NATIONAL ROAD TRANSPORT COMMISSION

Administrative Guideline: Assessment of Defective Vehicles

February 1999

National Road Transport Commission

Administrative Guideline: Assessment of Defective Vehicles

ISBN 0 642 54427 1

NRTC ADMINISTRATIVE GUIDELINE

ASSESSMENT OF DEFECTIVE VEHICLES

EXPLANATORY NOTES

Description and Purpose

The aim of administrative guidelines is to ensure that, as far as practicable, national road transport reforms are implemented consistently, despite local conditions and different administrators. This administrative guideline is designed to help enforcement officers determine the significance of vehicle defects relative to the safety risk they present on the road.

The guideline should be used in conjunction with:

- the **Road Transport Reform (Heavy Vehicle Standards) Regulations, 1995,** which set out the in-service technical requirements for the construction and performance of heavy vehicles; and
- the associated **Roadworthiness Guidelines** which provide practical information about wear or damage to the important vehicle systems.

Objectives and Necessity

The need for an administrative guideline for the assessment of defective vehicles was identified by road authorities during the development of the national heavy vehicle registration scheme. The use of the same assessment criteria in all jurisdictions will ensure a more consistent approach to the management of defective vehicles.

The guideline is also an important component of the Commission's second Heavy Vehicle Reform Package covering consistent on-road enforcement of roadworthiness.

Identification of Alternatives

One alternative would be for each jurisdiction to produce its own guideline. However, as consistency in the management of defective vehicles is a key objective of the registration scheme, it is important that common assessment criteria are applied by jurisdictions.

Consultation with Affected Parties

The procedures set out in this guideline reflect principles contained in business rules for the management of defective vehicles developed by Austroads. The Road Transport Reform (Heavy Vehicles Registration) Regulations, which prescribe the requirements for the defective vehicle regime, were the subject of wide consultation and approved by Ministerial Council in December 1996. Several iterations of this guideline have been circulated for comment and refinement by affected parties in all States and Territories.

Impact

Use of this guideline will improve the consistency of decision making by enforcement officers in relation to the assessment of defective vehicles. In turn, this process will deliver more consistent enforcement outcomes for vehicle operators throughout Australia.

Road transport operators have made frequent representations to the Commission on the importance to industry of consistency in enforcement practices.

Summary

This guideline provides a decision making process to help enforcement officers to determine:

- the significance of vehicle defects relative to the safety risk they present; and
- the appropriate course of action to take in terms of issuing a vehicle defect notice.

The guideline takes account of the interaction between the type of defect, how the vehicle is being used, and the road environment to determine the overall risk of the vehicle being involved in a serious crash.

Implementation

Under the hierarchy of administrative guidelines proposed to Council by the Commission, this guideline can be categorised as Type 2. It provides guidance for the exercise of discretionary powers under the national road transport reforms, and requires approval by the Australian Transport Council.

This guideline is intended for use as the basis for training documentation for enforcement officers who inspect vehicles for defects. Attachment A contains suggested ratings for particular vehicle defects and, in practice, may be used as a stand-alone reference document.

It is envisaged that jurisdictions would adopt the guideline upon implementation of the Commission's heavy vehicle registration reforms.

TABLE OF CONTENTS

LIST OF TABLES

1. INTRODUCTION

This guideline is for use by enforcement officers when appraising the level of risk presented by a defective vehicle. It is designed to help determine the *significance of vehicle defects* relative to the *safety risk* they present on the road.

Assessment of Defective Vehicles is intended to be used in conjunction with:

- the **Road Transport Reform (Heavy Vehicle Standards) Regulations, 1995** (the Standards) which set out the technical requirements for the construction and performance of heavy vehicles whilst in service; and
- the associated **Roadworthiness Guidelines** which provide practical information about wear or damage to the more important vehicle systems, to enable consistent assessment criteria to be applied throughout Australia.

The guideline does not deal with the issue of whether an infringement notice should accompany a vehicle defect notice. Infringement regimes across all elements of the road transport law will be examined as part of the National Road Transport Commission's Compliance and Enforcement reforms. In the interim, existing State and Territory protocols are expected to continue to apply.

1.1 Overview

The action that should be taken by an enforcement officer when a defective vehicle is discovered depends on an evaluation of the risk of the vehicle's defects contributing to a crash and an estimation of the likely severity of the crash. Generally, where there is a high risk of a serious crash, the most severe enforcement sanction should be imposed; if there is a low risk of a crash, a warning may be more appropriate.

The interaction between the type of defect, how the vehicle is being used, the road environment and other factors has a large bearing on the risk of a crash. While this relationship can be extremely complex, this guideline provides a three step decision making process to help determine the risk posed by a defective vehicle, and the appropriate course of action. Refer to section 3 for further information.

1.2 Risk of Serious or Fatal Crash Due to the Presence of Defects

For the purpose of this guideline a "serious crash" is one which could result in a serious injury (hospital admission) or fatality, or significant property damage.

Vehicle defects might make a crash more likely to happen (eg. steering failure), or make the consequences of a crash more severe (eg. broken seat belt). In most cases the contribution of defects is much more subtle than these two examples. Refer to section 4 for further guidance.

In order to assess the wide range of defects, the "level of risk" is *the risk of the defect contributing to a serious crash*. Road crash statistics have been used to broadly assess this risk.

EXAMPLE

A. A serious defect in the steering or braking system will make a crash perhaps three or four times more likely than a vehicle with no defects. If a crash occurs and the seat belts and other occupant protection systems operate correctly, on average, about 10% of these crashes will result in serious or fatal injuries.

B. In the absence of high risk factors, a crash is very unlikely in the case of a vehicle with functional steering/braking systems. However, if a crash does occur, defects in the occupant protection systems (eg. inoperative driver's seat belt) can greatly increase the risk of serious or fatal injury to the vehicle occupants. An unrestrained driver has about twice the risk of serious or fatal injury compared with a restrained driver.

In either case (defective steering/brakes or defective seat belt) the *risk of serious or fatal injury* might be several times that of a vehicle with no defects.

1.3 Related Regulations

The defective vehicle categories are derived from the draft Road Transport Reform (Heavy Vehicles Registration) Regulations approved by the Ministerial Council for Road Transport. The Regulations also provide guidance on:

- information required on a Vehicle Defect Notice;
- information required on a Defective Vehicle Label; and
- recording and clearance of Vehicle Defect Notices.

Details of these requirements are set out in Attachment B.

Penalties for driving or operating defective vehicles are prescribed in the Standards.

Additional offences for driving or operating a heavy vehicle in breach of a vehicle defect notice are also contained in the Road Transport Reform (Heavy Vehicles Registration) Regulations.

2. DEFECT CATEGORIES

Under nationally agreed procedures for dealing with defective vehicles, one of three categories of action/sanction concerning the vehicle may be applied:

FORMAL WRITTEN WARNING

- A formal written warning (not recorded). No defective vehicle label.
- Applies in cases where, in the opinion of the authorised officer, the vehicle's defects do not constitute a safety risk but should be remedied.
- No clearance is necessary.

