Guidelines for the Provision of Heavy Vehicle Rest Area Facilities

Edition 1.1
Abstract
Heavy vehicle rest areas (HVRAs) are provided to help heavy vehicle drivers manage fatigue and comply with driving hours regulation. To aid road managers assess the need and prioritisation for HVRAs, as well as prompting consideration of issues relating to planning and design concepts, Austroads has produced this document – *Guidelines for the Provision of Heavy Vehicle Rest Area Facilities*.

This document draws on and provides an update to the 2005 National Transport Commission Guidelines. It also incorporates guidance outlined in *A Proposed HVRA Needs and Prioritisation Methodology*, published by Austroads in 2012. This document supersedes those two documents.

Edition 1.1 has been updated to include new guidance relating to heavy vehicles transporting dangerous goods, capacity of HVAR to accommodate Oversize/Overmass (OSOM) vehicles, as well as additional minor amendments.

Keywords
Fatigue, Freight, Heavy vehicle rest area (HVRA)

This report has been prepared for Austroads as part of its work to promote improved Australian and New Zealand transport outcomes by providing expert technical input on road and road transport issues.

Individual road agencies will determine their response to this report following consideration of their legislative or administrative arrangements, available funding, as well as local circumstances and priorities.

Austroads believes this publication to be correct at the time of printing and does not accept responsibility for any consequences arising from the use of information herein. Readers should rely on their own skill and judgement to apply information to particular issues.
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Acknowledgement is also given to work undertaken in previous projects that the current Guidelines (this document) have drawn on, in particular ‘National Guidelines for the Provision of HVRA Facilities’ published by NTC in 2005 and ‘A Proposed HVRA Needs and Prioritisation Methodology’, published by Austroads in 2012.

Finally, acknowledgement is given to work undertaken by jurisdictions both nationally and internationally in development of jurisdictional HVRA guidelines. The Queensland Department of Transport and Main Roads guidelines, published in 2014, formed a basis for these Guidelines. Jurisdictional guidelines were reviewed during the course this project, and then adapted and further developed to form the Guidelines in this document.
Summary

Heavy vehicle drivers are often required to work for long hours. To help drivers manage fatigue and comply with driving hours regulations (by providing an opportunity for sleep and rest breaks), heavy vehicle rest areas (HVRAs) may be provided. The successful operation of HVRAs depends on many factors. These include planning, design, construction and maintenance.

This document – Guidelines for the Provision of Heavy Vehicle Rest Area Facilities – provides guidance for road managers on assessing the need and prioritisation for HVRA, as well as prompting consideration of issues relating to planning and design concepts in the initial set out of HVRA. While construction and maintenance needs are noted, road managers should consider these issues in their local context as well as how decisions may impact the final planning and design of the HVRA. The guidance considers both long (e.g. sleep) and short-term rests which will aid the freight industry to support safe heavy vehicle operations while meeting their workplace goals within the prescribed heavy vehicle driving hours regulatory framework.

This document provides road managers with guidance on various types of HVRA:

- **Formal HVRA**: Are provided/maintained by road managers to support driver rest needs. These Guidelines identify five classes of formal HVRA.

- **Informal HVRA**: Are not established by the road manager, rather they have evolved through ongoing use by heavy vehicles. These Guidelines identify one type of informal HVRA.

These Guidelines also recognise that other rest opportunities may be available at towns (small and large towns along a freight route and where rest by heavy vehicles is permitted and encouraged by the local government in which the town is located) and commercial facilities (including service centres and roadhouses).

These HVRA Guidelines are intended to provide general guidance and to highlight some of the key aspects to consider when designing different types of HVRA. The types of HVRA outlined in this document are intended to reflect best practice and prompt consideration of key aspects. Actual practice will depend on jurisdiction practice, available funding and resources for construction as well as ongoing maintenance. These Guidelines do not replace the need for engineering judgement in the planning for and designing of HVRA.
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1. Introduction

1.1 Context

While people traditionally think of fatigue as ‘sleepiness’, it is much more than just a desire to sleep. The
definition of the term fatigue covers a wide range of characteristics, including sleepiness, drowsiness and
feeling tired or weary (National Transport Commission (NTC) 2016). Each outcome has its own causes,
symptoms and treatments.

Fatigue may be caused due to a variety of reasons. One common cause of fatigue is from not having
sufficient sleep within a prescribed timeframe. It may also be a result of a lack of motivation, feeling weary or
a degradation of concentration, for example from doing a repetitive task (such as driving) for a long time.

In the context of driving a heavy vehicle where the driver may be feeling fatigued, but not sleepy, the remedy
may be a change of task. However, where a driver’s sense of fatigue is associated with feeling sleepy the
only treatment for the driver is sleep.

Road managers can help drivers manage their fatigue through provision of rest opportunities. Heavy vehicle
rest areas (HVRAs) are provided to help heavy vehicle drivers manage fatigue and work within driving hours
limits. Rest opportunities may also be available at other facilities such as commercial or in town facilities.

This report – Guidelines for the Provision of Heavy Vehicle Rest Area Facilities – is designed to assist road
managers in assessing the need and prioritisation for HVRAs, as well as prompting consideration of issues
relating to planning and design concepts in the initial set out of HVRAs.

Provision of HVRAs on the road network, with parking space dedicated for use by heavy vehicle drivers,
enables heavy vehicle drivers to rest so that they are more alert and safer when driving. This supports the
Safe System objectives, and the ‘Safe People’ cornerstone (Australian Transport Council 2011;
Austroads 2013a).1 Alert and safe heavy vehicle drivers contribute to a safer road environment with less risk
of fatality and serious injury crashes. Not only does the provision of HVRAs lead to a safer freight task, it also
increases the reliability of freight across the entire supply chain. As reported by the National Truck Accident
Research Centre in the 2017 Major Accident Investigation Report (National Transport Insurance (NTI) 2017),
fatigue contributed to 12.2% of insurance losses nationally (within the NTI-insured heavy vehicle fleet). This
percentage has remained static for several years and is the focus of significant state and national investment
programs. Ensuring that freight arrives at its destination with reduced levels of damage or loss, financial or
otherwise, is an important factor in managing the growing freight task, improving the safety of people working
in the road freight industry, and maximising the economic benefits of the freight system.

There is a shared responsibility in addressing driver fatigue and road safety issues more broadly:

- Road managers are responsible for providing HVRAs. These Guidelines are intended to assist with this
  aspect.

- Heavy vehicle drivers and operators need to plan journeys in accordance with heavy vehicle fatigue
  management regulations. This includes consideration of available HVRAs and viewing their vehicle as a
  workplace.

- Clients need to pay fair and reasonable prices to transport goods, recognising their position in the chain
  of responsibility (CoR) and the effect that unrealistic delivery deadlines can have on fatigue and
  compliance with the law.

1 Safe System principles have been acknowledged in successive national road safety strategies and action plans since 2003 as the
guiding principles for road safety programs in Australia. The Safe System framework is key to the National Road Safety Strategy
2011–2020 (Australian Transport Council 2011) as well as Austroads guides (e.g. Austroads 2013a).
These Guidelines have been developed to: (a) assist road managers in planning for the implementation of HVRAs through outlining the types of HVRA available, (b) provide guidance on how to assess the need and prioritisation of HVRAs, and (c) outline the principles of good HVRA design. In doing so, the aim is that these Guidelines will assist road managers to plan for an environment which supports heavy vehicle drivers to rest before they re-commence driving. As such, it considers the provision for both long (e.g. sleep) and short rests.

Application of these Guidelines by road managers will assist the freight industry to support safe heavy vehicle operations while meeting their workplace goals within the prescribed heavy vehicle driving hours regulatory framework.

1.2 Background

In recognition of the growing freight task as well as changes to the driving hours regulations, there was an identified need to update the 2005 National Transport Commission National Guidelines for the Provision of Rest Area Facilities (National Transport Commission 2005). As such, these Guidelines draw on and provide an update to the 2005 NTC Guidelines. It also incorporates guidance outlined in A Proposed HVRA Needs and Prioritisation Methodology (Austroads 2012). This report supersedes those two documents.

In updating the previous NTC Guidelines, a review of jurisdictional Guidelines, both nationally and internationally, was undertaken. These jurisdictional guidelines were explored during the literature review, with concepts reviewed during the stakeholder consultation and then adapted and developed further to form the Guidelines in this report. A bibliography of all references reviewed as part of the literature review is contained at the end of this report. A list of stakeholders consulted is outlined in the Acknowledgements.

The term ‘road manager’ is used throughout these Guidelines. The term refers to national or state road agency, municipality, other body or individuals responsible for the care, control and maintenance of road infrastructure. A glossary of terms used Guidelines is provided at the end of this report.

1.3 Purpose of the Guidelines

The purpose of these Guidelines (this document) is to assist road managers in the planning, design and prioritisation of HVRA facilities that accommodate the need for sleeping opportunities during heavy vehicle work.

While the Guidelines focus on heavy vehicle use of HVRAs, it is recognised that many HVRAs cater for both light and heavy vehicles. They therefore consider light vehicle needs and usage where appropriate.

1.4 How to Use the Guidelines

The flowchart in Figure 1.1 outlines the steps involved in identifying the need for HVRAs and deciding on where to put them and how good they should be. Spacing and placement of HVRAs are fundamental to their ability to safely and effectively facilitate adequate rest for drivers. Guidance on the spacing, proximity to towns and commercial facilities, and physical placement of HVRAs is discussed in Section 4.3.
Key points to consider when using these Guidelines are as follows:

- These Guidelines are for planning purposes only. They are not prescriptive but rather they provide background and general guidance on factors to be considered in the design and planning of HVRAs.

- The types of HVRAs outlined in these Guidelines are intended to reflect best practice and prompt consideration of key aspects. Actual practice will depend on jurisdictional practice, available funding and resources for construction as well as ongoing maintenance.

- The Guidelines do not replace engineering judgement; rather, they provide an overview of key aspects to be considered, in conjunction with local road manager guidelines and policy, to support appropriate engineering judgement during the planning and design of HVRAs.

- The Guidelines provide advice on some of the key features to be considered for various classes of HVRAs. The aim is to help road managers plan for the implementation of HVRAs. Road managers should not only plan for the implementation of HVRAs but should also consider how to communicate information on the HVRAs to heavy vehicle drivers to assist their journey planning, including planning their rest breaks. They provide advice on use of on-road signage, ITS and other emerging technologies.

- Features incorporated within a HVRA will be influenced by various aspects. Engineering judgement must be exercised by the designer regarding the parameters and elements that are incorporated into designs. Users of these Guidelines must apply suitable risk management practices when determining designs, to avoid the construction of inappropriate or counter-intuitive HVRAs.

- These Guidelines recognise that there are different types of HVRA. The actual type of HVRA and the frequency along a freight route will need to be determined by the road manager responsible.

- These Guidelines focus on HVRAs provided or maintained by road managers. It is recognised that rest opportunities may also be available at other facilities such as commercial or in-town facilities.
• In conjunction to using these guidelines, road managers should consult with industry (e.g. Australian Trucking Association, NatRoad, etc) and other stakeholders to determine how to assess, plan, design and implement HVRA along freight corridors to deliver a safe freight network. An example of where road managers and regulators are already working with industry and other stakeholders to deliver a safe freight network is discussed in Appendix A and Appendix B.

• While ensuring adequate facilities and capacity are available to accommodate heavy vehicle drivers’ needs is critical, road managers need to be mindful of minimising fatigue for all drivers. These Guidelines provide guidance on managing interactions between light and heavy vehicles at sites where both are accommodated. Issues relating to the use of HVRAs by light vehicles are also discussed.

