WASTE AND RECYCLING INDUSTRY

Code of Practice

A registered Industry Code of Practice under Section 706 of the Heavy Vehicle National Law

JUNE 2024

FOREWORD

This Registered Industry Code of Practice (RICP), known as the Waste and Recycling Code of Practice (Waste and Recycling Code or WRC), was developed in accordance with the Guidelines for Industry Codes of Practice under Section 705 of the *Heavy Vehicle National Law* (HVNL).

The WRC has been developed with the advice and assistance of Waste and Recycling Industry Association of Queensland (WRIQ) in association with the National Waste and Recycling Industry Council (NWRIC) and its state-based industry association affiliates. Waste Contractors and Recyclers Association of NSW (WCRA) should also be recognised for their strong contribution to developing this code. Each of the state-based industry associations is the peak body for the waste and recycling industry operators in its own state and NWRIC is the peak body for waste and recycling industry operators nationally.

WRIQ has consulted nationally throughout the process of developing the WRC, and the state associations have consulted within their own jurisdictions. Each of them has consulted industry members and groups and other stakeholders such as local government, transport associations and industry suppliers. A full list of organisations that has contributed may be found on page 39. Development of the WRC was supported by a Heavy Vehicle Safety Initiative (HVSI) program grant to WRIQ in 2019-20.

A draft of this code of practice was released for public consultation on 29 February 2024 and was endorsed for registration by the NHVR on 12 June 2024.

ABOUT INDUSTRY CODES OF PRACTICE

What is a Registered Industry Code of Practice?

An industry code of practice is information, for a particular industry, about hazards and risks and ways to remove or reduce those risks. It is called an industry code because members of the relevant industry have had input into the code, and because it reflects what the industry knows and does.

Under the HVNL, the NHVR may register a code of practice that complies with its published guidelines. These guidelines describe the process for developing a code and the requirements for the content of a code. A key requirement is that the code promotes the safe use of heavy vehicles through the identification of known hazards and risks and recommended control measures.

How is a code of practice developed?

Typically, an industry group indicates the need for a code of practice and works with the NHVR to identify representatives from that industry who can contribute to the code's development. Industry members provide the detailed content of the code and give feedback as the document is produced. The NHVR drafts the document and manages the consultation process. Before a code can be registered, it is published for public consultation, then assessed by a panel of industry experts. If approved, it is published on the NHVR's website.

What is the purpose of a code of practice?

Codes of practice inform an industry about safe practice. Although the HVNL imposes a Primary Duty upon parties in the Chain of Responsibility (CoR) to ensure the safety of their transport activities, it doesn't specify how they should do that. Each business has to work this out for themselves, according to their own circumstances. Codes are not exhaustive, but nevertheless help fill in some of those gaps by alerting CoR parties to relevant hazards and risks and making recommendations about ways to manage those risks. This helps businesses that might not otherwise be aware of what is expected of them to find practical ways to improve safety. The value of a registered code is that it can provide consistent, authoritative information and guidance.

What is the Primary Duty?

The Primary Duty requires a party in the CoR to ensure, so far as reasonably practicable, the safety of its transport activities in relation to a heavy vehicle (See s 26C, HVNL). Specifically, this is a duty to eliminate public risk so far as is reasonably practicable, and if it is not reasonably practicable to eliminate a risk, then to minimise the risk.

Public risk means a risk to drivers, passengers, other road users and members of the public in the vicinity of roads and public places. It also includes the risk of damage to property, including vehicles and loads, damage to road infrastructure and harm to the environment.

A party's "transport activities" are anything it does that is associated with the use of a heavy vehicle on a road. The term would include, for example, business practices, facilities maintenance, human resource management, policy development and review, safety systems, and board decisions, as well as the activities typically associated with heavy vehicles such as loading, maintenance, scheduling, etc. More information about the Primary Duty can be found on the NHVR website.

What is Executive Due Diligence?

If you are an executive of a business that is a party in the CoR for a heavy vehicle, you have a duty to exercise due diligence to ensure that the business complies with its Primary Duty. If it fails to do so, then you could be held personally liable for a breach of s 26D HVNL. The term "executive" includes an executive officer, a manager or another person who takes part in the management of a business. It also includes a director of a company and a partner in a partnership.

