Flagger's Handbook

January 2002

Iowa Department of Transportation

Remember that you play a vital part in keeping the public and your co-workers safe. If you are unsure of any flagging procedure, ask your supervisor for further explanation.

Lives, *including yours*, could depend on it!

Name _____

Flagger's Handbook

Compiled by the

Iowa Department of Transportation

in cooperation with

Iowa Division

Federal Highway Administration

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Iowa Department of Transportation

Introduction

You've been chosen to be a flagger because your supervisor feels you are physically able, mentally alert, and sufficiently commanding in appearance to properly control traffic through construction, maintenance, and utility work areas.

As a flagger, your chief duties are to

- guide traffic safely through work areas,
- protect your fellow workers,
- prevent unreasonable delays for road users, and
- answer motorists' questions politely and knowledgeably.

This handbook will help you carry out these important duties. Study it carefully to learn proper flagging procedures in Iowa, and keep it handy for quick reference.

The information in this booklet is consistent with the 2000 (Millennium) Edition of the Manual on Uniform Traffic Control Devices (MUTCD), Part VI, and the Standard Specifications of the Iowa Department of Transportation.

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Before You Begin

Rules of Conduct

Flagging is an important responsibility and should be carried out with authority and dignity. Courtesy and a professional attitude are vital in gaining the respect of the traveling public. The image you project as a flagger will affect the public's attitude toward the whole project and your organization. The following guidelines will make you a safer and more effective flagger.

Before beginning your flagging duties, do the following:

- Park your personal vehicle outside the work zone, well off the roadway.
- Make sure your personal apparel and equipment are clean and neat.
- Make sure proper signs are in place.
- Become familiar with the work activities so you can answer motorists' questions.
- Discuss a reasonable relief schedule with your supervisor or crew leader.
- When two or more flaggers will be working together, make sure **one flagger is designated as the flagger in charge** (the other flaggers will coordinate their activities accordingly). Also, make sure you
  - are positioned so you can see each other or
  - have two-way radios for communicating.

During flagging operations, do the following:

- **Do not leave your position** for any reason until relieved.
- Always remain standing and **never turn your back on traffic**.
- **Stand alone.** Do not mingle with the work crew, the traveling public, or other people.
- Stay alert. **Don't be distracted by the work operation.**
- Be friendly and polite with the public, but do not engage in small talk.
- Never argue with the occupants of a vehicle.
- If a driver refuses to obey instructions, inform your supervisor or crew leader as soon as possible without leaving your post. Carry a pocket notebook for recording the following:
  - information to identify the driver,
  - description of the vehicle and license number, and
  - circumstances involved in the incident.
- Be alert to the needs of emergency vehicles. They should be given priority but only when safety will not be compromised.

If a crash occurs in or near the work zone, do the following:

- Do not leave your post.
- Warn other flaggers and workers.
- Advise your supervisor and/or authorities.
- Record any pertinent information.

Flagger Clothing and Equipment

Clothing
In addition to being dressed neatly, flaggers need to be dressed for safety. In particular, flaggers are required to be easily visible to traffic. Always wear the following required items, even when serving as a replacement for a short period (see Figure 1):

- a vest, shirt, or jacket in yellow green, orange, or fluorescent versions of these colors (combinations of these colors are acceptable) and

- a soft cap in yellow green, orange, or fluorescent versions of these colors; combinations of these colors are acceptable. (A hard hat in the same colors is an acceptable alternative to the soft cap and may be required by OSHA or your employer in certain circumstances.)

Equipment
Flaggers shall be equipped with the standard combination STOP/SLOW or SLOW/SLOW staff-mounted sign (see Figure 1). Retro-reflective sheeting shall comply with applicable specifications.

Optional but useful equipment and supplies include the following:

- a handheld radio for communications,

- adverse weather gear,

- pad and pencil, and

- air horn or whistle.

Note: A red flag is permitted **only** in the following situations:

- stopping traffic in combination with the STOP/SLOW sign (see page 8), or
- in emergencies where standard signs are not available (see pages 18–21 for information about emergency flagging).

