APPEA VEHICLE SAFETY
VEHICLE SAFETY GUIDELINE

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AUSTRALIAN PETROLEUM PRODUCTION & EXPLORATION ASSOCIATION

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Contents

APPEA Vehicle Safety—Code of Practice

Operating vehicles in urban, rural and remote locations is considered one of the highest risks faced by the industry. APPEA has developed a vehicle safety guideline to define minimum expectations for vehicle safety, identify key risks, and provide toolkit solutions that address those risks.

Purpose

This document is intended to provide a guideline on vehicle safety that could help reduce, and ultimately eliminate, the number of serious road traffic incidents and fatalities by outlining principles for an industry code of practice.

These principles are generic and can be applied by different companies according to their requirements, work culture and risk profile associated with operating vehicles.

Scope

This code of practice should apply to all vehicle types used within the industry and all land transport activities.

There are four key areas that relate to vehicle safety:

- journey management
- vehicle standards
- driver behavior and competence
- vehicle loading and load restraint.

Each of these areas has been described below in terms of safety principles and tools designed to address those principles. Examples of toolkit solutions are provided in the appendices.

Journey management

Journey management involves preparing for, undertaking and tracking business-related journeys, primarily to rural and remote locations.

Principles

In this area the following principles apply:

- The need for all journeys must be challenged.
- All journeys to rural and remote locations must be risk assessed and tracked.
- When travelling in rural and remote locations all vehicle movements must be recorded.

Tools

The following tools can be used to implement journey management principles.

Tool	Description
Travel management system	An approved system that logs and tracks journeys and follows up when a journey is not completed within a nominated timeframe. For example: This may be through a journey management coordinator within the office or via an external response centre, which is a call centre that provides a 24 hour, 7 days a week service to employees and contractors around Australia to: ■ manage emergency response ■ monitor lodged journey management plans and lone worker activities.
Journey management plan	A way to assess the risk of a proposed journey, take appropriate precautions, obtain authorisation for the journey and gather information that needed for the travel management system before starting the journey. See example form provided at Appendix 9.
Journey profiles	A turn-by-turn description of the suggested roads to take to a site. This is based on road quality and potential hazards that may exist in an area. Journey profile contains information such as journey length, time, recommended stops, emergency service numbers, maps, potential hazards and the recommended route. It also includes the recommended locations to stop for a break. A separate journey profile exists for each commonly undertaken journey. See example at Appendix 4.
Site standard operating procedure	This procedure communicates the company's minimum standards and obligations for safely driving a vehicle. Enables journeys by vehicles in the vicinity of a site to be supported by a call-in procedure whereby drivers advise a representative at the start of their journey and report back on their whereabouts at designated intervals.
Transport plans	For travel involving heavy vehicles that occur on a periodic (e.g. delivery services) or ad hoc basis.

Light vehicle specifications

Establishing minimum vehicle specifications ensures that all vehicles are fit for purpose, are maintained to minimise risk and will comply with all legislative requirements.

Principles

In this area the following principles apply:

- All use of private vehicles for business purposes should be discouraged.
- All vehicles used for business purposes must meet APPEA minimum specifications.
- Use of two wheel drive vehicles must be restricted to bitumen or well maintained and formed roads.
- Four wheel drive vehicles must be used on all road surfaces that would be unsafe to traverse using a two wheel drive.
- All vehicles must be serviced as per manufactures requirements, inspected periodically and vehicle safety checks should be conducted before use.

Tools

The following tools can be used to ensure compliance with vehicle standards.

Tool	Description
Vehicle safety checklist	Vehicle inspections should be completed using a vehicle inspection checklist. Drivers must complete this checklist: ■ when driving an unfamiliar vehicle (i.e. when picking up a new or different vehicle regardless of whether you have driven this vehicle or type of vehicle in the past. For example, hire vehicles or shift changeovers) ■ prior to driving in, to, or from, rural and remote areas ■ every week, as a minimum, for all other uses See example at Appendix 1.
Light vehicle minimum specifications	This minimum standard applies to all light vehicles involved in operations. Appendix 2 outlines APPEA's minimum specifications for light vehicles.