Exercising due diligence requires you, among other things, to actively acquire and maintain up-to-date knowledge about conducting transport activities safely. If this code of practice is relevant to your business's activities, then as an executive you have a duty at least to familiarise yourself with its contents. The code should help you ensure that your business implements the safety systems necessary for it to comply with its Primary Duty.

More information about the Executive Due Diligence Duty can be found on the NHVR website.

What does "Reasonably Practicable" mean?

Doing what is "reasonably practicable" is the standard for complying with the Primary Duty. Reasonably practicable means actions that are 'reasonably able to be done in relation to the duty, weighing up all relevant matters'. Put simply, a CoR party must implement controls that are proportionate to the overall safety risk. Generally, the more potentially dangerous something is, and/or the more likely it is to happen, the more time, trouble and expense should be put into preventing the risk from occurring, or to minimising injury or damage if it does occur. However, this does not mean that something which amounts to a low overall safety risk can be ignored, or limited controls applied, if they are otherwise readily and easily applicable.

When a court assesses whether a party has done what is reasonably practicable, it takes account of what the party knew, or should have known about hazards, risks, risk assessments and controls. (This is where a registered code of practice becomes relevant). A court also considers whether suitable, effective control methods were available, and the cost of implementing controls. Cost is the last factor that a court would consider. A party is not expected to implement a control if its cost would be grossly disproportionate to the risk, but cost will not itself be an excuse for failing to implement a control. There will be some risks that are so serious that if there are no available, effective, or affordable controls, then the party will have to avoid the action that creates the risk or find another way to do it.

See the glossary for the legal definition of 'reasonably practicable'. More information about what's Reasonably Practicable can be found on the NHVR website, or in Regulatory Advice on the topic.

Sharing the duty between CoR Parties

The principle of chain of responsibility (CoR) recognises that many different parties influence the safety of a heavy vehicle on a road. This is why the law imposes a duty on each party in the CoR. The HVNL also states principles about how the duty is shared (see s 26A & s 26B, HVNL). Because CoR parties for a heavy vehicle each have different functions, and have different degrees of control over what happens, they aren't all expected to do the same things, or to go the same lengths to ensure safety, but each of them must still do what is reasonably practicable for them each to do.

It's important to understand that sharing the Primary Duty does not mean dividing it into smaller portions. As a CoR party, you can't rely on what another party should be doing to justify your business doing less. Each party still has to spend a proportionate amount of time, effort, and resources, based on the function it performs, the public risk created by its activities, and its capacity to control, eliminate or minimise the risk.

Parties should work together to identify and assess risks, and to understand what opportunity each of them has to eliminate or minimise a risk. In some circumstances the most practicable control will be one that only one party has the ability to implement. Failing to pay attention to or to act on concerns raised by other parties may be a breach of the Primary Duty.

Does my business have to comply with a code of practice?

Codes of practice are recognised by courts, but a code is not a law and doesn't create stand-alone obligations.

Parties in the CoR already have a Primary Duty. This is the legal obligation they must comply with, not the code itself, but a code will help guide them in meeting their Primary Duty obligations. First, it will help them identify hazards and risks in their business. Secondly, it will recommend control measures to manage those risks.

There is no single blueprint for how all businesses must meet their Primary Duty. Once a business has identified relevant hazards and risks, it could implement some or all of the controls a code recommends, or it could implement different controls altogether. It could also use a combination of controls from the code and from elsewhere. So long as a business is doing what is reasonably practicable to eliminate or minimise risks to public safety from its activities to do with heavy vehicles, it will likely have met its Primary Duty obligations.

Does a code of practice identify every single hazard and risk?

No, a code of practice is not exhaustive. It should identify the main hazards and risks known to an industry, but it may omit some hazards and risks that are not widely known. As a CoR party, your duty is to identify and manage all hazards and risks to public safety associated with your heavy vehicle transport activities. This may mean you have to undertake additional enquiries to properly identify and assess additional risks and hazards. For hazards and risks not mentioned in the code, you still need to do what's reasonably practicable to eliminate or minimise them.

Does every CoR party have to do the same thing?

What is reasonably practicable for one business won't necessarily be reasonably practicable for another. Many factors affect risk and the potential for injury or damage. Differences between businesses will mean different risk profiles, and variation in how practicable it would be to implement control measures.