MINOR DEFECT NOTICE

- A vehicle defect notice. No defective vehicle label[1].
- Applies in cases where the deficiencies of the vehicle, if allowed to continue after the time specified in the notice, may constitute a safety risk. The noted defects must be rectified within the period specified in the notice.
- Depending on the nature of the defect, the notice may specify that the operator may certify that faults have been rectified as an alternative to certification by an authorised person. The operator would simply endorse the vehicle defect notice and return it to the home jurisdiction within the specified time limit.
- If the defect has not been cleared within the specified time limit, the registration authority may initiate action to suspend the vehicle's registration. If the defect remains uncleared at the end of the suspension period, the authority may cancel the vehicle's registration[2].

MAJOR DEFECT NOTICE

- A vehicle defect notice and defective vehicle label.
- Applies where there is an imminent and serious safety risk. If the nature of the defect is severe enough, then a vehicle may be "grounded" (ie it must be fixed on site, or be towed or carried from the point of inspection). The notice must specify, amongst other things, the means by which the vehicle is permitted to proceed (whether it must be towed or driven) and the time and date from which it is not to be used until the defects have been remedied.
- The defects to which the notice relates must be certified as rectified by an authorised person to enable the notice to be cleared.
- If the defect has not been cleared within the specified time limit, the registration authority may initiate action to suspend the vehicle's registration. If the defect remains uncleared at the end of the suspension period, the authority may cancel the vehicle's registration.

---

1 The Road Transport Reform (Heavy Vehicles Registration) Regulations do not provide for the issue of a defective vehicle label for minor defects. However, a State or Territory may choose to attach a label to the vehicle and make provision for an offence for unauthorised removal of the label under local law.

2 The Road Transport Reform (Heavy Vehicles Registration) Regulations set out the procedures for suspension and cancellation, together with the registered operator's rights of review of the authority's decisions.

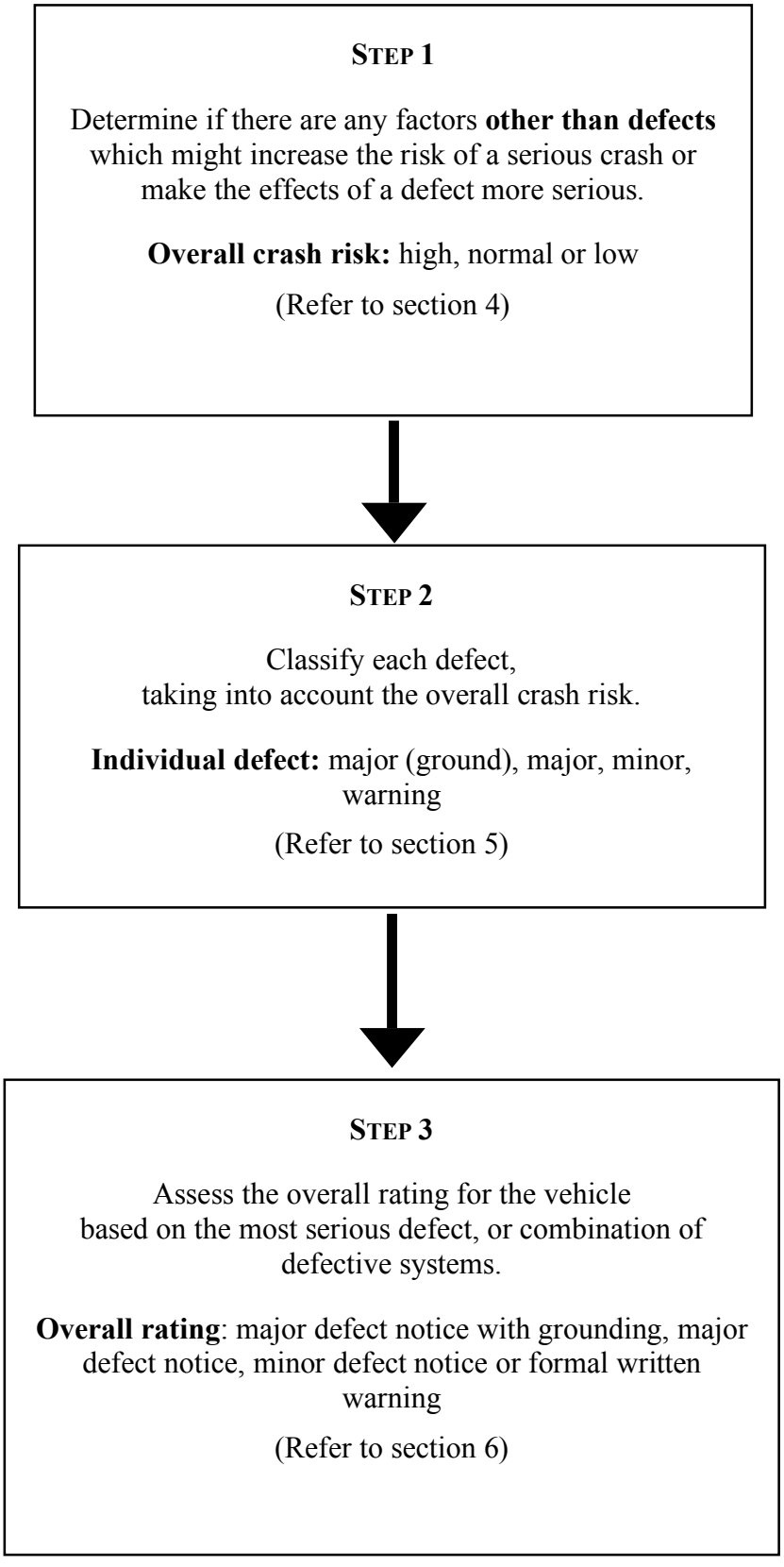
Some types of defects fall clearly into a particular category whereas others might depend on circumstances such as road conditions or weather, or on the degree of defect (eg. the number of missing road wheel studs). In these cases the enforcement officer is required to take any relevant circumstances into account. Guidance on assessment of these circumstances is contained in section 4.

In some circumstances, an officer may consider it appropriate to issue both a major and minor vehicle defect notice in order to ensure that the most serious defects are fixed immediately, while providing some flexibility for minor defects to be remedied over a slightly longer time frame. However, this practice may vary between jurisdictions.

The Road Transport Reform (Heavy Vehicles Registration) Regulations place an obligation on the driver of a vehicle to cause the vehicle defect notice to be sent to the registered operator of the vehicle.

3. PROCEDURES FOR ASSESSING DEFECTIVE VEHICLES

These procedures apply where a vehicle has been inspected and is found to have one or more defects, as described in this guideline. Sections 4, 5, and 6 explain the decision-making process for each of these steps.



4. OVERALL CRASH RISK

STEP 1

Determine if there are any factors **other than defects** which might increase the risk of a serious crash or make the effects of a defect more serious.