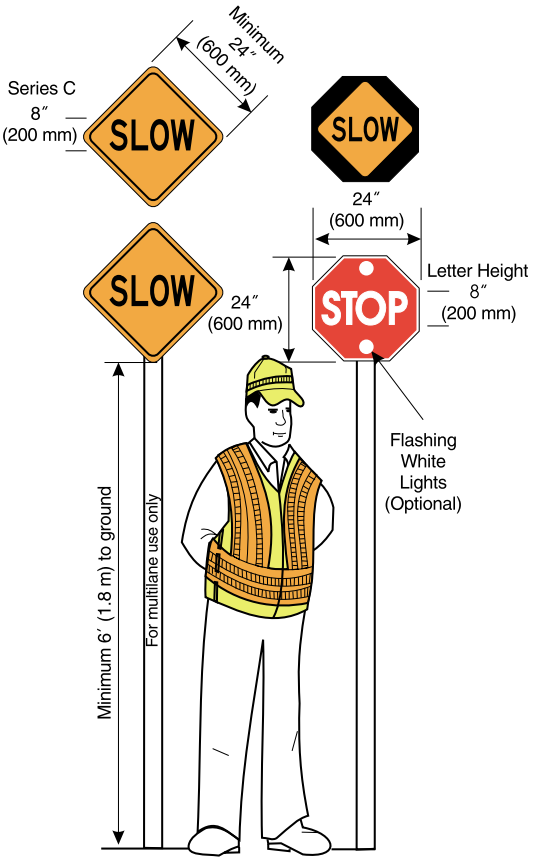


Figure 1
Clothing and equipment for daytime flagging operations

Flagger's Position

In rural areas, flagger stations should generally be located (1) a minimum of 350 feet (100 m) in advance of the work site and (2) where the flagger is visible to approaching traffic at least 500 feet (150 m) away (see Figure 2).

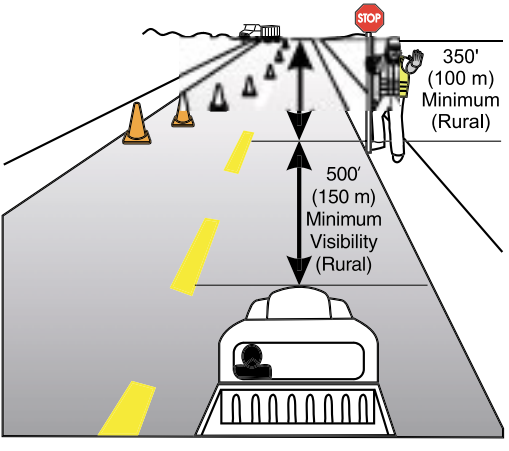


Figure 2
Flagger's position

Factors such as visibility, traffic speeds and volume, road conditions, and the work being done should be considered in determining your proper location.

Table 6E-1 in Part VI of the MUTCD, shown on page 6, lists recommended flagger locations at various traffic speeds.

Positioning yourself carefully, according to the following suggestions, will help keep you safe during flagging and will assist you in skillfully controlling traffic through the work area:

- Always remain standing and face oncoming traffic.

- **Do not stand in the path of an approaching vehicle.**

- Stand where you will be highly visible at all times. Do not stand in shadows or near parked vehicles or equipment that might hide you from approaching drivers.

- When two or more flaggers are working together (one on each end of the work area), you should always be able to see each other or have two-way radios for communicating.

Speed* (mph)	Distance (ft)	Speed* (km/h)	Distance (m)
20	35	30	10
25	55	40	15
30	85	50	30
35	120	60	45
40	170	70	65
45	220	80	85
50	280	90	110
55	335	100	135
60	415	110	170
65	485	120	205

*Posted speed, off-peak 85th percentile speed prior to work starting, or the anticipated operating speed

Table 6E-1
(from Millennium Edition MUTCD, Part VI)

Standard Signals for Controlling Traffic

Stopping Traffic

To stop traffic, follow these steps:

1. Stand on the shoulder of the road holding the STOP/SLOW sign in your right hand, erect and away from your body with STOP facing the approaching traffic (see Figure 3). **Never wave the sign.**

