

Presentation by Joe Smith Commercial Manager



Temporary Traffic Management?



- The Health and Safety at Work, etc. Act 1974 requires all clients, employers and employees to establish and maintain safe systems of work.
- To ensure that your site is safe for everyone that is required to work on your site and to ensure that it is safe for any members of the general public who may have access to your site?
- Under the Construction (Design and Management) Regulations 2015, virtually everyone involved in a construction project has legal duties to plan, co-ordinate and manage health and safety throughout all stages of the project. This Includes Traffic Management Contractors

Whatever your role in construction, CDM aims to improve health and safety in the industry by helping you to:

- Sensibly plan your work so the risks involved are managed from start to finish
- Cooperate and coordinate your work with others
- Communicate this information effectively to those who need to know



- Have the right people for the right job at the right time
- Have the right information about the risks and how they are being managed
- Consult and engage with workers about the risks and how they are being managed



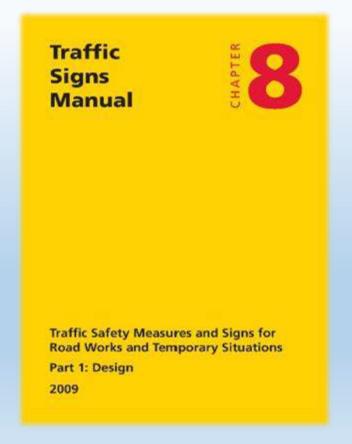
The CDM Regulations 2015 go hand in hand with the Management of Health and Safety at Work Regulations 1999, to ensure good management of the work and prevent accidents and ill health

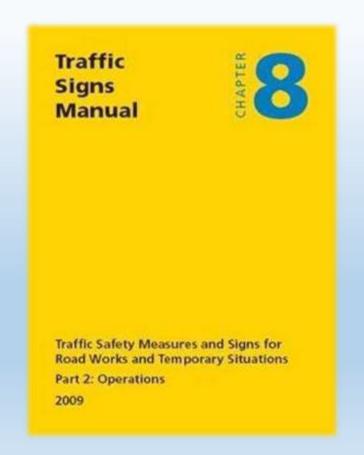
The risks to workers and the public at worksites on or near roads represents one of the highest Work Health and Safety (WHS) risks within the construction industry. (Safety Management Advisory Services Ltd (SMAS) 2023)

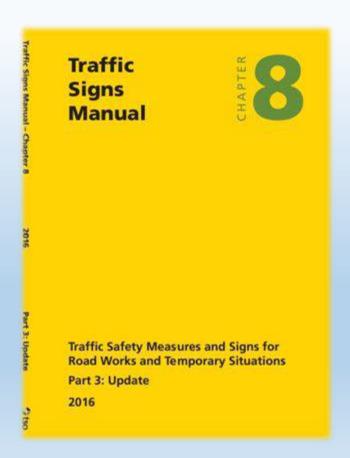
The General Principle for anyone involved in Roadworks is:

- To ensure that people 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 for the general public?'

The guidance for the provision of Temporary Traffic Management (TTM) is laid out in Chapter 8 of the Traffic Signs Manual – A Code of Practice







- Chapter 8 is a code of practice put in place to ensure people who work on the highway and/or maintain the roads, can carry out their jobs safely.
- Chapter 8 is intended to provide a standard of good practice for the signing and marking of obstructions as well as for the temporary traffic control necessitated by such obstructions of the highway.
- Adherence to Chapter 8 of the Traffic Signs Manual may be considered as representing what is reasonably practicable for the enforcement of the Health and Safety at Work etc.

Chapter 8 is the minimum that must be achieved

What is Temporary Traffic Management?



Temporary Traffic Management (TTM) refers to the measures taken to ensure the safe and efficient flow of traffic during road works. It involves implementing various measures to control traffic flow, reduce disruptions, and ensure safety.

TTM involves the effective use of warning signs, signals, barriers, cones and other devices that can be used to guide drivers and pedestrians through work zones, diversions, or other temporary changes to normal traffic patterns.

Effective TTM is crucial for ensuring the safety of road workers, road users and the public, as well as for minimizing disruptions to transportation and commerce.

What is Temporary Traffic Management?

TTM ranges from the most simple to the complex and a whole host of others in between.

- Give & Take System
 - Priority System
 - Potable Traffic Signals
 - Speed Reduction & Convoy Working
 - Road Closure with Diversion and/or One-Way Traffic
 - 'Stop Works' Sign 2 Minute Delay
 - Temporary Obstruction Sign 15 Minute Delay
 - Stop & Go

Traffic Signs Manual: Chapter 8 - Part 1: Design

Chapter 8 Part 1 is the comprehensive guide for those responsible for the design of temporary traffic management arrangements

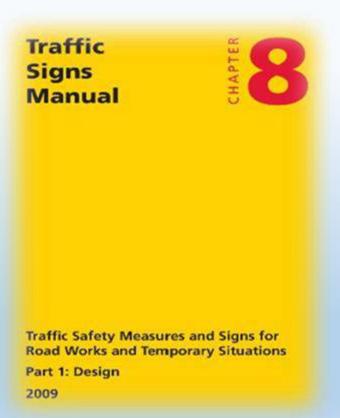
The complexity of traffic management arrangements varies from scheme to scheme

The Primary objective is always:

 To maximise the safety of the workforce and the travelling public.

