Government of JERSEY



Working Safely on Jersey Roads

An Approved Code of Practice



Put yourself in their shoes



Put yourself in their seat



See things from their perspective



Imagine how they feel



Are they accounted for?



Do they understand?

Working Safely on Jersey Roads

An Approved Code of Practice

This Code is issued by the Minister for Infrastructure under Article 25 of the Road Works and Events (Jersey) Law 2016

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Foreword

In Jersey, responsibility for the administration of public roads is divided between the Government and parish highway authorities. The Government is responsible for the strategic road network and each parish for their local roads and lanes. Under Article 9 of the Road Works and Events (Jersey) Law 2016 (hereafter referred to as the Law), highway authorities have a duty to manage road works to secure the movement of traffic, having particular regard to:

- safety
- minimising inconvenience to road users, particularly people with a disability

Under Article 25 of the Law, a person carrying out road works (including a highway authority) must ensure that their works are adequately guarded, lit and appropriately signed, giving specific consideration to the needs of people with a disability as well as other vulnerable road users.

Purpose of this Code of Practice

This Code of Practice (hereafter referred to as the Code) provides guidance on how to work safely on public roads in Jersey. The Code is written for those carrying out works (termed 'operatives') and those supervising them. It is also of importance to those less directly involved such as managers, planners and designers who are all responsible for ensuring that the works are safe for everyone.

Warning: failure to comply with the Code will be taken as evidence in a court as failure to correctly guard, light or sign works in accordance with the Law (see above). Alternatively, observance of the Code will be taken as evidence of compliance with the Law. Any proposed deviation from the Code must be justifiable on the basis of a careful assessment of risks and available mitigation options. Clear documentary evidence of this should be kept and available for examination.

Section 1 - Road works defined

For the purpose of this Code the term ‘road works’ means:

Undertaker works

‘Undertaker works’ are works carried out on a road under a legal right, for example by a utility company in order to place, inspect, maintain, repair, replace or remove utility infrastructure (termed ‘apparatus’). Often this involves the breaking up or excavation of the road which then requires reinstatement.

Highway authority works

‘Highway authority works’ are works for or by the highway authority in order to maintain or improve the road and its infrastructure which includes road drainage.

Specified road works

‘Specified road works’ are works carried out in or on the side of a road, creating an obstacle or potential hazard to road users. Individual work categories are specified in the Road Works (Specified Road Works) (Jersey) Order 2018 and typically these are higher risk activities that require a footway closure, traffic control or road closure. For a list of specified road works, visit the Government website: www.gov.je.

Section 2 - Using this Code

This Code sets out the basic principles you must follow when planning road works and carrying them out, including the use of traffic management and safety equipment. The text alongside illustrations should be read to fully understand the requirements.

This Code will give you the basic requirements for each work stage from planning through to completion. However, additional measures may be necessary and a site specific risk assessment and safe work method statement must be carried out.

Attention must also be paid to any specific highway authority requirements (i.e. road works permit conditions). It may also be necessary to consult the highway authority as works progress to discuss any changes to the site that may have an impact on safety or traffic flow.

Remember: always consult the works supervisor if you are in any doubt about the correct procedures to follow or if you are concerned about safety on site.



Key Questions

Although this Code gives a basic understanding of how to carry out road works safely, safety cannot be achieved only by following directions, **it is a way of thinking**. You should have a safe attitude when applying this Code and always ask yourself the **key questions** set out on pages 6 and 7.

A prompt to remind you to ask yourself these questions is given at certain points in the Code by the symbol opposite.

Key questions

Ask yourself these questions:

> Will someone using the road or footway from any direction understand exactly what is happening and what is expected of them?

+

> Have I made the site safe to work in and is it safe for the general public, particularly for **vulnerable road users** and **people with disabilities?**



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Imagine how they feel



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Section 3 - Basic duties

Co-operation

You must use your best endeavours to co-operate with the highway authority, any other person carrying out road works and any utility company (or the drainage authority) whose apparatus may be affected by your works.

You must use your best endeavours to ensure that the works are carried out efficiently, minimising inconvenience to road users (particularly people with a disability) and without compromising safety. You must also protect the structure of the road and the integrity of the apparatus in it.

Safety measures

You must ensure that the works are adequately guarded, lit and appropriately signed, giving specific consideration to the needs of people with a disability as well as other vulnerable road users.

Supervision and training

Undertaker works, highway authority works and certain specified road works must be supervised by a qualified supervisor who needs to be available to give assistance on site when necessary. There must also be a trained operative present on site at all times whilst work is being carried out (see note).

Note: for information about road work supervision and qualification requirements, visit the Government website: www.gov.je.

Role of the works supervisor

While everyone on site has a personal responsibility to behave safely in the interest of themselves, their colleagues and the public, it is the role of the works supervisor to ensure that the road works are correctly planned and managed. This includes:



- preparation of a site specific risk assessment and safe work method statement, having particular regard to people with a disability and the needs of vulnerable road users including children, the elderly, cyclists, horse riders, etc. (see key questions on pages 6 and 7).
- ensuring that operatives clearly understand the identified hazards and risks on site and what is expected of them in carrying out the works, including compliance with the Code and any specific road work permit conditions.
- ensuring that operatives working on site are suitably trained (see page 8).
- visiting the site on a sufficient basis to ensure that agreed plans and methods are being followed.
- where circumstances change (e.g. scope/timing/risks, etc.), ensuring that plans are updated with necessary highway authority consultation and approvals.
- ensuring that the right safety equipment is available on site and is being correctly used.
- ensuring that the Code is available on site for reference.

Role of the operative

Operatives must ensure that:

- they clearly understand the identified hazards and risks on site and what is expected of them in carrying out the works, including compliance with the Code and any specific permit conditions. Where there are concerns or uncertainty due to a change in circumstances, the works supervisor must be notified promptly.



- safety equipment is correctly used and regularly checked, e.g. traffic or pedestrian signage, barriers, warning lights, kerb ramps, cable mats, excavation boards, personal protective equipment, etc. (see key questions on pages 6 and 7).

Section 4 - Planning of works

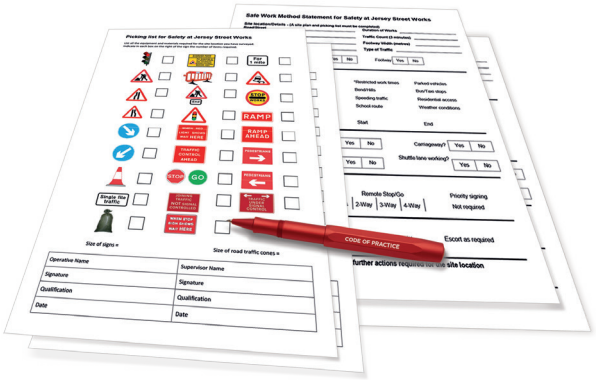
On-site assessment

A competent person (generally the works supervisor) should visit the site in advance of the works and carry out an on-site assessment to determine the correct traffic management system and the required safety equipment.

An on-site assessment form, as shown below, may assist you in carrying out your risk assessment and preparing your method statement. This is available on www.gov.je

When carrying out the on-site assessment the following should be taken into account:

1. Character of the road
2. Traffic
3. Locality
4. Changes over time
5. Difficult locations
6. Maintenance and security



On-site assessment form

A road works site designed around the needs of the most vulnerable will be safe for everyone, therefore remember to ask yourself the key questions on pages 6 and 7.

1 Character of the road

- Are there bends, crests, parked vehicles or encroaching vegetation and will the road work signs be visible to traffic?
- Is there a vehicle entrance, traffic junction or pedestrian crossing nearby and will the works obstruct visibility?
- Will the carriageway or footway be too narrow for safe passage to be maintained?

2 Traffic

- What is the makeup of the traffic, e.g. cars, motorcycles, heavy goods vehicles, cyclists, horses, etc.?
- What are the traffic speeds and volumes at the relevant times of day? If the prevailing traffic speed appears to be greater (or significantly less) than the road's speed limit then refer to the highway authority for advice on site set-up requirements.

3 Locality

- Is there a bus stop or unloading bay nearby and will the road become impassable when either are in use?
- Are there vehicle entrances/exits and will access be affected, particularly considering right turning traffic?
- Is there parking nearby and will it remain usable?
- Is there a medical centre or residential home nearby and are there likely to be people with reduced mobility or visual impairment passing the works who may have particular difficulty with uneven surfaces or trip hazards?
- Are there nearby schools, nurseries or playgrounds and are there likely to be children passing the works who may have difficulty understanding signage and hazards?
- Are there licensed premises or clubs nearby and is there likely to be a need for greater site security overnight?

4 Changes over time

Think about how any of the above issues might change over time as a result of:

- rush-hour traffic flows
- school-run traffic / parking
- pub licensing hours
- match days at sports grounds
- events, concerts, etc.
- street lighting levels
- weather, surface conditions, visibility, etc.
- deliveries to the site

5 Difficult locations

As part of your planning, you must consult with the highway authority about the works in situations where:

- the restricted road width will be less than 2.75m for one-way roads or 5.5m for two-way roads
- the works will be close to a junction or pedestrian crossing facility i.e. within 100m
- there is no safe pedestrian route available past the proposed works area
- the works will obstruct road user visibility of a traffic signal, traffic sign or street lighting

In these situations, the highway authority may (following discussion) require a joint site visit to agree specific traffic or pedestrian management arrangements.

6 Maintenance and security

Suitable security fencing and lighting may be required at attended or unattended sites and must be included in your planning. See Section 12.

Section 5 - Equipment

Basic safety equipment

Contractors should have the following basic safety equipment available for day to day use:

Type	Number per site	Notes
 Road works ahead signs	x2 Road works ahead. Consider using additional signs where visibility to the lead sign is limited e.g. due to bends, etc.	Additional signs with 'End' plates should be used if requested by the highway authority, e.g. for long works. (See pages 15 and 16 and Section 8).
 Road narrows left/right	x1 Left hand x1 Right hand x2 Single file traffic supplementary plates	If single file traffic is in operation, supplementary plates must be used. (See pages 15 and 16 and Section 8).
 Keep right/keep left signs	x2 Keep right x1 Keep left	Sign frames should not be turned on their side to make them point in the correct direction nor should they be used for directing pedestrians. (See pages 15 and 16 and Section 8).
 Stop/Go boards	x2 Stop/Go boards	Stop/Go boards must be available when portable traffic signals are in use in case of a battery failure or a technical fault. Using hand signals in such circumstances is not permitted!

Type	Number per site	Notes
 Traffic cones	For cone set-out requirements see page 26.	See pages 16 and 17.
 Warning lights	To be used in low light and poor visibility. See page 26.	On roads with street lighting, warning lights should be set to flashing mode. If there is no street lighting, they should be set to constant mode. See page 26.
 Pedestrian barriers	See Section 7 - Looking after pedestrians.	See page 18.
 Kerb ramps	x2 for kerb entry and exit. See page 31.	Ramps to be used on all kerbs when creating a temporary walkway for pedestrians. See page 19.
 Footway boards		To be used on footways to maintain pedestrian and light vehicle access during excavation works. See page 20.
 High visibility clothing		See page 21.

Additional signs that you may need


Road narrows on both sides ahead


Traffic Signals ahead







Stop/Go boards









At approach to uncontrolled junction between portable traffic signals




















Traffic signals not in use



Zebra/signal controlled crossing is not in use



Direction of temporary pedestrian route






Other danger ahead (use only with a supplementary plate)


Slippery road


Loose chippings





Or variations on these signs


Left-hand lane of a carriageway road closed

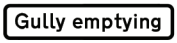

Left-hand lane of a three lane carriageway road closed

Examples of supplementary plates for use with other signs











Distance over which hazard extends



Distance to hazard



Distance and direction to hazard



Maximum speed advised

Note

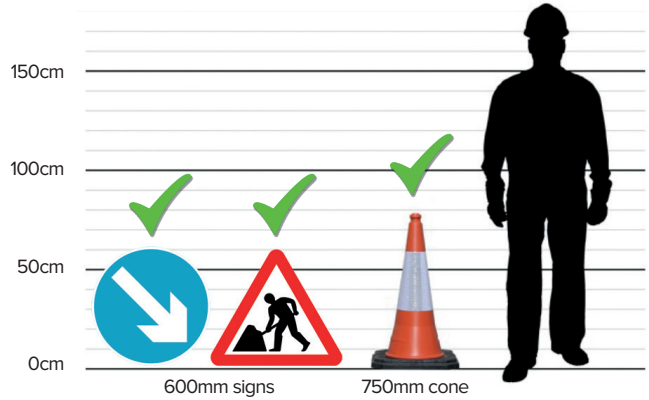
For all available traffic sign options contact the Government highway authority.

