

# ECI Briefing Note: Safe Driving on Site



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## Introduction

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Driving vehicles<sup>1</sup> and mobile equipment on construction sites and in their immediate locality can be a hazardous activity, as well as raising environmental issues. A significant percentage of serious or fatal accidents on projects are driving-related.

This note should be used in conjunction with the Safety Health & Environment (SHE) Management Guide and the Leadership and Motivation in Safety, Health and Environment, both available from ECI. The aim is that it can be used by all levels of management, supervision or individuals in an organisational context, or on an individual project.

This Guide highlights good practice when planning or reviewing driving activities on construction project sites. It does not focus on the routine daily 'home-to-work' except where this is a specific or unusual risk for the project.

There are three components to establishing and maintaining a safe driving environment – a Safe Site, Safe Vehicles and Safe Drivers.

This guidance applies to all organisations involved in projects. It is important that the same requirements should apply to contractors and subcontractors, with appropriate checking and recording measures in place.

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<sup>1</sup> 'Vehicle' - any motor vehicle that is designed and used to transport people, material or to perform a specific task on site. Examples include passenger car, mini-bus, plant equipment such as dumper truck, delivery lorry, mobile crane and fork-lift truck.

## **Safe Site**

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A safe site starts with careful planning and design.

At the very earliest stages of the project the 'Initial Status Review'<sup>2</sup> should identify the overall hazards and risks, including those relating to driving, such as overall layout of the site to anticipate and mitigate driving and access issues.

The Hazard Identification (HAZID) process should be followed and appropriate Risk Assessments developed. During the risk assessment process the effect of escalating factors should be taken into account, such as the effects of worsening weather, e.g. dust, mud and poor levels of lighting during winter months.

### **Physical layout**

Separation of pedestrians from vehicular traffic must be an objective. Planning of safe traffic and pedestrian routes in the design phase will play a major role in the safe operation of the project. The early construction of roadways, hard standings and other infrastructure will greatly facilitate safe traffic and pedestrian movements.

A one-way route system will help to reduce traffic conflicts and can be an effective use of space. Full consideration should be given to the issues of sufficient space for access, delivery, storage, lifting operations and security so as to avoid or reduce the need for reversing or complex manoeuvres.

Site routes should design out sharp or blind corners and intersections, steep hills and crest of hills so that good visibility is maintained. Road surfaces should be even and firm – if mud is an anticipated risk take action in the planning phase.

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<sup>2</sup> Initial Status Review - the first review of the project and its management system.

The location of current or future overhead and underground services should be known or anticipated to avoid restrictions or risk. The overall phasing of construction activities should be known and understood so that route disturbance can be minimised.

Other aspects to consider may include neighbouring sites, multiple occupancies, public infrastructure (e.g. railways) and public amenities (e.g. schools, hospitals).

## **Environmental Issues**

In some parts of the world there is a risk of transfer of a foreign species into, around or out of the site. Such species might be animals, insects, weeds, pests or seeds. In such a situation then planning at the design stage for dedicated and secure areas for inspection, cleaning and the disposal of any resultant material will greatly assist when the site moves into the construction phase.

Anticipation of fuel storage considerations should be given at this early stage to anticipate and mitigate potential hazards. Such considerations will include access, off-loading and containment in the event of a spillage or leak.

Awareness of ground water, water courses and run-off routes are all necessary when planning both storage and vehicle washing facilities.

In certain cases the direction of the prevailing wind will play a factor in determining the location of fuel storage facilities and the location of emergency response equipment, car parks.

Anticipation of emergency response considerations such as vehicle access, prevailing wind direction and minimum distances for separation from buildings and equipment will be a significant factor in the effective response to an emergency.

## **Traffic Management Plan**

A project Traffic Management Plan should then be produced that translates the hazards and risk mitigation measures into clear rules. In the first instance there should be a clear commitment to reducing vehicle traffic to and from site, as well as on-site traffic. Such a commitment might include measures such as bus transportation for the workforce to site rather than the use of private vehicles.

It will designate routes, site access arrangements, lay down areas, define speed limits, confirm how the separation of pedestrians from vehicular traffic will be implemented, avoid reversing or other high risk activities and identify how site activities such as excavations and working at height are protected by distance and hard barriers.

Related issues such as warning and guidance signage, night illumination and minimum separation of vehicles will be addressed with clear rules. It will also define procedures for the safe loading and unloading of vehicles so that visiting drivers, for instance, know whether they are excluded from the area or should stay in the cab.

The Traffic Management Plan (and related HAZID) will be regularly reviewed during the project Periodic Status Review<sup>3</sup> process and as necessary in light of changing circumstances. The Traffic Management Plan should be communicated widely to all site personnel and visitors including delivery drivers and subcontractors.

## **Working hours**

It may be appropriate to include at this stage the overall site rules on the length of the working day and how they will be monitored, so that working or shift hours are controlled and not regularly exceeded.

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<sup>3</sup> Periodic Status Review - the continuing process of review

## **Safe vehicles**

The appropriate vehicle and plant should be selected for the task. Vehicle and plant specifications should be developed at the outset of the project so that requirements are clear in advance.

Roll-over protection systems should be specified as standard wherever a vehicle may travel off-road or on non-completed roads – in many parts of the world the lack of roll-over protection is a major factor in the serious consequence of accidents.



Seat belts should be fitted as standard (3-point as appropriate) and worn, together with suitable head restraints. Vehicles used for personnel transportation should have manufacturer-approved seating fitted, together with appropriate restraints.