The secondary objective is:

To keep traffic flowing as freely as possible.



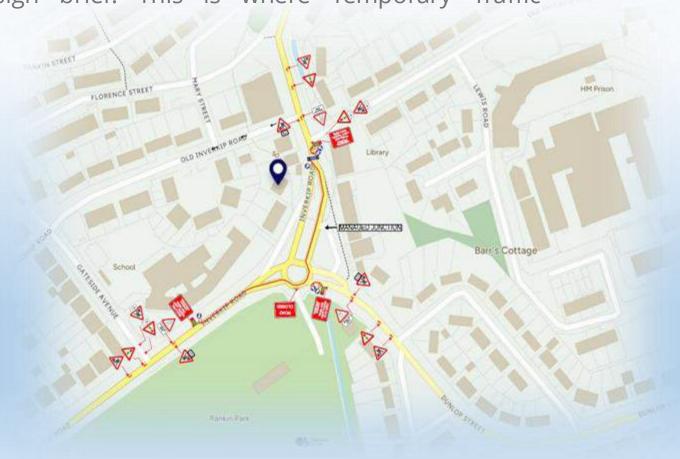
Traffic Signs Manual: Chapter 8 - Part 1: Design

Clients, Project Designers and Main Contractors need to be conscious of these objectives during all stages of the design process, particularly when considering the traffic management requirements of the design brief. This is where Temporary Traffic

Management Suppliers can assist.

 It is vital that risk assessments are carried out at all stages of the development of the project, bearing in mind the potential hazards to the workforce and the public.

 The final traffic management design will see the implementation of the project risk assessment process translated into a safe system of work for both operatives and road users.



Traffic Signs Manual: Chapter 8 - Part 1: Design

Attention must be paid to the needs of pedestrians and other road users. If a direct route cannot reasonably be maintained then robust measures should be put in place to segregate and guide road users as appropriate.

- Designers should be mindful that people may attempt to walk or cycle along routes with which they are familiar, even if their intended passage is made more difficult.
- This often applies when footways and crossing facilities are closed, but there remains a high demand from pedestrians, or
- When cyclists are asked to dismount when they could continue in the carriageway.



Road Network: Temporary Traffic Management (TTM) should be considered to ensure the safe and efficient flow of vehicular and pedestrian traffic during road works.



Construction Site: Temporary Traffic management (TTM) on a construction site is also essential to ensure the safety of workers, visitors, and members of the public, both vehicular and pedestrian.

Emergency Situations: TTM may also be required to assist the emergency services during accidents or emergency situations on the Road Network

Without traffic management systems, roads, footways & construction sites would be hazardous for those carrying out repair works, drainage, maintenance or other construction or utility works and events.



The site location, nature of the works and their duration will determine what if any TTM may be required. However, a site survey will first need to be undertaken to identify the risks associated with:

- Type, classification and speed limit of the road;
- location of junction and approaches to the site, including visibility for traffic;
- Permanent traffic signals and/or existing pedestrian crossings etc;



- Size and shape of the site including the road layout and widths;
 - Volume and type of traffic (including vehicle, pedestrian and cyclist activity);
- A survey will also consider whether permanent markings and signs will need to be altered or removed.

The site survey informs the development of the Temporary Traffic Management Plan and once this is approved by the Client and relevant Roads Authority, the following safety documents can be prepared:

• A Site Quality Plan – A project-specific plan that describes the activities, standards, tools and processes necessary to achieve the quality required for the safe delivery of TTM solution

 A Site Specific Risk Assessment – Is the process of identifying hazards on site. The likelihood of the hazards resulting in harm are then assessed. The amount of risk can then be used to prioritise controls which will reduce the risk of injury.

 A SWMS (Safe Work Method Statement) - A SWM details, step-by-step, how each TTM activity is to be carried out safely.



- As discussed earlier, the CDM Regulations 2015 place specific duties on all CDM duty holders involved in the project, which includes Traffic Management Contractors;
- Each year construction vehicle related accidents account for an average of 10 deaths and hundreds of serious injuries. (Home Builders Federation – Traffic Management Working Group 2020);
- Therefore, its imperative that the planning for temporary traffic management begins **prior** to the start of the construction phase of the project.



The early introduction of Temporary Traffic Management Contractors such as Glenmavis Traffic Management can beneficial, as we can be:



- Provides Home Builders & TM Contractors the ability to manage their work in a safe manner.
- It provides an environment where they can manage safe traffic and pedestrian routes throughout the construction phase and during the client handover period
- The Roads Authority may also impose specific requirements and be aware of constraints that will have a bearing on the management of the site and may influence the traffic management design and associated approvals. These may include the following:



- Minimum carriageway/ lane availability requirements
- Working hours and constraints;
- Production of traffic regulation orders (TTRO'S) for Road Closures and/or Parking Restrictions
- Submission of Temporary Traffic Light Permits
- Co-ordination arrangements with other planned road works and street works (SRWR Requirements)
- Emergency services access requirements



- Incident management arrangements and provisions for vehicle recovery
- Winter maintenance arrangements
- Publicity requirements (e.g. press and advance signing)
- Abnormal loads movement requirements; and
- Vulnerable road users and special needs groups' requirements.