1.4.1 Mapping HVRA Classification Terminology

Terminology used to describe HVRA facilities varies across jurisdictions. It is therefore acknowledged that the terminology in this document may be different from that used by some jurisdictions. Table 1.1 compares HVRA classification terminology used in different jurisdictions and throughout these Guidelines.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Current HVRA classification used by road managers</th>
<th>HVRA classification used within these guidelines (see Section 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales (Roads and Maritime Services NSW)</td>
<td>Major HVRA</td>
<td>Class 1 or 2 HVRA</td>
</tr>
<tr>
<td></td>
<td>Minor HVRA</td>
<td>Class 3 or 4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Truck parking bays</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td></td>
<td>Truck informal HVRA</td>
<td>Informal HVRA</td>
</tr>
<tr>
<td>Victoria (VicRoads)</td>
<td>Major HVRA</td>
<td>Class 1 or 2 HVRA</td>
</tr>
<tr>
<td></td>
<td>Minor HVRA</td>
<td>Class 3 or 4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Truck parking bays</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td></td>
<td>Truck informal HVRA</td>
<td>Informal HVRA</td>
</tr>
<tr>
<td>Queensland (Department of Transport and Main Roads)</td>
<td>Type A</td>
<td>Class 1 or 2 HVRA</td>
</tr>
<tr>
<td></td>
<td>Type B</td>
<td>Class 3 or 4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Type C</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td></td>
<td>Informal HVRA</td>
<td>Informal HVRA</td>
</tr>
<tr>
<td>Western Australia (Main Roads Western Australia)</td>
<td>Major HVRA</td>
<td>Class 1 or 2 HVRA</td>
</tr>
<tr>
<td></td>
<td>Minor HVRA</td>
<td>Class 3 or 4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Heavy vehicle HVRA</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td>South Australia (Department of Planning, Transport and</td>
<td>Major HVRA</td>
<td>Class 1 or 2 HVRA</td>
</tr>
<tr>
<td>Infrastructure)</td>
<td>Minor HVRA</td>
<td>Class 3 or 4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Truck parking bay</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td>Tasmania (Department of State Growth)</td>
<td>Truck parking bay</td>
<td>Class 5 HVRA</td>
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<tr>
<td>Northern Territory (Department of Infrastructure,</td>
<td>Rest areas (light vehicles only)</td>
<td>N/A</td>
</tr>
<tr>
<td>Planning and Logistics)</td>
<td>Truck parking bay</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td>Australian Capital Territory (Transport Canberra and</td>
<td>Truck lay-bys</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td>City Services Directorate)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand (New Zealand Transport Agency)</td>
<td>HVRA</td>
<td>Class 1–4 HVRA</td>
</tr>
<tr>
<td></td>
<td>Viewing places</td>
<td>No equivalent</td>
</tr>
<tr>
<td></td>
<td>Utility points</td>
<td>Class 5 HVRA</td>
</tr>
<tr>
<td></td>
<td>Historical or cultural places</td>
<td>No equivalent</td>
</tr>
<tr>
<td></td>
<td>Composite areas</td>
<td>No equivalent</td>
</tr>
</tbody>
</table>
2. Types of HVRAs

These Guidelines present five formal HVRA classifications and one type of informal HVRA. Other facilities may also provide rest opportunities (such as commercial or in-town facilities, see Section 4.2.3).

Design considerations for different types of HVRA are outlined in Section 3.4:

- **Formal HVRA** are provided/maintained by road managers to support driver rest needs.
  
  An overview of the different concept designs are outlined in Table 2.1 with more detailed concept design drawings presented in Appendix C. Details on the design of formal HVRA are discussed in Section 4.2.1 with details on the key elements of the formal HVRA discussed.
  
  Section 4 outlines key safety features and recommended amenities by HVRA classification.

- **Informal HVRA** are HVRA that have evolved through obvious signs of use by heavy vehicles; they were not established by the road manager. They may or may not be maintained by the road manager.
  
  Further details on informal HVRA are discussed in Section 4.2.2, whilst guidance on the signage used on the approach to informal HVRA is discussed in Section 4.4.10.

Table 2.1: Overview of HVRA classification hierarchy

<table>
<thead>
<tr>
<th>HVRA classification</th>
<th>Concept drawing – basic image</th>
<th>Concept drawing with further details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="#" alt="Image of concept drawing 1" /></td>
<td>Appendix C.1</td>
</tr>
<tr>
<td>2</td>
<td><img src="#" alt="Image of concept drawing 2" /></td>
<td>Appendix C.2</td>
</tr>
<tr>
<td>3/4</td>
<td><img src="#" alt="Image of concept drawing 3/4" /></td>
<td>Appendix C.3</td>
</tr>
<tr>
<td>5</td>
<td><img src="#" alt="Image of concept drawing 5" /></td>
<td>Appendix C.4</td>
</tr>
<tr>
<td>Informal</td>
<td><img src="#" alt="Image of concept drawing Informal" /></td>
<td>Appendix C.5</td>
</tr>
</tbody>
</table>
3. Assessing Need and Prioritisation for HVRAs

This section provides guidance on:

- the need for a HVRA strategy (Section 3.1)
- assessing the need for expansion or new HVRAs (Section 3.2)
- prioritising the establishment or upgrade of HVRAs (Section 3.3)
- assessing the need for HVRAs along new sections of road (Section 3.4).

3.1 HVRA Strategy

A strategic approach for considering HVRA needs and opportunities is encouraged to support drivers’ rest needs. Strategic planning may involve the transport industry, local and state governments, and developers to identify and prioritise HVRA sites that will help meet fatigue management objectives, including those suitable for commercial development. An ongoing committee involving key stakeholders could manage development of the HVRA network on an ongoing basis.

A detailed HVRA strategy should be developed for major highways and significant freight routes. A HVRA strategy should, as a minimum, include consideration of the following:

- Identify the mix and volume of traffic currently using the route and the forecast growth in traffic and infrastructure requirements over the next 20 years, including potential increases in the use of High Productivity Freight Vehicles (HPFVs), which are usually longer than other vehicles. The composition of traffic and type of route (e.g. major freight route, high wide-load route, or commodity route) will affect the size, design and operation of HVRAs along a route.
- Develop an inventory of existing HVRAs located on the route, the types of services and facilities, estimates of current usage and future demand. This inventory should also include other rest opportunities not provided by the road manager.
- Identify gaps in the provision of HVRAs and facilities available and where HVRAs may be over-represented.
- Develop a plan to detail the types of HVRAs required, their frequency and the facilities to be provided, the design specifications required, and the level of signage required. This plan should recognise other non-HVRA rest opportunities, including deficiencies at non-agency sites.
- Develop a program indicating the priority and costs of proposed improvements and upgrades for the route/network and a timetable for implementation (including consideration of the costs of infrastructure and ensure that mechanisms are in place to guarantee funding of HVRAs that are identified) – within jurisdiction's overall priorities for road network improvements.
- Encourage private enterprise to set up fully functioning service centres that could also act as other rest opportunities (see Section 4.2.3 for further discussion).
- Seek alternative and shared funding mechanisms (through other funding programmes) to assist road managers in the delivering of HVRAs throughout their respective jurisdictions.
- Work with local government and discuss opportunities for using local government assets for the provision of rest opportunities separate from HVRAs (e.g. other rest opportunities such as showgrounds and sale yards) where available.
- Work with local government to assist in the provision and maintenance of HVRAs.
The prioritisation for establishing and/or upgrading HVRAs should be based on maximising safety and operational outcomes within the available funding and resources.

Information about the HVRA network needs to be available to heavy vehicle drivers to assist them in their trip planning, including planning for their rests. This should be considered in the overall planning of a jurisdiction’s HVRA strategy (see Section 5 for further information).

The HVRA strategy should consider freight routes which cross jurisdictional borders. Consideration should be given to enabling planning and funding mechanisms and for neighbouring jurisdictions to discuss HVRA matters to facilitate the update or expansion of HVRAs along the entire route, not just for the segment of the route within the jurisdiction. The integration of planning, particularly when assessing the spacing of facilities, should also recognise that some freight journeys will cross borders.

### 3.2 Assessing the Need for Expansion/Upgrade or New HVRAs

The need for HVRAs on freight routes will depend on their length, remoteness and the level of freight traffic. As freight demand changes, it will be necessary to remain aware of the extent to which the existing HVRA network is satisfying the needs of heavy vehicle operators. Road manager staff will need to liaise with the local freight industry to aid in identifying the changing needs for HVRA provision. When reviewing freight routes, the route should be assessed to determine whether:

- existing rest opportunities are sufficient, including HVRAs and non-HVRA rest opportunities along the route
- greater capacity or a higher level of amenity at existing HVRA is required
- new HVRAs are required.

For each freight route being assessed, consider the distance between existing HVRAs (see Section 4.3). When reviewing the distance between HVRAs, consideration should be given to the start and end of the freight route and the distance between the first and/or last HVRA along the route and other contiguous freight routes. For freight routes that cross jurisdictional borders, consideration should be given to existing HVRAs that are located near the border in neighbouring jurisdictions, as these HVRAs may satisfy spacing needs.

For each HVRA along the freight route:

1. Consider whether the existing capacity and facilities satisfy the current demand. Note that a review of an existing rest area should also consider whether the facility meets the safety objectives sought (i.e. due to changes in operation or functionality).
2. Consider whether the existing capacity and facilities satisfy the future demand (see Section 4.6.8).
3. Consider whether it is feasible to expand or upgrade the existing HVRA; if an existing HVRA is unable to satisfy demand, and cannot be expanded due to local conditions, then provision of an additional HVRA should be considered.
4. For new HVRAs:
   
   a. an approximate location should be identified, taking into consideration spacing requirements (see Section 4.3) between adjacent (existing or proposed) rest opportunities (including HVRAs, depots, towns and commercial facilities)
   
   b. the appropriate HVRA type should be identified; where HVRAs are being upgraded to increase capacity, consideration should be given to whether the level of amenity provided remains appropriate, or whether this should also be upgraded
   
   c. or when expanding the capacity of an existing HVRA, the capital costs associated with these works, as well as maintenance costs, should be determined. Road managers have different approaches for assessing and determining capital and maintenance costs, and the relevant local approach should be used.
The process for deciding whether to expand or provide a new HVRA is outlined in Figure 3.1.

Figure 3.1: Decision process for expansion or new HVRA

3.3 Prioritising the Establishment or Upgrade of HVRAs

Prioritising HVRA projects can help maximise safety and operational outcomes within a jurisdiction’s decision-making framework. This section outlines a methodology for prioritising HVRA projects along one or many freight routes. The methodology provides guidance only and professional judgement should always be used. For each proposed new or upgraded HVRA along the selected freight route(s):

1. Select the highest applicable primary weighting from Table 3.1.

   Primary weighting factors are factors which directly influence the availability of HVRAs to assist drivers in managing their fatigue.

2. Select the highest applicable contributory weighting from Table 3.2.

   Contributory weighting factors prioritises consideration of other factors (such as crash history).

3. Once the primary and contributory weighting factors have been determined, select the corresponding priority rating from Table 3.3.

4. Once a priority rating has been determined, the HVRA needs should be ranked by the priority rating (identified in Step 3) from highest to lowest.

   Those with the highest priority ratings (i.e. Priority 7) would have preference for funding. Prioritisation of the establishment (of new) or upgrading (of existing) HVRAs should be undertaken to maximise safety outcomes (in terms of HVRA provision to help minimise fatigue) per dollar spent.

---

2 Consideration should be given to overall costs and safety benefits of a HVRA program. For example, several ‘low’ priority projects may have similar costs as one ‘marginally higher’ priority site, and thereby deliver an overall higher safety benefit. Professional judgment should be used during this decision-making process.
The primary and contributory weighting factors focus on improving safety, primarily giving high priority to sites where fatigue may be an issue. Where proposed new or upgraded HVRAs have the same priority rating, rank according to capital and maintenance costs to maximise the benefit per dollar spent. In addition, other criteria may be considered such as:

- improved productivity (e.g. reduced travel time and/or freight costs)
- improved access (e.g. improved access to ports, commercial/industrial centres, areas of population growth or tourist destinations)
- improved amenity (e.g. improved amenity and/or facilities at the HVRAs for drivers)
- environmental outcomes (e.g. reduced carbon transport footprint)
- benefit for other road users (e.g. provide HVRAs for other road users)
- industry input.