2. Look directly at the approaching driver. Try to establish eye contact.

3. Raise your free arm with the palm of your hand toward oncoming drivers.

4. Bring the first vehicle to a full stop.

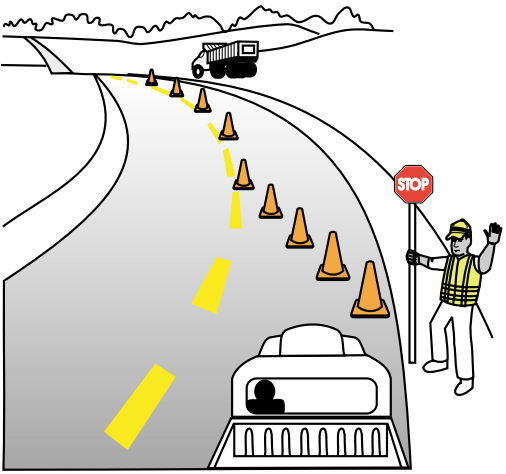


Figure 3
Stopping first vehicle from shoulder

5. After the first driver has stopped, move to a position near the center line where you can be seen by other approaching vehicles. **Do not cross the center line.**

6. Stop other vehicles from this position using the STOP sign, hand signal, and eye contact as described in steps 1–4.

7. Remain in this position until you can safely permit travel through the work area.

Alternate Steps 5 and 6, when using a sign stand and red flag: After the first vehicle has stopped, place the STOP/SLOW sign in a sign stand on the shoulder. Holding a red flag horizontally from your body, move to a location near the center line. **Do not cross the center line.** Stop succeeding vehicles from this position using the red flag (see Figure 4).

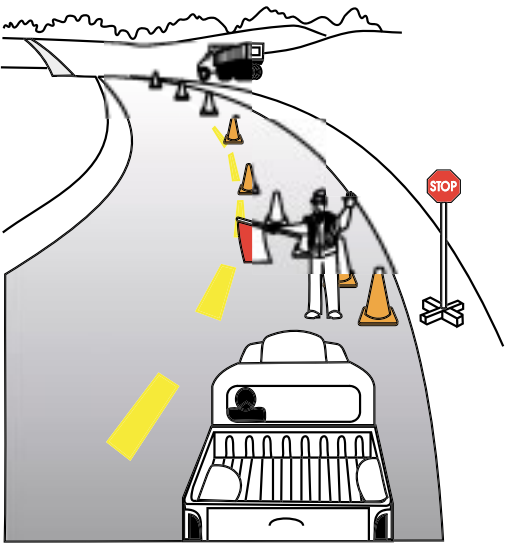


Figure 4
Stopping succeeding vehicles with a red flag

Releasing Traffic

To release traffic, follow these steps (see Figures 5 and 6):

1. Return to your position on the shoulder in front of the stopped traffic with the STOP sign showing. Holding the sign in your right hand, turn the SLOW side toward the stopped vehicles.

2. With your free arm, signal drivers to proceed into the open lane.

   Never wave the sign.

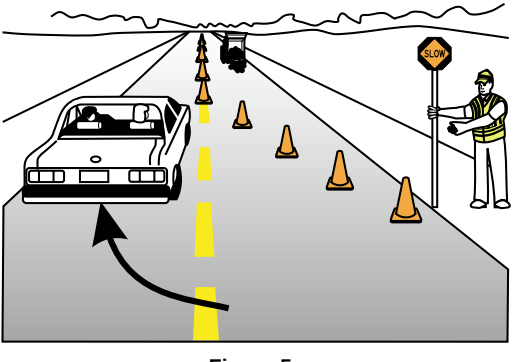


Figure 5
Releasing traffic into the left lane

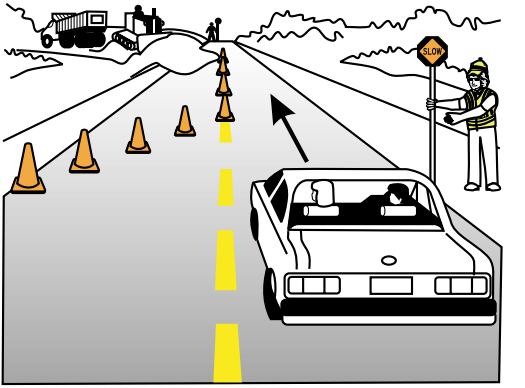


Figure 6
Releasing traffic into the right lane

Slowing Traffic

To slow approaching traffic, follow these steps:

1. Stand on the shoulder of the road holding the sign in your right hand with the SLOW side toward traffic

2. Extend your left arm and with the palm facing downward, motion up and down slowly to gain driver attention (see Figure 7).