Traffic Signs Manual: Chapter 8 - Part 2: Operations

Chapter 8 Part 2 is the comprehensive guide for the Installation, Maintenance and Removal of TTM arrangements and is founded on the following principles:

- Provision of clear and early warning of obstructions in the highway.
- Optimisation of road space and the provision of an adequate safety zone and working space at works locations;
- Clear directions relating to decisions/actions required from road users;
- Minimisation of potential conflict between road users, and between road users and road workers and their operations;
- Credibility of traffic signs and temporary requirements; and
- Speed limits and restrictions appropriate for the temporary highway geometry and safety features

Traffic Signs Manual



Traffic Safety Measures and Signs for Road Works and Temporary Situations

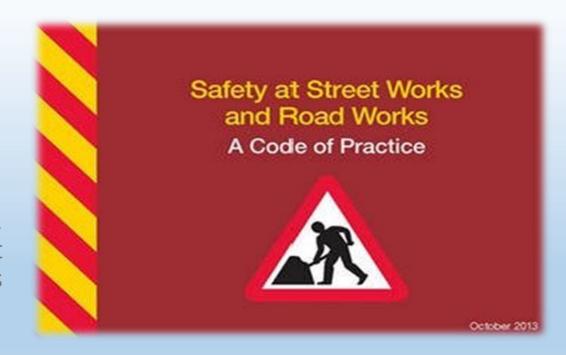
Part 2: Operations

2009

Chapter 8 is supported by the Safety at Street Works and Road Works A Code Of Practice commonly referred to as The Red Book.

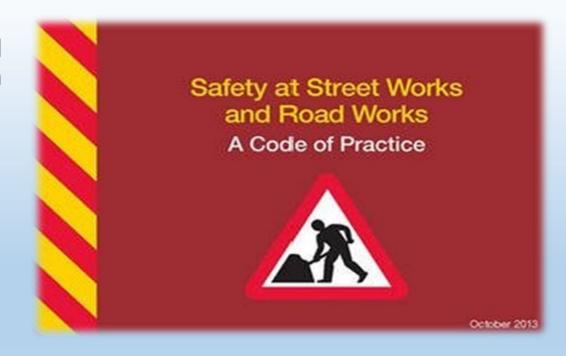
 The Red Book provides guidance on the Installation, Maintenance & Removal of Temporary Traffic Management relating to roads covered by The National Highway Sector Scheme (NHSS) 12D.

 It shows the principles you must follow when signing, lighting and guarding works on all roads, except motorways and any dual carriageways with speed limits of 50 mph or more.



• The Code shows typical layouts, equipment and working methods for each stage of the works from planning through to completion.

 Although, it does not include every situation you could encounter, with the NHSS 12 A, B & C being covered in Chapter 8.



On arrival at site a review the existing risk assessment should be carried out and a dynamic risk assessment of on-site risks being carried out where necessary. This includes assessing:

- Any changes to the road since the previous risk assessment was carried out.
- Any changes to the volume or flow of traffic
- Any changes to the premises affected by the works, such as Schools, Doctor Surgeries, Hospitals and deliveries to shops etc.
- Any change in pedestrian behaviours
- Any other issues which may affect the TTM installation



Basic signs and equipment you will need



Road works ahead



Road narrows on left-hand side ahead



Road narrows on right-hand side ahead



Keep right



Keep left





Traffic cone



Warning light



Typical pedestrian barrier with tapping rail



Typical traffic barrier





Advance signs should be placed so that they:

- Are in the correct sequence;
- Are within the correct distances as shown in table inside back cover;
- Can be clearly seen;
- Cause minimum inconvenience to road and footway users;
- Are at a minimum risk of being struck by vehicles; and
- Cannot be obscured by parked vehicles.



Fixing of signing, lighting and guarding:

- Signing, lighting and guarding equipment must be fixed to prevent it being blown over or out of position by wind or passing vehicles
- The use of sandbags is an accepted method to secure signs, with a minimum of two being placed on each sign

 Items such as Kerbs, Concrete or Road Cones etc should not be used for the purpose of weighting or securing road signs and barriers;



Where there is a grass verge the signs should normally be placed there. Placing signs in the footway is permitted, but they must be positioned so as to minimise inconvenience and so as not to create any hazards

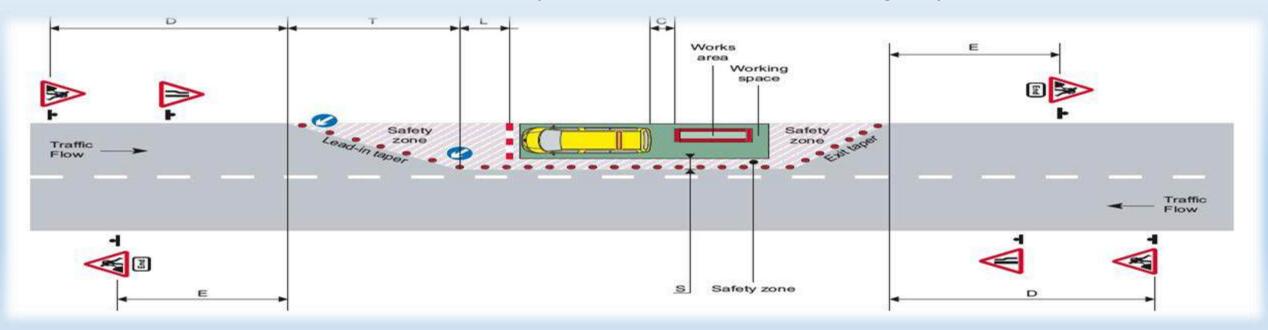
You must also pay particular attention to the needs of disabled people and should also consider other vulnerable groups such as elderly people, children and those with push chairs.