Table 3.1: Primary weighting factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Primary weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Spacing between HVRA and other rest stops that can accommodate heavy vehicles</td>
<td>Spacing not sufficient to facilitate drivers to comply with fatigue management regulations</td>
</tr>
<tr>
<td>Capacity of HVRA</td>
<td>Capacity not sufficient to satisfy current demand</td>
</tr>
</tbody>
</table>

Table 3.2: Contributory weighting factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Contributory weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i</td>
</tr>
<tr>
<td>Heavy vehicle safety (crash) record(1)</td>
<td>Heavy vehicle crash rates higher than overall crash rate</td>
</tr>
<tr>
<td>Heavy vehicle volume</td>
<td>High heavy vehicle volumes</td>
</tr>
<tr>
<td>Driving environment(2)</td>
<td>High demand driving environment</td>
</tr>
</tbody>
</table>

1 An assessment of the relationship between heavy vehicle crash rates and overall crash rates may be made in the manner usually employed by the relevant road manager. Appendix A presents a method that can be used for comparing heavy vehicle crash rates and overall crash rates.

2 High-demand driving environments may contribute to the onset of fatigue faster than lower-demand driving environments. For example, a high-demand driving environment may present one or more of the following characteristics: poor surface condition, windy and/or hilly roads, narrow lane widths, roadside hazards close to the carriageway, frequent intersections spacing, undivided carriageway.

3 It should also be noted that a monotonous and ‘low demand’ driving environment may also contribute to driver fatigue. This should be taken into consideration when considering appropriate weighting (i.e. a higher weighting could be adopted).
Table 3.3: Resulting priority rating

<table>
<thead>
<tr>
<th>Primary weighting</th>
<th>Contributory weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>i</td>
</tr>
<tr>
<td>A</td>
<td>7</td>
</tr>
<tr>
<td>B</td>
<td>6</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
</tr>
</tbody>
</table>

3.4 Assessing the Need for HVRAs Along New Sections of Road

Section 3.2 and Section 3.3 provide guidance on assessing the need for new HVRAs or upgrading existing HVRAs on an existing road. However, HVRA needs should also be considered during the planning stage of new road constructions such as new bypasses. The need for HVRAs along a new road would depend on the length of the road and the distance to existing HVRAs nearby that may be able to serve the rest needs along the new road segment. The design and spacing requirements for any HVRAs along the new road section should be in accordance with these Guidelines. Where the old section of road may no longer be used by through traffic, this could present an option for use as a HVRA.
4. Principles of Good HVRA Design

Roadside HVRAs are provided to give heavy vehicle drivers sleep and rest opportunities, as well as enabling drivers to check their vehicles and loads.

To facilitate this, the designer must have sufficient knowledge of a route on which a HVRA is to be located, the size, configuration and manoeuvrability of vehicles that typically use the route, driving hours regulations, and the interaction of all of these factors. The determination of HVRA suitability will generally be a judgement, based upon a combination of factors; prescriptive limits cannot be established to suit every situation.

The successful operation of HVRAs depends on many factors. These include planning, design, construction and maintenance. These Guidelines focus on issues relating to the planning and design concepts to be considered in the initial set out of HVRAs. While construction and maintenance are noted, road managers need to consider these issues in their local context as well as how decisions may impact the final planning and design of the HVRAs.

Users of these Guidelines should refer to the Section 1.4. These Guidelines should be used in conjunction with jurisdiction’s guidelines, engineering judgement and policy decisions to plan for and design HVRAs.

4.1 Overview

HVRA layout design should provide suitable facilities in an environment that promotes effective and safe rest and/or sleep opportunities. It is also necessary to ensure that there is adequate provision for vehicles and pedestrians to move safely within the site.

Table 4.1 presents an overview of the key safety features and amenities/extras to be considered for various classes of formal HVRAs. Further guidance regarding each element is provided in Section 4.3 to Section 4.6.

It is important to note that the design of each HVRA will vary with the expected traffic composition and volume. It is recognised that it may not be cost effective or practical to implement all features at all HVRAs. It is also possible that some of the facilities (such as toilets or a water supply) may be available at a nearby facility of another type, such as a commercial service centre. In these circumstances, the need for such facilities at the HVRA may reduce. Road managers need to exercise judgement and undertake consultation with industry to identify the necessary features. The design feature recommendations are reflected in the HVRA designs for Class 1 to Class 5, outlined in Section 4.2 and presented in Appendix C.
Table 4.1: HVRA facilities

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Facilities/features</th>
<th>Further discussion</th>
<th>HVRA classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spacing and placement</td>
<td>Demand-based spacing&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>Time</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td>Distance</td>
<td>Section 4.3</td>
<td>1 hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 mins</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 mins</td>
</tr>
<tr>
<td>Key safety features&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>Safe vehicle movement and access</td>
<td>Section 4.4.1</td>
<td></td>
</tr>
<tr>
<td>Capacity – present and forecast</td>
<td></td>
<td>20+ bays</td>
<td></td>
</tr>
<tr>
<td>Separation of light and heavy vehicles</td>
<td></td>
<td>15-20 bays</td>
<td></td>
</tr>
<tr>
<td>Separation of vehicles carrying noisy freight</td>
<td></td>
<td>10-15 bays</td>
<td></td>
</tr>
<tr>
<td>Separation for long-term/short-term visitors</td>
<td></td>
<td>5-10 bays</td>
<td></td>
</tr>
<tr>
<td>Unidirectional flow</td>
<td></td>
<td>5+ bays</td>
<td></td>
</tr>
<tr>
<td>No reversing movements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian safety and access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signage on approach and within HVRA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amenities/extras&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>All-weather seal</td>
<td>Section 4.5.1</td>
<td></td>
</tr>
<tr>
<td>Tables/benches</td>
<td></td>
<td>Section 4.5.2</td>
<td></td>
</tr>
<tr>
<td>Natural shade</td>
<td></td>
<td>Section 4.5.3</td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td></td>
<td>Section 4.5.4</td>
<td></td>
</tr>
<tr>
<td>Rubbish bins</td>
<td></td>
<td>Section 4.5.5</td>
<td></td>
</tr>
<tr>
<td>Lighting</td>
<td></td>
<td>Section 4.5.6</td>
<td></td>
</tr>
<tr>
<td>Toilets</td>
<td></td>
<td>Section 4.5.7</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>Section 4.5.8</td>
<td></td>
</tr>
<tr>
<td>Visitor information board</td>
<td></td>
<td>Section 4.5.9</td>
<td></td>
</tr>
<tr>
<td>Managed livestock effluent disposal sites</td>
<td></td>
<td>Section 4.5.10</td>
<td></td>
</tr>
</tbody>
</table>

1 Suggested spacing only. Actual spacing of HVRA should be based on a variety of factors. Refer to Section 4.3.1 for further guidance.
2 Additional issues (Section 4.6) should also be considered.

Key: ■ Facility/feature is required, ▲ Facility/feature should be provided where practicable, ○ Facility/feature is optional.
4.2 Types of HVRAs

This document outlines five classifications of formal HVRA (Section 4.2.1) and one informal HVRA (Section 4.2.2). Rest opportunities may also be available at other facilities such as commercial or in town facilities (see Section 4.2.3). The following sections describe the HVRA types and their typical uses.

4.2.1 Formal HVRAs

HVRAs provide an opportunity for drivers to sleep and take rest breaks as well as enabling drivers to check their vehicles and loads. Formal HVRAs are provided/maintained by road managers to support driver rest needs. Facilities and amenities provided at HVRAs vary depending on the class of HVRA (refer to Table 4.1 for an overview of the key safety features and amenities/extras to be considered). Some HVRAs cater specifically for heavy vehicle drivers; some provide separate parking for heavy and light vehicles, while others allow access for all vehicles.

These Guidelines outline five classifications of formal HVRA. Class 1 and Class 2 provide the highest level of service. Key operational principles for various classes of HVRA are outlined in Table 4.2.

Table 4.2: Key operational principles for different HVRA classes

<table>
<thead>
<tr>
<th>Key features/principles</th>
<th>HVRA classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 &amp; 2</td>
</tr>
<tr>
<td>Unidirectional flow</td>
<td>✓</td>
</tr>
<tr>
<td>No reversing movements (pull-through (clearway) capability)</td>
<td>✓</td>
</tr>
<tr>
<td>Safe vehicle movement and access, including accommodating dimensions reflecting the likely maximum truck size (this may include oversize/overmass (OSOM) vehicles operating under permit conditions)</td>
<td>✓</td>
</tr>
<tr>
<td>Minimise opportunity for conflict between vehicles and pedestrians</td>
<td>✓</td>
</tr>
<tr>
<td>Separation of light and heavy vehicles</td>
<td>✓</td>
</tr>
<tr>
<td>Separation of vehicles carrying noisy freight</td>
<td>✓</td>
</tr>
<tr>
<td>Separation for long term/short term visitors</td>
<td>✓</td>
</tr>
</tbody>
</table>

An overview of concept designs for each of the HVRA classes is presented in Table 2.1, with more detailed concept design drawings presented in Appendix C. It is important to note that the designs presented are conceptual only. Any genuine designs should reflect local practice while the dimensions and size of the HVRA (including the number of parking facilities, parking bay length) should accommodate the current and projected traffic composition and volume.

4.2.2 Informal HVRAs

Informal HVRAs are not established by the road manager, rather they have evolved through ongoing use by heavy vehicles. They may or may not be maintained by the road manager. Any informal HVRA may be upgraded to a formal HVRA should the location prove valuable to industry and the site characteristics being amenable to a formal facility.

Informal HVRA sites have no engineering design. Investigation should be undertaken to determine if they meet requirements outlined in Table 4.3. Where these requirements are met, they may be designated with green reflectors (known as the 3-2-1 Green Reflector scheme) rather than formal signage. Guidance on providing notice for informal HVRAs is discussed in Section 4.4.10. Sites marked with green reflectors should be checked regularly to ensure the quality of the site is maintained. Alternatively, reflectors should be removed if a site has deteriorated to an unsuitable condition for heavy vehicle use, or if the reflectors have been installed by parties other than the road manager.
Informal HVRAs should be de-commissioned and closed if their location and performance are less than desirable and if appropriate alternative HVRAs are located nearby.

Table 4.3: Site requirements for informal HVRAs (designation using 3-2-1 Green Reflector scheme)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| Site conditions | • Able to accommodate at least one of the largest heavy vehicles that legally operate on the route safely clear of the carriageway. Drainage system, road edge and embankment must not be detrimentally affected by heavy vehicle movements.  
• Hard standing area suitable for heavy vehicles to stand without damage or bogging.  
• Sufficient set back from roadside hazards to not prove to be an additional hazard to drivers, especially at night (i.e. gullies, drops in embankments). |
| Site access   | • Safe ingress and egress, good shoulder formation and a relatively smooth transition between the edge of the through lane and the HVRAs.                                                                            |
| Sight distance | • Minimum 200 m sight distance to each marker.  
• Entry/exit sight distance in accordance with jurisdiction’s guidelines.                                                                                                                                         |
| Placement     | • Consistent with formal HVRAs recommendations on topography, road alignment, environmental factors, proximity to freeway/motorway interchanges and local planning guidelines (see Section 4.3.2).  
• Should be in a safe location (a site risk/hazard assessment should be undertaken).  
• Located away from properties, rural access roads and intersections so headlight glare is not an issue.  
• Not located at the base of a hill, due to acceleration requirements of heavy vehicles.                                                                                                                   |
| Maintenance   | • Condition checks of guide posts and reflectors to ensure they are in place, unobstructed and clean.  
• Surface condition of the site should be periodically checked and maintained in accordance with jurisdiction’s guidelines.                                                                                           |

Source: Adapted from Queensland Department of Transport and Main Roads (2013); Roads and Maritime Services (2016).

4.2.3 Other Rest Opportunities

These Guidelines provide guidance on HVRAs provided/maintained by road managers. It is recognised that rest opportunities may also be available at other facilities such as commercial facilities (including service centres and roadhouses) and in town facilities as outlined below. These facilities may provide a higher level of service and amenity than HVRAs. These should all be considered as part of the HVRA strategy.