3. If needed for emphasis, this motion can be more forceful.

Signaling in Single-Flagger Operations

Two flaggers will be used with most flagging situations. However, a single flagger can be safely used when sight distance is adequate, traffic volume low (less than 2,000 vpd), and work zone length 100 feet (30 m) or less. (A second flagger should be added when these conditions change or when traffic conflicts and delays become excessive.)

Single-flagger operations usually involve temporary traffic stoppage in only one lane (for example, for loading or unloading operations). The other lane is allowed to flow freely at all times.

In single-flagger operations, follow the standard signals as described on pages 7–10, except for releasing traffic. To **release traffic as a single flagger**, follow these steps:

1. Return to the shoulder of the road with the STOP sign toward stopped vehicles.

2. Turn or lower your sign so that neither STOP nor SLOW can be read by drivers approaching from either direction (see Figure 8). Take care not to confuse continuous traffic traveling in the other lane in the opposite direction.

3. Motion for traffic to proceed.

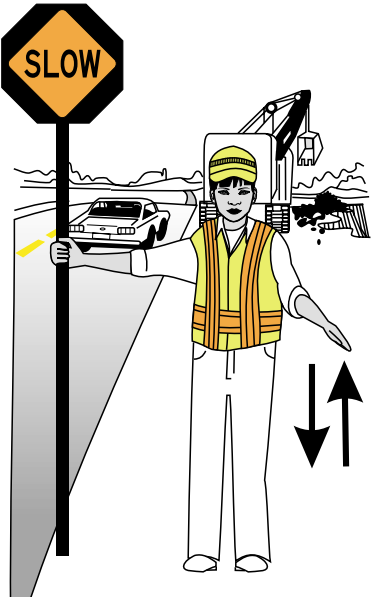


Figure 7
Slowing traffic

Figure 8
Releasing traffic in single-flagger operation

Flagging in Special Situations

Multilane Road Operations

For slowing and alerting traffic to workers and/or equipment adjacent to traffic flow on multilane roadways, do the following:

1. Stand in the closed lane adjacent to the open lane no more than 50 feet (15 m) in advance of the work activity (see Figure 9).

2. Use a SLOW/SLOW sign. Hold it in your right hand, erect and away from your body facing approaching traffic.

3. Using the standard hand signal for slowing traffic, raise and lower free hand with palm facing down. When extra emphasis is needed, hand signals should be more forceful.

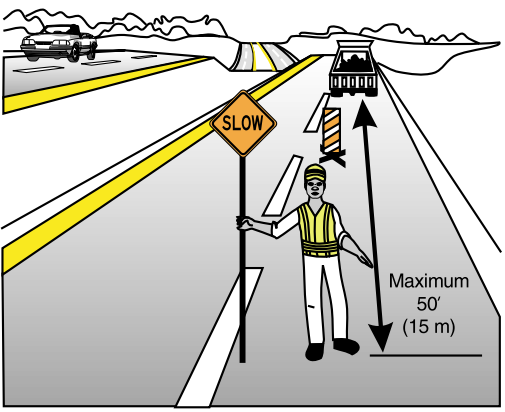


Figure 9
Slowing traffic on multilane roads

Pilot Car Operations

When work is performed over a long section of roadway, a pilot car is often used to escort vehicles through the work area. When a pilot car is being used, follow these directions:

1. Try to limit delays to 15 minutes maximum.

2. Stop vehicles in the approved manner (see Stopping Traffic, pages 7–8).

3. Detain all vehicles until the pilot car arrives from the opposite direction.

   Note: Be alert to prevent vehicles from pulling out of line and trying to pass other waiting vehicles.