Signs and cones

The size, shape and style of all signs, including traffic cones, must comply with the current Traffic Signs Order to be found on the Jersey Law website (www.jerseylaw.je). The whole of the sign face must be reflectorised except for any parts coloured black. The standard of reflectorisation must be in accordance with the relevant current British or European standards. The retroreflective sleeves on the cones must be kept clean and damaged sleeves or cones must not be used.

The placement of signs and cones in the proximity of hedges, trees or walls may result in there being insufficient room for vehicles to pass. The location of and distance between signs should be carefully considered so as not to cause an additional hazard.

All signs used on public roads must have a minimum sign face of 600mm. All traffic cones must be a minimum of 750mm in height.



Sign and cone condition

unacceptable	marginal	acceptable
		
		

Barriers

Barriers should have:

- a handrail fixed at between 1m and 1.2m above ground level, which should be reasonably smooth and rigid
- a visibility panel at least 150mm high, which may be integrated with the handrail and contain the red and white sign
- a tapping rail 150mm high and a lower edge no more than 200mm above ground level

Barriers should be joined together forming a continuous separation of the working space, in a way that resists tampering.

Consideration should be given to the size of the barrier footing within confined widths as they may cause a trip hazard and present difficulties to the visually impaired and people using wheelchairs, mobility scooters, etc.

If you find that barriers are being tampered with and separated, then you must take additional measures to secure them by using clamps or ties that require a tool for removal.

Safe pedestrian routes: when setting out a safe route for pedestrians specific barriers are recommended (see page 28) because:

- they have a continuous handrail and tapping rail
- they have a more secure locking mechanism and are more stable
- they have an anti-trip feet option

If the route width is below 1.5m the use of anti-trip feet is **strongly recommended.**



Pedestrian specific barrier
(Recommended - see page 28)



Traffic/Pedestrian barrier (Acceptable)

Kerb ramps

When pedestrians are diverted to a temporary walkway in the carriageway, you must provide suitable ramps enabling people using wheelchairs, pushchairs or mobility scooters to negotiate kerbs safely. The layout should allow them to enter and exit a temporary walkway safely.

Ramps must:

- be at least 1m wide, 1.5m where possible
- be constructed from materials strong enough to support pedestrians and mobility scooter users, etc.
- have a slip-resistant surface and edging to prevent side-slipping over the edge
- slope gently to allow mounting without undue difficulty and to avoid grounding by mobility scooters
- allow for rain water to run along the gutter



Footway boards

You must only use boards on footways to maintain pedestrian and light vehicle access where there are open excavations. Footway boards must not be used on the carriageway.

Footway boards used for bridging excavations:

- must extend the full width of any footway or light vehicle crossing
- must be strong enough to support pedestrians and mobility scooter users, etc. and, where light vehicle access is needed, the weight of those vehicles
- must have chamfered edges and a non-slip surface to prevent slips or trips
- must be rigidly fixed with sufficient length on either side of the excavation to provide the necessary support



High visibility clothing

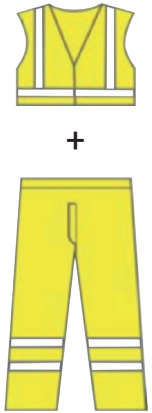
High visibility clothing must conform to the relevant current British or European standards. High visibility clothing to a minimum 'Class 3' must be worn when working on the road outside the working space e.g. when setting out, maintaining or removing signing, lighting, guarding and temporary traffic control. Your employer may also require you to wear high visibility clothing when operating within the working space. High visibility clothing must be correctly fastened and maintained in a clean and usable condition.

Daytime



Class 3 Jacket

OR



Class 2 Bib and Class 1 Trousers or Shorts

Night-time or poor visibility



Class 3 Jacket and Class 1 Trousers

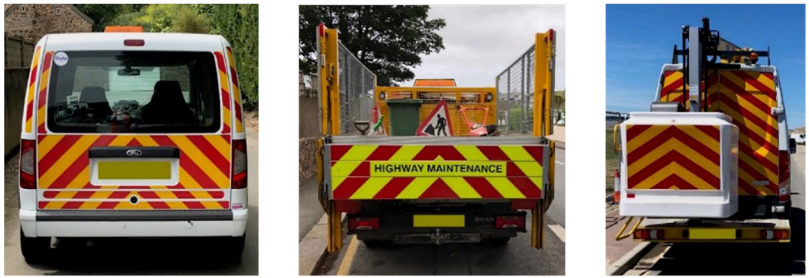
Vehicles

It is strongly recommended that any vehicle that stops on the carriageway for works purposes is equipped with either a roof-mounted flashing amber warning light bar (with at least two independent light sources) or two independent vehicle roof-mounted flashing amber warning beacons visible through 360° at a sufficient distance to allow approaching vehicles to stop safely.

It is also strongly recommended that all vehicles being used for these types of works are marked with high visibility rear chevron markings, comprising alternate strips of fluorescent orange or red retroreflective material and fluorescent yellow non-retroreflective material. The chevrons should cover as much of the rear-facing portion of the vehicle as possible without obscuring windows, vehicle lighting or the registration plate. Chevron markings should be cleaned on a regular basis to ensure that they continue to stand out.

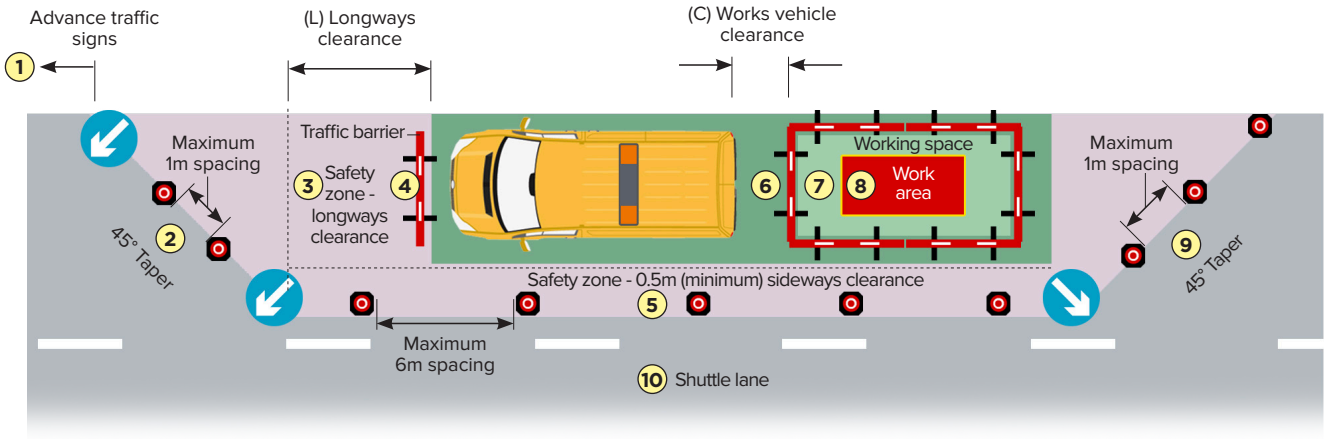


Warning light bar



Example of works vehicles fitted with chevron markings and warning lights

Section 6 - Basic site set-up



1. Advance traffic signs - page 33 and Section 8
2. Lead-in taper - page 24
3. Safety zone - longways clearance - page 24
4. Traffic barrier - page 24
5. Safety zone - sideways clearance - page 24
6. Works vehicle clearance - page 25
7. Working space - page 25
8. Work area - page 25
9. Exit taper - page 25
10. Shuttle lane - page 25

Note: you must include the work area, working space and safety zone in the area to be marked off with cones and/or barriers. You must provide safety zones when either operatives are present or a pedestrian walkway is located in the carriageway.

1 Advance traffic signs

Traffic signage is set out ahead of the works to inform drivers of how to approach and pass the works safely. The lead sign is always the 'road works ahead' sign, which is then followed by a succession of hazard, prohibition or instruction signs, set out depending on the particular circumstances - see Sections 8 and 9.

2 Lead-in taper

The lead-in taper is intended to guide traffic around the works and provide an initial safety buffer. Lead-in tapers should not be set out less than 45° to the kerb and should include the appropriate keep right signs, cones and warning lights. See page 26.

3 Safety zone - longways clearance (L)

The longways clearance zone is an open or unoccupied space between the end of the lead-in taper and the working space and provides a final safety buffer to the works. It is important that the longways clearance zone is free of equipment, materials and parked vehicles etc. The required set-out distance is shown on page 69 (inside back cover).

4 Traffic barrier



When a traffic lane is closed for works (except in the case of short duration or mobile works), a traffic barrier or pedestrian barrier should be placed directly after the lead-in taper with markings as illustrated, facing the oncoming traffic. Even when parking a conspicuous works vehicle in front of the working space, a traffic barrier is still required and must be placed in front of the vehicle.

5 Safety zone - sideways clearance

The sideways clearance, which must be a minimum of 0.5m, is the area between the works or temporary pedestrian route and the outer cone line where traffic is nearest. When working in a footway, you must provide a safety zone in the carriageway. In circumstances where the minimum sideways clearance cannot be achieved, you should contact the relevant highway authority.

6 Works vehicle clearance (C)

If placing the works vehicle ahead of the work area, it is necessary to provide a clear area between the back of the vehicle and work area. This distance will provide some protection for operatives if the vehicle is shunted. The required distance is set out on page 69 (inside back cover).

7 Working space

The working space includes the work area (see below) and the space around the work area where it is permitted to store tools, material, equipment and plant and should always be surrounded by barriers. You must leave enough working space to ensure that movement and operation of plant (e.g. swinging of buckets or counterweights) does not encroach into the safety zone and is clear of passing traffic in the carriageway or any adjacent footway or cycle lane. Where the works vehicle forms part of the works activity, the barriered working space should also enclose the vehicle. Where materials or welfare facilities cannot be accommodated within the site, the location and arrangement of the storage area must be agreed with the relevant highway authority.

8 Work area

The work area includes any area of work activity e.g. where there is an open trench or manhole, or where equipment and plant are in use.

9 Exit taper

Exit tapers should not be set out less than 45° to the kerb and should include the appropriate keep left signs and warning lights if in low light.

10 Shuttle lane

When works are undertaken and the available carriageway width is narrowed, the remaining unobstructed carriageway width is called the shuttle lane. Where it is not wide enough to allow two-way traffic to flow safely past the works (see standard carriageway widths on page 35), appropriate traffic control must be used (see Section 9).

Further details about the use of signs, cones and warning lights

Signs and cones

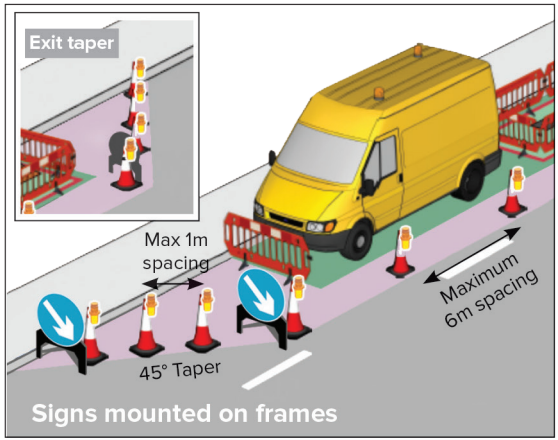
The maximum spacing of cones used in the lead-in and exit tapers is 1m, therefore a road with a lane width of 2.75m (and a 45 degree taper) requires a minimum of 2 cones in the lead-in taper and 3 cones in the exit taper (as shown below). The maximum spacing of cones between the lead-in and exit taper is 6m.