• Commercial facilities (including service centres and roadhouses)

These are commercial premises that may be considered premium HVRAs. They are built to accommodate all vehicle types, including heavy vehicles, and provide an opportunity to purchase items such as fuel and refreshments. Additional facilities (such as accommodation and showers) may be provided. Major motorways/freeways and highways are likely to feature service centres, while lower volume or remote highways may feature roadhouses. Parking at smaller facilities may be a combination of on-site and on-road parking, rather than a wholly on-site supply. Where appropriate, sites may be identified and prioritised for commercial development through planning and consultation with transport industry, local and state governments and developers. This planning could consider commercial viability, roles and risk sharing. In some cases, a HVRA previously provided by a road agency may become a commercial development. Alternatively, road agencies may consider working with commercial operators to make commercial facilities suitable for HV rest opportunities (see discussion below and Table 4.4).

• In-town facilities

Use of towns may provide opportunities for rest breaks, particularly where the towns provide facilities such as toilets, showers, fuel and food. However, use of towns as an alternative to HVRAs should be determined in consultation with local government, to ensure that use of the town as a rest area is supported by the town. In some instances, it may require provision of a suitable parking area for heavy vehicles in the town. Alternatively, an opportunity for parking and/or decoupling may be provided on the outskirts of town. Provision of coupling and decoupling areas is discussed further in Section 4.6.5.
Where use of a town is supported by the local government, this facility should be communicated to drivers as a potential HVRA in the same manner as HVRAs located between towns are communicated to drivers. Signage may also be needed to guide drivers to the appropriate stopping area within a town. Refer to Section 4.4.10 for discussion on signage.

Amenities available in towns and commercial facilities may vary from site to site and may not be available on a 24-hour basis. In these circumstances, consideration should be given to establishing a purpose-built HVRA.

To be recognised as a rest opportunity, and therefore considered as part of a HVRA strategy, commercial or town facilities should provide those elements listed below in addition to the elements listed in Table 4.4:

- be approved for use for rest by the operator of the commercial facility or approved by the local government responsible for the town
- adequate parking to satisfy demand (across a 24-hour period)
- desirably separate long-term and short-term rest areas to enable drivers to get adequate sleep if required (the long-term rest area should be located away from noisy areas)
- desirably facilitate unidirectional traffic flow
- provide for pull-through capability (i.e. no reversing movements)
- enable trucks to access the site in all weather
- be supported by on-road signage
- accommodate likely maximum truck size (including OSOM vehicles operating under permit conditions).

Table 4.4: Facilities typically available at commercial facilities and towns recognised as rest opportunities

<table>
<thead>
<tr>
<th>Key elements</th>
<th>Type of other rest opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commercial</td>
</tr>
<tr>
<td></td>
<td>Freeway/motorway service centre</td>
</tr>
<tr>
<td>Separation for vehicle types</td>
<td>►</td>
</tr>
<tr>
<td>Tables</td>
<td>◼</td>
</tr>
<tr>
<td>Seating</td>
<td>◼</td>
</tr>
<tr>
<td>Shelter</td>
<td>◼</td>
</tr>
<tr>
<td>Rubbish bins</td>
<td>◼</td>
</tr>
<tr>
<td>Natural shade</td>
<td>◼</td>
</tr>
<tr>
<td>Lighting</td>
<td>◼</td>
</tr>
<tr>
<td>Toilet</td>
<td>◼</td>
</tr>
<tr>
<td>Water</td>
<td>◼</td>
</tr>
<tr>
<td>Visitor information board</td>
<td>◼</td>
</tr>
</tbody>
</table>

Key: Facility/feature is likely to be present, Facility/feature may be present, Facility/feature is less likely.

Source: Adapted from Austroads (2012).

4.3 Spacing and Placement of HVRA

Issues relating to spacing and placement of HVRAs are fundamental to their ability to safely and effectively facilitate adequate rest for drivers. Guidance on the spacing, proximity to towns and commercial facilities, and physical placement of HVRAs is detailed below. Some issues discussed in Sections 4.4, 4.5 and 4.6 may influence decisions relating to spacing and placement of HVRAs.
4.3.1 Spacing

Spacing requirements for HVRAs will vary considerably across freight routes throughout Australia and New Zealand. Requirements on higher volume and relatively shorter freight routes are quite different from the less heavily trafficked, longer and extremely remote freight routes.

Between commercial facilities and/or towns

Intervals between rest areas depend on the classification of rest area, the volume and composition of traffic and the demand for parking and rest opportunities identified in the HVRA strategy for a given route. Other factors that may influence spacing of HVRAs include seeking to maximise safety within available funding and resources, consideration of heavy vehicle driver needs, crash risk factors, hazard assessments, ability for drivers to comply with fatigue regulations and jurisdictional guidelines. In view of this, the road manager may elect to implement spacing of HVRAs that accommodates (see Figure 4.1):

- Fatigue requirements – at a minimum (particularly on remote lower traffic volume freight routes), spacing will be influenced by the need to facilitate compliance with fatigue management regulations as well as speed limits, road and environment conditions. Consultation with industry may also help identify spacing that is convenient for drivers, as well as helping to facilitate compliance with fatigue management regulations. As traffic volumes (and therefore demand) increase along freight routes, it may be necessary to reduce spacing and/or increase the capacity of HVRAs.

- Demand-based spacing – as demand increases, the spacings outlined below (and in Table 4.1) are suggested. Ranges of distance are provided in recognition of the varying travel speeds that will be achieved by vehicles travelling in different road environments, due for example to traffic congestion in urban areas or steep grades in mountainous regions. Different classes of HVRA provide different facilities and therefore higher-order HVRAs may be spaced further apart from lower-order facilities:
  - Class 1 and Class 2 HVRAs should be approximately 1 hour of driving time or 70–100 km apart
  - Class 3 and Class 4 HVRAs should be approximately 30 minutes of driving time or 35–50 km apart
  - Class 5 HVRAs should be approximately 15 minutes of driving time or 15–25 km apart.

- Intermediate – where volumes are at an intermediate level, the spacing of rest areas to satisfy fatigue requirements may not provide sufficient capacity for all vehicles.

Spacing of HVRAs, and their individual capacities, need to be considered jointly. That is, it will be necessary to consider: (1) whether existing spacing provides sufficient rest opportunities for heavy vehicle drivers to comply with the fatigue management regulations, and (2) whether it is feasible to expand the existing HVRA to meet increasing demands (as traffic volumes increase). If an existing HVRA is unable to satisfy demand, and cannot be expanded due to local conditions, provision of an additional HVRA should be considered.

Spacing of HVRAs along a freight route should also take into consideration whether the location of need for a HVRA is between or is in proximity to towns and/or commercial facilities.

A route will often feature a mixture of HVRA types along its length. Provision of a higher-order HVRA may mean a route can have longer intervals between HVRAs, compared with shorter intervals where lower order HVRAs are provided. An example is illustrated in Figure 4.2.

It should be noted that inclusion of lower-order HVRAs at shorter intervals may be desirable due to the potential to then:

- accommodate increased demand along a route over time
- provide flexibility in rest opportunities for drivers
- provide dedicated HVRAs (rather than mixed light and heavy vehicle facilities).
It is noted that the spacing is suggested and may not be achievable for all heavy vehicle routes. For remote roads in particular, the actual spacing of HVRAs implemented by road manager should be determined based on their decision-making frameworks, with the objective of providing sufficient rest opportunities for heavy vehicle drivers.

Ultimately, the spacing of HVRAs between towns and/or commercial facilities will depend on many factors such as:

- heavy vehicle drivers’ needs, crash risk factors, hazard assessments, average annual daily traffic (AADT), traffic composition and available funding and resources
- ability of heavy vehicle drivers to be able to meet the fatigue management regulations along the route
- jurisdictional guidelines
- existing alternative stopping opportunities (including commercial facilities, informal HVRAs, heavy vehicle assembly areas and heavy vehicle wash down areas).

**Figure 4.1: HV rest area spacing based on HV volume and road environment**

**Figure 4.2: Example HVRA spacing**
Proximity to commercial facilities and/or towns

When commercial facilities or towns are present (and their use as a heavy vehicle rest opportunity is supported – refer to Section 4.2.3), these may be considered as part of the HVRA strategy along the route and treated as an equivalent Class 1 or 2 HVRA. Spacing of HVRAs before and after these opportunities may be in accordance with Table 4.1.

Consideration should be given to the impacts of town bypasses and whether this may impact opportunities for rest.

Use of a commercial facility or town should be communicated to drivers in the same manner as HVRAs. Refer to Section 4.4.10 for discussion on signage.

Where use of a commercial facility or town is not supported by the responsible operator or local government respectively, HVRAs may be located on the approach or departure side to accommodate the desired HVRA spacing. In these cases, heavy vehicle drivers should be encouraged to use the HVRA and not encouraged to use the commercial facility or town.

4.3.2 Placement

When planning new HVRAs or the upgrading of existing HVRAs, the physical site characteristics must be examined. This includes examining issues associated with topography, landmarks or the environment. The location of watercourses and utilities, the proximity to major interchanges and the need for additional land both now and in the future must also be examined. Scenic viewpoints should also be considered. A summary of issues for consideration relating to the placement of HVRAs is provided in Table 4.5.

Table 4.5: Issues for consideration relating to the placement of HVRAs

<table>
<thead>
<tr>
<th>Issue</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topography</td>
<td>The topography (such as deep gullies, rolling hills or high cuttings) should be taken into consideration. To maximise the safety and convenience for heavy vehicle drivers, HVRAs should not be located on steep grades. In addition, HVRAs should preferably be located:</td>
</tr>
<tr>
<td></td>
<td>• where there is adequate sight distance (in accordance with Austroads and road manager design guidelines) to facilitate entry and exit to the HVRA</td>
</tr>
<tr>
<td></td>
<td>• ideally on flat terrain (steep grades pose safety and access challenges for larger vehicles):</td>
</tr>
<tr>
<td></td>
<td>- where the topography is undulating, place the HVRA on or just after a hill crest; this will assist with deceleration, acceleration and reducing passing vehicle noise</td>
</tr>
<tr>
<td></td>
<td>- this should be supported by appropriate warning signs</td>
</tr>
<tr>
<td></td>
<td>- deceleration and acceleration lanes suitable for heavy vehicles to safely manoeuvre into/out of the HVRA should be provided</td>
</tr>
<tr>
<td></td>
<td>• so that flat ground can be provided within the HVRA, keeping in mind the need for adequate drainage. Flat terrain is more conducive to sleep. This point also applies to camper; beds are positioned across truck cabins and a camper on the parking area can affect a driver’s ability to sleep. In addition, some freight requires flat terrain to park (for example livestock).</td>
</tr>
<tr>
<td>Road alignment</td>
<td>HVRAs should be located on relatively straight road alignments, to maximise sight distance for drivers entering/exiting the facility.</td>
</tr>
<tr>
<td>Provided in pairs</td>
<td>HVRAs should be provided in pairs on freeways and major roads (i.e. on each carriageway for divided roads, on both sides of an undivided road, and within a short distance of each other). Where paired HVRAs cannot be provided opposite each other, they should be staggered in the direction of approaching traffic (so that a driver reaches the HVRA on the left side of the road before seeing one on the other side of the road) to discourage cross-median vehicular movements or right turns across opposing traffic, and to deter drivers from parking on shoulders and walking across the carriageway. On remote low-volume routes paired HVRAS may not be feasible. These should be located such that sight distance is adequate to allow drivers to safely turn right into the facility, and designed to encourage unidirectional flow within the facility.</td>
</tr>
<tr>
<td>Points of interest</td>
<td>Where a rest area is intended for both heavy and light vehicles, consideration should be given to existing landmarks, scenic viewpoints and tourist interest areas that may make the rest area attractive for passing motorists.</td>
</tr>
</tbody>
</table>
Guidelines for the Provision of Heavy Vehicle Rest Area Facilities