Overall crash risk: high, normal or low

4.1 Factors Contributing to Crashes

With most crashes there are many contributing factors. The crash might be less severe, or avoided, if one or more contributing factors are not present.

The presence of defects might increase the likelihood or severity of a crash. This becomes more important in a hazardous situation when the driver calls on extreme performance limits of the vehicle to avoid the hazard, or to protect the occupants if a crash occurs. Therefore, the likelihood of a defect contributing to a crash generally increases as the overall crash risk increases.

The presence of a defect on a vehicle travelling on a section of road with a high crash risk is more serious than if it is travelling on a section of road with a low crash risk. In some cases enforcement officers must assess the overall risk of a serious crash (not taking into account the presence of defects) in addition to the possible contribution of defects.

4.2 Factors Affecting Crash Risk

For guidance purposes only, Attachment C outlines some of the main factors that contribute to crashes:

- Type of road
- Posted speed limit
- Road features (grade, bends, intersections)
- Traffic density
- Weather conditions
- Lighting conditions (day or night)
- Type of vehicle
- Nature of load

In order to take these factors into account, and any likely changes in operating conditions, the enforcement officer should determine the destination of the vehicle and/or the likely short-term use of the vehicle.

4.3 Other Factors Affecting Assessment

Other factors that should be considered in the assessment of level of risk and appropriate action are:

- Combined effect of all defects on the vehicle
- If repairs can be readily effected (eg. changing a tyre) or if the vehicle can be driven *cautiously* to a place of repair to avoid "grounding"
- Distance yet to be travelled
- Driver's understanding of the nature and seriousness of the defects
- Prior knowledge of the defects by the driver/registered operator
- Opportunity for prior repairs and recent service history
- Known maintenance history for the registered operator/driver, including participation in accreditation/alternative compliance schemes

4.4 Overall Crash Risk (Not Taking Into Account the Presence of Defects)

In theory the overall risk due to the factors in 4.2 can be determined by multiplying the relative level of risk of each. Attachment C suggests approximate risk levels for some contributing factors.

> EXAMPLE
> A heavy truck (risk level 2) on a winding road (risk level 3) travelling at night (risk level 2) is 12 times (2x3x2) more likely to be involved in a serious crash than a car (risk level 1) on a straight road (risk level 1) travelling during the day (risk level 1) (1x1x1=1). This assumes normal traffic densities and a posted speed limit of 100km/h in both cases.

In practice such a precise analysis is not appropriate, as some factors tend to compensate for others.

Enforcement officers should use the factors in a general manner to assess the overall risk of a serious crash as **high**, **normal** or **low**. As a guide, a combination of three or more high risk factors will usually indicate a "high" overall risk.

5. INDIVIDUAL DEFECTS

STEP 2

Classify each defect, taking into account the **overall crash risk** (from section 4).

Individual defect: Major (ground), major, minor or warning

5.1 The Effects of Defects

Vehicle defects can have the following effects, which might contribute to a crash. They may:

a) Impair the driver's view of the road.
Eg. scored windscreen, inoperative wipers in wet weather, missing mirrors and inoperative headlamps.

b) Impair the visibility of the vehicle to other road users or prevent the driver from indicating his or her intentions (conspicuity).
Eg. inoperative lights and inoperative horn.

c) Impair the driver's control of direction and/or speed of the vehicle.
Eg. steering, tyre/brake defects, insecure driver's seat.

d) Result in intrusion into other users' road space or undue danger or nuisance to others.
Eg. oil leaks, sharp projections, excessive smoke, excessive noise. *Note that separate procedures apply to vehicles which exceed mass or dimension limits.*

e) Impair the built-in occupant protection afforded by the vehicle in the event of a crash (crash protection).
Eg. missing or broken seat belts, insecure seats, weakened body structure.

f) Increase the risk of further injury after a crash has occurred (post-crash).
Eg. insecure fuel tank (risk of fire), inoperative emergency exits.

5.2 Circumstances Where a Defect Contributes to the Likelihood of a Crash

During a roadside inspection, it will be rare to encounter a vehicle with a defect that prevents the driver having proper control. It is more likely that such a vehicle will already be broken down or involved in a crash when it comes to the attention of enforcement agencies.

It is therefore necessary to assess the circumstances where the effect of a defect might contribute to a crash. Factors to consider are:

- the extent of the defect; and
- the time in which it may have some effect.

The following circumstances might be encountered:

IMMEDIATE

EXAMPLES

- no brakes;
- no steering (unlikely);
- no lights at night;
- no wipers in the rain.

IMMINENT

Defects that do not have an effect until the component is subjected to higher than normal demands, when a catastrophic failure might occur.

EXAMPLES

- a cracked suspension component which breaks completely under heavy braking;
- severely worn brake linings or contaminated brake fluid leading to brake fade on a long descent;
- structural rust resulting in collapse of the occupant space in a severe crash;
- bald tyres which result in skidding in the wet;
- missing/broken wheel studs;
- imbalanced brakes.

DELAYED

Defects that do not have an effect until they degrade (wear) further to the point where a catastrophic failure might occur.

EXAMPLES

- a brake cam going over-centre due to wear in several components;
- semi-trailer king-pin/jaw wear;
- worn seat-belt webbing.

These DELAYED defects are likely to be affected by abnormal demands (see IMMINENT). The difference is that further wear is necessary before there is any risk of failure.

GRADUAL

Defects that degrade gradually, resulting in a progressive reduction in the performance of a safety system or environmental damage. The effects might not be evident until abnormal demands are placed on the vehicle safety systems.

EXAMPLES

- contamination of brake linings;
- worn brake linings;
- out-of-balance rear brakes;
- wear/looseness in steering system;
- windscreen damage affecting driver's vision.

The difference between GRADUAL and DELAYED circumstances is that degradation of performance is gradual and catastrophic failure is unlikely.

5.3 Classification of Defects

By considering the effects of a defect (section 5.1) and the circumstances in which it might arise (section 5.2), the defect can be classified as **major (ground)**, **major**, **minor** and **warning**. This classification gives an indication of the increased risk of a serious crash due to the presence of the defect.

Table 1 can be used to classify most types of defects. Where a dual classification is given (eg. Major (ground)/Major) the appropriate classification will depend on the level of degradation of the component and the *overall crash risk* (section 4).

Table 1: General Classification of Defects

Effect of defect (5.1)	Circumstances where effects arise (5.2)

	IMMEDIATE	IMMINENT	DELAYED	GRADUAL
a) Driver's view	Major (ground)/ Major	Major	Major/Minor	Minor/Warning
b) Conspicuity	Major (ground)/ Major	Major	Major/Minor	Minor/Warning
c) Control of vehicle	Major (ground)	Major (ground)/ Major	Major/Minor	Minor/Warning
d) Other road users	Major (ground)/ Major	Major (ground)/ Major	Major/Minor	Minor/Warning
e) Crash protection	Major/Minor	Minor	Minor	Warning
f) Post-crash	Major/Minor	Minor	Minor	Warning

Attachment D provides some examples of classification of defects, taking into account the *overall crash risk* and the *effect of the defect*.