Heavy vehicle specifications

Currently, movements of heavy vehicles throughout Australia are subject to special legislative requirements related to loads, fatigue management, record keeping and other matters. Information on these requirements is provided by the relevant road transport agency for each state or territory:

Road agency		Website
Queensland	Department of Transport and Main Roads	www.tmr.qld.gov.au
NSW	Roads and Traffic Authority	www.rta.nsw.gov.au
Victoria	Vic Roads	www.vicroads.vic.gov.au
SA	Department of Transport, Energy and Infrastructure	www.dtei.sa.gov.au
Tasmania	Department of Infrastructure, Energy and Resources	www.transport.tas.gov.au
WA	Main Roads WA	www.mainroads.wa.gov.au
NT	Transport Safety Group	www.nt.gov.au

By 2013 a single National Heavy Vehicle Regulator will be responsible for regulating all heavy vehicles in Australia (except WA). This will be based on a new body of national heavy vehicle laws that will apply across Australia.

Driver behaviour and competence

The requirements for appropriate driver training and vehicle monitoring systems will help to enhance driver skills, demonstrate competence, reduce risk-taking behaviours and create a culture of safe driving.

Principles

In this area the following principles apply:

- Drivers must be appropriately licensed, trained, and be fit to operate the vehicle.
- All drivers must comply with their company's health and fitness standards.
- All driver training competencies should be in accordance with the Australian Qualifications Framework.
- All light vehicles operating in rural or remote areas should be fitted with an in-vehicle monitoring system (IVMS).
- Contractors should have an IVMS installed to the minimum standard and results must be monitored by the contract owner

Tools

The following tools can be used to implement driver behaviour and competence.

Tool	Description
Driver training competencies	Light vehicle driver training competencies developed using the Australia Qualifications Framework will facilitate industry wide recognition. These competencies encompass both defensive and operating skills needed to drive safely and operate standard two wheel drive, four wheel drive and hybrid light vehicles in urban, rural and remote locations. See Appendix 3 for a list of recommended driver competencies.
In vehicle monitoring system (IVMS)	An IVMS fitted to all light vehicles operating in rural or remote areas produces journey data that can be analysed and reported back to the drivers. It will detect speeding, harsh acceleration and deceleration and other driving behaviour as well as impacts and roll-overs. See Appendix 5 for details of mandatory and optional requirements for IVMS. A risk-based methodology may be followed to set the pace of introducing IVMS.

Load transport and restraint

Standardising load transport and restraint practices will help to minimise a key land transport risk and enable companies to comply with state and national legislation and regulations.

Principles

In this area the following principles apply:

- The specified load ratings for each vehicle must not be exceeded.
- All loads must be within limits specified by state and national legislation and regulation.
- All loads must be restrained in accordance with the NTC Load Restraint Guide.
- Dangerous goods must be transported in accordance with state and national legislation, regulations and standards.

Tools

The following tools can be used to address load transport and restraint principles.

Tool	Description
NTC Load Restraint Guide	Restrain all loads securely during transport as per the requirements of the National Transport Commission Load Restraint Guide, using only approved and appropriately rated chains, straps and lashings.

Key performance indicators (KPIs)

The following key performance indicators can be used to measure the effectiveness of land transport safety initiatives. The KPIs are separated to gauge organisational compliance with the guideline and track industry performance against key benchmarks.

1 KPIs for internal organisational compliance:

- Percentage of drivers who have current training.
- Percentage of vehicles meeting safety specifications.
- Analysis of data obtained from the in-vehicle monitoring system (IVMS):
  - summary of events per 1000km for speeding
  - summary of events per 1000km for poor driving (harsh acceleration, harsh braking).

2 KPIs for industry benchmarking:

1 **Motor vehicle incidents** This KPI has been adopted from the International Association of Oil & Gas Producers (OGP) land transport safety recommended practice.

a **Light vehicle** Serious and above incidents/hours worked (Appendix 6 for classifications)

KPI	Industry benchmark
Light motor vehicle crashes (Light MVC)	Only one indicator should be used with the metric being serious or above incidents.
Work-related light vehicle damage or personal injury due to a vehicle related event, or rollover.	Benchmark overall rate = incident number/hours worked

b **Heavy vehicle** Serious and above crashes/million km (Appendix 6 for classifications)

KPI	Industry benchmark
Heavy motor vehicle crashes (Light MVC)	Only one indicator should be used combining catastrophic, major, and serious crashes.
Work related heavy vehicle damage or personal injury due to a vehicle related event, or rollover.	Benchmark overall rate = #MVC(C) + #MVC(M) + #MVC(S) /million kilometres driven.