<table>
<thead>
<tr>
<th>Issue</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity to freight movement generators</td>
<td>HVRAs may be located to serve the needs of drivers travelling to freight generators (e.g. freight hubs, intermodal interchanges). Consideration should be given to providing a HVRA prior to freight generators, to provide a rest opportunity before undertaking activities at the freight movement generators (such as unloading and loading).</td>
</tr>
<tr>
<td>Environmental factors</td>
<td>To preserve the environmental qualities of an area, each potential site should be assessed to identify whether a HVRA may adversely impact local fauna and flora, water quality, noise quality or air quality.</td>
</tr>
<tr>
<td>Historical and cultural sites</td>
<td>Placement of HVRAs should avoid impacting areas of historical, archaeological or culturally significance.</td>
</tr>
<tr>
<td>Utilities</td>
<td>Access and availability of any required utilities (e.g. electricity or water) may influence the placement of a HVRA.</td>
</tr>
<tr>
<td>Proximity to freeway/motorway interchanges</td>
<td>Unless the HVRA is integrated with an interchange (which may be preferred due to other requirements of the installation), HVRAs should be located sufficiently distant from interchanges to separate manoeuvring associated with HVRA access from manoeuvring associated with the interchange (and therefore minimising potential operational and safety impacts). Where a potential site is located near a freeway interchange, a traffic analysis may be necessary:</td>
</tr>
</tbody>
</table>
- where a HVRA is to be established near an existing freeway interchange, a minimum distance of 500 metres from the end of the interchange ramp taper to the start of HVRA taper should be provided |
- where existing service facilities coincide with proposed interchanges, it may be possible to design the interchange to accommodate an existing, or an enhanced HVRA facility. If a service facility is located abutting a freeway off-ramp it should be designed to provide safe access from the ramp and discourage vehicles from parking along the ramp. |
| Land availability | Consideration should be given to reserving or acquiring necessary land to allow for expansions or upgrades to accommodate future demand (discussed further in Section 4.6.9). |
| Quiet location | This is particularly important for HVRAs that are used for sleeping. Busy HVRAs may experience high levels of noise which may pose problems for drivers wishing to sleep; consideration may be given to providing a secondary HVRA (possibly with fewer amenities) near a town, depot, trailer exchange or busy HVRA (that may be noisy with high turnover) as an alternative, quiet rest location. |
| Shielding from passing headlights | At HVRAs used for sleeping, the design should include visual barriers such as trees and shrubs, or other suitable barriers, to prevent disturbance caused by headlights of passing vehicles. This issue can also be addressed with careful design of parking space orientation (see Section 4.6.1). |
| Security | For low-demand facilities, consider locating the HVRA within view of the road to enable road traffic to provide a level of security. Appropriate lighting should also be provided with consideration given to the provision of CCTV and signage highlighting the presence of the HVRA. |
| Local planning guidelines | Where local planning guidelines exist (e.g. from the local government), these should be taken into consideration when considering placement (and design) for HVRAs. |
| Land acquisition | Issues relating to land acquisition (e.g. flora and fauna, farms, private residences, areas of historical or cultural significance) should be taken into consideration. |

4.4 Key Safety Features

This section provides additional details on the key safety features presented in Table 4.1.

4.4.1 Safe Vehicle Movement and Access

The design should accommodate safe ingress and egress (including deceleration and acceleration lanes where necessary) for all expected heavy vehicle types, in accordance with the required sight/stopping distances specified by the Austroads Guide to Road Design Part 4: Intersections and Crossings: General (Austroads 2017a) and any applicable road manager supplements.

The layout of the HVRA and its access roads/aisles should be designed to ensure safe operation and freedom of traffic movements and accommodate manoeuvring into and out of parking bays by all expected heavy vehicle types suited to the route. The Austroads Design Vehicles and Turning Path Templates Guide (Austroads 2013b) and AS 2890 (Set):2009 provide useful guidance.
4.4.2 Capacity and Parking Bay Size

The size of the HVRA will be largely determined by its required capacity. The capacity of a HVRA relates to the number of parking spaces available for heavy and/or light vehicles. Factors that should be considered when assessing capacity include length of stay, number of heavy and light vehicles using the HVRA, current and expected future demand, different types of heavy vehicles and different freight types (e.g. semi-trailers, B-Doubles, refrigerated, livestock, etc.) and the distance to next HVRA/rest opportunity. The largest heavy vehicle type expected on the route should be accommodated. Consideration should be given to whether the existing capacity meets current and/or projected demand as discussed in Section 4.6.8. Parking bay dimensions should meet the minimum requirements specified in the Austroads Guide to Traffic Management Part 11: Parking (Austroads 2017c) and in AS 2890 (Set):2009 Parking Facilities.

The capacity of the HVRA should take into consideration the potential and likelihood of OSOM vehicles using the site along with their potential to impact on its functionality. As outlined above, the design should accommodate the largest heavy vehicle types expected on the route. As OSOM operate under permit conditions they may be larger than typical. As such they may impact the functionality of the HVRA (e.g. blocking other HV users from using the site). Consideration should be given to approaches to help mitigate such issues and minimise impacts to other HVRA users. This may include planning to expand the capacity of existing HVRA or for the provision of additional HVRA (see Section 4.3.1).

4.4.3 Separation of Light and Heavy Vehicles

Separation of light vehicles and heavy vehicles is preferred to promote safety and convenience for users. Clear signage/demarcation should be provided. Where separate parking is provided and, where possible, heavy vehicles should be located at the rear of the HVRA to minimise road noise impacting on driver rest. Further, separation of light and heavy vehicle parking may avoid conflicts during manoeuvring, entering and exiting of the HVRA. Where possible, caravan towing vehicles should be separated from heavy vehicles within the HVRA with designated caravan parking bays that are clearly marked.

4.4.4 Separation of Vehicles Carrying Noisy Freight

Where possible, heavy vehicles carrying noisy freight (e.g. refrigerated goods or livestock) should be separated from other heavy vehicles to minimise noise affecting driver rest.

4.4.5 Separation for Long-term and Short-term Users

Where possible, long-term and short-term users should be separated to increase the amenity and improve traffic flow within the HVRA. Where separated parking is provided, long-term bays should be located at the rear of the HVRA to minimise disruptions to driver rest caused by entering/exiting vehicles.

4.4.6 Unidirectional Flow

A unidirectional vehicle circulation movement should be adopted to minimise the risk of traffic conflicts for vehicles entering and exiting the HVRA.

On freeways and major roads, HVRA should be provided in pairs or staggered in the direction of approaching traffic to encourage left-in left-out operation, discourage right turns across opposing traffic, and to deter drivers from parking on shoulders and walking across the carriageway.

On remote low-volume routes, paired HVRA may not be feasible. These should be located such that sight distance is adequate to allow drivers to safely turn right into the facility, and designed to encourage unidirectional flow within the facility.

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3 The American Association of State Highway and Transportation Officials (AASHTO) ‘system-analysis formula’ (AASHTO 2001) may be used to estimate the number of truck and car parking spaces for rest areas. It should be noted that the approach may need to be adapted for the Australian and New Zealand context. See Appendix F.
4.4.7 No Reversing Movements

Heavy vehicle parking spaces should allow for heavy vehicles to enter and leave the parking space in a forward travel direction.

4.4.8 Security

Personal security of HVRA users should be considered in the siting and design of HVRAs. With respect to the different types of HVRAs the following is noted:

- Large facilities (Class 1 and Class 2 HVRAs) will often experience sufficient use to provide a reasonable level of personal security for both car drivers and heavy vehicle drivers.

- Lower-demand HVRAs should be located close to, and within view of, the road so that road traffic can provide a level of security. Where practicable, the landform and landscaping should maintain clear sight lines between the road and HVRA. Careful design of parking space orientation (see Section 4.6.1) can aid in minimising sleep disturbance from headlight glare. HVRAs that are used at night should be provided with suitable lighting, with consideration of potential disturbance by lighting of those attempting to sleep. Where possible, HVRAs should be located within mobile telephone coverage areas to provide additional security for drivers.

The following measures should also be considered to aid security:

- Ensure that the HVRA can be seen by passing motorists. The vegetation between the road and the HVRA, as shown in the schematic in Appendix C, provides a visual separation but should not obscure visual sighting of the HVRA by passing motorists.

- Provide lighting as discussed in Section 4.5.6.

- Provide CCTV and signage highlighting its presence.

- Provide signage with accompanying warnings on the penalties associated with vandalism and encourage people to report illegal behaviour to authorities.

- Maintain the HVRA to a tidy level; a poorly-maintained HVRA may encourage further vandalism and poor user behaviour.

- Design the HVRA for multiple user types to aid in its attractiveness and therefore provide greater security through having more users.

4.4.9 Pedestrian Safety and Access

HVRAs and service centres should be designed to minimise potential conflict between vehicles and pedestrians and ensure that any necessary interaction occurs at a very low speed.

With regard to pedestrian safety, the following layout design principles should be applied:

- Facilities should be located central to the HVRA and/or near the parking spaces. This is to minimise the distance pedestrians are required to walk through the HVRA, thereby minimising the potential for conflict.

- Roadways other than those required for acceleration or deceleration should be designed to restrict vehicles to slow speeds (i.e. a maximum of 20 km/h in parking aisles), rather than simply relying on a speed limit. This could include features such as reduced roadway widths, reduced long, straight lengths, slow points and speed humps. Speed limit signs should be erected at the entrance to Class 1 and Class 2 HVRAs due to their size. Speed limit signs are unlikely to be required at lower-order HVRAs as low speeds should be managed by the physical point of entry.

- Clear sight lines should be provided, based on the design speed for the road section within the HVRA/service centre (refer to Austroads Guide to Road Design Part 3: Geometric Design (Austroads 2016) and Part 4: Intersections and Crossings: General (Austroads 2017a), and applicable road manager supplements for the geometric design of roads and intersections).
• Where practicable, but certainly at large facilities that are busy at night, areas used by pedestrians should be lit in accordance with jurisdiction’s guidelines and AS/NZS 1158 2005-2015 Lighting for Roads and Public Spaces. (The provision of lighting is discussed further in Section 4.5.6).

• Where practicable, but often at large and busy facilities, it may be necessary to implement pedestrian facilities in accordance with jurisdiction’s guidelines, AS 1742.10:2009, Pedestrian Control and Protection and Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads 2017b). Other pedestrian direction and warning signage may also be of benefit.

4.4.10 Signage on Approach and Within HVRAs

This section discusses the various signage requirements needed to communicate information about HVRAs to drivers. It outlines the minimum signage requirements, signage relating to upcoming HVRAs. ITS and other emerging technologies may also help drivers access information about HVRAs along routes to assist them in their trip planning, including planning for their rests (see Section 5).

Minimum signage requirements

Many jurisdictions currently support HVRA signage in accordance with AS 1742.6:2014 Manual of Uniform Traffic Control Devices: Tourist and Services Signs. However, it is noted that some jurisdictions may wish to provide a higher standard of signage (e.g. providing more notice).

HVRAs should be marked by advance signs and position signs as discussed below. These are normally erected on the left side of the carriageway. Care is required in locating signs to ensure that they do not obscure other signs or approaching traffic.

Advance signs and position signs for HVRAs, service centres and information bays should follow the principles of the jurisdiction’s guidelines and AS 1742 2007-2018 Manual of Uniform Traffic Control Devices.

Advance signs

Advance signs are erected in advance of a HVRA to provide drivers with warning that they are approaching a rest opportunity. Advance signs usually comprise symbols indicating available facilities. They may be supported by the following legend/text/symbols:

• The words ‘REST AREA’ or ‘SERVICE CENTRE’ may be added for clarity.
• Where the HVRA is located adjacent to the road – ‘300 m on LEFT’ or ‘300 m on RIGHT’.
• Where the HVRA is located on a side road – ‘TURN LEFT 300 m’.
• The 1 km advance sign with ‘LEFT LANE’ may be used if drivers could have difficulty weaving into the left lane prior to the ramp.
• The legend ‘24 hr’ should be added if confirmation is needed that the service is continuous.
• For information bays the word ‘BAY’ is added to the ‘i’ symbol.
• On rural motorways in flat country the advance sign at 1 km only is usually sufficient for Class 5 HVRAs.