6. OVERALL RATING

STEP 3

Assess the overall rating for the vehicle based on the most serious defect, or combination of defective systems.

Overall rating: major vehicle defect notice with grounding, major defect notice, minor defect notice or formal written warning

6.1 Overall Rating of the Vehicle

The overall rating for a vehicle is based on the classification of the most severe defect found on the vehicle. Table 2 shows how a defective vehicle is rated, and a summary of the sanction that would apply to that vehicle.

When applying a sanction such as grounding to a vehicle, consideration must be given to issues such as animal welfare (if the vehicle is carrying livestock), and deterioration of the goods being carried (refrigerated foodstuffs, etc.).

Table 2: Overall rating for vehicle found to have defects

Vehicle Rating	Worst Defect	Sanction applying to vehicle
Major Defect Notice	Major (ground)	Must be towed or carried from place of inspection or fixed on the spot.
	Major	Must only be driven to a place of repair. (Normally up to a 24 hour limit to time on road. A longer time may be appropriate in remote areas. An officer may impose conditions on the vehicle's travel in relation to its speed, route, etc.)
Minor Defect Notice	Minor	May continue to be driven for a specified period. (Typically 2 to 14 days.)
Formal Written Warning	Warning	No formal sanction.

6.2 Defective Systems

In some cases, the combination of defective *systems* might be sufficient to warrant more serious overall rating.

EXAMPLE
A combination of "major" braking defects and "major" steering defects on a vehicle in "high risk" area might warrant the grounding of that vehicle.

ATTACHMENT A

ASSESSMENT OF INDIVIDUAL DEFECTS

CONTENTS OF ATTACHMENT A

ASSESSMENT OF INDIVIDUAL DEFECTS

Against each item in this section is a ***suggested*** defect category level. These are supplied as a guide only. The level of severity of the defect may be more or less severe depending on circumstances. Where a dash (-) appears between category levels, the defect could fall within either category. Factors such as those listed below should be taken into account:

- Type of road and road features (grade, bends, intersections)
- Posted speed limit
- Traffic density
- Weather and lighting conditions (day or night)
- Type of vehicle and nature of load
- Combined effect of all defects on the vehicle
- If repairs can be readily effected or if the vehicle can be driven *cautiously* to a place of repair
- Distance and route yet to be travelled
- Driver's understanding and prior knowledge of the nature and seriousness of the defects
- Opportunity for prior repairs and recent service history
- Maintenance history for the owner/driver, including participation in accreditation/alternative compliance schemes

In addition to the types of defects set out in this section, a vehicle defect notice may be issued if a vehicle does not comply with the requirements of the Road Transport Reform (Heavy Vehicle Standards) Regulations, 1995, or the Roadworthiness Guidelines issued under the Regulations.

DEFECT CATEGORIES

FORMAL WRITTEN WARNING

- A formal written warning (not recorded). No defective vehicle label.
- Applies in cases where the vehicle's defects do not constitute a safety risk but should be remedied.
- No clearance certification is necessary.

MINOR DEFECT NOTICE

- A vehicle defect notice. No defective vehicle label[1].
- Applies where the deficiencies of the vehicle, if allowed to continue after the time specified in the notice may constitute a safety risk.
- Depending on the nature of the defect, the notice may specify that the operator may certify that faults have been rectified as an alternative to clearance by an authorised person.
- If the defect has not been cleared within the specified time limit, the registration authority may initiate action to suspend the vehicle's registration. If the defect remains uncleared at the end of the suspension period, the authority may cancel the vehicle's registration[2].

---

[1] The Road Transport Reform (Heavy Vehicles Registration) Regulations do not provide for the issue of a defective vehicle label for minor defects. However, a State or Territory may choose to attach a label to the vehicle and make provision for an offence for unauthorised removal of the label under local law.

[2] The Road Transport Reform (Heavy Vehicles Registration) Regulations set out the registered operator's rights of review of the authority's decisions.

MAJOR DEFECT NOTICE

- A vehicle defect notice and defective vehicle label.
- Applies where there is an imminent and serious safety risk. If the nature of the defect is severe enough, then a vehicle may be "grounded".
- This notice requires clearance by an authorised person.
- If the defect has not been cleared within the specified time limit, the registration authority may initiate action to suspend the vehicle's registration. If the defect remains uncleared at the end of the suspension period, the authority may cancel the vehicle's registration.

1. STEERING

1.1 Steering wheel defect

a)	The steering wheel is loose on the shaft.	Major
b)	The steering wheel structure is fractured or the hub, rim or spokes are loose.	Minor

1.2 Steering freeplay

a) With the road wheels in the straight ahead position and the engine running (if the vehicle has power steering), a point on the steering wheel rim moves more than the amount shown below without movement at the road wheel:

wheel diameter (mm)	**free play (mm)**	
up to 450	75	Major
over 450	100	Major

1.3 Steering box

a)	The steering box, rack and pinion assembly, mounting brackets, bolts or couplings are cracked or loose.	Minor-Major
b)	The pitman arm is loose on the steering output shaft.	Minor-Major

1.4 Power steering

a)	Power assist cylinders are loose.	Minor-Major
b)	Power steering assemblies leak.	Minor-Major

NOTE: Dampness or staining around seals is acceptable.

1.5 Steering linkages

a)	Components are cracked, loose, missing worn or broken.	Major
b)	Threaded or tapered joints are loose.	Minor-Major
c)	Any free play due to wear in a ball joint exceeds manufacturers' specifications. Where these are not known or are no longer appropriate, the free play exceeds 3 mm.	Minor-6mm Major>6mm

NOTE: Some ball joints are spring loaded or are designed to have a certain amount of play.

1.6 Steered wheel suspension and linkage play

a)	Free play at the steered road wheel rim in a horizontal or vertical plane (excluding any necessary wheel bearing play) exceeds manufacturers specifications. Where these specifications are not known or are no longer appropriate, free play exceeds the amount below:	Minor

rim diameter (mm)	**free play (mm)**
up to 405	7
over 405 to 455	10
over 455	13

2. SUSPENSION

2.1 Axle locating devices

a)	U-bolts or other spring to axle or spring pack clamp bolts, centre bolts, spring eyes or hangers, torque, radius or tracking component assemblies, control arms, bushes or any parts used to attach them to the vehicle frame or axle are cracked, loose, broken, missing or worn beyond manufacturers limits.	Minor-Major

NOTE: Superficial crazing is acceptable on rubber bushes. This is often present on rubber suspension components even when new.