4. After the pilot car arrives and has pulled into position at the head of your column of vehicles, **step back onto the shoulder** with STOP displayed**.**

5. Turn the SLOW sign to face traffic, and motion the pilot car driver and others to proceed.

6. Refrain from unnecessary conversations with the pilot car driver.

Night Operations

When controlling traffic at night, take extra care to be visible, to guide traffic through the area, and to protect yourself from injury.

Night clothing
When flagging at night, wear the following required items (see Figure 10):

- a retroreflectorized vest, shirt, or jacket and retroreflectorized pants in yellow green, orange, or fluorescent versions of these colors (combinations of these colors are acceptable), and

- a retroreflectorized soft cap in yellow green, orange, or fluorescent versions of these colors; combinations of these colors are acceptable. A retroreflectorized hard hat in the same colors is an acceptable alternative to the soft cap and may be required by OSHA or your employer in certain circumstances.

Consider wearing highly visible retro-reflectorized gloves.

Note: Retroreflectorized materials in clothing and signs shall be yellow green, orange, white, silver, or fluorescent versions of these colors and shall be visible from a minimum distance of 1,000 feet (330 m).

The retroreflective clothing shall be designed to clearly identify the wearer as a person.

Night equipment
At night, flaggers shall be equipped with the following (see Figure 10):

- retroreflectorized signs and other devices (retroreflective sheeting shall comply with applicable specifications),
- flashlight with nose cone, lantern, or other lighted signal that will display a red warning light, and
- a lighted flagging station (see Figure 11).

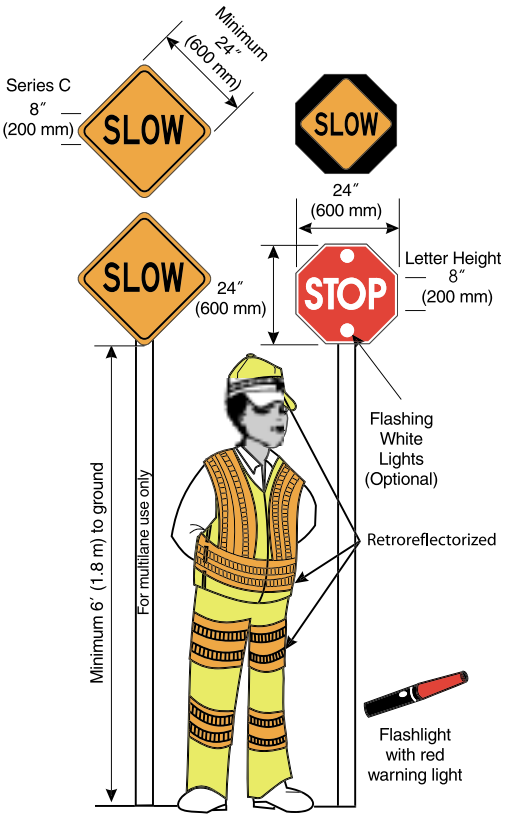


Figure 10
Clothing and equipment for nighttime flagging operations

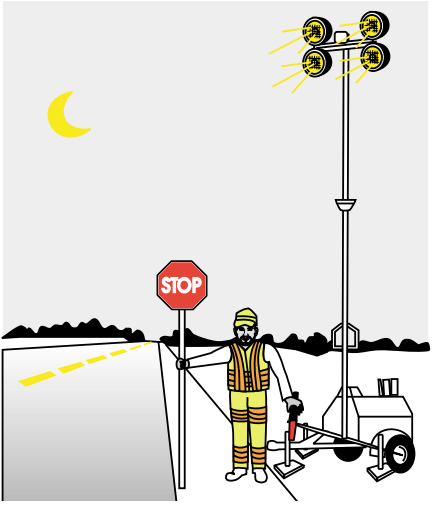


Figure 11
Lighted station for nighttime flagging

Stopping traffic at night
To stop traffic at night, follow these steps:

1. Standing on the shoulder of the road next to approaching traffic, hold the STOP/SLOW sign in your right hand, erect and away from your body, with STOP facing the approaching traffic. Hold the red lantern or flashlight in your left hand.

2. After the first vehicle has stopped, move to a position near the center line so your lantern or flashlight may be seen by other approaching drivers. If not using a sign stand, also take the STOP/SLOW sign to your center line position.