And, you be mindful you don't encourage unsafe road user behaviour, such as pedestrians or cyclists deviating from the desired route.



It is important that the distances, including safety zone dimensions are determined before starting to set the signs out.

- If there is limited visibility on the approach to the proposed works site, e.g. on a bend, on a dip in the road, or on the brow of a hill, you must provide extra advance signs. These extra signs will need to be placed first.
- The table at the back of the Red Book provides details on the statutory requirements



• The table below provides the minimum size of cones and dimensions D, T, C, L, S and E,

Setting out site

(Distances in metres unless stated otherwise, numbers are minimum numbers)

Type of road	distance to sign	D		Lead-in taper						S	E		
		Distance from first sign to start of lead-in taper		Width of works including sideways safety zone				4000	el .	Minimum width of sideways	Distance from last cone to End of	Minimum size of signs	
				1m	2m	3m	4m	5m	6m	7m	safety zone	works sign	(mm)
Single carriageway – speed limit 30 mph or less	60	20 to 45	T Taper length	13	26	39	52	65	78	91	0.5	10 to 30	600
			No of cones	4	4	6	7	9	10	12			
			No of lights	2	-	-	-	-	-	-			
Single carriageway – speed limit 40 mph	T Taper length 20 40 60 80 100 120 140 No of cones 4 6 8 10 13 15 17 No of lights 3 5 7 9 12 14 16	45 to 110	T Taper length	20	40	60	80	100	120	140	0.5	30 to 45	750
			No of cones	4	6	8	10	13	15	17			
Single carriageway – speed limit 50 mph or more	75	275 to 450	T Taper length	25	50	75	100	125	150	175	1.2	30 to 45	750
			No of cones	4	7	10	13	15	18	21			
			No of Ilights	3	6	9	12	14	17	20			
All-purpose dual carriageway – speed limit 40 mph or less	60	110 to 275	T Taper length	25	50	75	100	125	150	175	0.5	30 to 45	750
			No of cones	4	7	10	13	15	18	21			
			No of lights	3	6	9	12	14	17	20			

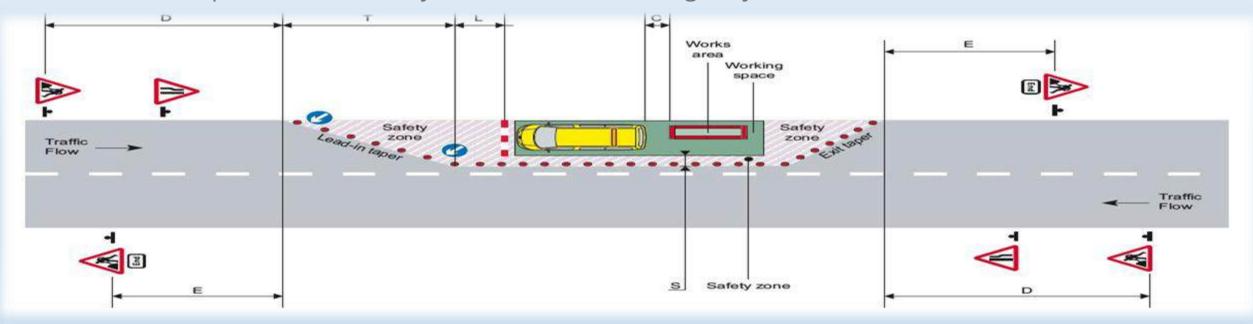
Speed limit mph	20	30	40	50	60
L Longways clearance	0.5	0.5	15	30	60

Speed limit mph	30 or less	40 or more	
C Clearance to works vehicle	2	5	

You must include the works area, working space and safety zone in the area to be marked off with cones and/or barriers. Warning lights should be placed where necessary, And

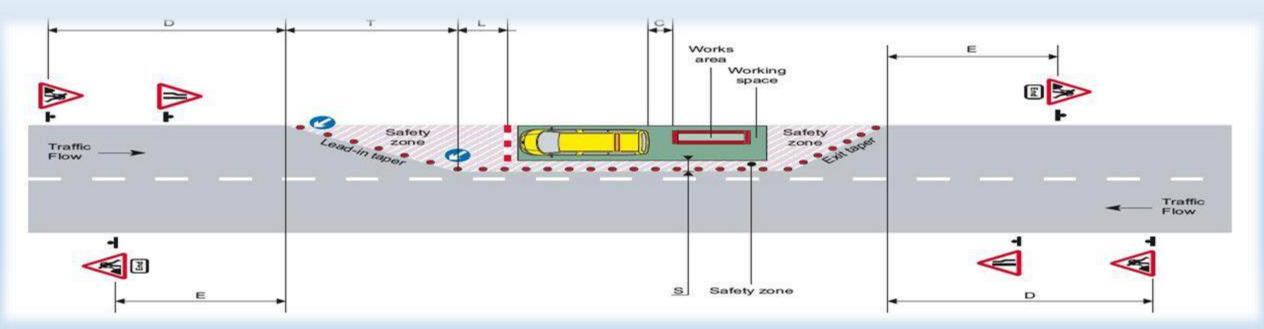
Safety Zones must be provided when

- Operatives are present; or
- A pedestrian walkway is located in the carriageway.