Site vehicles should have an audible and visible reversing alert system. Flashing beacons may be necessary, taking into account the working environment or background noise.

Vehicle first aid kits and fire extinguishers should be fitted and carried at all times.

Site vehicles should have clear and all round visibility from the operator's position, with at least one metre of unobstructed view (e.g. via mirrors or cameras if necessary).

Consideration should be given to specifying speed limiters for some vehicles, together with the fitting of an In-Vehicle Monitoring System (IVMS) to record data for monitoring, analysis and feedback.

A vehicle inspection report system appropriate for the type of vehicle should be designed and implemented so that pre-site access checks and daily or weekly site checks are carried out and recorded. Visible tags may be fitted on some mobile plant to allow rapid inspection.



## **Safe drivers**

A clear 'fit for work' policy should be established – if medical requirements are defined these should be communicated before recruitment and made known to contractors in advance.

For some high risk site activities a medical assessment may be required, together with hearing or eyesight testing facilities in place.

The rules for alcohol and substance abuse should be defined and communicated – together with the consequences.

The rules for demonstrating competence to safely operate vehicles and equipment need also to be identified and communicated in advance so that there are no surprises to employees and contractors. The provision of third-party trainers may need to be anticipated and training and assessment undertaken in advance of some works starting.

Drivers need to understand the project rules, the local laws and regulations and must receive clear training and guidance on these in advance, usually in some form of induction.

Drivers must have the appropriate legal license and have in their possession a valid driving or operator's license for the class of vehicle, together with a certificate of competence where this is appropriate in addition to a familiarisation on the particular vehicle. Original copies of these licenses should be seen and checked and copies taken to ensure their validity.

It is also important to link the positive identification of an individual with the license or certificate of competence. Clear rules and systems should be put in place to define working hours and to provide effective monitoring.

## **Journey management**

Where journeys of significant length or with significant risks (physical, social or political considerations) are anticipated then a 'Journey Management' approach should be adopted.

When might you need a Journey Management Plan?

A Journey Management Plan might be needed for instance when organising the delivery of hazardous materials or large pieces of equipment or plant to site. Such equipment might result in a slow moving load than may affect other road users or impact on the local community. Factors such as overall length of the journey, traffic levels at different times of the day, nature of the local area (urban, rural, remote), availability of emergency services as well as weather and other local conditions will also affect the planning of the journey.

As many significant road movements are undertaken by contractors and suppliers it should be made very clear to them that they must also assess and manage the risk: in what circumstances they should make Journey Management Plans and how these are approved in advance. Such requirements will clarify how they meet any requirements to travel at certain times of the day or to travel by certain pre-agreed routes.

Where a risk assessment indicates the need for a Journey Management Plan then such a plan includes:

- A designated manager in charge of the planning and actions.
- Pre-trip briefings are held and recorded, covering the points below.
- The route is clearly defined and mapped, with alternatives and planned driving breaks.
- Route issues such as weight and height restrictions as well as night or day travel limitations should be checked in advance.
- Where high, wide or heavy loads are being transported then special care should be taken in planning the route and to co-ordinate with the local enforcement authorities.
- Pre-trip briefings are held and recorded, including such elements as routes, stopping points, hazards, arrival reporting and contingency plans in the event of an emergency.
- Hazards are identified, such as dangerous junctions, taking into account time of day, weather conditions, terrain and speed limits. Action to take in the event of escalating risks such as severe weather is also agreed.
- Hazards arising from cultural considerations are also anticipated, including the effect of local holidays, celebrations or political activity.
- Contingency plans covering a range of emergencies are in place and understood.
- Appropriate means of safe two-way communication are in place and tested.

Drivers should always log in and log out when travelling to and from site.

Occasional visitors should park close to the entrance in a designated area and be collected by a member of the site team.

Rules for receiving deliveries must be defined so that visiting drivers are either inducted to the site first, are escorted by a designated person or are limited to a defined entrance area for supervised unloading.

When visiting vehicles will be entering site then safety checks should be carried out, which include driver identification, PPE (e.g. hi-vis vest, suitable gloves, hard hat, eye protection), tyre checks and functioning lights/reversing signals.

Checking that the vehicle's load is secure is essential before it moves to the off-loading point. Accidents occur in the final phase of the journey due to failure to check that the load is secure.

Site contractors, subcontractors and agency workers should follow the same requirements and undergo the same induction, training and follow-up as direct employees – there is no difference in the risks faced or the standard required.

Risk Assessments should be done for all driving activities and the actions translated into training.

## **Induction, Training and Instruction**

Creating awareness, checking competence or updating skills creates needs for different types of training. Such training might include the following elements:

- Site rules (speed limits, routes, supervision, reversing etc.).
- Hazards of speeding (including local laws, which can be severe).
- Journey management, where distances to site or local conditions dictate.
- Policy on mobile phone/hand held communications, including texts.
- Use of vehicle safety equipment.
- Performing and recording vehicle safety checks.
- Fatigue awareness and preventive steps.
- Effects of medication and substance abuse (e.g. zero tolerance on alcohol if specified).
- Local driving hazards such as weather as well as culture.
- Safe loading and unloading, securing of loads.
- Driver assessment – verify competence for local conditions for experience drivers.
- Driver assessment – verify competence for local conditions for inexperienced or young drivers.
- Driver authorisation – a formal process should exist.
- Defensive driving training incorporating the above points.

Supervision of site driving activities should be active and form part of the local management responsibilities – this may mean that local managers and supervisors need to be trained in the safe operation of plant and equipment.

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