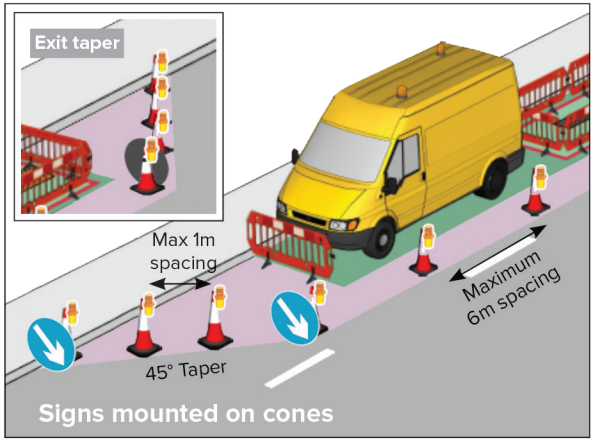
Warning lights

When working in low light and poor visibility, all lead-in and exit taper signs and cones must carry a warning light. If using cones to carry signs that are larger than 600mm or if using sign stands, then additional cones must be placed (as shown below) to carry the warning lights and to highlight the extent of the taper.

Warning lights should also be placed on every second cone between the lead-in taper and exit taper, unless the length of the site is limited, in which case placing lights on every cone is recommended.

Lights must be no more than 1.5m above the road. On roads with street lighting, they should be set to flashing mode. If there is no street lighting, they should be set to constant mode.





Section 7 - Looking after pedestrians

When footways, crossings and pedestrianised areas are affected by your works, it is your responsibility to make sure that pedestrians passing the site, especially people with a disability and other vulnerable road users, are safe. This means protecting them from both your works and any passing traffic. Remember to always ask yourself the key questions on pages 6 and 7.

Safe pedestrian routes

If your work obstructs a footway or a pedestrian area, you must provide a safe route that includes access to adjacent buildings, properties and public areas.

The safe route must account for the needs of people with a disability, such as the visually impaired and those with reduced mobility, including people using wheelchairs or mobility scooters, etc.



Safe route options

There are three basic safe route options to be considered:

1. Provide a route along the existing footway
2. Provide a temporary walkway in the carriageway
3. Direct pedestrians to existing or suitable crossing points

1 Route along the existing footway

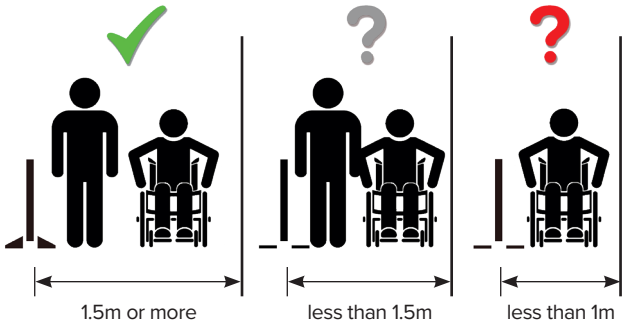
If possible you should maintain access using the existing footway, however in order to provide pedestrians with the safest route passed the works, a site specific risk assessment is needed. This should take into account the nature of the works (e.g. use of heavy plant, etc.), resulting footway width, surface condition and ease of passage.

2 Temporary walkway in the carriageway

If maintaining access using the existing footway is not the safest option, you will need to consider providing a temporary walkway in the carriageway.

When providing this walkway, you must consider the following:

- the length of the site
- the visibility of oncoming traffic
- the traffic speed
- the traffic volume
- the remaining width of the carriageway and need for traffic management (see Section 9)



Width requirements for Option 1 and 2: A (barriered) route of at least 1.5m wide should be provided. If the route width is reduced below 1.5m, then the use of pedestrian specific barriers (see page 18) with anti-trip feet is **strongly recommended**. A route width less than 1.2m will present difficulties for users passing one another and in particular for the visually impaired and people using wheelchairs, mobility scooters, etc. Any proposal to provide a route width less than 1m will require careful consideration with the involvement of the highway authority.

For more information about pedestrian route width requirements see page 68.

3 Direct pedestrians to existing or suitable crossing points

You may consider directing pedestrians to existing or suitable crossing points if the works are nearby and:

- there are suitable crossing points in both directions
- there are dropped kerbs on all sides
- there is good visibility of oncoming traffic
- there is good street lighting
- the road is not so wide as to cause difficulty in crossing between gaps in traffic (if the road is wide enough then a 1.2m wide temporary refuge can be considered)
- the footway is closed at the point of crossing with clear directional signage

Option 3 will not work in areas of high footfall unless the works are ideally located near existing crossings.

Note: public compliance with this option can be low and lead to risky behaviour by pedestrians. Therefore, specific supervision should be considered at busy times or when in the vicinity of schools.

Ongoing monitoring of this pedestrian management solution is essential. If compliance is low, consult the relevant highway authority as it will be necessary to review options.

Works at pedestrian crossings

If there is a pedestrian crossing within the limits of the advance signing, you must consult the relevant highway authority to consider if the crossing needs to be temporarily taken out of service.

Pedestrianised areas

In pedestrianised areas, such as precincts, the working space, vehicles, plant or materials must be enclosed by pedestrian barriers.

Escorting pedestrians around works

Where works temporarily restrict or prevent free passage along the footway, it may be permissible to escort pedestrians around the works given the following requirements:

- visibility is good
- traffic speeds and volumes are low
- works are short in length (no more than 5m) and duration (no more than 1 day)
- sufficient operatives are available to ensure continuous assistance to footway users
- overhead operations are suspended to allow pedestrians to pass the works

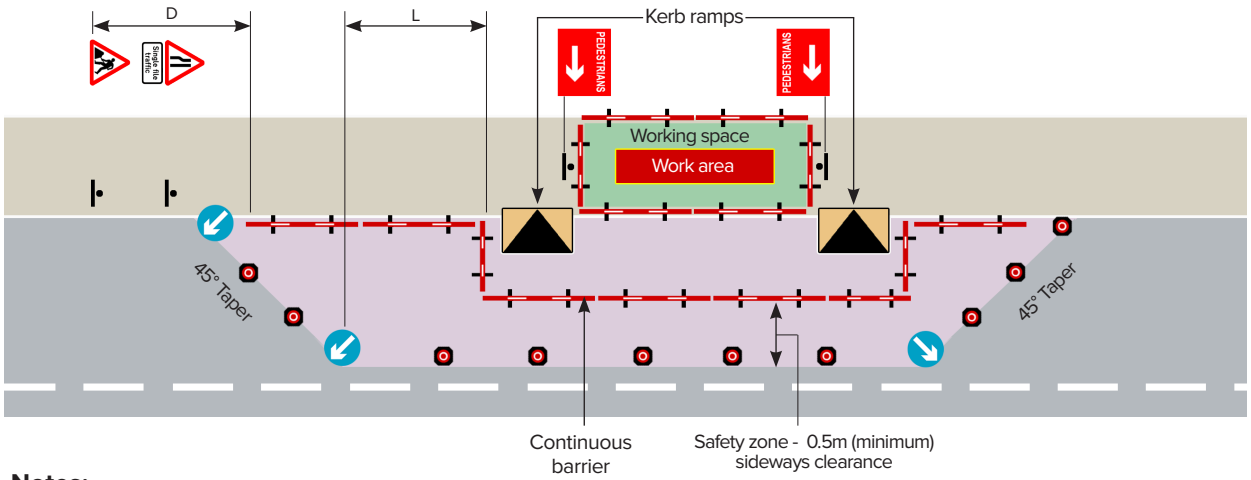
The works must not be left unattended at any time while the footway restriction is in place.

Special consideration must be given to people with a disability and other vulnerable road users.

Warning: escorting pedestrians around works should only be used with the permission of the highway authority and following consultation with the supervisor. A site specific risk assessment and safe work method statement must be undertaken.

Footway closure and walkways in the carriageway

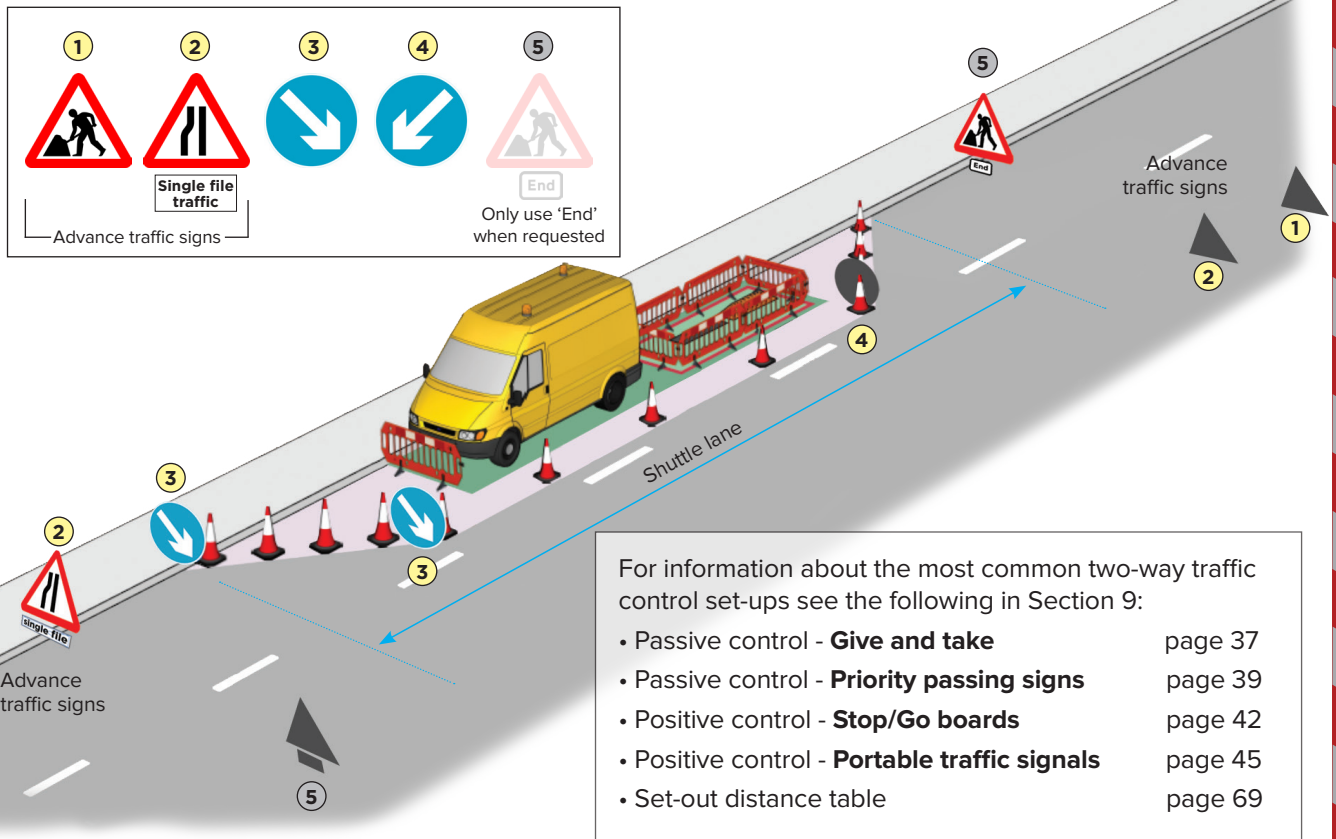
When you put a temporary pedestrian route in the carriageway, you must ensure that all safety equipment is in place before the footway is closed. Suitable kerb ramps must be provided to enable people using mobility scooters, wheelchairs or pushchairs to negotiate the kerbs safely. Ramps and boards must be fit for purpose and the barrier set-up should allow sufficient area in front of the ramps for safe and stable entry and exit.



Notes:

1. An information board (omitted here for clarity) must be displayed within the site if unattended and must be visible to passing pedestrians but not obstructing the footway or carriageway. See page 58.
2. Sufficient space is required at the base of kerb ramps for wheelchair manoeuvre.

