

# STANDARD FOR TRAFFIC MANAGEMENT

*The agreed standards expected to be met or exceeded by all those with traffic management responsibilities whilst engaged on HBF charter signatory organisation home build activities.*



## KEY OUTPUTS

- **Traffic Management must be embedded at design stage in order to implement the hierarchy of safety systems at all stages**
- **Ensure the safety of the public as well as site workers is implemented at the start and throughout all projects**
- **Plan and agree safe location of storage areas / compound and requirement for any temporary haul roads.**
- **Implement the safe segregation of plant and people on site at all times.**
- **Safe serviceability – identify safe loading bay locations and safe accessibility to plots under construction for all site personnel**

## INTRODUCTION

Accidents caused by inadequate traffic management arrangements can occur throughout the construction process from the start of ground works through to site completion. Each year construction vehicle related accidents account for an average of 10 deaths and hundreds of serious injuries. Construction Managers, operatives, site visitors and members of the public can all be at risk if construction vehicle activities are not properly managed and controlled. This document aims to set standards which if adopted will help to identify and control hazards and reduce the risks that arise from the use of vehicles in the construction industry.

Much of the occupational health and safety law relating to construction transport operations is qualified by the term “so far as is reasonably practicable”. The control measures required in a specific situation will be in direct relation to the extent and nature of the risks involved.

Most construction transport accidents result from inadequate segregation of pedestrians and vehicles. This can usually be avoided by careful planning and by controlling vehicle operations during construction work. Successful management of construction vehicle activities is based on the provision and maintenance of safe workplaces, safe vehicles, safe drivers, and safe work practices. Risk assessment is an essential part of effective health and safety management.

Planning for traffic management must begin prior to the start of the construction phase; the CDM Regulations place specific duties on all CDM duty holders including the Client, Principal Designers, Designers and Each year construction vehicle related accidents account for an average of 10 deaths and hundreds of serious injuries. Contractors to manage construction work in a safe manner, this includes the need to provide and manage safe traffic and pedestrian routes throughout the construction phase and during the client handover period.



## PURPOSE

The purpose of the Traffic Management Working Group is to:

- Review existing develop traffic management (vehicle movements, pedestrian segregation, and associated topics)
- Develop guidance around a base line standard of HBF expectations for site traffic and pedestrian management arrangements

## RELEVANT LEGISLATION & GUIDANCE.

### Legislation

1. Health and Safety at Work Act 1974
2. Management of Health and Safety at Work Regulations 1999
3. Construction (Design and Management) Regulations 2015
  4. Supply of Machinery (Safety) Regulations 2008
5. Provision and Use of Work Equipment 1998
6. The Work at Height Regulations 2005

### Guidance

1. HSG 144 The Safe Use of Vehicles on Construction Sites (**UNDER REVIEW 2017**)
2. Safety at Street Works and Road Works – A Code of Practice.

## KEY DUTY HOLDERS RESPONSIBILITIES

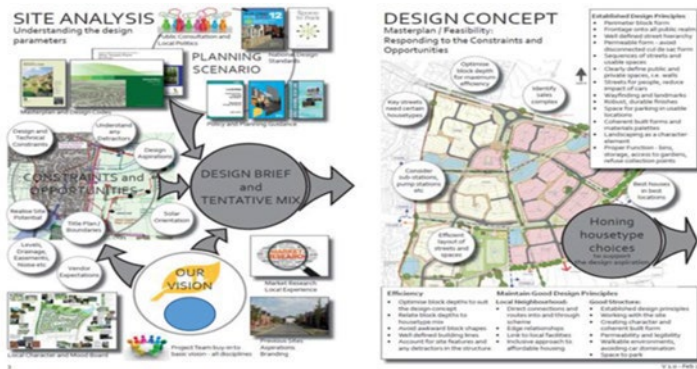
### Designers

Designers need to examine, assess, and reduce the risks associated with their designs. Consideration of the following measures at the design stage can assist safe site vehicle operations:

- a) allowing space around structures and site boundaries for safe traffic movement (**Examples below**)



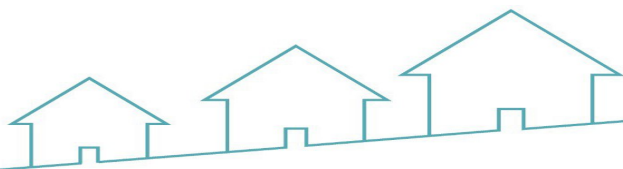
- b) designing one-way systems and drive through areas to reduce the need for reversing
- c) removing hazardous gradients and embankments
- d) specifying suitable profiles, surfaces and traffic management for site roads, and the early installation of permanent roads with safe site access to and from the public highway
- e) consider how site traffic routes can avoid hazards such as overhead and buried services, railway lines etc and how routes need to change as work progresses on site
- f) indicating the maximum loading limits of floors used by vehicles, particularly during construction, demolition, and refurbishment
- g) relocating or protecting vulnerable services such as gas pipes and electricity cables
- h) passing information on features of the design presenting significant transport risks to the Principal Designer for inclusion in the project information pack



### Principal Designer

Principal Designer's should ensure that project designs take account of the issues previously mentioned, and that the project information pack contains information on specific transport risks. The Construction Phase Plan will need to provide information on factors such as:

- a) phasing works to minimise risk to the public and allow a safe occupation strategy (**Examples below**)
- b) local or statutory restrictions e.g. In relation to access on and off the public highway.
- c) a constraints plan is needed for each site to establish potential delays that could affect a build programme.





### Principal Contractors

Principal Contractors should ensure the safe management of pedestrian and vehicle movements on and off site. Key tasks for principal contractors include:

- a) planning work, preparing method statements, and detailing safe systems of work to workers
- b) implementing systems of work which ensure that pedestrians and vehicles are kept apart as far as possible
- c) ensuring subcontractors make adequate provision for the selection and supervision of drivers and general vehicle safety
- d) making specific reference to vehicle safety in the construction phase health and safety plan, including emergency procedures, vehicle access and site rules
- e) setting standards for driver competence, vehicle safety and maintenance, and maintaining a site register of authorised drivers
- f) ensuring co-ordination and co-operation between contractors
- g) co-ordinating the views of safety representatives and site operatives
- h) ensuring all workers receive site induction training and toolbox talks covering safe traffic routes and site rules for operating vehicles
- i) establishing safety monitoring procedures for the use of vehicles on site e.g. Checking vehicle maintenance, key custody and permit to work systems, driver's work practices and the use of high visibility clothing
- j) reviewing the health and safety performance of everyone on site.

Compliance with the site rules needs to be monitored and positive action taken when they are breached. Appropriate disciplinary action may be necessary against contractors and individuals who ignore site rules.

### Contractors

Contractors should assess and minimise the transport risks associated with their work, institute safe systems of work, and follow the site rules and guidance applicable to them.




**Remember, construction vehicles can kill! Construction vehicle accidents are preventable by effective management.**

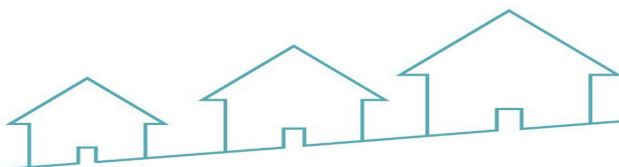
To prevent death and injury ensure that you have:

- a) a safe workplace
- b) safe vehicles
- c) safe drivers, driving and work practices.