3. Request the first driver to activate vehicle flashers.

Note: Do not abandon your post at the head of the traffic line to advise other drivers.

Releasing traffic at night
To release traffic at night, follow these steps:

1. Holding the sign with STOP facing vehicles, return to your position on the shoulder in front of the stopped traffic. Holding the sign in your right hand, turn the SLOW side to face the vehicles.

2. Using the red lantern or flashlight, show drivers where to proceed. **Don't wave the flashlight.**

Flagging in Emergencies

In emergencies (for example, crash scenes or roadway obstructions due to storm damage), you may not be able to follow the standard traffic control procedures described in this booklet. The following equipment and procedures may be used on a temporary basis. However, **provide standard traffic control as soon as possible.**

- If the STOP/SLOW paddle is not available, use a good quality red flag to regulate traffic in emergency situations. The flag shall have minimum dimensions of 24 inches by 24 inches (600 mm by 600 mm) and a minimum 3-foot (.9 m) handle. The free edge of the flag should be weighted so the flag will hang vertically even in windy conditions.

- For nighttime emergency situations, a red lantern or flashlight should be substituted for the red flag. Retroreflectorized clothing should be worn if possible.

Stopping traffic in emergencies
To stop traffic in emergencies using a red flag, follow these steps:

1. Stand in a safe position on the shoulder facing oncoming traffic.

2. Extend the flag into the traffic lane (see Figure 12).

3. Look directly at the approaching driver. Establish eye contact.

4. Raise your free arm with the palm of your hand toward the driver and bring the vehicle to a stop.

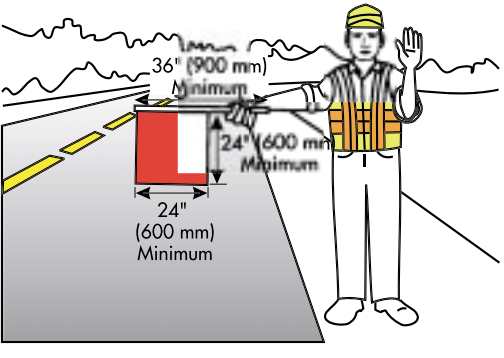


Figure 12
Using a flag to stop traffic in emergencies (at night, if possible substitute a retroreflectorized flag or a lantern or flashlight)

5. After the first vehicle has been stopped, move to a location on the road where you can be seen by other approaching vehicles, preferably near the center line of the roadway. **Don't cross the center line.**

6. Stop other approaching vehicles.

7. Remain in this position with the flag extended until you can safely permit traffic through the work area.

Releasing traffic in emergencies
To release traffic using a red flag, follow these steps:

1. Return to a safe position on the shoulder, keeping the flag extended.

2. Lower the flag to your side. With your free arm, signal the drivers to proceed (see Figure 13). **Don't** use the flag to motion traffic to proceed.

Slowing traffic in emergencies
To slow traffic using a red flag, follow these steps:

1. Stand in a safe position on the shoulder facing oncoming traffic.

2. Slowly wave the flag in a sweeping motion from the ground to shoulder height and back again. Do not raise your arm above the horizontal position (see Figure 14).

Figure 13
Using a flag to release traffic in emergencies
(at night, substitute a retroreflectorized flag
or a lantern or flashlight, if possible)

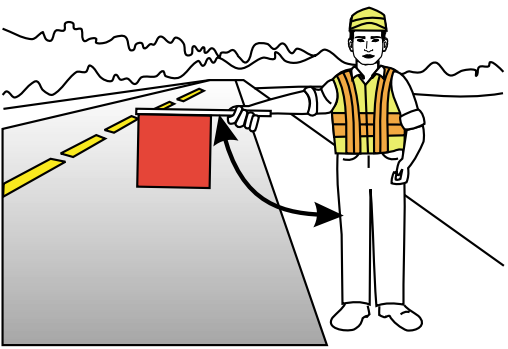


Figure 14
Using a flag to slow traffic in emergencies
(at night, substitute a retroreflectorized flag
or a lantern or flashlight, if possible)

Additional Situations

Haul road intersections
Generally, traffic control procedures are the same for haul road intersections as for other work areas (see Stopping Traffic and Releasing Traffic, pages 7–9).