Section 8 - Basic traffic signage layout

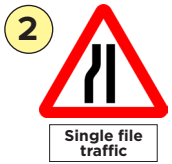


For information about the most common two-way traffic control set-ups see the following in Section 9:

- Passive control - **Give and take** page 37
- Passive control - **Priority passing signs** page 39
- Positive control - **Stop/Go boards** page 42
- Positive control - **Portable traffic signals** page 45
- Set-out distance table page 69



Road works ahead – This is the lead sign and the first sign to be seen by approaching traffic, hence care must be taken in placing it to ensure good visibility for drivers, particularly if the works are situated at a bend in the road or on the brow of a hill. Its placement will vary according to the type of road and traffic speed. Consider placing additional signs where there are sharp bends or a series of bends. For the minimum visibility distance to the first sign and distance to the works lead-in taper see page 69 (inside back cover).



Road narrows ahead – The sign warns the driver which side of the carriageway is obstructed. Place it midway between the 'Road works ahead' sign and the beginning of the lead-in taper. Make sure the correct sign is used for the relevant side of the road. If single file traffic is in operation supplementary plates must be used.



Directional arrow – Place 'Keep right' or 'Keep left' signs as appropriate at the beginning and end of the lead-in taper of cones. Make sure that the signs point in the correct direction.

Warning: do not place 'Keep left' or 'Keep right' sign frames on their sides to make them point in the correct direction, as this could cause a hazard to road and footway users, and may cause confusion. These signs must not be used for directing pedestrians.

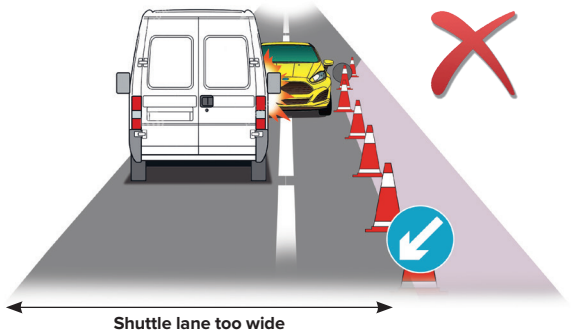
Note: the road width and volume of traffic at the works site might make traffic control necessary. See Section 9 for details of which type of control is appropriate.

Section 9 - Traffic control options

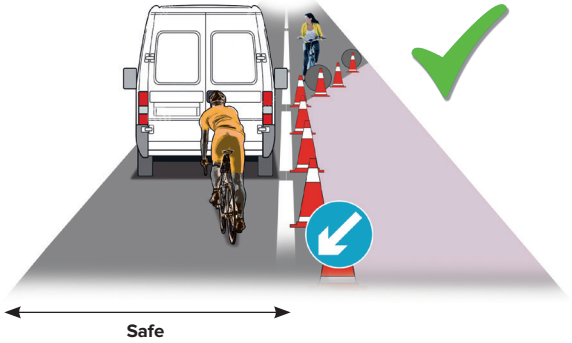
Shuttle lane width control

When works are undertaken the available road width is narrowed. The remaining unobstructed carriageway width is called the shuttle lane. Where it is not wide enough to allow two-way traffic safely past the works (see standard carriageway widths on page 35), appropriate traffic control must be used.

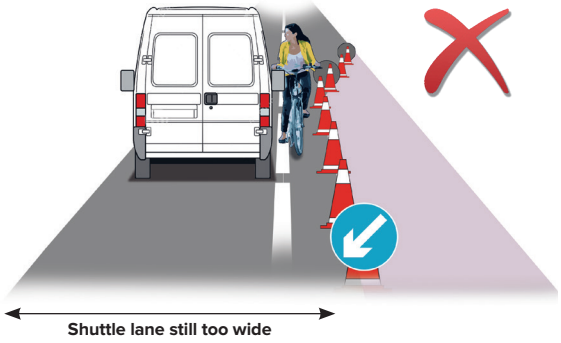
The desirable width for the shuttle lane with traffic including buses and HGVs lies between 3.25m and 3.5m. This range avoids certain widths that create opportunities for unsafe passing or overtaking as illustrated opposite.



Shuttle lane too wide



Safe



Shuttle lane still too wide

Standard carriageway widths

The following table shows standard and restricted carriageway widths for different types of traffic. The standard widths are designed to maintain access for buses and heavy goods vehicles and must be provided wherever practicable. Where this is not possible you will need to consult the relevant highway authority.

	Standard: Normal traffic including buses and HGVs	**Restricted: Cars and light vehicles only**
Shuttle working	3.25m to 3.50m desirable range	3.25m desirable minimum
	2.75m absolute minimum	2.5m absolute minimum
Two-way working	6.75m minimum	5.5m minimum

Note: Jersey roads which are less than 4.8m wide do not have a centre line.

The following list of vehicle widths is excluding mirrors:

Double decker bus	2.55m	Standard bus	2.3m
Oversized vehicles (i.e. P30)	up to 2.4m	Transit van	2m
Average car	1.8m	Lorry	2.3m

Warning: where you cannot meet the minimum widths, the supervisor must consult the relevant highway authority.

Traffic control methods

The table below shows the various methods of traffic control and the required conditions for their use.

Method	Speed limit*	Maximum coned area length	Minimum visibility before and past works	Maximum two-way traffic flow	Notes: see page
Passive traffic control	Means that drivers are expected to pass the works (with caution) in accordance with the signage instruction, i.e. to give and take with oncoming traffic or to observe any directional priority rules.				
Give and take	30mph	25m	50m	400 vehicles per hour (20 per 3 minutes)	Signing as per pages 37, 38
Priority passing signs	40mph	35m	70m	800 vehicles per hour (40 per 3 minutes)	Signing as per pages 39, 40
Positive traffic control	Means the use of traffic signals (i.e. stop/go boards or portable traffic signals, etc.) to indicate which direction of traffic is permitted to pass the works at any one time.				
Stop/Go boards (one board)	30mph	25m	N/A	900 vehicles per hour (45 per 3 minutes)	Signing as per pages 42, 43, 44
Stop/Go boards (two boards)	40mph	100m	N/A	900 vehicles per hour (45 per 3 minutes)	Signing as per pages 42, 43, 44
Portable traffic signals	40mph	150m	N/A	800 vehicles per hour (40 per 3 minutes)	Signing as per pages 45, 46, 47
Stop-works sign	40mph	N/A	N/A	N/A	Maximum period 2 minutes – see page 48
Other traffic control types	Road closures, mobile works, short-duration works and dual carriageway works.				Signing as per pages 49, 50, 51, 52, 53
Junctions & roundabouts	You should contact the Government highway authority for advice if your works are in the vicinity of a junction or a roundabout.				

***Note:** if the prevailing traffic speed appears to be greater or significantly less than the road's speed limit then you may refer to the relevant highway authority for advice on traffic management options.

Passive traffic control by ‘Give and Take’

You should only use ‘Give and Take’ when all of the following apply:

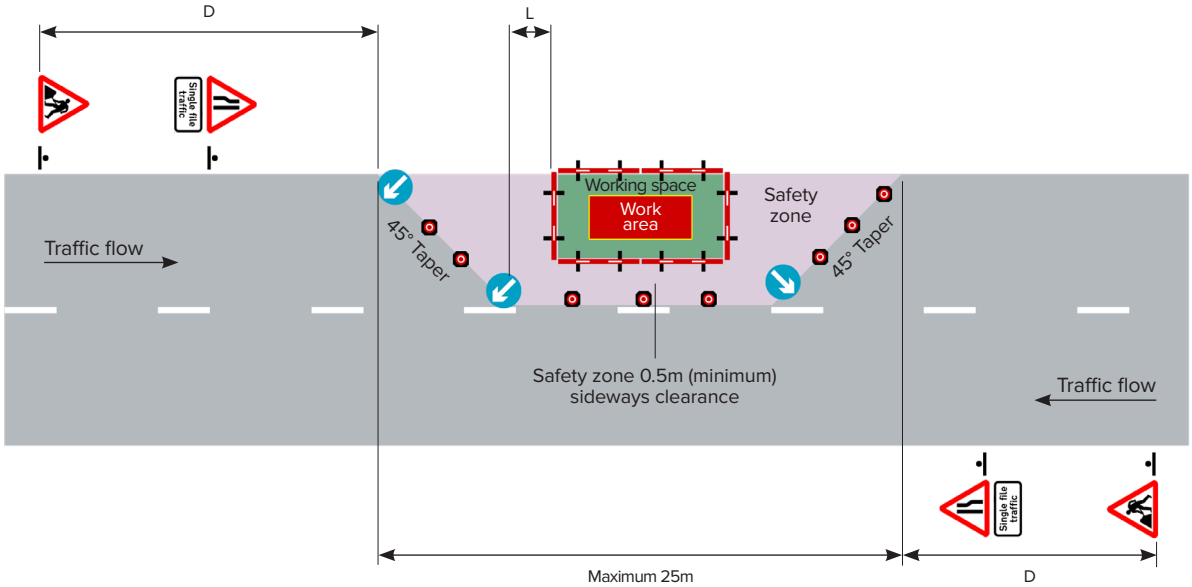
- the speed limit is 30mph or less
- the length of the works from first cone to last cone is 25m or less
- drivers approaching from either direction can see 50m beyond the end of the works
- two-way traffic flow is no more than 400 vehicles per hour (20 per 3 minutes)
- no more than 20 heavy goods vehicles pass the works per hour
- parking near the works, especially in front and opposite, is prohibited, unless visibility or lane width is unaffected

See page 38 for sign set-up.



Single file traffic

Sign set-up for ‘Give and Take’



Notes

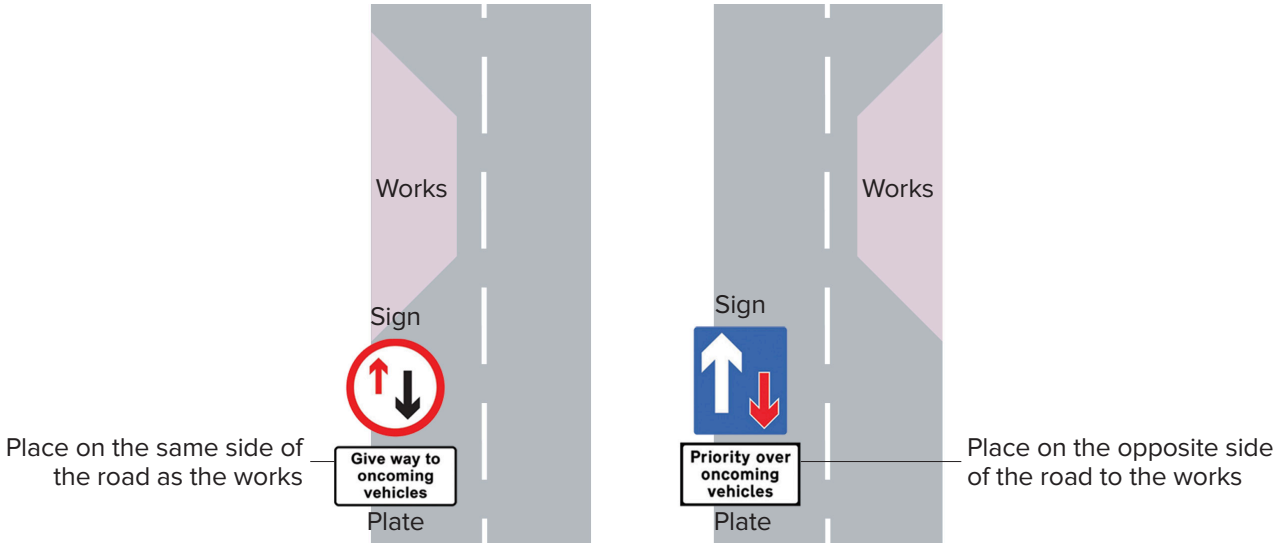
1. For numbers of cones and dimensions D and L see set-out distance table on page 69 (inside back cover).
2. An information board (omitted here for clarity) must be displayed if unattended (see page 58).