Further information and advice on Traffic Management on Construction Sites can be found in the HSE document HSG 144 (second edition published in 2009) which is available from the HSE web site. *(under review 2017)*

**CONSTRUCTION TRAFFIC MANAGEMENT - Hierarchy of controls**


Heading/Element	Principal Considerations	Further Considerations and good practice images
Pedestrian and Vehicle separation	<ul style="list-style-type: none"> <li>a) Pedestrian only areas from which vehicles are excluded</li> <li>b) Safe designated pedestrian routes to work locations and emergency assembly points</li> <li>c) Vehicle only areas, especially where space is limited or traffic heavy</li> <li>d) Safe vehicle routes on and around the site</li> <li>e) Safe designated signed site entry and crossing points</li> <li>f) designated parking areas</li> </ul>	





<p>Pedestrian Routes</p>	<ul style="list-style-type: none"> <li>a) must be clearly separated from vehicle routes by substantial barriers and/or kerbs, or other suitable means</li> <li>b) be wide enough to safely accommodate the number of people likely to use them at peak times</li> <li>c) allow safe access routes to work and emergency assembly areas</li> <li>d) be kept clear of obstructions and trip hazards</li> <li>e) be clearly signed</li> <li>f) ensure pedestrian safety where they cross main traffic routes by providing designated crossing points with adequate signage</li> </ul>	
<p>Methods of Segregation</p>	<p>Alongside main vehicle routes Heras fencing weighted (water filled) linked plastic barriers or linked metal barriers are the approved methods of segregating vehicles from pedestrians. At points where large numbers of pedestrians' cross busy vehicle routes, e.g. near site welfare facilities, appropriate traffic control measures shall be implemented, such as designated pedestrian crossing points and traffic control systems. Vehicle movements around the site can be restricted to specified times. In some circumstances it may not be reasonably practicable to achieve physical</p>	





	<p>segregation between pedestrians and vehicles, for example during infrequent, short duration, low risk unloading operations. In such cases signallers and safe systems of work should be used to control vehicle and pedestrian movements.</p> <p>A Safe system of work should ensure that:</p> <ul style="list-style-type: none"> <li>a) drivers and signallers are always in contact</li> <li>b) drivers and signallers understand the appropriate signs, signals, and siterules</li> <li>c) the signaller controls the vehicle movements and gives clear warnings of pedestrians</li> </ul> <p>On pedestrian routes that are not alongside the main vehicle route linked plastic barriers, post and rail barriers or orange net fencing will give adequate separation.</p>	
<p>Vehicle Routes</p>	<p>On site: establish vehicle routes which:</p> <ul style="list-style-type: none"> <li>a) are segregated from pedestrian routes by suitable robust barriers</li> <li>b) wherever possible minimise the need for reversing operations with one-way systems and turning points</li> </ul>	<p>Where vehicle routes cannot totally avoid hazards to construction vehicle operations, measures shall be taken to reduce and control the risk present to an acceptable</p>

