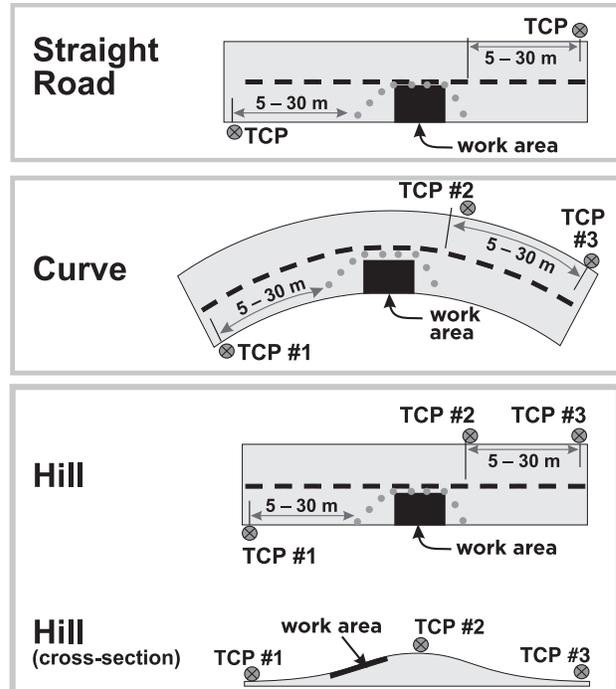


Figure 29-1: Positioning of TCPs

Requirements of a Good TCP

- Sound health, good vision and hearing, and mental and physical alertness
- 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
- Liking, understanding, and respect for the responsibilities of the job.

What to 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 at an appropriate distance to afford motorists adequate warning (Figure 29-2).
- Remove or cover all traffic control signs at quitting time or when traffic control is temporarily suspended.
- Arrange with the supervisor for meal, coffee, and toilet breaks.

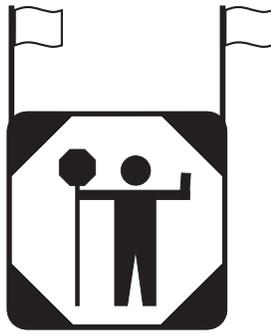


Figure 29-2: Sign Indicating TCP Ahead

Where to stand

- Stand the correct distance from the work area. (Refer to Table 29-1 below and Figure 29-3.)
- Do not stand on the travelled portion of the roadway and always face oncoming traffic.
- Be alert at all times. Be aware of construction traffic around you and oncoming traffic on the roadway.
- Stand alone. Don't allow a group to gather around you.
- Stand at your post. Sitting is hazardous because your visibility is reduced and the ability of a motorist to see you is reduced.
- Adjust distances to suit road, weather and speed conditions. Remember these points:
 - Traffic must have room to react to your direction to stop (e.g., vehicles may need twice the stopping distance on wet or icy roads).
 - Stand where you can see and be seen by approaching traffic for at least 150 m (500 ft).
 - Beware of the danger of being backed over or hit by your own equipment.
- Hills and curves call for three TCPs or some other means of communication. The job of the TCP in the middle is to relay signals between the other two.
- Once you have been designated a TCP by your supervisor, look over the area for methods of escape (i.e., a place to get to in order to avoid being injured by a vehicle heading your way if the driver has disregarded your signals). If this should happen, protect yourself first by moving out of the path of the vehicle and then warn the crew.

Table 29-1: TCP Placement

Normal Regulatory Posted Speed	60 km/h or lower, one lane or reduced to one lane		70 km/h to 90 km/h, one lane or reduced to one lane	
	Low	High	Low	High
Distance of TCP From First Cone of Transition Taper	5 - 10 m	10 - 15 m	15 - 25 m	20 - 30 m

Source: Ontario Traffic Manual, Book 7: Temporary Conditions, 2014 ed.