There will be some control measures that are so effective and practicable that every business should be using them. Other measures might only be required for operators that cause the greatest risk. Some control measures might be implemented to a different degree or in different way in different businesses e.g., an on-line training course, in-person training by a co-worker, or a TAFE qualification.

A business has to make its own assessment of the number and kinds of controls it needs to implement in order to reach the threshold of doing what is reasonably practicable. It needs to make this assessment based on what an ordinary reasonable member of the community would think is proportional, not based on its own opinion or interests.

How will a court use a code of practice?

If a CoR party is charged with a breach of the Primary Duty, a court may have regard to a registered code of practice as evidence of the party's safety knowledge, i.e., as evidence of what they knew or ought to have known, about hazards, risks, and controls in a particular industry.

In other words, the party facing a charge may then be assumed to know everything that was in that code of practice. It would be difficult to argue that they didn't know about a particular risk, or its seriousness, or to argue that they didn't know how to deal with the risk.

However, as noted above, the party would not have to show that it had implemented every control recommended by a code. It would only need to show that it had implemented sufficient suitable controls to meet the standard of reasonable practicability, whether these were control measures recommended by the code, other measures not referred to in the code, or a combination of both.

Whether or not a business adopts controls recommended by a code, it's critical that it is aware of the contents of a code of practice, in order to understand the safety standard that is expected.

ABOUT THE WASTE AND RECYCLING CODE

The WRC will be of particular interest to those organisations who deal with waste materials day to day - waste contractors, recyclers, local councils, waste facility managers - but the code is also relevant to a much broader range of individuals, businesses, and organisations. Any of these who produces, packs, loads, sends, or receives waste that is transported on a heavy vehicle is a party in the chain of responsibility and has a duty under the HVNL. (See Figure 1 for examples of CoR parties for waste vehicles).

The Code is also essential reading for an executive of any business or organisation whose employees perform any of the above functions, as it will assist them discharge their due diligence duty.

The WRC is relevant to any person, party or entity that operates heavy vehicles, engages the services of heavy vehicles or operators, or any other party that has control or influence concerning the safety of: load receptacles; nature of loads; load collection/disposal locations; transportation; loading, unloading and processing activities.

This code provides guidance about complying with section 26C of the HVNL, but it does not provide express advice about compliance with the detailed requirements in the HVNL that apply to heavy vehicles. For more information on topics such as vehicle standards, mass and dimension limits, loading performance standards, access requirements, accreditation etc. refer to information on the NHVR website.

The WRC is regarded as a supplementary code because it does not address all hazards and risks associated with transport activities in the waste and recycling industry. It should be read in conjunction with the HVNL, the Master Code of Practice, the Load Restraint Guide, WHS law, relevant Australian Standards, and other industry specific guidance. To be clear, all of those materials may be relevant in a consideration of whether a CoR party had done what was reasonably practicable to ensure safety and to eliminate (and, to the extent it was not reasonably practicable to eliminate, minimise) public risks.

The Master Code is a general code written for the whole of the heavy vehicle industry. Where a topic covered by the WRC overlaps with content in the Master Code, the WRC may refer to relevant content in the Master Code, however it is up to the person using the WRC to satisfy themselves that they have considered all the guidance that is relevant.

Waste management and environmental protection is also subject to separate regulation specific to each state jurisdiction. Advice in relation to these requirements can be obtained from the relevant state and local authorities which are listed in Appendix A.

Information and recommendations in this code may also be useful for members of associated industries and their organisations and workers.

Who is a party in the CoR?

A person or business is a 'party in the Chain of Responsibility, when they perform any of these functions in relation to a heavy vehicle:

- employ a heavy vehicle driver (employer)
- engage someone to drive a heavy vehicle under a contract for services (prime contractor)
- direct the control and use of a heavy vehicle (operator)
- schedule the transport of goods and passengers in a heavy vehicle, or schedule a driver's work and rest hours (scheduler)
- consign goods for transport by a heavy vehicle (consignor)
- receive goods delivered by a heavy vehicle (consignee)
- pack or assemble goods for transport in a heavy vehicle (packer)
- manage premises where five or more heavy vehicles are loaded or unloaded each day (loading manager)
- load a heavy vehicle (loader)
- unload a heavy vehicle (unloader)

(Full legal definitions of each term can be found in the Glossary)

Individual employees may be parties in the CoR, but it is the businesses that employ them that are expected to take the lead in ensuring that the Primary Duty is satisfied. This is because employers generally have more control and influence over hiring, training, work practices and resources.