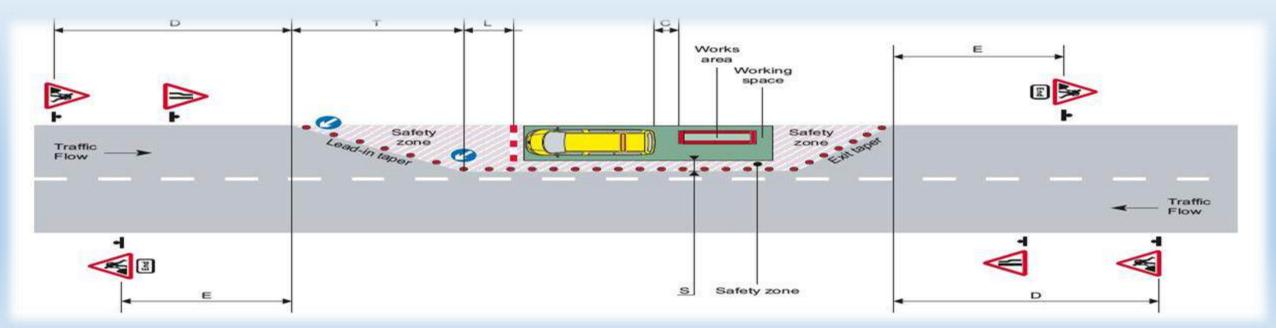
The Working Space:

- The working space includes the works area (e.g. the excavation or chamber opening) and the space around the works area where it is permitted to store tools, excavated material, equipment and plant.
- Where materials or welfare facilities cannot be accommodated within the site, the location and arrangement of the storage area must be agreed with the roads authority.



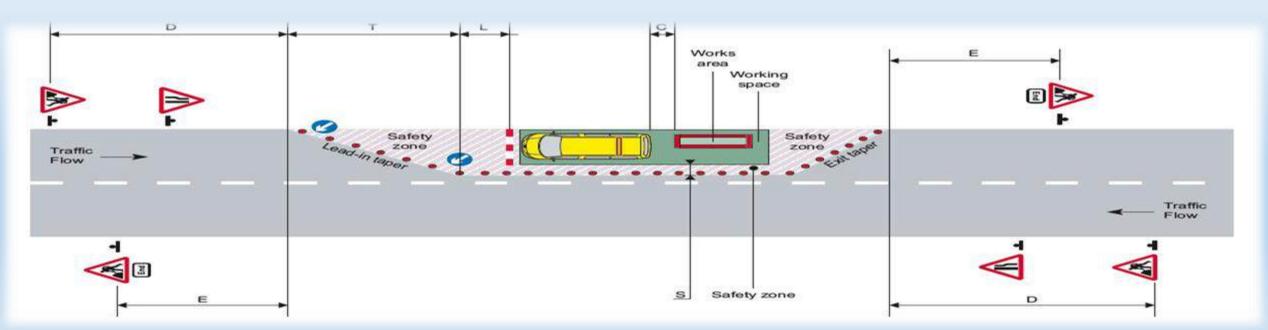
The Safety Zone:

- The safety zone is provided to protect you from traffic and to protect the traffic from you.
- When working in a footway You must provide a safety zone in the carriageway if the working space is closer to the edge of the carriageway than the width of the sideways clearance (S). If cones are placed in the road, advance signing will be required.



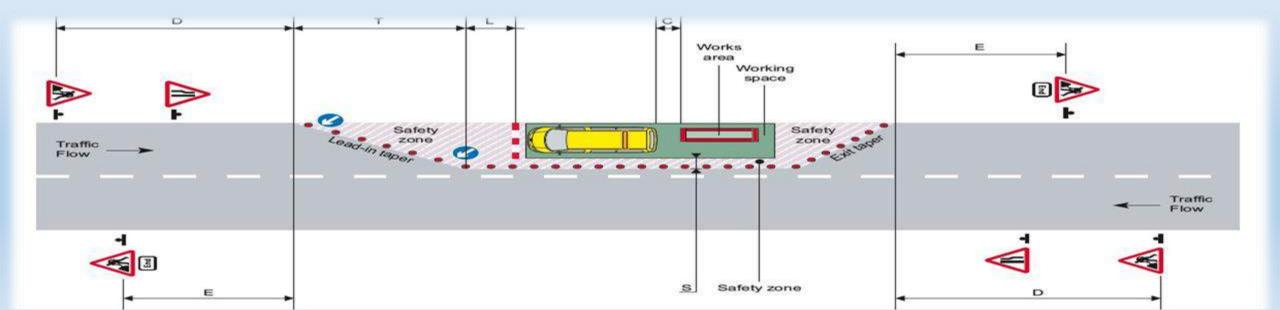
The Safety Zone:

- The basic safety zone including a works vehicle is made up of the lead-in taper (T) whose length will vary with the speed of the road and the width of the works (although a 45° lead-in taper is used for shuttle working and short duration stops);
- The longways clearance (L), which is the distance between the end of the lead-in taper and the first traffic barrier placed across the lane. L will vary with the speed limit;



The Safety Zone:

- The sideways clearance (S), which is the width between the working space (or in some cases, the pedestrian walkway) and moving traffic; and
- The exit taper.
- Materials, equipment and vehicles must not be placed in the Safety Zone.