2 Analysis of data obtained from the In-vehicle Monitoring System (IVMS)

a Summary of events per 1000km for speeding

Appendix 1: Vehicle inspection checklist

Vehicle Inspection Checklist -Light and Heavy Vehicles

Vehicle type ❑ Light ❑ Heavy Date.....

Make and model ..... Odometer reading.....

Registration State ..... Registration number .....

Primary vehicle use ❑ Urban ❑ Rural ❑ Remote

Requirements for all vehicles unless otherwise specified:

Item	Description	M-Mandatory Requirement or - O - Optional			Y/N	Comments
		Urban	Rural	Remote		
General						
Registration*	Current and displayed appropriately	M	M	M		
Wash down certificate (Upstream Only)	Required prior to entering some sites in Queensland	M	M	M		
Spare wheel and assemblies*	Check all necessary tools are available	M	M	M		
Loose objects in cabin	Secure any loose objects	M	M	M		
External						
Lights and indicators*	Operational, including emergency warning lights	M	M	M		
Tyres (including spare)*	Tyre pressure and tread	M	M	M		
Wheel nuts*	Check wheel nuts	M	M	M		
Windscreen	Check for scratches or chips	M	M	M		
Windscreen wipers*	Operational check	M	M	M		
Panel and paint	Must have no visible damage	M	M	M		
Fluid leaks	Check for any fluid leaks	M	M	M		
Loads (heavy vehicles)*	Check as per National Transport Commission (NTC) *Load Restraint Guide*	M	M	M		
Mechanical						
Fluid levels* (not required for hire vehicles)	Check levels of engine oil, water, brake fluid, coolant and transmission fluid and windscreen water	O	M	M		
Fuel	Ensure adequate fuel for intended trip and refuel if below 50 per cent	O	M	M		
Horn	Operational check	M	M	M		
Brakes, including handbrake*	Operational check	M	M	M		
Pedal rubbers	Condition check	M	M	M		
Seat belts*	Operational and condition check	M	M	M		
Equipment-						
Reflective vest	Check availability	O	M	M		
Fire extinguisher	Check test date and ensure it is secured	O	M	M		
First aid kit	Check contents of kit	O	M	M		
Roadside triangle	Check availability to have at least one	O	M	M		
Water		O	M	M		
Torch	Operational check	O	M	M		
Satellite phone / UHF Radio*	Operational check	O	O	M		
Dune poles *(Upstream only)**	Check availability		O	O		
Emergency position indicating radio beacons (EPIRB)*	Operational check *(as per test instructions - battery power etc.)*		O	M		
Recovery equipment	Check contents & condition		O	O		

*Critical Safety Controls - if any of these are defective, the vehicle must not be operated.

Additional comments: .....

.....

.....

Checklist completed by:..... .....

Name Signature

Supervisor to sign once defects rectified ....

Signature Date

Please lodge your completed Safety Inspection Checklist - Light and Heavy Vehicles with your site manager or business unit manager responsible for the maintenance of this checklist.

Appendix 2: Light vehicle specifications

Item/accessory	Urban	Rural/ remote	Comments
ABS	●	●	
Air conditioning	●	●	
Bull Bar	○	●	Must be airbag compatible
Canvas seat covers	○	○	
Cargo barrier	●	●	
Cruise Control	○	○	
Dual airbags	●	●	
Dune pole*	○	○	
First aid Kit	●	●	
Four wheel drive	○	●	
In-vehicle monitoring system (IVMS)	○	●	
Permanent headlines on	○	●	
Powder fire extinguisher	●	●	
Recovery strap with tow (2) rated D-links (not snatch)	○	○	
Reverse beeper	○	○	
Rollover protection	○	○	
Rubber floor mats	○	○	
Side airbags	○	○	
Snorkel *(Recommended in flood prone areas)*	○	○	
Spare wheel and changing equipment	●	●	
Torch/work light	●	●	
Tow bar	○	○	
UHF radio or satellite phone	○	●	
Windows tinted	○	○	
Water (5L)	○	○	

* Fitted to left-hand corner of vehicle with de-mountable high-visibility flat at height 3-3.5m above ground.

● Recommended ○ Optional

Appendix 3: Driver competencies

Any employee or contractor operating a light vehicle must hold a current license applicable to the:

- type of light vehicle they intend to drive
- state jurisdiction in which the driver mostly operates a light vehicle.