2.2 Springs

a)	Springs are cracked or broken:	
	• Main spring	Major
	• Supplementary spring	Minor-Major
b)	Rubber springs are cracked or missing.	Minor-Major

NOTE: Superficial crazing is acceptable on rubber bushes. This is often present on rubber suspension components even when new.

c)	Air bags leak.	Minor-Major
d)	Leaves in a leaf spring are displaced by more than 10% of their width or so that they contact wheels, brakes or the frame.	Major
e)	Shock absorbers (if originally fitted) or struts are missing, loose or do not work.	Minor-Major

2.3 Sliding axles

a)	Sliding axles do not lock securely in position or have lock pins missing or not engaging.	Major
b)	Secondary securing devices and locking indicators are not fitted or inoperative.	Minor

3. STRUCTURE AND BODY WORK

3.1 Exterior body panels and fittings

a)	Exterior body work or fittings on a vehicle have exposed sharp edges due to damage including corrosion or separated joints that could injure a person who comes into contact with the vehicle.	Minor-Major

3.2 Cabin and body condition

a)	Structural members of a body such as cross members, door sills, pillars or roof rails are cracked, broken or corroded to an extent that weakens the body or allows fumes to enter the cabin.	Minor-Major
b)	The cabin, body, sleeper compartment or load carrying areas are loose on the chassis or have missing mounting fasteners.	Minor-Major
c)	Tilting cabins or trays do not latch securely in their normal travelling position.	Major

3.3 Chassis

a)	The frame members of the vehicle are cracked, loose, sagging or broken.	Minor-Major
b)	The frame members supporting the steering gear, tow coupling engine, transmission, suspension or body are cracked loose or broken.	Minor-Major
c)	Frame members in load areas are missing or damaged.	Minor-Major

3.4 Doors, tailgates and compartment covers

a)	Hinges or slides for doors, tailgates, sidegates, hatches, bonnets or compartment covers are damaged or worn to the extent that any of these panels are likely to fall off, or passengers or loads held in the vehicle by them are likely to fall from the vehicle.	Minor-Major
b)	Door, gate, hatch, bonnet or compartment latches do not hold the panel securely in the closed position or do not allow passenger access doors to be opened.	Minor-Major

3.5 Bus passenger door controls

a)	Any controls for bus passenger access doors that are operated by the driver do not work properly.	Major

NOTE: A defect of this nature may not be considered as significant if the vehicle is used solely for private or non-commercial use.

3.6 Bus emergency exits

a)	Emergency exits do not have clear access or, where required, identification signs and operating instructions are not clearly visible.	Major
b)	Equipment necessary to operate the exit is not present.	Major
c)	The exit is broken, distorted or damaged in a way that stops it working properly.	Major
d)	Any warning device to indicate the operation or condition of the exit is not in working order.	Major

NOTE: Some emergency exits are designed to be used only once. Do not operate them for testing purposes.

3.7 Interior body panels and fittings

a)	Interior body panels or fittings on a vehicle have exposed sharp edges due to damage including corrosion or separated joints that could injure a person who comes into contact with them.	Minor-Major
b)	Interior fittings in a vehicle are not securely mounted.	Minor-Major
c)	Bus floor coverings are torn, worn or loose to an extent that they could trip passengers.	Minor
d)	Bus handgrips, handrails or handstraps are loose or damaged.	Minor-Major
e)	Bus passenger stop signals do not work.	Minor-Major
f)	Bus steps are damaged to an extent that they could trip or injure a person.	Major

3.8 Electrical equipment

a)	Electrical wiring or connectors are damaged or hanging loose in a way that could allow it to be damaged.	Minor-Major
b)	Batteries are not securely mounted or leak.	Minor

3.9 Cargo anchor points

a)	Slide rails, pocket rails, supports or associated welds in the cargo area are broken or cracked.	Minor-Major
b)	Floor rings in cargo areas are nicked, gouged, worn, bent, stretched or have broken welds.	Minor-Major

3.10 Rear bumper (semi trailers where required)

a)	The rear bumper on a semi trailer or its supports are cracked or loose.	Minor

NOTE: Bad bends or kinks are likely to affect the bumper's ability to withstand impact.

3.11 Spare wheel carriers

a)	A spare wheel carrier is broken or insecure.	Minor-Major

4. BRAKES

Brake equipment

4.1 Brake controls

a)	Rubber faced brake pedals have the metal showing or other brake pedals have the friction surface worn out.	Formal Warning
b)	Brake pedals or handles are broken or missing.	Major
c)	Brake control mountings, pivots or links are loose or broken.	Major
d)	A ratchet or locking device on a parking brake control does not hold the control in the applied position.	Minor-Major

4.2 Brake pipes and hoses

a)	Abrasions on brake hoses penetrate further than the outer protective covering.	Minor-Major
b)	Brake pipes, hoses or connections are cracked, broken, kinked or crimped, damaged by heat or have visible signs of collapse.	Minor-Major
c)	Brake pipes or hoses leak.	Minor-Major

4.3 Brake drums or discs

a)	Brake drums or discs are not fitted, have pieces missing or have cracks other than short heat cracks inside the drums.	Major
b)	Drums or discs are worn beyond the manufacturer's specifications.	Minor-Major

4.4 Brake operating mechanics and related components

a)	Brake related components are loose, missing or leaking.	Major
b)	Shoes, springs, anchor pins, cam rollers or bushes, pull or push rods, clevis pins, retainers or brake chamber mounting bolts are missing or broken.	Major
c)	Brake chambers (including chamber clamps) or camshaft support brackets are loose, bent or cracked.	Minor-Major
d)	Brake linings or pads are missing, broken or loose on their shoes or plates. Cracks or breaks in friction materials extend to rivet holes.	Major
e)	Callipers or wheel cylinders leak.	Major
f)	Linings or pads are contaminated with oil, grease or brake fluid.	Major
g)	The thickness of the linings or pads is less than the manufacturers recommended minimum. If this is not known, or is no longer appropriate the thickness of the linings or pads is less than: • 0.8 mm above the fastener, or • on bonded linings or pads: – *for vehicles with GVM over 4.5 tonnes*—1.5 mm above the shoe or pad backing plate; or – *for vehicles with GVM 4.5 tonnes or less*—0.8 mm above the shoe or pad backing plate.	Minor-Major
h)	Reservoirs, master cylinders or servo units are loose, cracked, broken, worn or damaged in a way that makes them leak.	Major
i)	The fluid level in a master cylinder reservoir is not within the range recommended by the manufacturer. If this is not known, the reservoir is less than 1/4 full.	Minor-Major

4.5 Air compressor/vacuum pump

a)	The air compressor or vacuum pump has loose mounting bolts or cracked or broken mounting brackets, braces or adaptors.	Minor-Major
b)	Drive pulleys are cracked, broken or loose.	Minor-Major
c)	Drive belts are loose, cracked through to reinforcing plies, extensively frayed or missing drive sections.	Minor-Major
d)	Filter units for air compressors or vacuum pumps are missing, loose or blocked.	Minor

Braking system operation

4.6 Failure indicators

a)	Any brake failure indicators do not operate when the ignition switch is put in the "check" position.	Minor
b)	Any compulsory pressure/vacuum gauges do not work.	Minor

NOTE: Defects of this nature may be considered more significant if the vehicle is used for commercial purposes.