When trucks are making a right turn onto the highway, only one flagger may be required (see Figure 15). When trucks are crossing the highway or making a left turn, two flaggers may be required, one for each direction (see Figure 16).

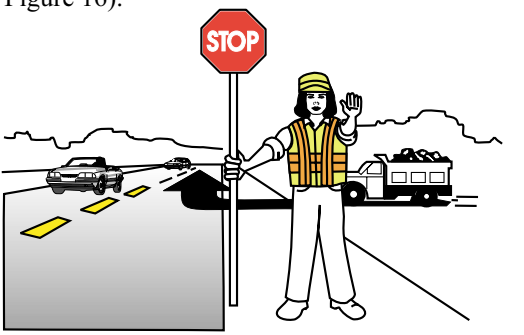


Figure 15
Stopping traffic for right-turning vehicles

Figure 16
Stopping traffic for left-turning vehicles (two flaggers)

Advance flagger
If sight distance is hampered, traffic volume is high, or with certain types of work, an advance flagger is sometimes used. The duties of an advance flagger may include informing drivers of possible delays or advising of alternate routes. Good communication skills and appearance are important.

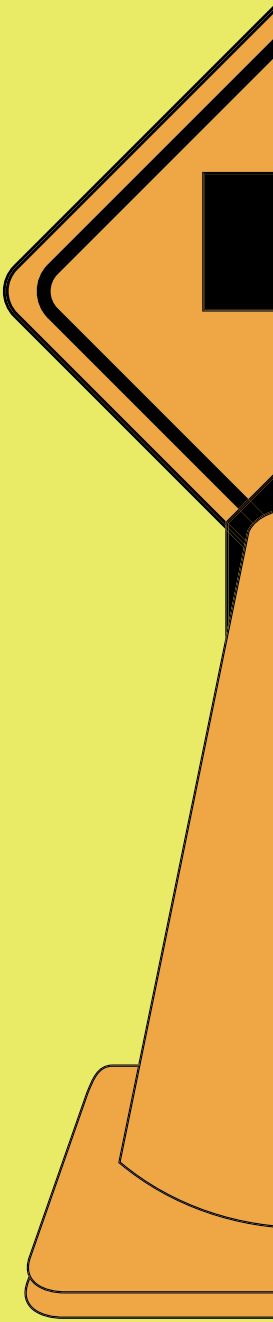
Intersection work
When work activities occur in an intersection, additional flaggers may be needed. Good communication among flaggers is essential. At intersections with traffic signals, do not direct drivers through red lights. The signals should be deactivated before flagging to avoid confusing drivers.

Mobile operations
Mobile work zones present particular challenges for flaggers. Because you may be moving down the road with the other workers, your visibility and conflicts from intersecting roads and driveways are continually changing. As a flagger, always be alert for the need to maintain adequate advance warning for approaching drivers while providing protection and warning for workers. It will be necessary to stop operations periodically to relocate advance warning signs and other devices.

Railroad crossings
When flagging near railroad crossings, be sure your flagging station is not located where traffic may be backed up over the crossing. If the flagger position cannot be moved, an additional flagger will be needed to keep the crossing clear of stopped traffic. Refer to Part VI of the MUTCD for more details.

For the Supervisor

The supervisor's involvement is critical to proper flagging and traffic control. The following actions will assure safe conditions for workers and road users:

- Decide which situations require flaggers.
- Be sure all workers, especially flaggers, are properly trained and instructed. Impress on flaggers the value and importance of performing their duties properly.
- Provide clean, legible equipment and apparel for flaggers.
- Establish adequate breaks for flaggers.
- In pilot car operations, provide relief for flaggers by alternating flaggers and pilot car drivers periodically throughout the day.
- Develop a procedure for handling belligerent and noncomplying drivers.
- Discuss appropriate actions for possible crashes in or near the work zone.
- Drive through the work area during the day to observe traffic control operations. Correct any activities not in compliance with the *Manual on Uniform Traffic Control Devices* and other appropriate specifications.
- Be sure proper signs are in place prior to beginning operations and that they remain in place only as long as they are needed. Remove all misleading, conflicting, or confusing signs.

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