Symbols used on these service signs are listed in Appendix B of AS 1742.6:2014 and contained in road jurisdiction’s guidelines.

Position signs

Position signs are located at the junction of the HVRA and the road it serves. They are located either:

• at or directly opposite the point of entry to a service location adjacent to the road
• at the turn-off to services or facilities along a side road/deceleration lane, in conjunction with other intersection direction signs, if any.
Appendix D of AS 1742.6:2014 sets out general principles for the installation and location of HVRA signs. AS 1742.6:2014 distinguishes between non-expressway and expressway HVRAs. Jurisdictional guidelines may also address this area.

**Symbols on rest area signage**

General rest area – the tree and table symbol (S12 in AS 1742.6, see Figure 4.3) is used to indicate a minimum level general rest area, which may or may not accommodate heavy vehicles. Additional symbols are added to indicate provision of other amenities, such as fireplaces and toilets. AS 1742.6 lists symbols for use on these signs. Where a rest area is not suitable for use by heavy vehicles, the S23 symbol from AS 1742.6 should be used.

General rest area with separated heavy vehicle parking – where a general rest area will also accommodate heavy vehicles, the heavy vehicle parking symbol (S13 in AS 1742.6, see Figure 4.3) is added to the sign.

Exclusive HVRAs – where a rest area is intended only for heavy vehicles, signs should feature only the truck parking symbol (S13 in AS 1742.6).

In the interests of safety and to help drivers plan their rest stops, on major roads, it is recommended that the distance to the next two or three HVRAs be shown on signs located near each HVRA or on departure from towns.

HVRAs on side roads more than 1 km from the turn-off are not usually signed unless they provide other features.

Where a HVRA is located on the opposite side of the road, the HVRA should not be signposted. Instead signage should advise of the next upcoming HVRA located on the left. This is to discourage heavy vehicles from performing a right turn across the opposing flow of traffic. As outlined in Section 4.3.2, where HVRAs cannot be located opposite each other, they should be staggered.

**Figure 4.3: Symbols on rest area signage**

![Symbol images](source: AS 1742.6:2014)

**Signage within the HVRA**

Within the HVRA, signage may be required to manage speed, separate different vehicle types, control parking, control movements, direct traffic to the ramp re-joining the freeway, or warn drivers of pedestrians or any potential hazards. Signage can also be used to direct pedestrians within the site and help them avoid conflicts with vehicles. The amount and type of signage required will depend on the design, size and complexity of the HVRA.

**Signage identifying the HVRA**

The HVRA name or number should be displayed on signage within the HVRA so that it may be entered in drivers' work diaries. Road managers are to determine the appropriate naming convention for HVRAs.
The HVRA identifier signage within the HVRA should be clear and in a prominent location (or multiple locations if needed) so that it can be easily seen and read by drivers from all HV parking positions within the HVRA.

**Signage relating to upcoming HVRAs**

In addition to the ‘minimum signage requirements’ for advance signs outlined above, the following may also be taken into consideration:

- For Class 1–4 HVRAs, signage should be used to inform drivers of upcoming HVRAs and the available facilities/amenities.
- HVRA signage could be placed in towns and along the route indicating the distance to and between HVRAs or other recognised HV rest opportunities for the upcoming section of freight route.
- The provision of ‘distance to next service’ information, relating to HVRAs or other rest opportunities should be provided in kilometre units only.

**Guidance on the approach to informal HVRAs (3-2-1 Green Reflector Scheme)**

Informal HVRAs are not provided by road managers; rather they have evolved through ongoing signs of use by heavy vehicles. The 3-2-1 Green Reflector Scheme may be used to provide notice of informal HVRAs. The reflectors are installed in a 3-2-1 pattern (as shown in Figure 4.4).

*Figure 4.4: 3-2-1 guidepost pattern*

*Source: Roads and Maritime Services (2016).*
Sites that have 3-2-1 Green Reflectors must be safe and meet certain requirements. The site requirements are summarised in Table 4.3. Where practicable, informal HVRAs may be considered by road managers for transition to a formal HVRA site at some stage.

4.5 Amenities/Extras

This section provides additional details on the amenities/extras presented in Table 4.1.

Ongoing maintenance requirements need to be considered when considering the inclusion of amenities and other extra features to be provided. As such, amenities/extras should only be provided if they can be reasonably maintained. Refer to Section 4.6.3 for further discussion on the ongoing maintenance issues of HVRAs including the provision of amenities/extras.

4.5.1 All-weather Seal

Sealed pavements for ingress/egress are highly desirable for all HVRA types. See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.2 Tables/Benches

The provision of tables and benches may encourage drivers to leave their vehicle to rest. The quantity and type of such facilities will vary based upon the type of HVRA and likely peak vehicle usage.

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.3 Natural Shade

Where possible, natural shade should be provided using trees. It is preferable to locate the natural shade where the cab of the vehicle will park and at locations frequented by vehicles transporting livestock. Where natural shade already exists, the facility should be designed around it as far as practicable. Where natural shade cannot be provided, shelters should be considered (see Section 4.5.4).

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.4 Shelter

The installation of shelters that protect users from both sun and rain should be considered in the HVRA design, with consideration given to installation and maintenance costs along with the type of HVRA and peak vehicle usage. Shelters with a clearance of at least 5 m should be provided in areas where natural shade is not possible over the cab of the vehicle and at locations frequented by vehicles transporting livestock.

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.5 Rubbish Bins

Provision of appropriately-sized bins in HVRAs is desirable (preferably with lids that close quietly, minimising disruptions of sleep due to noise, and also discouraging animals getting access). These bins should be clearly visible (both from within the HVRA and from passing motorists), easily accessible (this includes the number provided within the HVRA and the spacing between them on the HVRA site so that they are all easily accessible (e.g. short 10 m walk) to all users of the HVRA regardless of where they park) and serviced regularly. The ability to maintain these, especially in remote locations, should be considered.

See Section 4.6.3 for discussion on ongoing maintenance considerations.
4.5.6 Lighting

Lighting should be provided in accordance with jurisdiction’s guidelines for designated Class 1 to Class 4 HVRAs.

In general, lighting of access roads and parking areas should be aligned in accordance with AS/NZS 1158:2005-2015. Consideration should be given to the provision and placement of lighting to enhance the safety and security of the HVRAs but not detract from sleeping.

Lighting requirements should be considered on a site-by-site basis, considering the different lighting needs of access points (access ramps, entrance and exit points, etc.) and illumination within the HVRA (e.g. illumination of walkways, parking bays and building approaches and other features of larger HVRA). Further, consideration should be given to the anticipated demand for the HVRA, the type of traffic frequenting it and the time of day it is likely to be used. Where vehicle assembly and disassembly operations take place and for reasons of personal safety, lighting should be provided.

Other issues for consideration include lighting maintenance, light spill into adjacent properties, glare and sky glow and power supply (e.g. solar power for remote locations or to reduce operating costs where feasible).

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.7 Toilets

Toilets should be provided at all designated Class 1 HVRAs, with the provision of toilets at other classes of facility influenced by AADT, alternative opportunities (such as the proximity of towns) and motorist needs as well as the feasibility of installation. Composting or pit toilets could be considered where the supply of water creates difficulties. Consideration should be given to the estimated use and cost of maintenance and cleaning.

It is noted that there is a growing number of female drivers in the heavy vehicle industry; this should also be considered in the design of HVRAs. Consideration should be given to whether the dynamics are such that separate male and female toilets are required or if a unisex toilet is sufficient. Engagement with the local heavy vehicle industry for which an HVRA is provided may be helpful in understanding the dynamics.

Consideration should also be given to providing showers as part of the toilet facilities where it is viable to provide and maintain the operation of the shower (including provision of water).

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.5.8 Water

Drinking water facilities should be provided, taking into consideration the estimated use and cost of maintenance and cleaning.

See Section 4.6.3 for discussion on ongoing maintenance considerations, including issues relating to access to potable water.

4.5.9 Visitor Information Board

Visitor information boards may be used to support local tourism and contain information regarding distance to the next town, amenity or HVRA.

See Section 4.6.3 for discussion on ongoing maintenance considerations.
4.5.10 Managed Livestock Effluent Disposal Sites

The livestock transport industry needs to make provision for the disposal of livestock effluent at HVRAs, in accordance with local health and environmental requirements. This should be considered in the design of an HVRA where livestock traffic is expected, but in some instances, it may be more appropriate to locate it at a separate facility nearby, so that it does not affect the amenity of the HVRA. Design considerations include how the livestock vehicle is to dispose of the effluent, how the effluent will be stored at the site (in accordance with local health and environmental requirements) and how the maintenance vehicles will remove the effluent. The intervals for removing the effluent should consider the frequency of livestock vehicle usage of the site. The need for such facilities will be derived from the number of livestock vehicles utilising the HVRA, and the maintenance requirement.

See Section 4.6.3 for discussion on ongoing maintenance considerations.

4.6 Additional Issues

This section discusses additional issues associated with HVRAs that should be considered in their planning and design.

4.6.1 Parking Bay Orientation

Parallel parking (against a kerb) is preferred for long-term (sleep) rest as noise impacts from directly adjacent vehicles are typically less than are experienced with herringbone parking configurations. It also offers the opportunity to provide shade to parked heavy vehicles. A herringbone parking configuration may be provided for short-term rest. Where a herringbone parking layout is considered for long-term rest, consideration should also be given to providing buffers or screening between parking spaces to help mitigate potential noise and light issues.

Where possible, heavy vehicle parking bays should be orientated away from the adjoining highway to eliminate headlight glare entering cabins (as this may impact on driver rest).

Where possible, consideration should be given to the path of the sun so that the parking bays can be orientated, and shade provided where possible to protect the cabins from overheating when drivers are resting. A focus should be on providing shade during the middle of the day.

4.6.2 Providing for People with a Disability or Mobility Difficulty

HVRA Strategy Plans should ensure all new or upgraded HVRAs are built in accordance with the Disability Discrimination Act, 1992 (Cth) providing appropriate facilities and access requirements.

4.6.3 Ongoing Maintenance

Ongoing maintenance costs must be considered by road managers when designing HVRAs. Costs associated with planning, initial investment and maintenance costs of each HVRA will be related to the sophistication and Class of the HVRA. To assist state road managers in undertaking their maintenance programs for HVRAs along state-controlled roads, consideration should be given to partnering with local governments on maintenance programs/monitoring, including reporting of site conditions.

Water

There may be circumstances where access to potable piped water is limited. In these situations, consideration should be given to the provision of potable water storage facilities and the implications for maintenance of adequate potable water supplies in the storage facility. Water storage facilities should be provided and designed such that adequate levels of water can be reasonably maintained.
Amenities and facilities

Amenities and facilities should only be provided if they can be reasonably maintained. The types of amenities or facilities should be fit-for-purpose and influenced by the busyness and serviceability of the HVRA. Consideration should be given to the following:

- Toilets require cleaning (potentially frequently). A flushable toilet may require more frequent cleaning as user expectations may be higher, compared with long-drop toilets which may require less frequent cleaning. Composting or pit toilets may be more suitable on lower volume routes.
- Rubbish bins require emptying. Smaller bins will require more frequent emptying and maintenance than larger bins.
- Building materials that require low maintenance and are resistant to graffiti and other vandalism.

Vandalism and rubbish

Poor user behaviour (rubbish dumping, vandalism of assets such as tables, toilets, lighting, shelters and visitor information boards) also contributes to ongoing maintenance issues. The provision of sophisticated HVRAs and amenities will typically increase maintenance demands. High demand HVRAs, visibility from the road or proximity to local towns/businesses may reduce the likelihood of poor user behaviour. Where vandalism is considered a risk, showers and toilets can be equipped to allow unlocking through a mobile phone app.

Consideration may be given to installing mesh boundary fencing to capture and limit rubbish being blown into adjoining properties.