4.7 Hydraulic brake system

a)	Under force applied for 10 seconds, after the initial travel the service brake pedal travels toward the floor; or	Minor-Major
b)	the brake system failure indicator comes on.	Minor-Major

4.8 Vacuum brake system

a)	If the vehicle is fitted with a low vacuum indicator, the indicator does not come on at a vacuum level of 25 kPa or more.	Major
b)	With the engine stopped, one application of the service brake with a moderate pedal force results in the low vacuum indicator coming on.	Major
c)	If a trailer is connected to a motor vehicle, operating the service brake of the motor vehicle does not cause the trailer vacuum brakes to come on.	Major
d)	With vacuum depleted from the system and with moderate steady force applied, the brake pedal does not travel towards the floor when the engine is started.	Major

4.9 Air brake system integrity

a)	With the reservoir fully charged, the engine stopped and the service brakes fully applied, the air brake pressure drops more than 20 kPa per minute. An additional drop per minute of 5 kPa is allowable for each trailer that may be attached.	Minor-Major
b)	With the engine stopped and the service brake released, the air brake pressure drops more than 15 kPa per minute. An additional drop per minute of 5 kPa is allowable for each trailer that may be attached.	Minor-Major
c)	A visual or audible warning device connected to the air brake system does not come on when the air pressure is lowered to not less than the following levels (unless the manufacturer specifies a different level): • 420 kPa for ADR35 vehicles, or • 350 kPa for pre ADR35 vehicles.	Minor-Major
d)	With the engine at the manufacturers recommended maximum speed and the compressor governor in the cut-in position, the air brake compressor does not increase the air pressure in the reservoirs to the fully charged level from the level recorded in (a) within: • 45 seconds for ADR35 vehicles, or • 30 seconds for pre ADR35 vehicles.	Minor
e)	The governor cut-in pressure is less than 550 kPa and the cut-out pressure more than 930 kPa unless other values are recommended by the manufacturer.	Minor-Major
f)	Air reservoir drain and check valves do not work.	Minor

4.10 Brake adjustment

a)	With the brakes fully applied, any stroke indicator runs out of travel or is activated.	Minor-Major
b)	Pull or push rods move more than 80% of their travel with the brakes fully applied.	Minor-Major
c)	Park brakes or emergency brake are not capable of being fully applied without the control running out of available travel.	Major

5. WHEELS AND TYRES

5.1 Wheels

a)	The rim of a wheel is cracked.	Minor-Major
b)	Disc wheels have cracks anywhere on the wheel.	Minor-Major
c)	Spider wheels have cracks across a spoke, hub or web area.	Minor-Major
d)	Tubeless demountable adaptors have cracks in the spokes.	Minor
e)	Welds attaching a wheel disc to the rim or a tubeless demountable rim to an adaptor are cracked or broken.	Major
f)	Cast wheels have missing pieces.	Minor-Major
g)	Wheels have weld repairs not in accordance with relevant industry practice.	Minor
h)	Valve protection lugs are missing.	Minor
i)	Wheels are not compatible with the hubs.	Minor-Major
j)	Wire spoke wheels have more than one spoke in each quadrant missing, loose or broken.	Major
k)	Wheel fasteners are missing, loose, cracked or stripped.	Minor-Major
l)	The fasteners are not of the correct type for the wheel being used or are not tightened in accordance with the manufacturer's specifications.	Minor-Major
m)	Fastener holes are worn to the extent that the fastener does not contact the wheel in the intended areas.	Major
n)	Fasteners allow a rim to slip.	Major

5.2 Retaining rings

a)	Lock or side rings are bent, cracked or broken.	Major

5.3 Tyres

a)	Tyres are not compatible with the rims.	Minor-Major
b)	Tyres are incorrectly inflated.	Minor
c)	Tyres have any visible chunking, bumps or bulges.	Minor-Major
d)	The breaker strip or casing ply is visible in the tread area.	Minor-Major
e)	Sidewalls of a tyre are cut, worn or damaged to the extent that the ply cord is visible.	Minor-Major
f)	The tyres or wheels on a vehicle contact the body, chassis, frame or unrelated braking, steering or suspension components.	Minor-Major
g)	Dual tyres contact each other.	Minor

6. LIGHTS AND REFLECTORS

6.1 Lights and reflectors

a)	The compulsory lights or reflectors do not work properly or are obscured.	day: Minor-Major night: Major
b)	Compulsory indicators or warning lights do not work.	Minor-Major
c)	Optional lights or reflectors interfere with the effective operation of compulsory lights and reflectors.	Minor

7. TOW COUPLINGS

7.1 Fifth wheels

a)	Fifth wheel mounting plate or sub frame assembly securing bolts are missing, broken or loose.	Minor-Major
b)	There is movement between the fixed mounting components.	Minor-Major
c)	There is more than 5 mm horizontal movement between the pivot bracket pin and bracket or a slider bracket and slide base.	Minor-Major
d)	There are cracks in mounting angles or plates, pivot brackets, slider components or coupler plates.	Minor-Major
e)	The fifth wheel pivot bracket pin/s or bushes are missing or insecure.	Minor-Major
f)	The locking mechanism on either side of a sliding coupling do not work.	Minor-Major
g)	End stops on slides are missing or insecure.	Minor
h)	King pin locking mechanism parts are missing or damaged to the extent that the king pin is not securely held.	Major
i)	The top and bottom mounting flanges and welds are loose, cracked, broken or missing.	Minor-Major
j)	The top and bottom plates, flanges and welds are cracked.	Minor-Major
k)	Ball bearing type turntables are worn beyond the manufacturer's specifications or to the extent that the upper and lower flanges or bearing halves contact each other, or the ball bearings seize.	Minor-Major

7.2 Skid plates

a)	The vertical or horizontal movement between the upper and lower fifth wheel halves of coupled vehicles exceeds 13 mm.	Minor-Major
b)	The king pin is worn or loose.	Major
c)	Skid plate or king pin on a semi trailer has missing or loose bolts.	Minor-Major
d)	Skid plates are cracked.	Minor-Major

7.3 Pins, drawbar eyes and pintle hooks

a)	Pins, drawbar eyes or pintle hooks have any missing, loose, broken or cracked fasteners.	Minor-Major
b)	The area that the pin or pintle hook is mounted on is loose or cracked or any latch is insecure.	Minor-Major
c)	The pin, pintle hook or any drawbar eye attachment welds have cracks.	Minor-Major

7.4 Drawbar/tongue

a)	A drawbar or a tongue is cracked.	Minor-Major
b)	There is more than 6 mm of movement between the subframe and hinged drawbar at the attachment point.	Minor-Major
c)	Any sliding drawbar latching mechanism does not work.	Minor-Major
d)	One or more stops on a sliding drawbar are missing.	Minor-Major
e)	A sliding drawbar has more than 6 mm of movement between the slider and the housing.	Minor-Major

7.5 Safety chains and cables

a)	Safety chains or cables are stretched, nicked, frayed, cracked or have insecure attachment points, clamps or fasteners.	Minor-Major