The following light vehicle competencies or equivalent are recommended for light vehicle drivers:

- **RIIVEH201A Operate a light vehicle**—for all light vehicle drivers. Its elements are:
  - plan and prepare for operations
  - operate a light vehicle
  - carry out operator maintenance.
- **RIIVEH305A Operate and maintain a four wheel drive vehicle**—for employees and contractors operating in off-road conditions. Its elements are:
  - identify four wheel drive specific terms, terminology and techniques
  - plan for minimal environmental impact
  - perform pre-departure checks
  - use the features of a four wheel drive vehicle to drive in a variety of terrain types
  - perform maintenance and minor repairs on four wheel drive vehicles.

Exclusions

The recommended competencies do not apply to the operation of any light vehicle that is:

- used primarily for the transport of equipment
- intended to normally tow either loaded or unloaded trailers
- altered with manual or powered lifting equipment
- modified in any way that significantly alters the vehicle's centre of gravity
- equipped with more or less than four wheels
- fitted with rims less than 14 inches or greater than 17 inches.

Appendix 4: Sample journey profile

Brisbane to Chinchilla (Q-BR-CH-01)

Start/ End	Brisbane CBD	Chinchilla Office,1 Warrego Hwy, Chinchilla	
Distance/Duration	290 km/3 hours 15 min approx	At least 1 x 10 minute break	
Break locations	Dalby side of Toowoomba		
	Toowoomba		
	8 P On Tor	Cnr Tor St & Ruthven Rd, Toowoomba	(07) 4633 3999
	Caltex Harvest Roadhouse	Cnr Bridge St & Boundary Rd, Toowoomba	(07) 4633 1779
	Woolworths Fuel	Cnr James & Bourke Sts, Toowoomba	(07) 4613 0137
	Dalby		
	Jandowae Shell Driveway	49 High St, Jandowae	(07) 46655345
	Caltex Service Station	Loudoun Rd, Dalby	(07) 46622688
	BP Australia Ltd	15 Drayton Street, Dalby	(07) 46622955
	Mobil Roadhouse Dalby	37 Drayton Street, Dalby	(07) 46622492
	Shell Dalby Roadhouse	80 Drayton Street, Dalby	(07) 46621860
	Roadhouse Service Station & Café	148 Drayton Street, Dalby	(07) 46628880
	Chinchilla		
	BP Express Wishart	Warrego Highway, Chinchilla	(07) 4662 7137
	Caltex Chinchilla	Cnr Chinchilla Street & Helena Street, Chinchilla	(07) 4662 8140
	BP Roadmaster	Warrego Hwy, Chinchilla	(07) 4662 7137
	Mobil Chinchilla	107-113 Chinchilla Street, Chinchilla	(07) 4662 7534
	Shell Chinchilla	45 Colombo Street, Chinchilla	(07) 4662 7221
Hospitals	Toowoomba Hospital	Taylor Street Toowoomba	(07) 4616 6000
	Dalby Hospital	Hospital Road, Dalby	(07) 4669 0555
	Chinchilla Health Services	149 Sussex St, Chinchilla	(07) 4662 8333
Police Stations	Gatton	9 William St Gatton	(07) 5466 3266
	Toowoomba	161 Hume Street Toowoomba	(07) 4631 6333
	Dalby	47 Drayton St, Dalby	(07) 4669 9222
	Chinchilla	Cnr Heeney and Bell Streets, Chinchilla	(07) 4662 7200
NRC	Australia wide	1800 132 771	
Emergency support	Ambulance/Police/Fire Brigade AME Helicopter retrieval	000 or 112 from mobile phone no signal 1300 721 672 (launch time: 30 mins daylight/60 mins evening)	
Roadside Assistance	RACQ Queensland wide	131905	
Road Conditions	RACQ - Queensland wide	(07) 3239 8700/1300 130 595	
SES	Flood/storm emergency-Queensland	132 500	
Wildlife Animal Rescue	Darling Downs	0430 904 415	