Passive traffic control by ‘Priority passing signs’

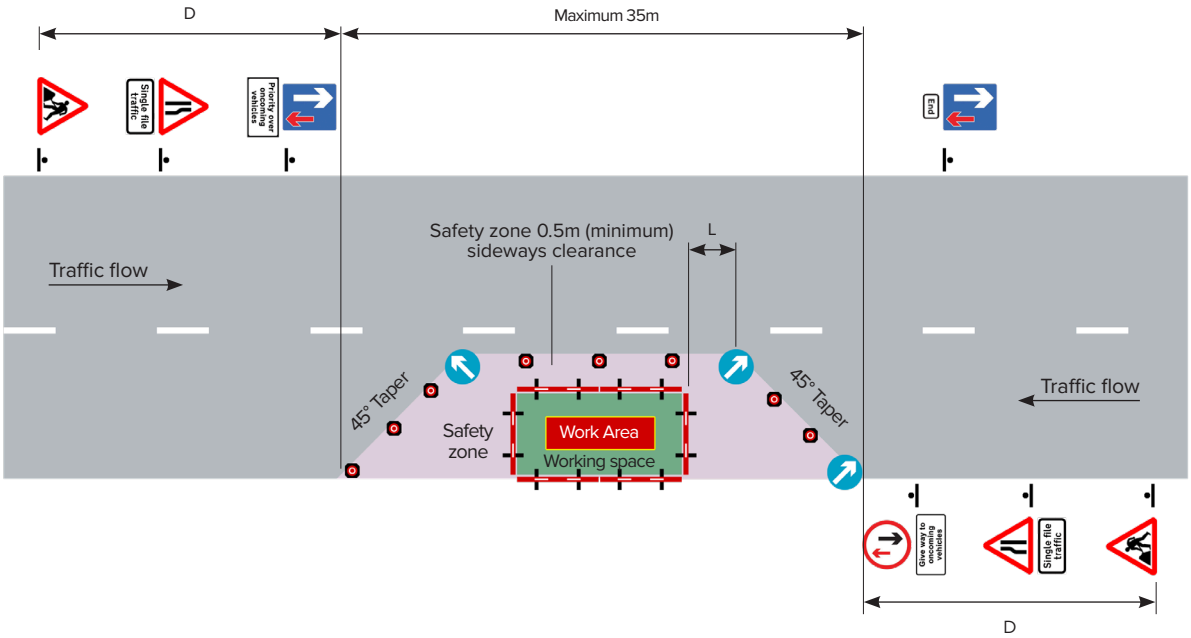
You should only use ‘Priority passing signs’ when all of the following apply:

- the length of the works from first cone to last cone is 35m or less
- drivers approaching from either direction can see 70m beyond the end of the works
- two-way traffic flow is no more than 800 vehicles per hour (40 per 3 minutes)

The ‘Give way to oncoming vehicles’ sign and plate must be placed on the same side of the road as the works and the ‘Priority over oncoming vehicles’ sign and plate must be placed on the opposite side of the road to the works (as shown below). See page 40 for sign set-up.



Sign set-up for ‘Priority passing signs’

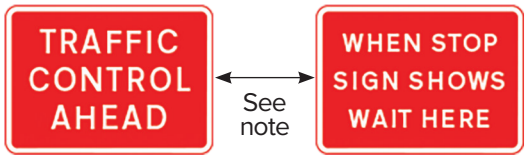


Notes

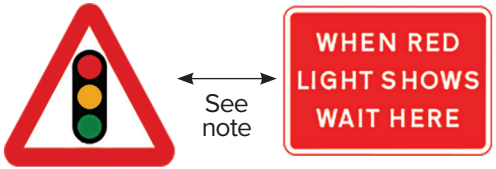
1. For numbers of cones and dimensions D and L see set-out distance table on page 69 (inside back cover).
2. An information board (omitted here for clarity) must be displayed if unattended (see page 58).

Positive traffic control advance warning signs

You must include advance signing for any positive traffic control system in use.



Advance signs for stop/go boards
(See page 44 for sign set-up)



Advance signs for portable traffic signals
(See pages 46 and 47 for sign set-up options)

Your advance signs should be placed so that they:

- are in the correct sequence
- are within the correct distances as shown in the table on page 69 (inside back cover)
- can be clearly seen but are at a minimum risk of being struck by vehicles
- cause minimum inconvenience to road and footway users
- do not prevent large vehicles from stopping between signs
- do not obscure parked vehicles

Note - vehicle waiting: when setting out the above signs for any positive control system, consideration should be given to the space required for larger vehicles to stop between the signs.

Positive traffic control by 'Stop/Go' boards

Remote control

Remotely controlled stop/go boards should be used where possible. The following conditions will apply:

- for a single board, a maximum coned area length of 25m
- for two boards, a maximum coned area length of 100m
- use of the boards is restricted to daylight hours, unless illuminated (see page 43)
- an unobstructed view of both approaches is maintained
- the operator is less than 75m from both boards

Manual control

Manually rotated stop/go boards should only be used under the following circumstances:

- where the operators are located in a position of safety (which must not be within the safety zone)
- the work's length or traffic flow prohibits the use of remotely operated boards

Note: the reasons for not using remotely operated boards should be recorded.





Note: as an alternative to the use of stop/go boards, consideration should be given to manually controlled portable traffic signals, particularly where there is a safety concern or low light conditions.

Warning: manual traffic control should only be used with the permission of the highway authority and following consultation with the supervisor. A site specific risk assessment and safe work method statement must be undertaken.

One manual board

If your maximum coned area length is 25m or less and the speed limit is 30mph or below, a single board positioned at either end or in the middle of the shuttle section may be used. The operator must be positioned at an acceptable distance from traffic and the board must be clearly seen from both directions. The operator must not have their back to the works or be positioned inside the safety zone or the working space.

Warning: operators **MUST NOT** stand near the road centre line with their back to the works.

Two manual boards

If the maximum coned area length is 100m or less, two boards may be used with boards positioned at each end of the shuttle section. The operator showing 'Go' to oncoming traffic will be the one to control the change of traffic flow. Adequate time must be allowed for slower vehicles to clear before the other board is turned to show 'Go', with both boards displaying 'Stop' while the shuttle lane clears. Where two boards are in use and the operators are not in direct line of sight, two-way radio communication between operators should be used. See page 44 for sign set-up.

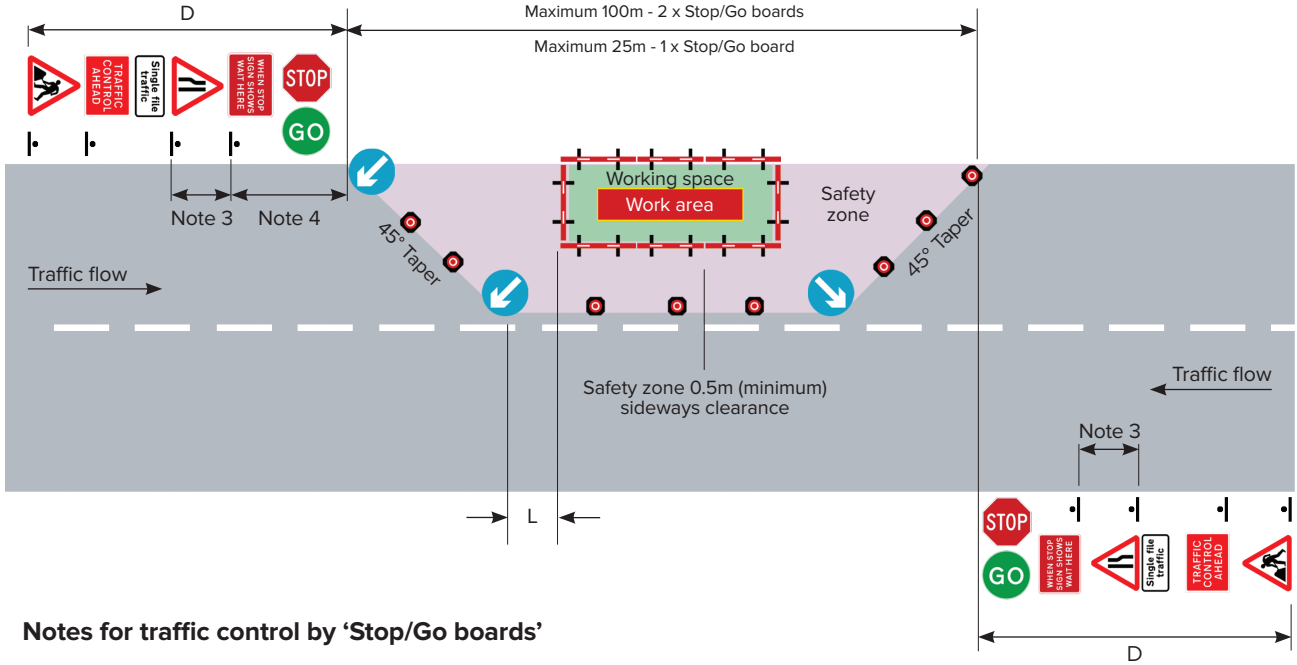
Warning: Stop/Go boards must not be used where there is an uncontrolled junction joining the shuttle lane.

Night-time or poor visibility

When Stop/Go boards are in use at night or when visibility is poor, they must be clearly lit across the whole of the sign face. Signs which are only partially lit or have intermittent lighting are not permitted. Relying on overhead lighting from a street light or from a torch attached to the sign is not acceptable.



Sign set-up for ‘Stop/Go boards’



Notes for traffic control by ‘Stop/Go boards’

1. For numbers of cones and dimensions D and L see set-out distance table on page 69 (inside back cover).
2. Stop/Go boards should be placed where they will be in full view of approaching drivers and may be placed either side of the carriageway.
3. The distance between signs may need to be increased to allow more space for larger vehicles to wait.
4. This distance may have to be increased in some cases to allow larger vehicles to pass the works.
5. An information board (omitted here for clarity) must be displayed if unattended (see page 58).

Positive traffic control by 'Portable traffic signals'



Portable traffic signals can be appropriate in many environments including overnight and can be a safer alternative to using manually operated stop/go boards (see page 42). Generally speaking portable traffic signal heads should be no more than 150m apart. It is essential that they are set up in accordance with the relevant highway authority's instructions, e.g. regarding automatic or manual control, phase timings and vehicle activation, etc. See pages 46 and 47 for sign set-up options.

It is important that before portable traffic signals are used, consideration is given to the maximum volume of traffic likely to be encountered at the works site. A combined (two way) volume of more than 800 vehicles per hour (40 per 3 minutes) is likely to mean queue lines not clearing during each signal cycle, leading to tailbacks and possibly further traffic impacts. This information can be obtained by undertaking a short volume count during a busy period.

To ascertain the volume of vehicles passing the works site per hour; count the number of vehicles passing the works site over a period of 3 minutes and then multiply the number by 20 to obtain the equivalent hourly rate.

Where road works are in the vicinity of a permanent traffic signal junction, the highway authority must be consulted well in advance as it may be necessary to alter or suspend the traffic signals.