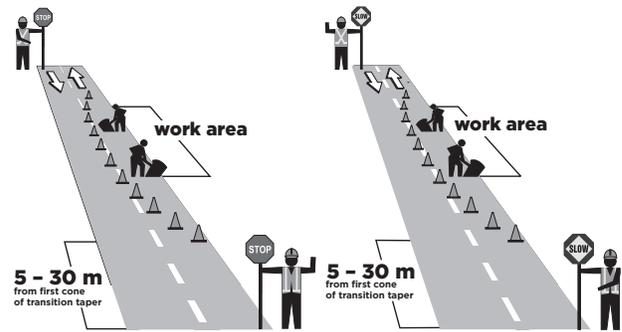


Figure 29-3: Typical Arrangement on a Two-Lane Roadway

Where Not to Direct Traffic

According to the construction regulations:

- A worker shall not direct vehicular traffic for more than one lane in the same direction. (O. Reg. 213/91, s. 69(2))
- A worker shall not direct vehicular traffic if the normal posted speed limit of the public way is more than 90 kilometres per hour. (O. Reg. 213/91, s. 69(3))

How to Signal

- Use the STOP-SLOW sign and your arms as shown in Figure 29-4. Hold your sign firmly in full view of oncoming traffic.
- Stay alert, keep your eyes on approaching traffic, and make your hand signals crisp and positive.
- Give the motorist plenty of warning. Don't show the STOP sign when 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. After the first few vehicles stop, 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.
- Coordinate your effort with nearby traffic signals to avoid unnecessary delays, tie-ups, and confusion. Do not use flags to control traffic.
- In some situations, two-way traffic may be allowed through the work zone at reduced speed, with a traffic control person assigned to each direction. Since motorists can be confused or misled by seeing the STOP side of the sign used in the opposite lane, the signs must be modified. The STOP side must be covered to conceal its distinctive shape and command. This should prevent drivers from stopping unexpectedly.

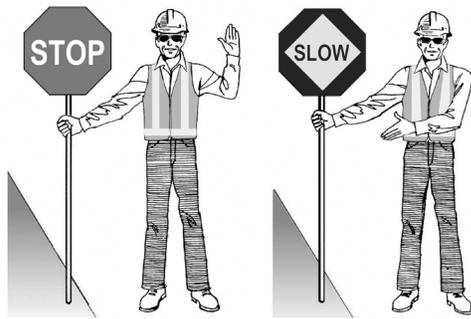


Figure 29-4: Proper Arm Placement

How to Improve Safety

- Don't 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.
- When using two-way radios to communicate with another traffic control person, 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.
 - Don't use two-way radios in blasting zones.
- When two traffic control persons are working together, you should always be able to see each other in order to coordinate your STOP-SLOW signs. Signals between you should be understood. If you change your sign from STOP to SLOW or vice-versa, you must signal the other person by moving the sign up and down or sideways. This will ensure that traffic control is coordinated. Two-way radios are the best way of communicating.
- When you can't see the other traffic control person, a third should be assigned to keep you both in view.

Legal Rights

Refer to the Traffic Control section of the Construction Projects regulation (O213/91, s.67 to 69.1) under the *Occupational Health and Safety Act* (OHSA) for legislation relevant to TCPs. OHSA Regulations are enforced by the Ministry of Labour.

Additional guidelines for traffic control are spelled out in the **Ontario Traffic Manual, Book 7: Temporary Conditions**, available through Service Ontario Publications. The information applies to traffic control by any persons or agencies performing construction, maintenance, or utility work on roadways in Ontario.



Under section 146.1 of Ontario's *Highway Traffic Act*, all drivers are required to stop when a TCP displays a STOP sign and are not allowed to proceed until the sign is no longer displayed. In addition, all drivers must slow down when a TCP displays a SLOW sign. However, TCPs are not law enforcement officers. If problems arise, follow these steps.

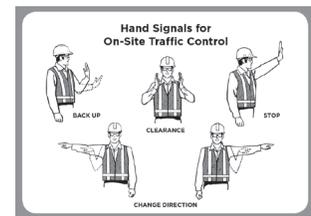
- Report dangerous motorists to your supervisor.
- Keep a pad and pencil to jot down violators' licence plates.
- Ask your supervisor for assistance from police in difficult or unusual traffic situations.
- Never restrain a motorist forcibly or take out your anger on any vehicle.
- Always be alert to 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 traffic control persons.
- Stay alert at all times.
- Be courteous.

Traffic control is a demanding job—often a thankless job—but always an important job. How well you succeed will depend largely on your attitude.

To help TCPs communicate, employers or supervisors can give them IHSA's pocket-sized *Traffic Control Hand Signals Card* (V006) to ensure that everyone is using and understands the same signals on the jobsite.



Most of the information in this chapter is also available in a pocket-sized booklet. The *Handbook for Traffic Control Persons* (B016) is available in both English and French (B016F) and can be ordered or downloaded by visiting the **Products** section of **ihsa.ca**.