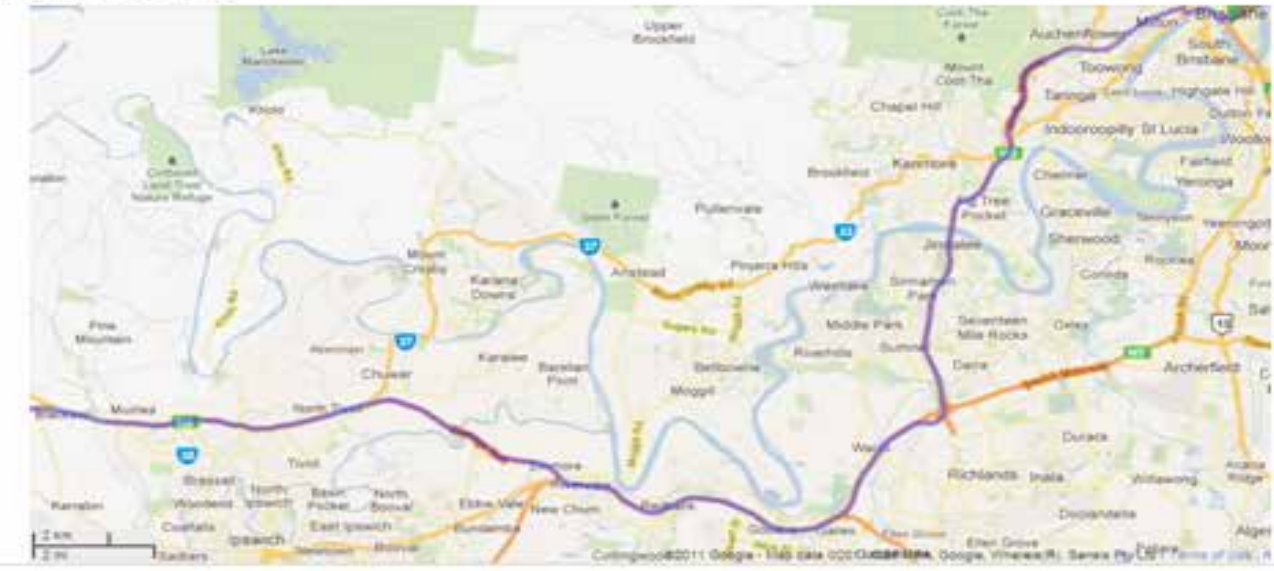
Q-BR-CH-01 - Brisbane to Chinchilla

	From	to	Kms	Comments/Hazards
↑	Milton Road, Milton	Mt Coothe Road, Toowong	2.2	Straight down Milton Rd to Mount Coothe Rd turn-off
↑	Mt Coothe Road, Toowong	Western Fwy M5, Toowong	0.6	Take 2nd exit at roundabout and keep left toward M5/Western Fwy
↑	Western Fwy M5, Toowong	Ipswich Motorway, Darra	12.1	Keep straight on M5
←	Ipswich Motorway, Darra	Warrego Hwy, Dinmore	12.6	Take ramp left for M7 toward Ipswich/Toowoomba
←	Warrego Highway, Dinmore	James St (Warrego Hwy) Toowoomba	94.8	Take ramp left for Warrego Hwy toward Toowoomba/Esk A2 Steep terrain on drive up to Toowoomba range.
↑	James St (Warrego Hwy) Toowoomba	Bridge St (Warrego Hwy) Toowoomba	5.0	Continue through Toowoomba to Bridge St
←	Bridge St (Warrego Highway) Toowoomba	1 Warrego Hwy Chinchilla	161.5	Left at Bridge St and continue through Dalby to Chinchilla Dalby: Speed zone and crossing in school hours. Heavy vehicles on Warrego Hwy

Brisbane to Chinchilla (Q-BR-CH-01)

Brisbane - Chinchilla

Exit from Brisbane



Toowoomba

Chinchilla

Appendix 5: IVMS system requirements

IVMS data	Must	Recommended	Optional
Driver identification number or key	●	●	
Speed limit compliance	●	●	
Audible speed alert			●
Satellite tracking		●	
Emergency signal		●	
Harsh acceleration	●	●	
Harsh deceleration/braking	●	●	
Kilometres or miles driven	●	●	
Driver hours		●	
Seat-belt usage			●
Vehicle Roll-overs		●	
Accident/Incident data recording - capability of providing a minimum of 60 minutes of second by second travel data preceding a vehicle accident or incident	●	●	
Four wheel drive engaged (where fitted) on unsealed roads			●
Movement into or out of predefined areas			●

Appendix 6: Motor vehicle crash rate classification

C:Catastrophic	Any company, contractor, sub-contractor or third party fatality associated with a MVC
M: Major	Any rollover. Any MVC where a company, contractor or sub-contractor has a Lost Work Day Case associated with the MVC.
S: Serious	Any MVC where a company, contractor or sub-contractor has a recordable injury (Medical Treatment Case +/or Restricted Work Day Case) associated with the MVC. Any MVC where the vehicle cannot be driven from the scene under its own power in a roadworthy state
L: Light	Any company, contractor or sub-contractor MVC resulting in either Minor Injury (First Aid Case) or no injury.