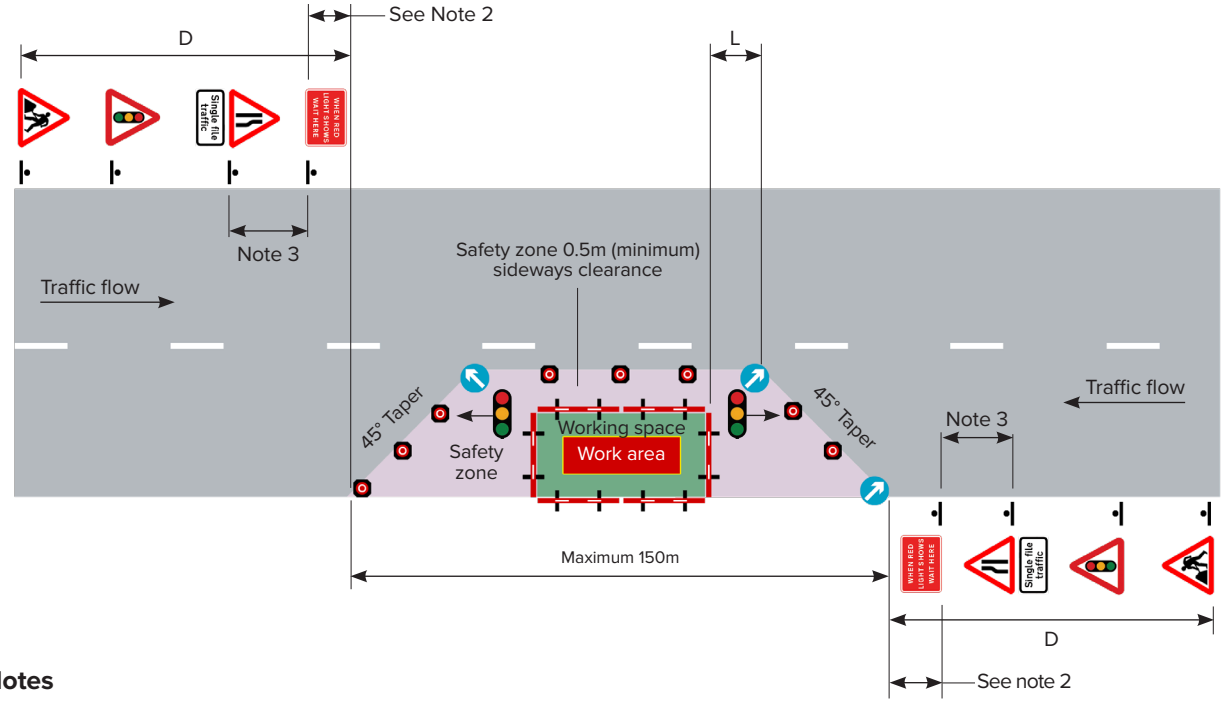
The use of portable traffic signals is specifically regulated and limited in operation to trained operators only. For information about training and qualification requirements please visit www.gov.je.

Note: further guidance is provided in the document 'The safe use of portable traffic signals in Jersey' and is available in booklet form on request from the Government highway authority.



It is mandatory to have stop/go boards with supplementary signs as a back up when using portable traffic signals in case of battery failure or technical faults. The use of hand signals in such circumstances to control traffic is not permitted in law.

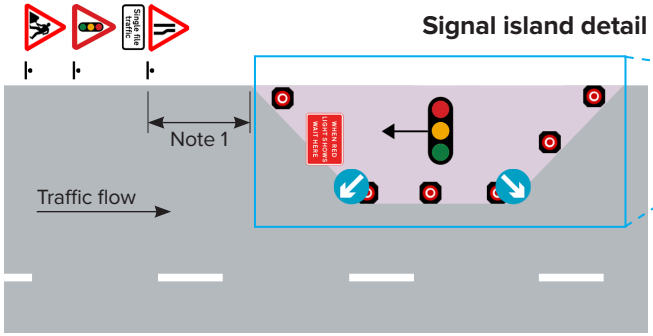
Basic sign set-up for ‘Portable traffic signals’

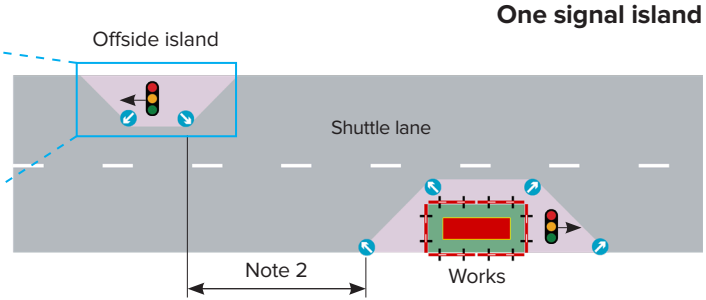


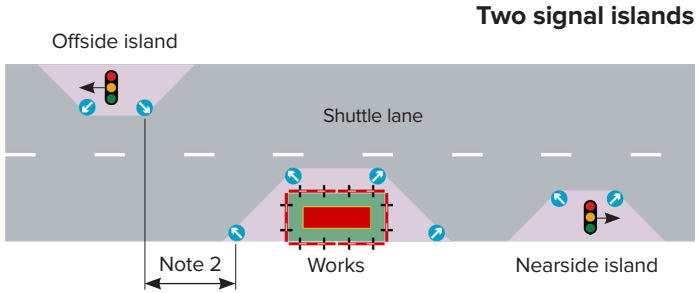
Notes

1. For numbers of cones and dimensions D and L see set-out distance table on page 69 (inside back cover).
2. This distance may have to be increased in some cases to allow larger vehicles to pass the works.
3. The distance between signs may need to be increased to allow more space for larger vehicles to wait.
4. An information board (omitted here for clarity) must be displayed if unattended (see page 58).

Sign set-up for portable traffic signal island(s)







A variation to the basic portable traffic signal set-up (see previous page) can be used when the works are on a bend or the brow of a hill or where it is necessary to reduce traffic speed (by creating a chicane). When planning the site set-up and the exact location of signal island(s) (see illustrations opposite), consideration should be given to the distance between the offside signal island and the works.

Notes

1. The distance between signs may need to be increased to allow more space for larger vehicles to wait.
2. The distance between the offside signal island and the works may need to be increased to allow more space for larger vehicles to pass.

Positive traffic control by ‘Stop-works’ sign

You can only use the ‘Stop-works’ sign to stop vehicular traffic for short periods during works on or near a road. Each period of use should last no more than 2 minutes in any 15 minutes. You must not use this sign as a substitute for other forms of traffic control and it must only be used at sites where the risk is assessed as being low.

The sign must be double-sided, mounted on a black/yellow banded pole and held by the operator, who must be wearing Class 3 high visibility clothing (see page 21). This sign should not be used at night unless directly illuminated uniformly across the sign face. Partial illumination is not permitted, nor is intermittent or overhead illumination. You may require two ‘Stop-works’ signs in circumstances such as manoeuvring plant or works vehicles.



Road closures

In order to carry out work safely, on occasion it may be necessary to close a road to traffic. Before closing a road (in either direction) you must consider the following three key elements:





1 Planning

Careful consideration should be given to the impact of the closure. You should consider the character of the road (type, size, volume and speed of traffic), locality and available diversions.

2 Traffic management

The relevant highway authority may require a traffic management plan which should detail the following:

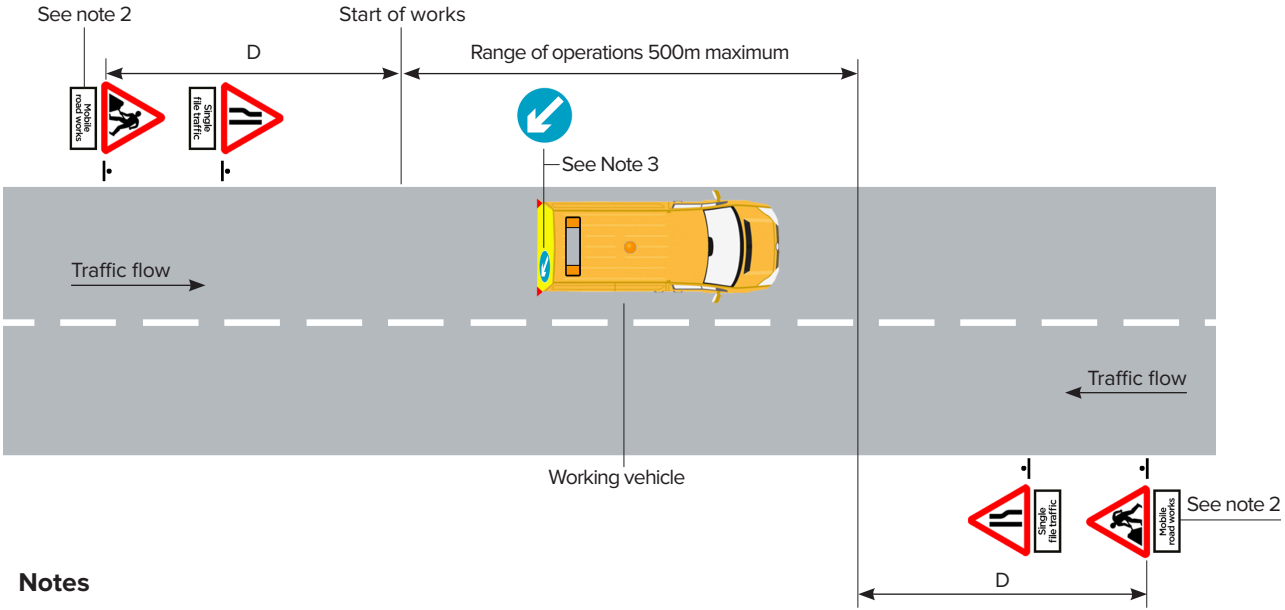
- roads to be closed
- pedestrian and vulnerable user access
- temporary and suspended parking
- temporary signage
- diversion routes
- residential access
- bus stop and taxi rank restriction or relocation
- refuse collection schedule

3 Consultation and publicity

It is essential to engage with local service providers (such as the bus company, etc.) and businesses affected by the closure. Unfamiliar changes of traffic flow increase the risk to the public, therefore, you should ensure, through general publicity (advertising, social media, parish publications, roadside notices, letter drops, etc.) and site signage that the public understand the changes.

Mobile works on a single carriageway

Mobile works are carried out from a works vehicle moving significantly slower than the prevailing traffic and involve continuous mobile operations. Mobile works will include activities such as grass cutting, hedge cutting and weed spraying, etc.

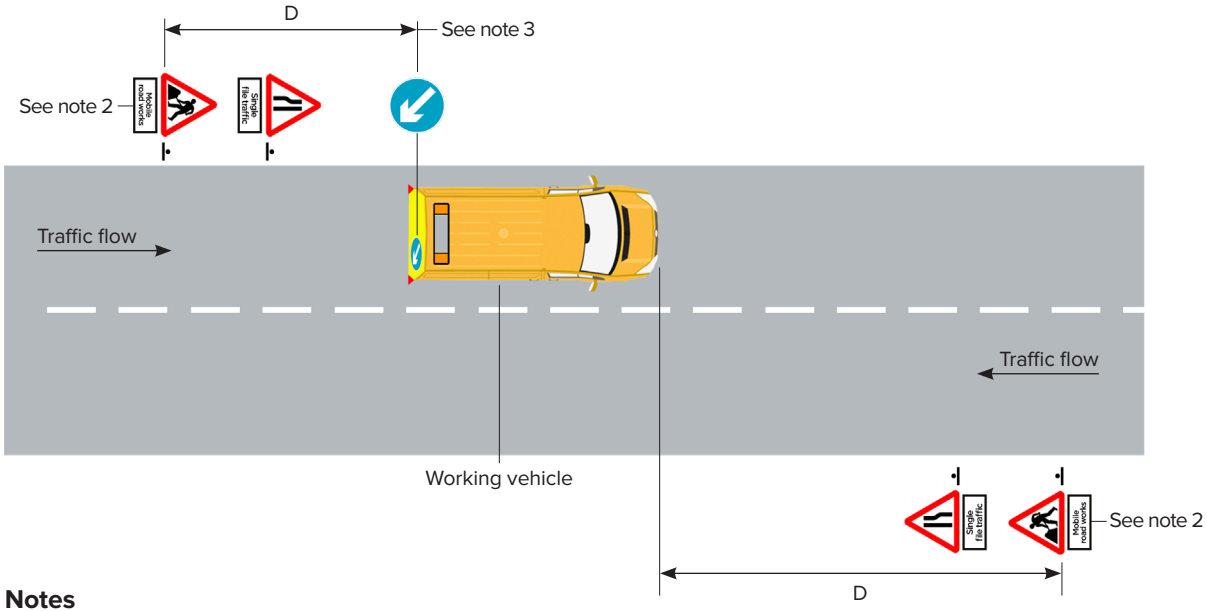


Notes

1. For dimension D see set-out distance table on page 69 (inside back cover).
2. Any variants of this sign should only be used with the approval of the highway authority.
3. If the risk assessment requires signs on the works vehicle, they must comply with the Traffic Signs Order (www.jerseylaw.je).