Some parties are defined in relation to "goods" in a heavy vehicle. Although waste and recycling materials may be of limited commercial value in some circumstances, they nevertheless meet the definition of "goods" for the purposes of the HVNL.

It is critical that you identify whether your business is a party in the CoR for a waste or recycling vehicle, but it is not essential to determine which party it is. This is because all CoR parties have the same primary duty. The HVNL does not set out different duties for each party.

For more information about the parties in the CoR see: www.nhvr.gov.au/safety-accreditation-compliance/chain-of-responsibility/the-primary-duty/parties-in-the-cor.

CoR parties in the waste industry

A notable feature of the waste and recycling industry is the variety of arrangements between parties for carrying out the various roles in collecting, sorting, storing, transporting, receiving, and processing waste and recyclable materials. Many of these parties will be local governments or specialist businesses, but their customers also have a role to play.

The following scenarios illustrate the range of supply chain configurations within the industry:

Scenario	Parties
A local council engages a transport company to collect aggregated household waste materials from the council's own waste facility, where a council worker loads the vehicle, for transport to a final disposal facility owned by another business.	Council Transporter Waste processor
A construction company engages a waste contractor to remove construction waste from building sites. Sub-contractors of the construction company fill skips for collection.	Construction company Sub-contractors Waste contractor
A glass recycling company that operates heavy vehicles sends its own driver to collect glass from a Materials Recovery Facility (MRF) where the MRF machinery operator loads the material onto the heavy vehicle.	Glass recycler Materials recovery facility
A demolition company hires a transport operator and an excavator operator to load and carry demolished materials to a recycling facility.	Demolitions company Transporter Excavator operator Recycling facility
A transport business collects skip bins filled by a school and takes them to a waste processing facility	Transporter School Waste processor
A manufacturer engages a waste removal company to collect chemical waste from its factory each week and take it to another site also owned by the manufacturer.	Manufacturer Waste Transporter

Note that where more than one party has a duty in relation to the same circumstances, what would be expected of each of them would be different. This is discussed above in the sections titled "Sharing the duty between CoR parties" and "Does every CoR party have to do the same thing?"

There are other features of the waste industry that create a unique risk profile. Because waste material is not always a valued commodity, or because it does not need to be carefully handled in order to retain its value, less care may be taken in preparing loads for transport. Waste material is often deposited by many different persons, without supervision and waste receptacles can be left out for collection without the consignor or packer being present.

These circumstances increase the risk of loads containing dangerous materials, or a mixture of materials with different properties, and of loads being unevenly distributed or poorly restrained.

A summary of hazards and risks associated with transporting waste and recycling materials is summarised in the Overview of Hazards and Risks.

What is a driver's role?

A driver who is employed by another person or business is not a party in the CoR, and the primary duty does not apply to them, however CoR parties cannot discharge their duties without the involvement and cooperation of drivers. Among other things, employers and prime contractors need to recruit or train their drivers so that they have the right skills and experience, provide them with the vehicles and equipment they need, train them in the business's safety procedures, monitor and review their performance and manage their work so that they remain fit to drive.

Other parties in the CoR must enable drivers to carry out the recommended driver actions by providing safe facilities and equipment, implementing safe procedures, training their own staff, and communicating relevant, timely information. All CoR parties need to assure themselves that these activities are being carried out safely and consistently. If they are not, then CoR parties need to identify the obstacles and address them.

As workers at greater risk when things go wrong, drivers should be central to each business's safety culture. They should be encouraged to refuse to transport unsafe or non-compliant loads, and to report incidents and safety issues and they should be supported when they do so.

Like all heavy vehicle drivers, drivers in the waste and recycling industry must also comply with numerous other obligations within the HVNL including loading requirements, mass and dimension requirements, fatigue management, vehicles standards, and with the Australian Road Rules.

Waste vehicle drivers may also carry out functions that make them CoR parties – they may load trucks or be called upon to pack waste receptacles such as skips or liquid waste vehicles – so it is important that high quality training is provided to ensure these roles are carried out safely and efficiently.