Appendix 7: Glossary

Term	Definition
First aid case	Cases that are not sufficiently serious to be reported as medical treatment or more serious cases but nevertheless require minor first aid treatment, e.g. dressing on a minor cut, removal of a splinter from a finger. First aid cases are not recordable incidents.
Heavy vehicle	Any motorised vehicle with a kerb weight of more than 4500kg or gross vehicle mass exceeding 500kg, which is designed to pull a trailer or to carry cargo/loads.
Hybrid	Any vehicle that is capable of engaging drive to any or all vehicles without driver input.
Kerb weight	The unladen weight of the vehicle recorded at registration.
Light vehicle	Any motor vehicle with a kerb weight less than 4500kg or gross vehicle weight less than 7500kg, and with 12 passenger seats or less.
Lost work day case (LWDC)	Any work related injury or illness, other than a fatal injury, which results in a person being unfit for work on any day after the day of occurrence of the occupational injury. "Any day" includes rest days, weekend days, leave days, public holidays or days after ceasing employment.
Medical treatment case (MTC)	Cases that are not severe enough to be reported as fatalities or lost work day cases or restricted work day cases but require more than simple first aid treatment.
Off-road	Any driving surface not sealed by bitumen, asphalt or concrete.
Restricted work day case (RWDC)	Any work-related injury other than a fatality or lost work day case that results in a person being unfit for full performance of the regular job on any day after the occupational injury.
Rural/remote	Areas outside built up urban areas where communication or assistance would be unlikely to occur within 30 minutes of an incident or breakdown.
Rollover	Any crash where the vehicle has flipped to its sides, top and/or rolled 360 degrees via any axis.
Urban	Areas with established public roads and moderate to high population density. Urban areas include the built up areas of small rural towns such as Roma in Queensland.
Work related	Any crash involving a company, rental, or a personal vehicle while performing company business.

Appendix 8: References

Land transportation safety recommended practice, International Association of Oil & Gas Producers, London, July 2011

Light vehicle minimum specifications, APPEA, January 2011

Coal seam gas industry driver competencies, APPEA, January 2011

Journey Management Plan

Instructions for Use

- All sections must be completed by the personnel undertaking the journey.
- Provide a copy of the Journey Management Plan to the site responsible person.
- You must lodge your Journey Management Plan with the Travel Management System

Driver

Driver details				Passenger details	
Driver's name		Departure date		Number of passengers	
Phone (mobile)		Departure time		Passenger names	1.
Purpose of journey		Departing from			2.
Vehicle type	☐ Light ☐ Heavy	Destination			3.
Vehicle registration number					4.

Driver

Risk assessment					
☐ Yes	☐ No	Are you licensed and competent for this journey?	☐ Yes	☐ No	Is the vehicle in good working order?
☐ Yes	☐ No	Is the journey necessary?	☐ Yes	☐ No	Have you scheduled adequate rest stops throughout the journey?
☐ Yes	☐ No	Will you be driving at dawn, dusk or night?	☐ Yes	☐ No	Have you adequately secured any cargo?
☐ Yes	☐ No	Have you checked the weather conditions for the journey?	☐ Yes	☐ No	Has the Safety Checklist - Light and Heavy Vehicles been completed?
☐ Yes	☐ No	Do you have a route plan?	☐ Yes	☐ No	Are there any other potential hazards (describe)

Driver

Journey Management Plan *(The journey details MUST be lodged with the Travel Management System before the journey begins.)*				
Route	ETD	ETA	Time of rest break	Call in/comments

Approving Authority

Journey Management Plan approval			
Supervisor/manager*		Signature	
Phone (mobile)		Position	Date
Journey completion			
Site responsible person*		Signature	
Phone (mobile)		Position	Date
Journey completed	☐ Yes ☐ No	Time	Date

* Must not be the driver or passenger for the journey

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