Short-duration works on a single carriageway

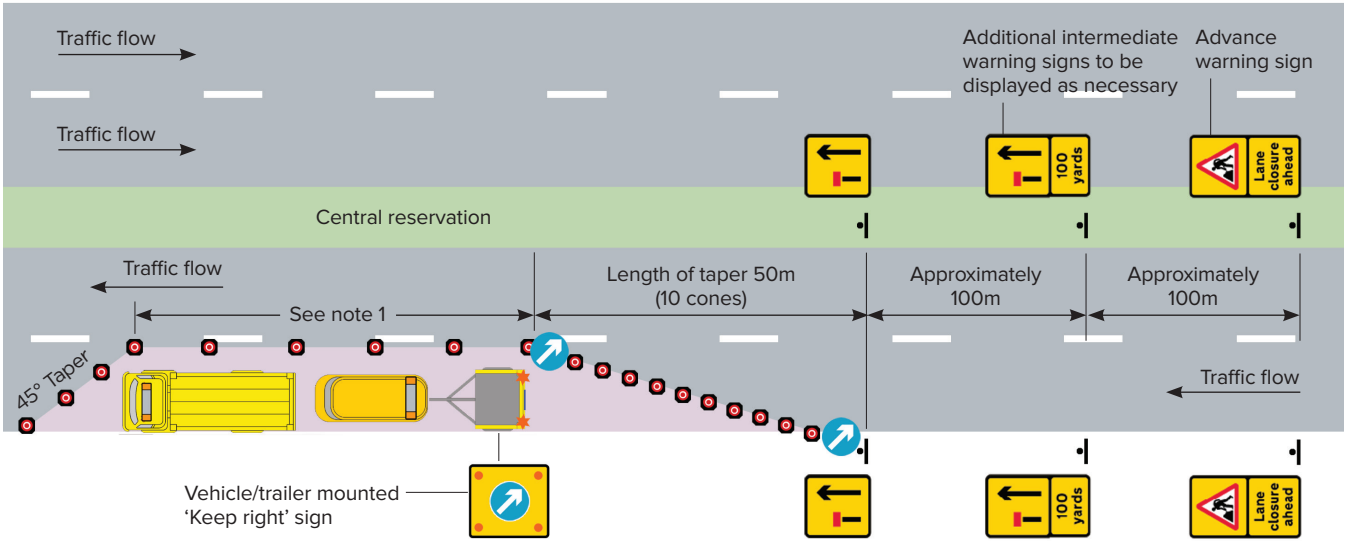
Short-duration works involve intermittent stops of up to 60 minutes during off-peak times. These could include activities such as street light maintenance, road markings, temporary pothole repairs, surveys, inspections, tree cutting and drain cleaning, etc. This duration includes the time needed to set up and dismantle signing, lighting and guarding.



Notes

1. For dimension D see set-out distance table on page 69 (inside back cover).
2. Any variants of this sign should only be used with the approval of the highway authority.
3. If the risk assessment requires signs on the works vehicle, they must comply with the Traffic Signs Order (www.jerseylaw.je).

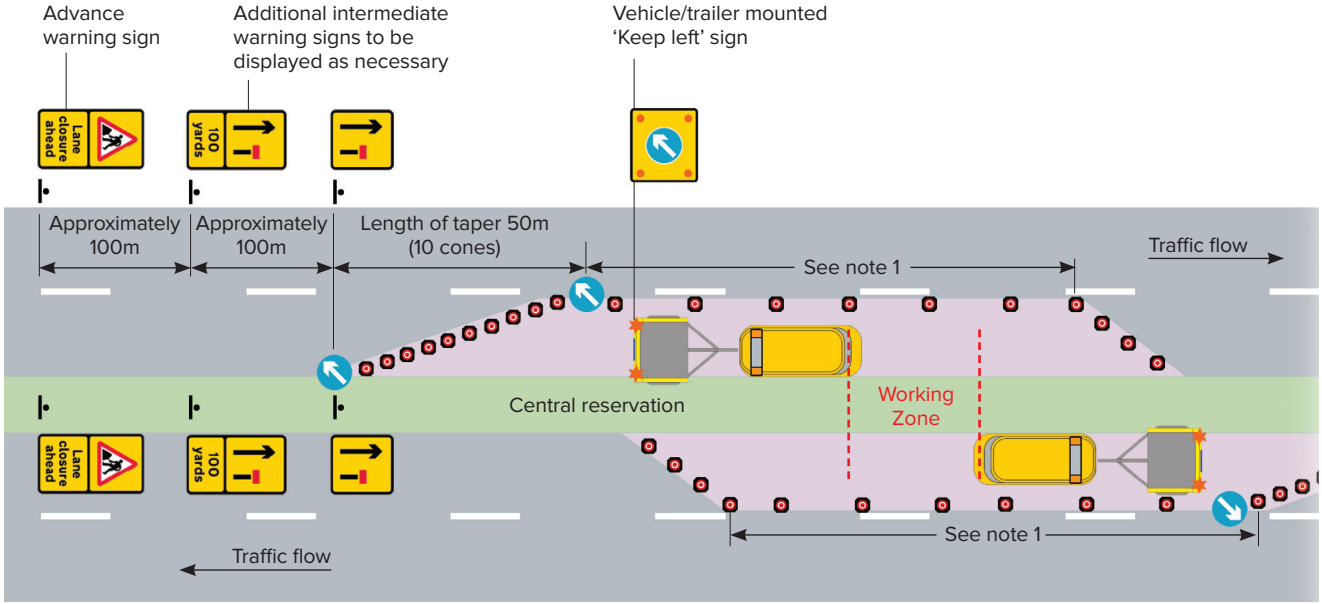
Dual carriageway works on the outside lane (e.g. Victoria Avenue)



Notes

1. The recommended maximum length of the working zone is 100m and the recommended longitudinal cone spacing is 6m.
2. Signs imposing a 20mph part-time speed limit may also be displayed.
3. An information board (omitted here for clarity) must be displayed if unattended (see page 58).

Dual carriageway works on the central reservation (e.g. Victoria Avenue)



Notes

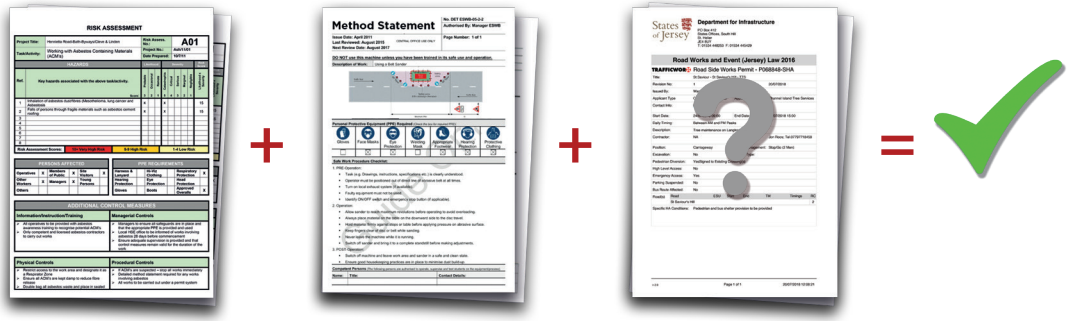
1. The recommended maximum length of the working zone is 100m and the recommended longitudinal cone spacing is 6m.
2. Signs imposing a 20mph part-time speed limit may also be displayed.
3. An information board (omitted here for clarity) must be displayed if unattended (see page 58).
4. Equipment requirements are the same for both approaches

Section 10 - Before going to site

Before going to site and starting works, ensure that you have reviewed the site specific risk assessment and safe work method statement. You will also need to check whether a road works permit is required (from the relevant highway authority) as this may be necessary, depending on the type and nature of the works.

You need to be aware of the site's specific risks and pay attention to any permit conditions set by the highway authority. In addition, make sure that you are familiar with the parts of the Code relevant to the type of works you are undertaking. If in doubt, check with your works supervisor or the highway authority. From this information you will be able to decide what equipment you need to sign, light and guard the works correctly, together with any other safety equipment you may need (e.g. temporary ramps, cable trays, etc.).

Risk Assessment + Method Statement + Road Works Permit =



Caution: consult the supervisor at times of poor visibility or bad weather, as you may need to provide additional signs and warning lights or suspend the work.

Section 11 - Setting out the works

Parking

On arrival, you must park your works vehicle safely before you unload or set out signs. Ideally this should be off the road or in a roadside parking space. If parking on the road, do not obstruct the footway or any cycle lane and respect access to premises (i.e. driveways). You must also ensure that the works vehicle does not obstruct any traffic signs or traffic signal heads.

Turn on your roof-mounted amber beacons and make sure that the vehicle can be seen clearly by other road users.

Sequence for setting out signs

When setting out signing, lighting and guarding on the road, you are at increased risk from traffic so care is needed to ensure that you can see the traffic and that traffic can see you. Make sure that you are wearing your Class 3 high visibility clothing (see page 21) before leaving the vehicle and exit from the passenger side rather than into the traffic.

When setting out the works you should face oncoming traffic and take particular care when crossing the road to place signs. To avoid distraction, mobile phones (including hands free), radios or other devices should not be used during this operation.

You should follow the basic sequence below:



1) Set up the ‘Keep right’ sign

If you park on the road, your vehicle must be protected from passing traffic. Therefore, you must first set up a ‘Keep right’ sign behind the rear right corner of the vehicle along with a traffic cone.



2) Set up the (near side) ‘Road works ahead’ sign

Set out the lead ‘Road works ahead’ sign, pacing out the distance from the start of the coned lead-in taper. Always do this facing the traffic.



3) Set up the (near side) ‘Road narrows ahead’ sign

Work back towards your vehicle, placing the ‘Road narrows ahead’ sign at a distance that is half way to the start of the coned lead-in taper. Walk on the verge or footway if you can.

If you are on a two-way road repeat this procedure and place signs for traffic going in the opposite direction.

If stop/go boards (or portable traffic signals) are needed, start using them now.



4) Cone off the vehicle (or work area)

Always face the traffic when you set out the cones for the lead-in taper. Start from the kerb/road edge, leaving enough sideways room for working space, temporary walkway (if needed) and a 0.5m safety zone. If it is low light, put on the cone mounted warning lights. Set out the temporary walkway (using pedestrian barriers) before you close any existing footway or road side route.

Key questions: Now that you have set up, take a second look and ask yourself the key questions on pages 6 and 7.

When you need to remove the signs, reverse the procedure shown here.

Section 12 - Site management

You should ensure that all signing, lighting and guarding are correctly in place, undamaged, clean and still fit for purpose every time you start work, at regular intervals and before you leave the site each day. Always ask yourself the key questions on pages 6 and 7.

Site information board

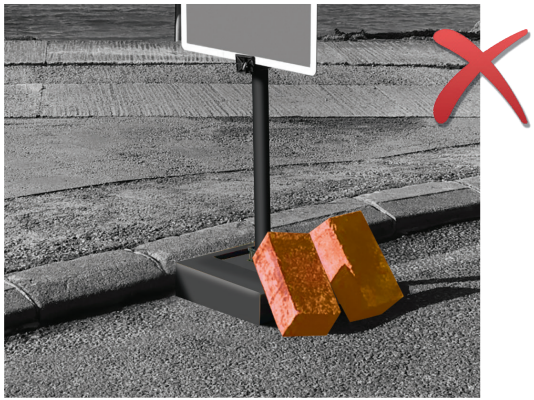
A site information board must be displayed at all unattended road work sites.