All-weather seal

It is noted that all-weather sealed pavements for ingress/egress are highly desirable for all HVRA types. Consideration should be given to pavements that can accommodate the heaviest vehicles that will utilise the HVRA (area and depth, surfacing type) including acceleration and deceleration facilities and proper design using turn paths for relevant vehicles so kerbs are not clipped/damaged and the surfacing not destroyed by turning/braking movements. Pavement selection (sealed or unsealed) should consider:

- amenity and safety
- construction and ongoing maintenance cost.

Shade

Provision of natural shade may result in a maintenance obligation to ensure that the vegetation is safe and suitable for the rest area (e.g. arborist assessment of the tree).

Visitor information

Visitor information boards should be updated on a semi-regular basis to maintain their currency. This maintains the integrity of the visitor information board both at the HVRA site and at others.

Livestock

Provision for managed facilities to dispose of livestock effluent would require consideration of how effluent would be stored in accordance with local health and environmental requirements (given the demand and frequency of removal) and later removed (frequency of the removal) to minimise impacting on the amenity of the HVRA.
4.6.4 Ensuring Availability of HVRAs for Heavy Vehicle Drivers

HVRAs should remain open always unless there is direct work to be undertaken on them. HVRAs should not be closed to store materials for nearby roadworks. Where a HVRA is closed, this should be communicated to the heavy vehicle industry well in advance so that they can develop strategies to address this.

4.6.5 Provision for Coupling and Decoupling

Where required (e.g. on the approach to towns or key exchange areas), provision for coupling and decoupling should be accommodated; however, these should be located adjacent to the HVRA rather than within it. Keeping coupling and decoupling areas separate from the HVRA should prevent decoupled trailers taking up space intended to be used for heavy vehicle parking while drivers are resting.

4.6.6 Use of HVRAs by Light Vehicle Drivers

Use of designated HVRAs by drivers of light vehicles should be prohibited or limited to ensure adequate facilities and capacity are available to accommodate heavy vehicle drivers’ needs. However, the use of HVRAs by light vehicle drivers suffering from fatigue should be allowed where it can be catered for. As outlined in these Guidelines, HVRAs should cater for light vehicle drivers through separation of the respective designated parking. Light vehicles should be prohibited from parking in designated heavy vehicle parking spaces to ensure sufficient capacity for heavy vehicle drivers as well as avoiding disturbance due to excessive noise. The separate parking areas should be signposted and enforced.

Camping in designated HVRAs by light vehicle drivers should be prohibited. Road managers should encourage light vehicle drivers to seek alternative overnight options when planning overnight stops, such as commercial options or designated camping areas. A maximum length of stay should be implemented to prevent the light vehicle rest area becoming full and tempting use of a nearby HVRA.

While ensuring adequate facilities and capacity are available to accommodate heavy vehicle drivers’ needs is critical, road managers need to be mindful of minimising fatigue for all drivers. Where suitable alternative options are not available, it is preferable for fatigued drivers to sleep in their cars or attached caravans, rather than continuing a journey. Therefore, conditions for use of HVRAs should stipulate which vehicles may use HVRAs and requirements to which they must adhere. This may include:

- light vehicles must use allocated spaces
- caravans must remain attached to towing vehicles
- no awnings may be erected or chairs set out
- no generators may be used or solar power units set up
- no tents allowed.

Road managers should consider the penalties and enforcement options to discourage camping to maintain the HVRAs in a suitable condition (with adequate available heavy vehicle parking capacity) so that it achieves its primary function of facilitating rest for heavy vehicle drivers, and to support drivers’ compliance with the heavy vehicle national law.

In addition, light vehicle drivers, especially those towing caravans or camper trailers, should be educated on appropriate use of HVRAs. Appendix B provides an example of one such initiative.

4.6.7 Cross-border Compatibility

It is recommended that road managers adopt common guidelines for the provision of HVRAs and coordinate their provision across borders, so that a consistent level of service is provided along important routes. Coordination across borders will also avoid issues such as duplication of facilities (which may lead to under-utilisation of one or both facilities and may adversely affect their viability).
It is desirable that travellers and heavy vehicle drivers using an important route are provided with a consistent level of service along the route. This creates a situation where drivers using a route become aware of the level of opportunity afforded by HVRAs and can plan a stop with confidence when they begin to feel tired. Important routes often cross borders and it is desirable that the opportunities for rest do not diminish abruptly as drivers travel along a route.

4.6.8 Consideration for Future Demands

Future capacity

HVRA size and location should be periodically checked against any future planning proposals and the projected increase in freight task along the route. This would involve assessing the capacity of the HVRA and its capability to meet current and future demands. Factors that should be considered when assessing capacity include length of stay, number of heavy and light vehicles using the HVRA, seasonal variation in demand, different types of heavy vehicles and different freight types (e.g. semi-trailers, B-Doubles, refrigerated, livestock, etc.).

Assumptions used in determining HVRA size and capacity have an effect on planning outcomes and subsequent planning decisions. Without consideration of the projected freight task, premature or excessive capital works investment may result in unnecessary expenditure and use of resources. Conversely, inadequate demand management and/or infrastructure investment may result in drivers not being able to rest when needed, or complaints about inadequate facilities.

The HVRA design adopted by road managers should take into consideration where nearby HVRAs may be provided, or how the proposed HVRA may be expanded should its capacity fail to meet demand. As such, some future-proofing should be considered in the layout and placement of HVRAs. This includes taking into consideration potential future expansion needs. Section 3 provides guidance on the steps required to identify needs for expansion of existing or development of new HVRAs.

Future amenities and facilities

Consideration may be given to future amenities and facilities that would benefit HVRA users. This includes other road users where the HVRA caters for that use, e.g. electric vehicle charging stations.

4.6.9 Dangerous Goods Vehicles

A road vehicle ‘transporting dangerous goods must not be parked or left standing within 8 metres of another vehicle which is transporting placarded dangerous goods’ (National Transport Commission 2018). Road managers should consider this requirement during the planning and design of HVRAs by ensuring that either:

- The number of parking spaces provided is sufficient to accommodate the actual and forecasted HV demand, and that there are enough parking spaces to enable dangerous goods vehicles to park in accordance with the 8 metre requirement.
- The spacing between HVRAs enables a dangerous goods vehicle to travel to an alternative facility, if the initial HVRA does not accommodate an additional dangerous goods vehicle to park in accordance with the 8 metre requirement.

Road managers and industry are encouraged to liaise together to identify locations where compliance with the 8 metres requirement, as outlined above, is an issue and where consideration of the above points needs to be applied.
5. Communicating Rest Opportunities to Drivers

Information about the HVRA network needs to be available to heavy vehicle drivers to assist them in their trip planning, including planning for their rests. This should be considered in the overall planning of a jurisdiction’s HVRA strategy. Section 4.4.10 discusses signage requirements alerting drivers on approach to HVRA entrances. ITS and other emerging technologies may also help drivers access information about HVRA facilities along routes to assist them in their trip planning, including planning for their rests.

The integration of emerging technologies and ITS may support the use and increase awareness of HVRA facilities by providing drivers with live information about HVRA locations, the distance and estimated travel time to reach them and the facilities available. Emerging technologies that may have application to HVRA facilities include the following:

- In-vehicle tools that advise heavy vehicle drivers about HVRA locations, occupancy and facilities.
  - It is noted that Transport Certification Australia (TCA) is working on a way to make HVRA information available for use in GPS systems. Refer to Appendix E.
  - In addition, road managers should consider working with other jurisdictions and telematic device providers to develop a data standard and consider establishing a data portal for the provision of HVRA facility information in addition to other truck related information. This would allow HVRA information to be made available for use in GPS systems and Electronic Work Diaries.

- Interactive online maps that allow drivers to find HVRA facilities based upon location and amenities (Roads and Maritime Services (2018) and VicRoads (2016) currently provide these types of maps). This could be linked to NHVR’s online journey planner.

- Mobile phone apps that enable drivers to access information about HVRA facilities along routes to assist them in their route planning, including planning for their rests.

It is noted that the VicRoads TRAVIS project, a jointly funded State and Federal Government project, aims to utilise ITS to provide real-time heavy vehicle parking vacancy information on advanced signage to support drivers to make better decisions regarding rest. The system also aims to share information about HVRA capacity with nearby facilities (Benjamin & Polley 2015).
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**Australian Standards**


AS 2890.1 Set:2009, Parking facilities.
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Standards


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AS 2890.1 Set:2009, Parking facilities.

Appendix A  Gippsland Safe Freight Network

It is recommended that road managers work with drivers, operators and local government to provide a network approach to road safety. An example of this is the Gippsland Safe Freight Network.

The Gippsland Safe Freight Network is a collaboration of drivers, owners, government agencies and local councils which have been working together to identify and address specific transport safety concerns. The initiative resulted in the following conclusions (National Road Safety Partnership Program 2017):

- Create regional networks that involve drivers, owners and government agencies which successfully address specific transport safety issues within those regions.
- Actions need to be informed by crash data and other relevant research to ensure responses are effective in addressing what is happening on the ground.
- Often drivers and operators are not involved in discussions about safety; involving those at the frontline increases engagement and the practicality of outputs.
- The first step in establishing an effective network is developing a contact list that ensures all stakeholders are involved, including all local industries, government agencies and local road safety experts.
- The success of the network approach rests on targeting specific regional areas and issues, sharing information and the willingness of participants to engage with the process, something they are more likely to do if they feel their input is valued.

The initiative is considered so successful in Gippsland that it is being rolled out nationally.
Appendix B  NHVR Heavy Vehicle Safety Initiative

The Heavy Vehicle Safety Initiative program is to support projects that deliver tangible improvements in heavy vehicle safety (National Heavy Vehicle Regulator 2017). Guiding principles for projects include:

1. Be able to align with heavy vehicle and road safety priorities.
2. Be able to be completed within three years.
3. Be able to provide evidence demonstrating how the project will help achieve heavy vehicle safety outcomes.
4. Be able to provide broad benefits across jurisdictions.
5. Be able to provide holistic solutions to current problems.
6. Be able to represent value for money.

Relevant to these Guidelines is that the NHVR is, as at the time of preparation of this document, funding under the Heavy Vehicle Safety Initiative a project by the Caravan Industry Association of Australia to inform caravan and recreational vehicle travellers on the appropriate use of HVRA and the risks associated with disruptive behaviour. This and other educational campaigns can help inform appropriate use of HVRAs by light vehicle drivers and foster a safer environment for all road users.
Appendix C   HVRA Layout Schematics

This appendix presents schematic concept design drawings only. Actual designs need to take into consideration a range of site-specific issues as outlined in Section 4 of these Guidelines.

The HVRA shown in this appendix are as follows:

- Class 1 HVRA: Appendix C.1
- Class 2 HVRA: Appendix C.2
- Class 3 and 4 HVRA: Appendix C.3
- Class 5 HVRA: Appendix C.4
- Informal HVRA: Appendix C.5.
C.1 Class 1 HVRA

Note: This diagram is indicative only. The layout and size will need to be determined based on a range of site specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.
C.2 Class 2 HVRA

Note: This diagram is indicative only. The layout and size will need to be determined based on a range of site specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.
C.3 Class 3 and 4 HVRA

Notes:

- This diagram is indicative only. The layout and size will need to be determined based on a range of site-specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.
- Speed limit signs are not required as speed should be controlled by the physical point of entry.
C.4 Class 5 HVRA

Notes:

- This diagram is indicative only. The layout and size will need to be determined based on a range of site-specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.

- Speed limit signs are not required as speed should be controlled by the physical point of entry.
C.5 Informal HVRA

Notes:

- This diagram is indicative only. The layout and size will need to be determined based on a range of site-specific issues as outlined in Section 4 of these Guidelines in particular the number and type of the various heavy vehicles anticipated to use the HVRA now and in the future (giving consideration to future demands as outlined in Section 4.6.8). Consideration should also be given to the number of other potential vehicles using the HVRA.

- Speed limit signs are not required as speed should be controlled by the physical point of entry.
Appendix D  Assessing Heavy Vehicle Crash Rates

This appendix presents a method for comparing heavy vehicle crash rates and overall crash rates, taking into account the proportion of heavy vehicle traffic on the route in question in comparison with the whole network. This method may be used where an agency does not have an established method of determining whether heavy vehicle crashes are over-represented on a given route.