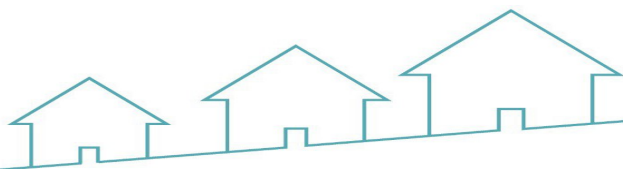




	<p>c) are adequate for the number, type and size of the largest vehicles that may use them</p> <p>d) have firm surfaces, adequate drainage, and safe profiles to allow safe vehicle movements</p> <p>e) are kept clear of obstructions and other hazards</p> <p>f) avoid steep gradients and tight bends where practical</p> <p>g) avoid hazards such as excavations, edges of structures, buried services and fuel or chemical storage areas</p> <p>h) have the minimum necessary number of junctions</p> <p>i) are clearly signed with signposts and, where appropriate, road markings (e.g. on concrete or tarmac roads) showing the right of way</p> <p>j) have speed limits and speed control measures specific to site conditions and the types of vehicles using the route, for example some lift trucks may be unsuitable for passing over road bumps</p> <p>k) keep site vehicles, delivery vehicles and private vehicles apart, where possible, by establishing private vehicle parking areas, specified delivery routes and storage areas.</p>	<p>level. Signs should be provided to warn pedestrians and drivers of hazards give instructions on safe work practices and indicate the correct routes to follow. Signs and road markings shall be clear and follow the standard road traffic signs.</p> <p>Vehicle reversing operations cause a third of all fatal transport accidents in the construction industry. The most effective way of managing risks from reversing is to avoid the need for reversing manoeuvres by providing one-way systems, turning areas and drive through loading, and unloading areas. When planning and controlling site vehicle operations, the hierarchy of control measures for reversing operations, detailed below, should be followed. Vehicles required to reverse on site should provide adequate visibility around the vehicle for the driver to ensure safety. Safe systems of work need to be devised and followed for all reversing operations, particularly when signallers are used to control third-party risks or assist in the accurate positioning of the vehicle. Warning systems offer the lowest level of protection in the hierarchy and are only appropriate for low risk situations if they are the only precaution used.</p>
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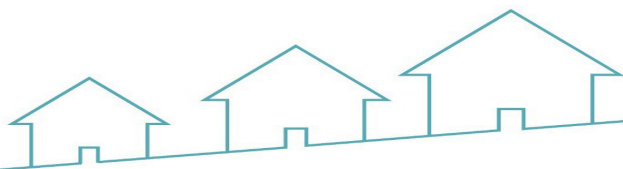
		
<p>Ground Workers Zones</p>	<p>Where practical to do so stage 1 ground works (roads and sewers, foundations, and oversites) operations should be segregated from the main superstructure works taking place. Consider the following control measures to minimise interaction between ground workers plant and general site operatives:</p> <ul style="list-style-type: none"> <li>a) Heras fencing or other robust barriers to physically segregate the separate areas.</li> <li>b) Signage displayed to designate the ground works only zone.</li> <li>c) Respective work areas marked up on traffic management plans and hazards boards.</li> <li>d) Traffic marshals to be considered during higher risk operations such as muck-shifts.</li> <li>e) Segregated pedestrian and vehicle access points into the ground works zone.</li> <li>f) Robust pedestrian segregation within the ground works zone where works will be taking place along plant access routes (e.g. substructure brickwork).</li> <li>g) Thumbs up procedure.</li> </ul>	




**Loading and Storage areas**


Work on site should be planned to minimise vehicle movements, avoid unnecessary deliveries and the double handling of materials. The location of loading and storage areas needs to be carefully planned. Where there is little on-site storage space, off-site storage areas may be required for the temporary storage of materials. Loading and storage areas should:

- a) be located away from pedestrian only areas and main pedestrian routes
- b) exclude pedestrians so far as reasonably practicable
- c) have one-way systems and safe exit points
- d) have enough room for vehicle movements
- e) have adequate fixed lighting, signs and appropriate visibility aids for drivers, e.g. convex mirrors positioned on corners.
- f) where possible ensure that the storage area is flat and level, ideally tarmacked.
- g) measures in place to enable the plant access point to be closed off while pedestrians need to access the area.