Traffic control:

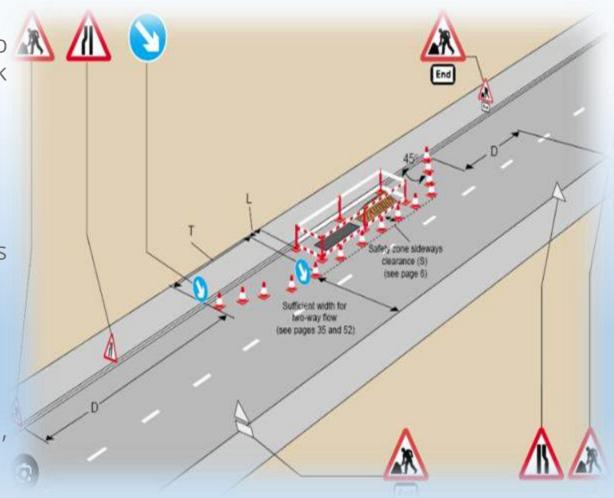
Adequate unobstructed width is required to Allow two-way traffic to flow safely past the work site. Including buses and HGVs?

• 6.75m

Unobstructed widths for Cars and Light Vehicles only?

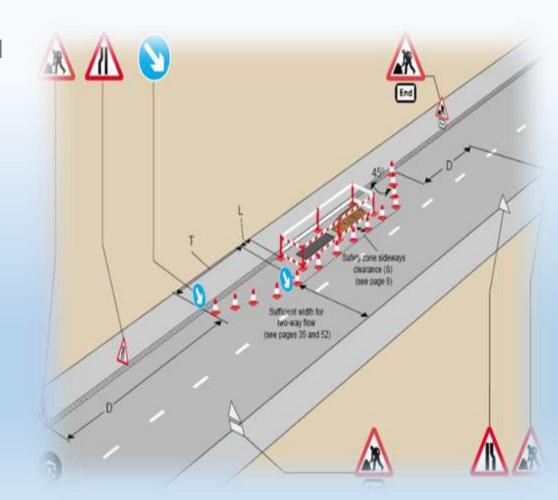
• 5.50m

 Where such widths cannot be provided, appropriate traffic control must be considered.



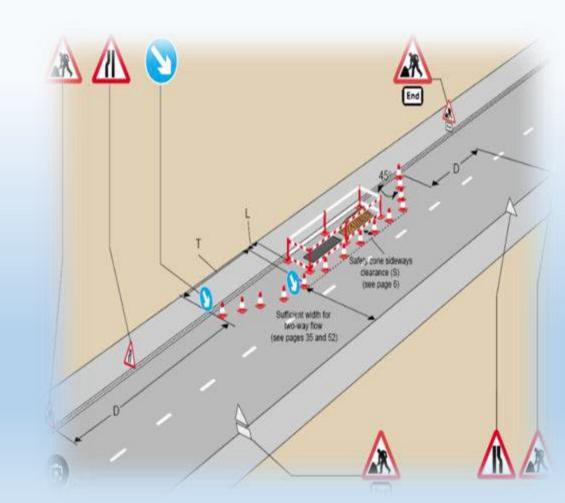
Traffic control:

- The desirable width for shuttle working with normal traffic (i.e. including buses and HGVs?
- 3.25 3.5m
- This range avoids certain widths that create opportunities for unsafe overtaking of cyclists, and is based on Department for Transport guidance
- You can request an absolute Minimum of?
- 3.0m



Traffic control:

- The Desirable width for Cars and Light Vehicles only is?
- 3.25m
- With an absolute Minimum of?
- 2.50m
- If working on the footway a Minimum of?
- 1.50m
- With an absolute Minimum of?
- 1.00m



Traffic Control: A recap on adequate widths for 2 way traffic and where TTM will be required.

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

Choice of traffic control method: For each given method the following conditions must be complied with:

Method	Max speed limit (mph)	Coned area length	Traffic flow (maximum)	Notes
Passive	V/s)	*		
Give and take	30	50 m maximum	20 vehicles over 3 mins and 20 HGVs per hour	Signing as per page 57
Priority	60	80 m maximum	42 vehicles over 3 minutes	Signing as per page 59. Supplementary 'End' plates needed if over 50 m
Positive	NW.			
Stop/Go boards	60	Up to 100 m	70 vehicles/3 mins	Signing as per page 61. Consulyour supervisor, manager or other competent person if greater than 500 m or near a railway level crossing. See also pages 77 to 80.
		Up to 200 m	63 vehicles/3 mins	
		Up to 300 m	53 vehicles/3 mins	
		Up to 400 m	47 vehicles/3 mins	
		Up to 500 m	42 vehicles/3 mins	
Portable traffic signals	60	300 m maximum	No limit	Highway authority permission needed. Signing as per page 65 Consult your supervisor, manager or other competent person if at or near a railway level crossing. See also pages 77 to 80.
Speed reduction	60	N/A	N/A	See page 67.