An owner-operator of a heavy vehicle is also a party in the CoR and should use the contents of this code to ensure that in the way they operate their vehicle, and interact with business partners, they are complying with the Primary Duty.

USING THE WASTE AND RECYCLING CODE – A PRACTICAL GUIDE

Registered codes of practice will help you to identify hazards, assess risks, and choose suitable controls. A system that integrates all the components of risk management into a single system can be described as a safety management system (SMS). Such systems are prescribed for some transport sectors and represent best practice for the heavy vehicle industry as well. On the NHVR website, you will find many resources which will help you to develop, document and implement an SMS.

For guidance on the principles of risk management, the NHVR recommends *AS/NZS ISO 31000:2018 Risk Management — Principles and Guidelines*. You might also find *AS/NZS ISO 45001: 2018 Occupational Health and Safety Management Systems* contains some useful guidance on managing your safety risks.

Key components of risk management are:

1. **Hazard identification**
2. **Risk assessment**
3. **Selection of control measures**
4. **Implementation and training**
5. **Systems to monitor and report on the effectiveness of controls**
6. **A process for periodic review of the system and a process for responding to incidents and new risks**

More information about risk management is available from Safe Work Australia, or your state or territory's workplace health and safety regulator.

1. Identifying hazards and risks

Consider all the hazards and risks in the WRC to see whether they are present in your transport activities. This includes considering whether your activities contribute to risks affecting others.

Some hazards and risks will be present in some businesses, but not in others, according to their circumstances.

Codes of practice document known hazards and risks in an industry, but they may not capture each and every one. As a party in the CoR, your duty is to eliminate or minimise all risks to public safety associated with your transport activities, so you also need to look for hazards and risks besides those mentioned in this code.

Figure 1.

	Company A Metal recycler Owns its own fleet of vehicles and collects and delivers industrial scrap metal.	Company B Local council Engages a large waste transporting business to carry out scheduled kerbside collection of mixed domestic waste.	Company C Home builder Uses a small waste transporting business for ad hoc collection of skips of mixed construction waste.
Risk			
Hazard	Yes - High	No	Yes - Medium
Hazard	No	Yes - Low	Yes - High
Hazard	Yes - Medium	Yes - Medium	No
Hazard	Yes - High	Yes - High	No
Other Hazard	High	?	?
Other Hazard	?	?	Low
Risk			
Hazard	Yes - Low	Yes - Medium	Yes - High
Hazard	Yes - Medium	Yes - High	Yes - High
Other Hazard	?	?	?
Risk			
Hazard	No	No	Yes - Low
Hazard	No	Yes - Low	No
Hazard	Yes - Medium	No	No
Other Risk			
Other Hazard	?	?	?
Other Hazard	?	?	?

Different businesses will have different hazard and risk profiles.

A code of practice may not identify every hazard. Some businesses will have extra hazards.

A code of practice might not identify every hazard and risk associated with your business. It is up to you to identify and manage each hazard and risk.

2. Risk Assessment

Assess the likelihood and seriousness of each risk that you identified, whether from the code, or from your own investigations. The same hazard may create more or less risk in one business than another, because of differences in the way they operate, their location, staffing, equipment, work hours etc.

3. Selecting control measures

You must choose controls, or a combination of controls, that will eliminate each risk that has been identified, or where it is not reasonably practicable to eliminate the risk, to minimise it so far as reasonably practicable.

Choose controls that will work and be effective in your business.

It may be necessary to use a combination of controls of different kinds. For example, to deal with one risk, you may need to purchase or adapt equipment, change procedures, and re- train employees. Another risk may be eliminated by assigning employees to a new task and hiring a new staff member.

Figure 2.

	Company A	Company B	Company C
Risk	Owns its own fleet of vehicles and collects and delivers industrial scrap metal.	Engages a large waste transporting business to carry out scheduled kerbside collection of mixed domestic waste.	Uses a small waste transporting business for ad hoc collection of skips of mixed construction waste.
Hazard	Yes - Medium	Yes - Medium	No
1. Code control	✓		
2. Code control		✓	
3. Code control	✓	✓	
4. Code control	✓		
5. Code control	✓		
6. Alternative control		✓	
7. Alternative control		✓	
Necessary control	1, 3, 4, 5	2, 3 and alternative controls	

If a hazard doesn't exist in a business, then the controls aren't required. (Controls will be necessary for other hazards).