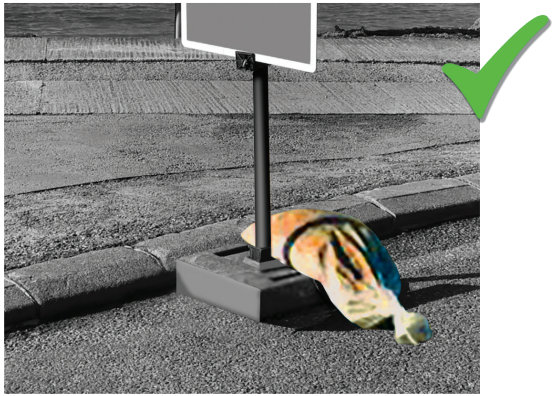
Board Dimensions:	Typically 750mm wide x 500mm high
Colours:	Black on Yellow
Font:	Transport
Font X-Heights:	Typically 40 - 50mm (title) and 30 - 50mm (enquiries)
Reflectorisation:	Not required
Mounting:	Sign board, fixed to cone, barrier or on own mounting frame/pole
Location:	This board should be placed so that it does not obstruct footways or carriageways but can be clearly read by pedestrians, and any drivers who have stopped close to the board.
Timing:	Erected when works are unattended

Fixing of signing, lighting and guarding

Signing, lighting and guarding equipment must be fixed to prevent it from being blown over by the wind or knocked out of position by passing vehicles. The use of equipment with built-in weights is recommended. Alternatively you may use sacks containing suitable granular material placed at low level.



Not acceptable



Acceptable

Warning: you must not use blocks, kerb stones, spoil, road pins or similar objects for the purpose of securing road signs and barriers as they could create a danger to yourself and road users if struck by a vehicle.

Checks before leaving site

Before leaving site address any hazards, e.g.:

- remove or securely immobilise all plant and machinery
- make sure anything left on site is stored in a tidy manner and in such a way that it cannot fall, be knocked over or tampered with
- remove as much equipment and material as possible
- erect a site information board (see page 58)

Also remember to ask yourself the key questions on pages 6 and 7.

Unattended sites

Sites that are unattended will require the traffic management and site security to be checked, maintained and recorded **at least once every 24 hours**. However, the actual frequency will depend on the risk factors and issues set out below:

- how busy the area is
- how well lit the area is
- adverse weather conditions
- where vandalism is found to be a problem
- the results of previous checks



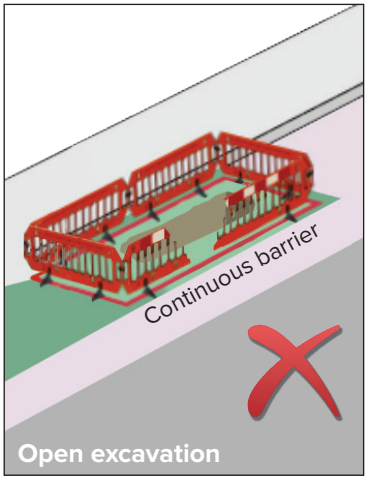
You should give particular consideration to the following high risk situations, e.g.:

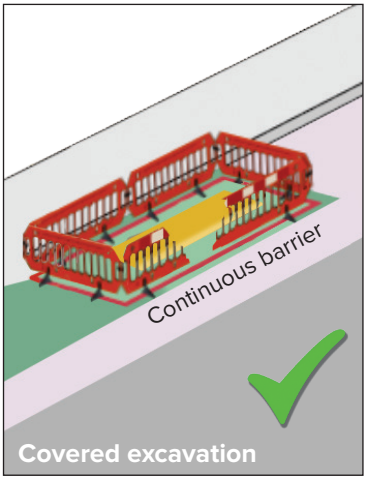
- outside a licensed premises or event venue
- nearby a medical centre or residential home
- nearby a school, nursery or playground
- where there is a deep excavation
- where there are exposed utility apparatus

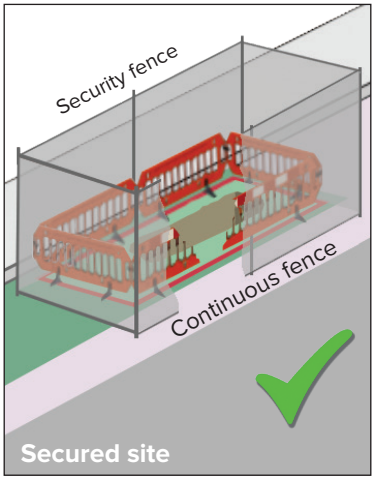
If an unattended site contains an open excavation see pages 61 to 63.

Covers over excavations (unattended sites continued)

When leaving a site unattended, temporary covers should be placed over any excavation to prevent a person from falling should the site barriers be breached or removed without permission. If this is impractical then a security fence should be placed around the site as shown below (cones, signs and other safety equipment is omitted in the illustrations below for clarity). It is up to the works supervisor to assess this risk.







Covers over excavations:

- must extend the full width of the excavation. If this is not possible then a security fence should be placed around the site
- must be capable of preventing a person from falling into the excavation
- may require ballasting or fixing in place to prevent displacement by the wind

Road plates (unattended sites continued)

You may require road plates to bridge over excavations in order to open the carriageway to traffic, e.g. during traffic-sensitive periods, at night or on weekends. The use of road plates must be approved by the highway authority. An assessment will be required to identify the appropriate size, thickness of plate and fixing method.

The requirements for the use of road plates are as follows:

- the plate must be made of suitable material with an appropriate skid-resistant surface
- the plate must have either chamfered edges, bitumen ramps, or be sunk into the road surface
- where ramps exceed 15mm in height, appropriate ramp warning signs should be used
- the plate must be fully secured to the road surface
- the sides of the excavations must be suitably supported beneath the road plate

As an alternative to plating, a temporary surface should be considered (see page 63).



Large embedded road plate



Self-bracing segmented trench plate

Warning: the use of the road plate must not present a hazard to cyclists or motorcyclists.

Temporary surface (unattended sites continued)

You may require a temporary surface (instead of road plates) in order to open the carriageway to traffic, e.g. during traffic-sensitive periods, at night or on weekends. The use of temporary surfaces must be approved by the highway authority. An assessment will be required to identify the appropriate 'bound' surface material, based on the likely duration that the temporary surface will be needed.



Unbound surface material
(e.g. excavated material, hogging or sand)



Bound surface material
(e.g. bitumen or cement bound)

Note: any use of a temporary surface will require regular inspections and monitoring to ensure that it continues to provide a safe road surface.

Warning: the use of a temporary surface must not present a hazard to cyclists or motorcyclists. Under no circumstances can an unbound surface material be used as this will fail unpredictably.

Removing the works

If portable traffic signals are no longer required, they should be switched off and turned away from traffic. If other traffic control is removed or altered during the works, surplus signs are to be removed or covered to prevent confusion.

Signs should not be laid flat as they may cause a trip hazard and members of the public may pick them up again thinking they have been knocked over.

Before removing the signing, lighting and guarding, ensure all materials and equipment are removed and road markings are reinstated, including features to assist people with a disability (e.g. tactile paving, etc.).

Completion confirmation

For road works that require a permit, a notice confirming the completion date and time of the works must be given to the highway authority as soon as it is practical to do so.

Glossary of technical terms

Advance traffic signs	Traffic signage that is set out ahead of the road works to warn drivers of the approaching hazard or restrictions / controls. The lead sign is always the 'Road works ahead' sign - see page 33 and Section 8.
Carriageway	The part of a road for the carriage of motor vehicles.
End sign	A 'Road works ahead' sign with a supplementary end plate demarcating the end of the works. This sign should only be used if requested by the highway authority, generally when works are extended over a significant distance.
Footway	The part of the road for the movement of pedestrians as opposed to the carriageway for motor vehicles.
Lead-in (and Exit) taper	A line of cones tapering out from the kerb at the start (or end) of the working space.
Longways clearance (L)	The longways clearance is an open or unoccupied space between the end of the lead-in taper and the working space and provides a margin of safety for both traffic and operatives.
Passive traffic control	When drivers are expected to pass by the works with caution in accordance with the signage instruction, i.e. to give and take with oncoming traffic or to observe any traffic direction priority rules.
Positive traffic control	The use of traffic signals (e.g. stop/go boards, portable traffic signals, etc.) to give instruction to road users as to which direction of traffic is allowed to pass the works.
Safety zone	Additional clear area around the working space to ensure the safety of the workforce and road users.
Shuttle lane	When works are undertaken and the available road width is narrowed, the remaining unobstructed road width is called the shuttle lane. For traffic control options see Section 9.
Sideways clearance	The part of the safety zone between the working space and moving traffic.
Work area	The work area includes any area of work activity e.g. where there is an open trench or manhole, or where equipment and plant is in use.
Working space	The working space includes the work area (e.g. the excavation or chamber opening) and the space around the work area where it is permitted to store tools, material, equipment and plant.
Works vehicle clearance (C)	A clear area between the back of a works vehicle and work area to provide protection from potential vehicle roll back or shunting.

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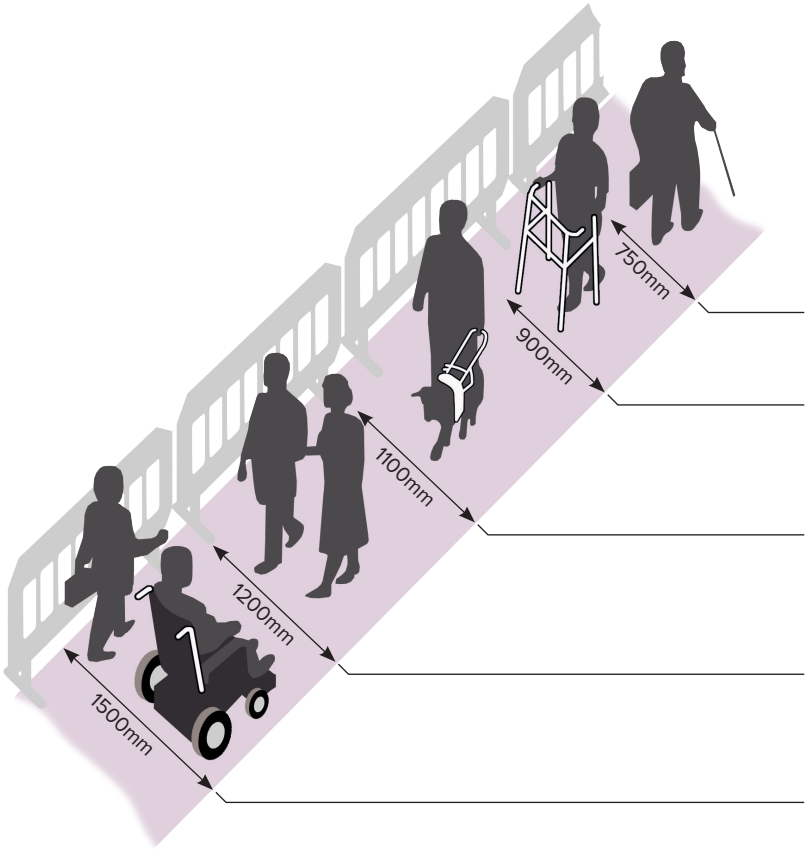
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Notes

Pedestrian route width requirements



Person with walking stick requires 750mm

Person with crutches or walking frame requires 900mm

Blind person with long cane or assistance dog requires 1100mm

A visually impaired person who is being guided requires 1200mm

A wheelchair user and an ambulant person side by side need 1500mm

Set-out distance table

Type of road	Minimum visibility distance to lead sign*	D Distance from lead sign to start of taper	L Minimum longways clearance	C Works vehicle clearance
Single carriageway - speed 30mph or less	50m	20m to 110m	2m	2m
Single carriageway - speed over 30mph	60m	45m to 110m	15m	5m
Dual carriageway - for all set-up requirements see pages 52 and 53				
*If there is doubt about the visibility of the lead 'road works ahead' sign you may place an additional sign further ahead of the required lead sign or on the opposite side of the road.				

Notes

1. Lead-in tapers and exit tapers should not be less than 45 degrees.
2. The maximum spacing of cones in the lead-in and exit tapers is 1m. The maximum spacing of cones between the lead-in and exit tapers is 6m.
3. There must be a minimum 0.5m sideways clearance between the edge of the barriered pedestrian route or working space and the cone line where traffic is nearest.
4. All signs used on public roads must be reflectorised, have a minimum sign face of 600mm.
5. When working in low light or poor visibility, all lead-in and exit taper signs and cones must carry a warning light. Warning lights must also be placed between the lead-in taper and exit taper on every second cone. Warning lights must be no more than 1.5m above the road.

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