7.6 Tow bars and ball couplings

a)	Tow bars are loose, cracked or severely corroded.	Minor-Major
b)	The ball coupling is loose, cracked or the latch is broken.	Major

8. SEATS AND SEAT BELTS

8.1 Seats

a)	Seat frames or attaching points are loose, cracked or have fasteners missing.	Minor-Major
b)	Adjustment mechanisms do not work properly or any securing device does not hold the seat in the selected position.	Minor-Major

8.2 Seat belts

a)	Seat belts or their attaching points are loose, cracked or have fasteners missing.	Minor-Major
b)	Retractors, buckles or adjustment devices do not work.	Minor-Major
c)	Webbing is cut, burnt, twisted, frayed or has broken stitching.	Minor-Major

9. MIRRORS

9.1 Mirrors

a)	The minimum required reflective area of any compulsory rear view mirror has missing sections, is cracked or obscured.	Minor
b)	Mirrors are missing or not securely mounted.	Minor

10. WINDSCREEN AND WINDOWS

10.1 Windscreen and windows

a)	Glazing is loose in its frame or cracked to the extent that sharp edges are exposed.	Minor
b)	The windscreen is discoloured, obscured, badly scratched, sandblasted or fractured to the extent that it interferes with the driver's view.	Minor
c)	Fittings that obscure the driver's view are placed in the windscreen area.	Minor-Major
d)	Any cracks in a laminated windscreen penetrate more than one layer of glass or are more than 150 mm long.	Minor
e)	For the wiped area of the windscreen in front of the driver any bullseye or star fracture exceeds 16 mm in diameter so as to interfere with the driver's view.	Minor
f)	Windscreen wipers do not work.	Dry: Minor Wet: Major
g)	Wiper blade rubbers are missing.	Dry: Minor Wet: Major
h)	Wiper blade rubbers are cracked, hardened or frayed.	Minor
i)	Windscreen washers do not work.	Minor
j)	Windscreen demister does not work.	Minor

11. ENGINE, DRIVELINE AND EXHAUST

11.1 Exhaust system

a)	The exhaust system has missing or broken supports, hangers or fasteners.	Minor
b)	The exhaust system is holed or has leaks that allow fumes to enter the passenger compartment or sleeper cab.	Minor-Major

11.2 Engine and driveline

a)	The engine of a vehicle lets out sparks, flames, excessive gases, oil or fuel residue.	Minor-Major
b)	Engine and driveline mounts are loose, cracked, broken or have missing components.	Minor
c)	Engine and transmission controls do not work.	Minor
d)	Fasteners on couplings in the driveline are missing or loose.	Minor-Major
e)	Seals on covers between the engine and the passenger compartment are missing, distorted or damaged in way that allows fumes to enter the passenger compartment.	commercial: Major other: Minor
f)	Emission control equipment is missing or is not working.	Minor
g)	The engine and driveline leak oil on to: • brake friction surfaces; • the exhaust, or • the road surface.	Minor
h)	A petrol engine vehicle with a positive crankcase ventilation system lets out crankcase fumes. Other petrol engine vehicles let out excessive crankcase fumes.	Minor

11.3 Fuel tanks (non LPG/CNG)

a)	Fuel tanks are not securely mounted, and any straps, supports, mounting brackets or fasteners are missing, loose or broken.	Minor-Major
b)	Fuel tanks are damaged or corroded so that leaks could result.	Minor-Major

11.4 LPG/CNG

a)	The certification period for the container has expired.	Minor
b)	The container has gouges, bulges, is badly corroded or not securely anchored.	Minor-Major
c)	The container has dents or creases longer than 75 mm.	Minor
d)	A dent in the container is deeper than 10% of the dent's width.	Minor
e)	The compartment housing the gas container or the subcompartment on the container is not structurally sound.	Minor
f)	A joint, conduit connection or pipe bulkhead seal leaks. Conduits are kinked, damaged or badly deteriorated.	Minor-Major
g)	Service valves, excess flow valves, fuel lock valves or other controls and devices do not work.	Minor-Major
h)	Filler couplings are dirty or damaged.	Minor-Major
i)	The filler cap is not securely attached. The sealing washer is missing or is badly deteriorated.	Minor-Major
j)	The filler valve housing is loose. The remote fill line is damaged.	Minor-Major
k)	Containers, valves, connections or pipes leak.	Major

12. MISCELLANEOUS

12.1 Fire extinguishers (where required)

a)	Fire extinguishers are not filled or charged.	Minor
b)	Handles, nozzles or hoses of fire extinguishers are missing or damaged.	Minor
c)	The extinguishers are not securely mounted in the vehicle.	Minor

ATTACHMENT B

VEHICLE DEFECT NOTICES, LABELS AND CLEARANCE

1. INFORMATION REQUIRED ON A VEHICLE DEFECT NOTICE

Subregulation 40 (2) of the Road Transport Reform (Heavy Vehicles Registration) Regulations sets out the minimum information to be included on a vehicle defect notice:

- Registration details including the registration number, unregistered vehicle permit number (if practicable and applicable), expiry date and jurisdiction of registration.
- Name of the driver of the vehicle or, if the driver is not present when the notice is issued, the term "registered operator".
- To the extent practicable, the vehicle's identification details including its VIN, or if there is no VIN, the chassis number or engine number, its make and type.
- Type of inspection conducted (visual, full roadside, workshop).
- Details of the vehicle's defects and whether the notice is a major vehicle defect notice or a minor vehicle defect notice.
- Time and date after which the vehicle is not to be used on a road or road related area.
- Means by which the vehicle must be moved to another location following issue of the vehicle defect notice, including whether it is required to be towed or carried. (This may include a direction that the vehicle be moved to a specific location, ie the nearest town.)
- Repair requirement, including the date after which the vehicle must not be used on a road or road related area, unless the defects have been rectified.
- Whether an infringement notice was also served in relation to the defect at that time.
- Name, official number or other identification of the member of the police force, or the registration authority who issued the notice.

In addition to this mandatory information, the notice should indicate:

- How the notice may be cleared (including whether a partial or full inspection is required) in accordance with regulation 41 (page B3); and
- That the vehicle's registration may be suspended if the defects are not remedied, and if the vehicle remains defective after a specified time, its registration may be cancelled in accordance with regulation 34.

2. INFORMATION REQUIRED ON A DEFECTIVE VEHICLE LABEL

Subregulation 40 (5) of the Road Transport Reform (Heavy Vehicles Registration) Regulations sets out the minimum information to be included on a defective vehicle label:

- Registration number.
- Time and date after which the vehicle is not to be used on a road or road related area.
- Means by which the vehicle must be moved to another location following issue of the vehicle defect notice, including whether it is required to be towed or carried. (This may include a direction that the vehicle be moved to a specific location, ie the nearest town.)
- Name, official number or other identification of the member of the police force, or the registration authority who issued the vehicle defect notice.
- Date of issue of the label.
- Serial number of the defect vehicle defect notice to which the label relates.