Controls that are effective for one business might not suit another.

Each business must put in place the control/s that will eliminate or minimise risk from each hazard to an acceptable level.

Cooperating to implement controls

In many situations, the best way to manage a risk will be for a number of parties to implement complementary controls. Because different parties do different things, at different times and places, they don't all have the same opportunity to manage each risk. For example, one business controls things at the start of a trip; another business only sees the end of the journey. Some control measures happen weeks in advance, monitoring happens during operations, and feedback is always after the fact.

You can collaborate with your business partners to work out which control measures each of you can implement, to create a more efficient and effective risk management system. If there is some doubling up in such a system, it should give you greater confidence. However, you should be cautious about relying entirely on other parties' control measures, unless you know or can assure yourself that the control measures are in place, are being used, and are effective.

(See also, Due Diligence, p4 Sharing the duty between CoR parties, p5).

Is it compulsory to use control measures recommended in the Waste Loading Code?

You do not have to use every control recommended by the WRC. You only need to implement sufficient controls to ensure safety so far as reasonably practicable.

You may use different controls altogether - ones not mentioned in the WRC – if you can show that they eliminate or minimise risk just as effectively. A control measure from outside the WRC might be more readily available, or more effective in your business because it suits your circumstances better. You can also use a combination of controls from the WRC and other controls.

So long as you are eliminating or minimising each risk, to the required standard, then you are meeting your duty. The purpose of the WRC is to assist you to do this, the code does not create a new legal obligation.

If available controls will not be sufficient to eliminate or minimise a risk, you must find another way to achieve the same outcome, or cease carrying out the activity that creates the risk.

Other sources of information about hazards, risks, and controls.

You can find more information about managing risk by referring to codes of practice or other publications produced by safety regulators, such as Safe Work Australia and its state equivalents, or by environmental regulators, fire and emergency services, research organisations, etc.

Guidance from sectors other than waste may also be relevant. For example, the CLOCS-A Standard focuses on safe transport in and around construction projects, but its content may be broadly applicable to managing some risks in waste and recycling transport generally.

Your industry and its networks may be another source of advice and data that will help you. An example of organised information exchange is the Safer Together initiative in the oil and gas sector whose regular working groups develop bulletins and safety alerts that are sent to members and subscribers.

Currency of technical standards and references

References in this code to technical standards and information resources were current at the time of publication. If you refer to any of them, you should ensure that you are consulting the current version.

4. Implementation and training

Once you have identified hazards, assessed each risk, and determined the appropriate control measures, you need to ensure that they are implemented in your business.

It is critical that executives are involved in the process, as this sits squarely within their due diligence duty. They must be aware of the outcome of the assessment process, and should be leading, or at least, supporting the process of integrating control measures into the processes and systems of the business.

In order to implement new controls, your business will have to review its existing policies, procedures, equipment, premises, staffing, contracts, and business practices and make appropriate updates.

If it is not possible to implement all suitable control measures immediately, then priority must be given to measures that eliminate or minimise the most serious risks. Executives should be involved in decisions about which control measures will be implemented, and when, and ensure that resources are available to allow them to be put in place.

It is recommended that you document the assessment process, including its scope and timing, the personnel involved, your sources of information and the reasoning supporting each decision. You should also document the decisions, timing, costs, and other actions relating to the implementation of each control measure. These records will be useful to your business in future.

Training will be an essential component of implementing new measures. In some cases, training will itself be one of the control measures, but training about all the new measures will be required. Develop all-staff training to introduce the overall changes, including an explanation of the risk assessment process and the business's legal obligations, so that staff understand the importance of the training.

Identify and deliver specific training for staff according to the functions they perform, where and how they work, and the equipment and resources they use. Include sales, human resources, and public relations staff in the training program.

Deliver training in a way that suits the working environment and gives trainees enough time to learn and adapt. Provide training support during the change period and ensure that staff know how to access training documentation.