Choice of traffic control method: For each given method the follow conditions must be complied with:

Method	Max speed limit (mph)	Coned area length	Traffic flow (maximum)	Notes
Convoy working	Temporary limit of 10 mph	N/A	N/A	See convoy working page 68.
Road closure or one-way traffic	60	N/A	N/A	See pages 70 and 71.
'Stop – works' sign	60	N/A	N/A	Max period – 2 mins. See page 72.
'Temporary obstruction' sign	60	N/A	N/A	Max period – 15 mins. See page 73.

Traffic control by Give & Take:

You can use 'give and take' only when all of the following apply:

- The speed limit is 30 mph or less;
- The length of the works from first cone to last cone is 50 metres or less;
- Drivers approaching from either direction can see 50 metres beyond the end of the works;
- Two-way traffic flow is no more than 20 vehicles counted over 3 minutes (400 veh/h); and
- No more than 20 heavy goods vehicles pass the works per hour; and
- Parking near the works, especially in front and opposite is controlled/prohibited, unless visibility or lane width is unaffected.









Traffic control by Priority Signs:

You can use priority signs only when all of the following apply:

- The speed limit is 60 mph or less;
- The length of the works from first cone to last cone is 80 metres or less;
- Two-way traffic flow is no more than 42 vehicles counted over 3 minutes (840 veh/h); and
- Drivers approaching from either direction have visibility before and beyond the works as shown in the attached table

Speed limit of road	Visibility before and beyond works
30 mph or less	60 m
40 mph	70 m
50 mph	80 m
60 mph	100 m

Traffic control Stop & Go Boards:

Remotely controlled Stop/Go boards should be used where possible, although all of the following conditions must be met:

- The distance between the 'Stop/Go' boards is no more than 200 metres;
- The use of the boards is restricted to daylight hours;
- An unobstructed view of both approaches is maintained;
- The operative is less than 100 metres from both boards; and
- Traffic flow is less than 850 veh/h.



Traffic control Stop & Go Boards:

Manually rotated boards should only be used where the operator can be located in a position of safety (which must not be within the safety zone) and only under the following circumstances:

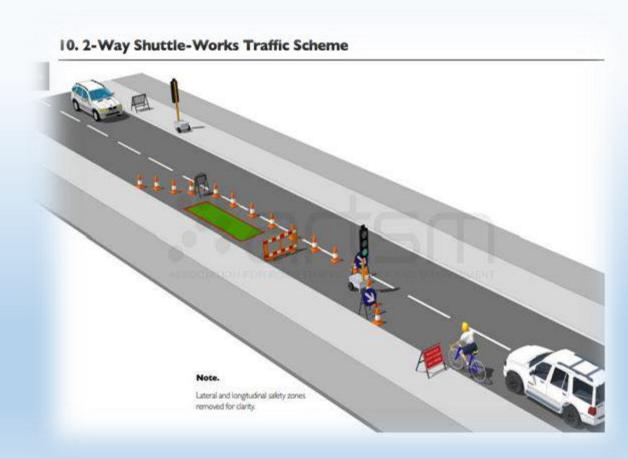
Coned area length (metres)	Maximum two-way traffic flow		
	Vehicles per 3 minutes	Vehicles per hour	
Up to 100	70	1400	
Up to 200	63	1250	
Up to 300	53	1050	
Up to 400	47	950	
Up to 500	42	850	

- If the site length is 20 metres or less then a single board positioned at one end or in the middle may be used, provided that it can be clearly seen from both directions
- Where two boards are in use and the operatives are not in direct line of sight, then two-way radio communication between operators must be used.

Traffic control by portable traffic signals:

 The use of portable traffic signals is a positive method of traffic control that can be appropriate in many environments, 24 hours a day, where works are no more than 300 metres long.

 Signal heads should be placed in a position where they are clearly visible to approaching traffic



Traffic control by portable traffic signals:

 The traffic signals must be vehicle-actuated (unless otherwise instructed by the highway authority);

 The position of bus stops, parking bays and controlled crossings must be considered, and

• Stop/Go boards must be available on site in case of signal failure.



Traffic control by portable traffic signals:

- The use of two-way signals should be avoided when the shuttle section includes a road junction, unless approved by the Roads Authority
- If Approved Traffic Under Signal Control' (TUSC) sign, and 'Joining traffic not signal controlled' on approaches to the junction, must be used
- Three-way or four-way control may be appropriate where a side road junction is within the shuttle length, depending on the level of traffic flow.
- A TTL Permit is approved by the Roads Authority



Convoy using portable traffic signals:

- Where normal traffic management arrangements are not feasible because of restricted highway width, and diversion is impracticable, convoy working may be used.
- Traffic is brought to a halt in advance of the works and is then led slowly in single file past the works by an appropriately signed works vehicle.
- Where there is little or no safety zone clearance, traffic speeds past the working space must be reliably reduced to 10 mph or less, and an agreed safe method of working imposed on the site.
- A TTL Permit is approved by the Roads Authority



Traffic control by portable traffic signals:

An Introduction to the Use of Portable Vehicular Signals, commonly known as the 'Pink Book', has now been withdrawn and has been replaced with the Guidance on Use of Portable Traffic Signals, Edition 1.1 and can be found: ARTSM-Guidance-on-Use-of-Portable-Signals-1-1.pdf



Traffic control by Road Closure & Diversion:

If it is necessary to close a road to vehicular traffic, a Temporary Traffic Regulation Order or Notice will be required

 Advance Warning signs should be installed at least 7 days before the road closure commences

 Additional information should be provided to those directly affected by the road closure.