Step 1

\[ HV\%_{\text{network}} = \frac{ADT_{HV \text{ network}}}{ADT_{\text{total network}}} \]  

Step 2

\[ HV\%_{\text{route}} = \frac{ADT_{HV \text{ route}}}{ADT_{\text{total route}}} \]  

Step 3

\[ f_{HV} = \frac{HV\%_{\text{route}}}{HV\%_{\text{network}}} \]  

Step 4

\[ HV\text{crash}\%_{\text{route}} = \frac{\text{crashes}_{HV \text{ route}}}{\text{crashes}_{\text{total route}}} \]  

Step 5

\[ HV\text{crash}\%_{\text{network}} = \frac{\text{crashes}_{HV \text{ network}}}{\text{crashes}_{\text{total network}}} \]  

Step 6

\[ c_{HV} = \frac{HV\text{crash}\%_{\text{route}}}{HV\text{crash}\%_{\text{network}}} \]  

where

- \( HV\%_{\text{network}} \) = Proportion of all network traffic made up of heavy vehicles
- \( HV\%_{\text{route}} \) = Proportion of traffic on this route or road that is made up of heavy vehicles
- \( f_{HV} \) = Heavy vehicle concentration on this route or road in comparison with concentration on the whole network
- \( HV\text{crash}\%_{\text{route}} \) = Proportion of crashes on this route or road that is made up of heavy vehicle crashes
- \( HV\text{crash}\%_{\text{network}} \) = Proportion of crashes on the whole network that is made up of heavy vehicle crashes
- \( c_{HV} \) = Heavy vehicle crash proportion on this route or road as a fraction of the heavy vehicle crash proportion on the whole network
- \( ADT_{HV \text{ network}} \) = Average daily heavy vehicle traffic on the whole network
Step 7 Following completion of Steps 1–6 above, \( c_{HV} \) and \( f_{HV} \) are compared to determine whether the heavy vehicle crash rate may be considered high, average or low on a given route. i.e.:

- If \( c_{HV} > f_{HV} \), crash rates are high
- If \( c_{HV} = f_{HV} \), crash rates are average
- If \( c_{HV} < f_{HV} \), crash rates are low
Appendix E  TCA Mapping of HVRAs

Transport Certification Australia (TCA) is working on a way to make HVRA information available for use in GPS systems.

In conjunction with road and transport agencies, a national data set for rest area information will include:

- location coordinates
- the number and size of vehicles which can be accommodated at each location
- occupancy/availability of rest bays (if available).

Rest area information will be made available through the new Traveller Information Exchange.
Appendix F Estimating Parking Spaces

Past research and guidelines from the United States may inform Australian heavy vehicle rest area investment and needs prioritisation models. The AASHTO ‘system-analysis formula’ presented in this appendix provides a method that may be used to estimate the number of truck and car parking spaces (Equation A7 and Equation A8). It should be noted that the approach may need to be adapted for the Australian and New Zealand context.

Factors in the equations will be influenced by:

- length of stay (considered during assessment of existing rest areas)
- proportion of cars and heavy vehicles using rest area
- whether capacity will be sufficient for seasonal variations and projected growth in traffic volumes (and therefore expected greater demand for use of rest area); the peak factor (PF) should account for seasonal variations, while the anticipated future demand (capacity required) can be estimated by using projected future traffic volumes in the model
- heavy vehicle types which influence the type/size of spaces (considered during assessment of existing rest areas).

System-analysis formula

\[
N_c = \frac{ADT \times P \times DH \times D_c \times PF \times VHS}{60 \text{ min.}} \quad \text{A7}
\]

and

\[
N_t = \frac{ADT \times P \times DH \times D_t \times PF \times VHS}{60 \text{ min.}} \quad \text{A8}
\]

where

- \(N_c\) = Number of car parking spaces required
- \(N_t\) = Number of truck parking spaces required
- \(ADT\) = Average Daily Traffic: total volume of vehicle traffic averaged over the data collection period (e.g. a week or a month)
- \(P\) = Proportion of mainline traffic stopping x DSL/BSL (the adjusted proportion of mainline stopping in the overall corridor), established on a case-by-case basis by usage surveys

The adjusted proportion of traffic that stops, i.e. proportion of (mainline) traffic that stops x DSL/BSL (see definitions below):

- Mainline traffic: traffic on the main lanes of a roadway (i.e. excluding off-ramps or exit lanes)
- DSL = Design Section Length: length of the route section being assessed
- BSL = Base Section Length: the base spacing interval, generally 100 km (as this enables comparison with other section lengths)

Note however, an assumed value of \(P\) can be adopted. The default value of \(P\) is 0.12, which is adjusted (+ 0.01) for each applicable factor from Table E 1.

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\[ DH = \text{Design hourly factor (DHV/ADT)} \]

The design hour factor (sometimes represented as K30) is the relationship between the 30th highest hour volume and the AADT for the design year (calculated as DHV/ADT):

- DHV = design hourly volume is typically the 30th highest hourly traffic volume for the design year (generally 20 years after construction)

Note, however, an assumed value of DH can be adopted (see Table E 2)

\[ D_c = \text{Percentage of cars using the facility, normally assumed to be 0.75 (unless a specific site survey indicates using a different factor)} \]

\[ D_t = \text{Percentage of heavy trucks using the facility, normally assumed to be 0.25 (unless a specific site survey indicates using a different factor)} \]

\[ PF = \text{Peak factor, the ratio of average day usage during the five summer months to average day usage over the entire year, normally assumed to be 1.8} \]

\[ VHS = \text{Average length of stay for trucks determined on an hourly basis, normally assumed to be 15 minutes for cars and 20 minutes for trucks} \]


### Table E 1: Recommended P adjustment values

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
<th>Comment (for Australian and NZ context)</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance from previous rest area</td>
<td>If distance from previous rest area exceeds 50 miles</td>
<td>50 miles is approximately 80 km</td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Distance to next interchange</td>
<td>If distance to next interchange exceeds 10 miles</td>
<td>10 miles is approximately 16 km</td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Welcome centre(^1)</td>
<td>If rest area is a welcome centre</td>
<td>Comparable to a rest area that is popular with road users due to a high level of available amenities or nearby points of interest</td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Type of truck parking spaces at the rest area</td>
<td>If truck parking spaces are diagonal pull-through type</td>
<td>Availability of drive-through parking spaces for heavy vehicles (angled or end-to-end)(^3)</td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Rest area food facilities</td>
<td>If food facilities are available (e.g., restaurant, take-away or vending)</td>
<td></td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Rest area lighting</td>
<td>If lighting is considered adequate(^2)</td>
<td></td>
<td>+ 0.01</td>
</tr>
<tr>
<td>Availability of rest area attendant</td>
<td>If an attendant is available on rest-area premises</td>
<td>Comparable to towns/commercial centres where retail outlets are available (such as petrol and/or food)</td>
<td>+ 0.01</td>
</tr>
</tbody>
</table>

1. A welcome center is a rest area with additional amenities including tourist information (AASHTO 2009).
2. ‘Adequate lighting’ can be based on survey of truck driver, or qualitative judgement (AASHTO 2001).
3. Angled parking allows easier maneuverability into or out of parking spaces. Feedback from industry representatives at the project workshop indicated that drivers preferred end-to-end parking, to facilitate better rest, particularly for long stays. An end-to-end arrangement means that cabins are further away from other trucks compared to an angled parking arrangement. Where possible, consideration may also be given to configurations that allow north/south parking orientation rather than east/west, as this reduces the impact of the sun and may assist in better quality rest.

Source: Based on AASHTO (2001) (Decision rule 1, p 109–112). Column ‘Comment (for Australian and NZ context)’ has been added.
Table E 2: Recommended design hour factor

<table>
<thead>
<tr>
<th>AADT</th>
<th>DH factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>AADT &lt; 12 500</td>
<td>0.15</td>
</tr>
<tr>
<td>12 500 &lt; AADT &lt; 30 000</td>
<td>0.1</td>
</tr>
<tr>
<td>AADT &gt; 30 000</td>
<td>0.075</td>
</tr>
</tbody>
</table>

Source: Based on AASHTO (2001) (Decision rule 2, p 113).
# Glossary

The terms in this Glossary are provided in the context of HVRAs rather than generic terms as defined in the Austroads Glossary of Terms.

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity</strong></td>
<td>The capacity of a HVRA is the number of parking spaces available, for heavy and/or light vehicles). Factors that should be considered when assessing capacity include length of stay, number of heavy and light vehicles using the HVRA, demand (see below), different types of heavy vehicles and different freight types (e.g. semi-trailers, B-Doubles, refrigerated, livestock, etc.). The American Association of State Highway and Transportation Officials (AASHTO) ‘system-analysis formula’ (AASHTO 2001) may be used to estimate the number of truck and car parking spaces for rest areas. It should be noted that the approach may need to be adapted for the Australian and New Zealand context.</td>
</tr>
<tr>
<td><strong>Demand</strong></td>
<td>The demand of a HVRA is the required number of parking spaces. Demand should be a measure of the peak demand (i.e. accounting for daily and seasonal variations).</td>
</tr>
<tr>
<td><strong>Fatigue</strong></td>
<td>Fatigue covers a wide range of characteristics, including sleepiness, drowsiness and feeling tired or weary. Each outcome has its own causes, symptoms and treatments.</td>
</tr>
</tbody>
</table>
| **Freight route** | Designated routes that provide access for road freight between freight generating and receiving areas. The Austroads’ Guideline for Freight Routes in Urban and Rural Areas (Austroads 2007) identifies the following:  
  - Major freight routes are roads that experience high daily volumes of heavy vehicles. ‘In urban areas they consist of motorways and major roads that provide connections between freight significant generating/receiving areas’. In rural areas they include roads incorporated under the AusLink Land Transport Network (ALTN) as well as routes identified by state and local governments.  
  - High wide load routes provide access to restricted access vehicles. High wide load routes are also known as Oversize/Overmass (OSOM) routes. Commodity routes provide access for freight at certain times of the year, for instance to accommodate seasonal demands. |
| **Formal HVRA** | Formal HVRAs are HVRAs which are provided/maintained by the road manager to support the heavy vehicle industry to comply with the fatigue regulations. There are five classes of formal HVRA. Decisions on the appropriate class of HVRA to install and where and how frequently to install HVRAs is up to the road manager. These Guidelines aim to assist this decision-making process. |
| **HV** | Heavy vehicle |
| **HVRA(s)** | Heavy Vehicle Rest Area(s). HVRAs provide an opportunity for drivers to sleep and take rest breaks (helping them manage fatigue and comply with driving hours regulations) and enable drivers to check their vehicles and loads. Facilities and amenities provided at HVRAs vary depending on the type of HVRA. Some HVRAs cater specifically for heavy vehicle drivers; while some provide separate parking for heavy and light vehicles. |
| **HVRA class** | This Guideline identifies five formal HVRA classes and one informal HVRA class. The classes vary based on capacity, facilities and amenities provided. |
| **HV rest opportunity** | An opportunity for heavy vehicle driver rest that may not be a formal HVRA or informal HVRA. Where they are approved by the operator or the local government responsible examples of HV rest opportunities include commercial facilities (including service centres and roadhouses) and in town facilities. |
| **Informal HVRA** | Informal HVRAs are not provided/maintained by the road manager, rather they have evolved through obvious signs of use by Heavy vehicles. Informal HVRAs may supplement the existing formal HVRA network. Therefore, it is important for road managers to consider the location of informal HVRAs when considering rest opportunities along a route. An informal HVRA may be upgraded to a formal HVRA should the location prove valuable. |
| **LV** | Light vehicle |
| **OSOM** | Oversize/Overmass. This refers to a vehicle with a special permit due to it exceeding normal permitted heavy vehicle size or mass. |
| **Road manager** | National or state road agency, municipality, other body or individual responsible for the care, control and maintenance of road infrastructure. |