<p>Public Protection</p>	<p>To prevent construction vehicles endangering the public, relevant precautions should be taken, depending on the nature of the site and work, including the provision of:</p> <ul style="list-style-type: none"> <li>a) suitable vehicles</li> <li>b) adequate signage</li> <li>c) effective pedestrian and vehicle traffic management systems</li> <li>d) site fencing</li> <li>e) signallers and/or security guards</li> <li>f) effective vehicle immobilisation systems and key custody procedures</li> </ul>	
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<p>Public Footpaths</p>	<p>Where vehicles cross public footpaths measures must be taken to protect members of the public and control their movement to ensure safety; for example, by using additional signage, barriers, and a signaller. Drivers, particularly when working in public areas, should switch off their engine whenever possible and always remove the keys from the ignition when they leave their vehicles.</p>	<p>Where many pedestrians or vulnerable groups pass a site, e.g. close to schools, elderly person’s homes, hospitals and major shopping centres, restrictions may have to be placed on traffic movements to and from site. To reduce the risk deliveries to site can be restricted to specific times; information on restricted vehicle times must be given to suppliers when orders are placed, or on their first visit to a site.</p>
<p>Site Security</p>	<p>Site security should ensure unauthorised persons, especially children, do not have access to sites; in problem areas this may entail permanent gate security personnel are employed. The HSE Document HSG 151 “Protecting the Public” recommends that site perimeter fencing should be a minimum of 2.0 metres in height; on HBF MEMBER sites site hoarding should be a minimum height of 2.4 metres.</p> <p>6.5 Occupied plots</p> <p>Traffic routes on partially occupied housing sites require careful management to protect the public, particularly children, from construction vehicle operations. Site vehicles should be segregated from occupiers of houses and their vehicles. The following measures can reduce the risks to the public on partially occupied sites:</p> <ul style="list-style-type: none"> <li>a) phase occupation of dwellings so that site traffic can be excluded from occupied areas</li> <li>b) pre plan the sequence of build in a safe logical manner</li> <li>c) position loading bays away from areas where the public have access</li> <li>d) segregate public vehicle and pedestrian routes from site vehicle and operative routes</li> <li>e) provide safe places for public parking and safe access to show homes</li> <li>f) provide relevant information for visitors on safety matters</li> </ul> <p>update information to take account of any changes in traffic routes which may affect the visiting public and residents</p>	





<p>Training</p>	<p><b>Site Induction &amp; Toolbox Talks</b>                  All drivers and pedestrians entering a site need to be informed of any site transport hazards and relevant site rules, including the correct traffic routes to use. Traffic Management must play an important part in the site induction process and be the subject of regular toolbox talks. The amount and detail of information needs to reflect the nature of site hazards and the degree of risk. Information can be provided by:</p> <ul style="list-style-type: none"> <li>a) verbal instructions on arrival at site</li> <li>b) warning signs</li> <li>c) site induction</li> <li>d) toolbox talks</li> <li>e) issue of site maps to drivers</li> <li>f) giving site specific delivery instructions when ordering materials from suppliers</li> <li>g) displaying maps and site rules at site entrance points and elsewhere on site.g. Canteens and welfare facilities</li> </ul>	<p>Any changes made to the site traffic routes need to be communicated to site operatives and visiting drivers. Site Operatives and safety representatives should be consulted on any changes which may significantly affect their health and safety. The information on transport management contained within the construction phase health and safety plan will need to be updated as the project progresses, and traffic routes and site rules change.</p> 
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Loads	<p>Vehicles should be loaded and unloaded on level ground, away from passing traffic, pedestrians, and overhead hazards, e.g. bridges, pipelines, or electric cables. Loads need to be:</p> <ul style="list-style-type: none"> <li>a) of suitable height and width for the vehicle and road conditions on site</li> <li>b) secure to prevent movement</li> <li>c) evenly loaded and distributed to keep the centre of gravity as low as possible and to prevent stresses on vehicle structures</li> <li>d) positioned on vehicles and transported so that they do not adversely affect vehicle stability</li> <li>e) checked to ensure that will not fall uncontrollably when restraints are removed during unloading</li> </ul>	<p>When vehicles being loaded or unloaded require an operative to climb onto the vehicle, fall protection measures must be in place.</p> <p>These can be folding barriers fitted to the vehicle, safety nets or air bags around the vehicle, a scaffold system either side of the vehicle or a fall arrest lanyard, all these devices will prevent an operative falling from the vehicle deck.</p>
Drivers/Operators	<p>Many accidents are the result of untrained or inexperienced workers driving construction vehicles. Employers need to ensure that all drivers are competent to perform the work they are given. Driver competence may be judged on the basis of experience, recognised training and testing of knowledge and ability. Certificates of training from recognised training schemes help demonstrate competence. Driver training records must be kept up to date.</p> <p>The following points need to be considered when selecting people to drive construction vehicles:</p> <ul style="list-style-type: none"> <li>a) drivers should be competent in the safe operation of the vehicles and their daily maintenance checks</li> <li>b) training certificates should be checked for validity</li> <li>c) caution should be exercised with drivers who may be unfamiliar with the hazards of construction sites, including trainees and new staff</li> <li>d) no-one unfit to drive through the influence of alcohol or drugs should be permitted to drive any vehicle.</li> </ul>	
Reversing Vehicles	<p>Ensure reversing warning lights and sounders are in good working order and instruct workers to keep clear of moving vehicles the latest technology available allows the reversing sounder to be directional through “broadband noise” this alerts only those directly behind a reversing vehicle.</p>	