• This includes bus companies who will have to utilise the diversion route



Traffic control by Road Closure & Diversion:

A risk assessment must be carried out on the diversion route to ensure it is suitable and safe for the diverted traffic.

- Every effort should be made to maintain pedestrian access past the works and to maintain vehicular access to all properties and premises within the closure area.
- Under no circumstances may pedestrian access be completely denied to any property or premises.
- If a safe route past the works for motor vehicles cannot be provided, consider whether there is sufficient room to maintain access for cyclists.



Traffic control by the Stop Works Sign:

The 'Stop – works' sign can only be used to stop vehicular traffic for short periods during works on or near a road, with each period lasting no more than 2 minutes in any 15 minutes.

You can only use the 'Stop – works' sign when the road is single carriageway and the minimum clear visibility for drivers to the sign is:

- 60 metres for speed limits of 40 mph or less;
- 75 metres for speed limits of 50 mph or more.

Traffic control ahead' signs must be positioned on both approaches when any of the following conditions apply:

- the two-way traffic is greater than 20 vehicles counted over 3 minutes (400 veh/h); or;
- bends in the road or other obstructions affect visibility; or
- the speed limit is 50 mph or more.



Traffic control by the Temporary Obstruction Sign:

Traffic Management by Temporary Obstruction can only be utilised when all the following apply:

- No alternative method of operation is practicable;
- The method is approved by the Roads Authority
- Traffic is delayed for no more than 15 minutes and there is at least one hour between delays;
- The 'Temporary obstruction' sign is placed within sight of the obstruction; and
- The road can be opened immediately for any emergencies or on request by the Roads Authority





AREWE?







- Glenmavis Traffic Management emerged from Glenmavis Kerbing who were a small Civil Engineering Contractor initially established in 1972.
- It was from here that Glenmavis quickly became recognised as a quality contractor within Ayrshire, carrying out kerbing and slabbing works for all the Ayrshire Roads Authorities within Strathclyde Regional Council.





- Glenmavis Traffic Management was later established in 2013, with the Goal to deliver a 'Best in Class' Temporary Traffic Management Service to our Clients, through our professional, innovative, and a customer-centric based approach to service delivery.
- We are a family owned business that promotes family values throughout our workforce, and
- We are an Equal Opportunities and Living Wage employer that promotes diversity in the workforce. In fact this is something that we actively encourage.



- We operate a Quality Management System Certified to 9001:2015 and the National Highways Sector Schemes 12A, B & D, providing the full spectrum of traffic management services, for High Speed Roads, Street Works and Event Traffic Management.
- As an SME, we currently have around 25 employees who work closely with our Clients who range from Local Authorities, Leading Civil Engineering & Construction Companies and Utility Companies.
- In addition we also provide temporary traffic management solutions for large sporting events and television production companies.







Business Strategy

Glenmavis Traffic Management Ltd is a forward-thinking organisation with a business strategy focussed on 'Growth'









Business Strategy

We also have a desire to become a 'Market Leader'

Delivering a 'Best in Class' Service to all our Clients







Best-in-Class

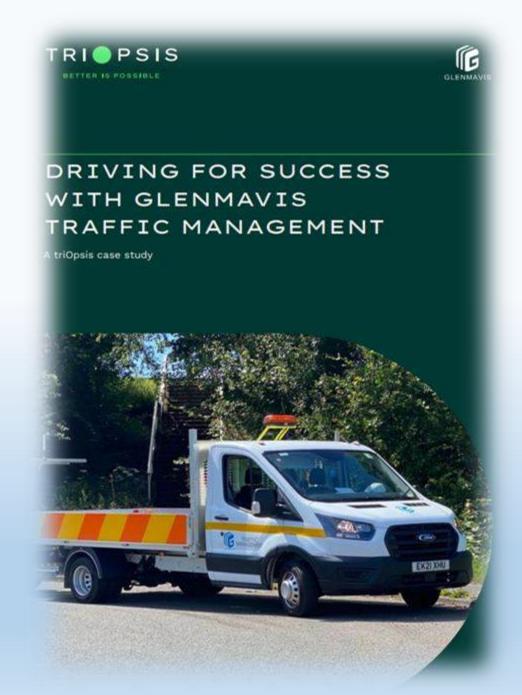
- Customer Service
 - High on Quality
 - High on Performance
 - High on Reliability
 - Low on Cost





Continuous Development

Glenmavis Traffic Management has new electronic works management system (TriOpsis) with inbuilt Customer Relationship Management (CRM) Platform.







Email: info@glenmavis.org

Website: www.info@glenmavis.org





Thanks for listening

Questions