3. RECORDING AND CLEARANCE OF VEHICLE DEFECT NOTICES

The recording and clearance requirements for vehicle defect notices are set out in regulation 41 of the Road Transport Reform (Heavy Vehicles Registration) Regulations.

The registration authority must record the following details in the register in relation to the defective vehicle:

- Serial number of the notice.
- Clearance date (if any) shown on the notice.

The registration authority may require an inspection to be conducted to determine whether the defects described in a vehicle defect notice have been rectified and that the heavy vehicle does not have any other defects. The notice will state whether the vehicle requires a full or partial inspection.

A vehicle defect notice may be cleared by the registration authority, a corresponding registration authority, or an authorised person.

A vehicle defect notice is cleared when:

- The registration authority receives evidence, in a form approved by the authority, that the vehicle is no longer defective.
- In the case of a major vehicle defect notice—the authority allows the defective vehicle label to be defaced or removed from the vehicle.

The registration authority must record in the register that the vehicle defect notice has been cleared.

A member of the police, or the registration authority who issues a vehicle defect notice may withdraw that notice at any time, by notifying the person to whom the notice was issued, and recording the withdrawal in the register.

ATTACHMENT C

FACTORS WHICH CAN AFFECT THE RISK OR SEVERITY OF A CRASH

FACTORS WHICH CAN AFFECT THE RISK OR SEVERITY OF A CRASH

The risk levels indicated in this Attachment are approximate and are for guidance purposes only. They are based on statistical reports on road crashes and research papers on road crashes and road design. Road user factors such as age, alcohol and fatigue are not included.

TYPE OF ROAD

All other factors being equal and where the road is experiencing a normal volume of traffic, the type of road (two lane undivided, four-lane divided, freeways etc) does not have a major influence on the risk of a crash. In other words, the risk of having a *serious* crash along a given kilometre of road is similar for all types of roads carrying their design volume of traffic. Better quality roads tend to be constructed where traffic volumes and conditions warrant them and higher traffic volumes and speeds tend to offset the improved safety of the road.

POSTED SPEED LIMIT

In general the proportion of crashes which are serious increases as the speed limit increases. A crash occurring in a 100km/h zone is twice as likely to be serious than a crash in a 60km/h zone (**risk level = 2** in the case of 100km/h zones).

ROAD FEATURES

Crashes are about three times more likely to occur on winding and/or hilly roads than on straight level roads (**risk level = 3** for winding or hilly roads). In the case of very steep roads (such as those having a special heavy vehicle speed limit) the likelihood of a crash might exceed ten times that on straight level roads. Defects affecting brake or steering performance are much more serious in these circumstances.

TRAFFIC DENSITY

Up to a point the risk of a crash increases as traffic density increases. Once the traffic becomes so heavy that it moves at much lower speeds than the posted speed limit then the risk of a crash reduces (eg. peak hours in urban areas). Crash risk is small in remote areas due to very low traffic densities.

WEATHER

The risk of a crash is about three times higher in wet weather than in the dry (**risk level = 3** for wet weather conditions). Defects affecting visibility, brake performance and tyre performance are more serious in these circumstances.

TIME OF DAY

The risk of a crash at night is about twice that in daylight (**risk level = 2** for night-time). Defects affecting visibility (eg. windscreen, headlights) and being seen (eg. rear position lights) are more serious at night.

TYPE OF VEHICLE

The risk of a crash (eg. reported crashes per million vehicle kilometres) is about the same for all types of vehicles except motor cycles, which are ten times more likely to be involved in a crash. However, if a crash does occur then it is almost twice as likely to be *serious* if a heavy vehicle is involved than if a car is involved (**risk level = 2** for a heavy vehicle). In other words, the consequences of a heavy vehicle crash (irrespective of the "cause" of the crash) are likely to be more serious than that for other vehicles (except motorcycles).

NATURE OF LOAD

The type of goods carried and the manner in which they are restrained might have an influence of the outcome of a crash. For example, defects on a vehicle which is carrying dangerous goods are usually more serious than those on a vehicle which is carrying general freight (**risk level = 2** for vehicles carrying dangerous goods).

Table 3: Examples of "high" and "low" overall risks

Overall Risk	**Typical Examples**
High	• Road with steep grades and/or numerous bends during wet weather at night. • Heavy vehicle on road with steep grades or numerous bends during wet weather or at night. • Heavy vehicle amongst dense traffic travelling at more than 80km/h during wet weather or at night. • Roads with speed limit in excess of 80km/h during wet weather at night. • Petrol tanker on road with steep grades or numerous bends.
Low	• Flat, straight roads with low traffic densities. • Roads in remote areas.

ATTACHMENT D

EXAMPLES OF CLASSIFICATION OF DEFECTS

EXAMPLES OF CLASSIFICATION OF DEFECTS

This section provides examples of classification of defects, taking into account the *overall crash risk* (section 4) and the *effect of the defect* (section 5.1). In classifying the examples, consideration has been given to the prior knowledge of the driver/owner about the presence of a defect/hazard, and the opportunity for roadside repairs (eg. changing a tyre).

This list is confined to cases where classification of the defect depends on *contributing factors* (highlighted with italics) (section 4.2) at the time of the inspection, but it is not intended to be a complete list of such defects.

Table 4: Examples of Classification of Defects

Effect of Defect	Description of defect	Defect Classification		
		Overall Crash Risk in absence of defect (section 4)		
		High	Medium	Low
Driver's view	Inoperative wiper on driver's side *when rain is falling or is likely*	Major (ground)	Major	
	Both low beam headlights inoperative *at night*	Major (ground)		Major
	Severely scored or damaged windscreen on driver's side *at night or when rain is falling or is likely*	Major	Minor	
Control of Vehicle	Audible air leak (leak rate specified in Roadworthiness Guidelines) *in vicinity of steep grade*	Major (ground)		N/A[1]
	Grossly deficient brake performance (overall braking effort less than 2.8kN/tonne of vehicle mass[2])	Major (ground)		Major
	Brake ineffective on 20% of wheels or more (less than 2.8kN/tonne per wheel[2]) *when in vicinity of steep grade*	Major (ground)		N/A
	Inoperative power steering (where manual steering effort is excessive)	Major (ground)	Major	
	Non-steering tyre with severe carcass damage, cuts or bulges	Major (ground)	Major	
	Bald tyres (insufficient tread depth[3]) on more than 50% of the tyres in any axle group *when the road is likely to be wet*	Major (ground)	Major	
Other road users	No red lights *at night*	Major (ground)	Major	
	Missing mud guards	Minor	Warning	

[1] Where "N/A" (not applicable) is shown, it indicates that the factor results in that level of risk (high, medium or low) being inapplicable.

[2] Braking criteria refer to measurements with a roller brake testing machine or similar for vehicles complying with Australian Design Rules 35 and 38, covering heavy vehicles brakes.

[3] Refer to the Standards for tyre tread requirements.