Vehicle Marshalls	Vehicle Marshalls used to direct pedestrian and vehicle movements need to be competent in the methods used to ensure their own and other peoples' safety. Safe systems of work need to be provided to prevent signallers being struck by vehicles. The provision of refuges, observation positions, control rooms, radio communications and cctv systems can help remove signallers from areas of vehicle movement. Vehicle Marshalls should be authorised by site management and distinguished on site by clearly labelled high visibility jackets etc.	Ensure you know and understand relevant safety procedures and correct signalling systems Ensure drivers understand the correct signalling systems Signal instructions clearly Ensure you are visible to the driver and the driver is visible to you, if not, stop the vehicle moving Stand in a safe location at all times Warn pedestrians and make sure they are kept away from vehicle operations Wear appropriate protective equipment, including high visibility clothing Report work hazards to supervisors
	<b>Vehicle Routes</b>	<b>Pedestrian Routes</b>
Parking Areas	Adequate sight lines, signs, security, and vehicle management procedures Separate site vehicle, delivery, and operative parking areas. Provide temporary lorry parking/holding area by the site entrance to manage deliveries and allow vehicles to turn away from site if not allowed to enter	Separate entrance point, signs, and instructions. Provide safe pedestrian routes from parking areas to offices, welfare facilities and workplaces and assembly points. Provide clear signs and instructions to pedestrians
Offices and Welfare Facilities	Locate offices and welfare facilities and other areas of frequent pedestrian activity away from primary traffic routes Provide signs and pedestrian and vehicle control measures where vehicle routes cross pedestrian routes	Provide safe pedestrian routes from parking areas to workplaces Provide clear signs and instruction to pedestrians



**If a site requires a full time Vehicle / Plant Marshall, the CPCS category below is advised. For less complicated sites a less comprehensive training programme may be considered eg CITB Training standard below for [Take Control Vehicle Marshalling in Construction](#)**

### **CPCS (A73) - Vehicle/Plant Marshaller Training & Testing**

This category of Construction Plant Competence Scheme (CPCS) training course is aimed at persons working as a Vehicle/Plant Marshaller in either a construction or warehouse environment. The course content can be tailored to specific company requirements to ensure all who have responsibility for manoeuvring vehicles on, off and within busy sites or premises are correctly trained.

The course aims to instruct delegates how to recognise the importance of accepting and dispersing vehicles in a safe and efficient manner, recognising significant risks and to be able to give clear and precise signals to vehicles.

#### **This CPCS course includes the following elements:**

- Recognising significant risks whilst undertaking the role
- Accident statistics
- Current legislation pertaining to the role and relevant areas surrounding this
- Vehicle and pedestrian management
- Practical exercises in the classroom environment

### **CITB Training Standard - [Plant and vehicle marshaller training](#)**

#### **Short duration training for Vehicle Marshalls**

At the end of the course all candidates will have demonstrated an understanding of their legal obligations when marshalling vehicles around premises. They will also be shown and tested on the European Signs and Signals used for marshalling vehicles when being driven around a site.

CITB Training Standard - [Take Control Vehicle Marshalling in Construction](#)