You should also identify training needs of your business partners and clients. In some cases, e.g., where you have changed procedures at your premises, it may be necessary to include their employees in on-site training with your own employees. In other cases, it may be sufficient to know that those employees have received comparable training. For your clients, it may be sufficient to provide written information or update web content.

Note: Identifying and fulfilling training needs is part of a business's transport activities.

5. Monitor and report on effectiveness of controls

You will need a way to monitor whether the control measures you implement are actually effective.

If you have already been monitoring appropriate safety indicators, you should be able to compare outcomes after the controls have been implemented and assess whether they are improving your business's safety.

Care needs to be taken in choosing what you measure or monitor. Some measures based on outcomes – e.g., the number of crashes – may not provide useful insights. For example, there may be long periods when by good fortune there are no crashes despite the existence of a hazard that could cause them, so this measure would provide no information.

Use what you learned from the risk assessment process, and your detailed knowledge of your own business, to identify indicators that will inform you whether the measures are being implemented consistently across your business, and what effect they are having on known hazards and risks.

You may need to combine different kinds of information and information from several sources to achieve this, e.g., driver surveys, absenteeism rates, engine data, technical reports, near misses, maintenance records, customer complaints, audit reports etc.

It may be possible to perform continuous monitoring. If not, you should establish a monitoring cycle that's appropriate for the level of risk associated with your activities.

Consider what should be considered normal variation in the indicators that you measure, and what changes warrant further investigation or intervention.

6. Review

There are a number of events that should prompt you to review your risk management system. Most importantly, it should be reviewed if your monitoring demonstrates that the measures in place are not effective at eliminating or minimising risk.

Other events that might trigger a review include:

- a serious incident or near miss,
- major changes to business operations e.g. new client, upsizing, new staff etc.
- emerging hazards and risks
- changes to the physical or regulatory environment
- concerns raised by employees

You should also establish a cycle of periodic review. A combination of minor and incremental changes over time can escape notice but create a substantially different risk environment in a short period of time. Regular review allows a business and its executives to confirm that systems are still fit for purpose. They are also an opportunity for executives and staff to re-focus on safety and avoid complacency.

The frequency of review should depend on the overall risk associated with your business. If the risk is higher, then reviews should be more frequent.

Your business may have the resources to conduct its own review. You may also consider engaging external experts from time to time, or to review some parts of your system.

The review process should follow the same steps as the initial assessment, and the same requirements for implementation and documentation apply.

If the outcome of the review is that changes should be made, then training should be developed and delivered for employees, business partners and clients (see above).

Managing changing conditions

Waste operations take place in a dynamic environment, where every site has specific operational challenges and conditions can change from day to day. While experienced drivers may generally be able to make good safety judgements about how to manage changed operating conditions, it is important that they are supported with good processes for recording and reporting any new or changed hazards and receive training in when and how to escalate decision-making.

Property and infrastructure owners may not be parties in the CoR under the HVNL, however it is likely that they will have responsibilities under WHS legislation, and they should be encouraged to proactively report any planned activities that may change operating conditions for the driver, along with suggested strategies to manage the risk.

This will also assist the heavy vehicle operator to ensure that new drivers, or drivers who may be assigned a route with which they are not familiar, are provided with up-to-date information on the challenges they will face.

OVERVIEW OF HAZARDS AND RISKS

The following sections provide guidance on some significant risks caused by hazards in waste and recycling vehicle loading and transport operations that have been identified through consultation with industry representatives and stakeholders. To operate safely, these hazards must be understood and controlled.

You may have identified specific hazards or risks to public safety within your own operations that do not appear in these sections. If so, you will also need to eliminate or minimise those risks, so far as reasonably practicable.

Fatigue – Waste and recycling collection is often conducted at night or in the very early morning, causing disruptions to normal sleep patterns for drivers. Due to the nature of the work, there is also a high probability of unscheduled delays in carrying out assigned tasks. These are known causes of fatigue and also create a compliance risk of causing drivers to exceed regulated work and rest hours. **You should refer to the Master Code, which has guidance in relation to managing fatigue safety. These risks are not specifically analysed in this code.**

Vulnerable road users – including members of the public and workers who may be present during waste vehicle operations. Loading equipment, such as front-lift equipment, can create significant blind spots for the driver if it is not positioned above the driver's line of sight. Driving from the left-hand side when collecting from kerbsides can change lines of sight and blind spots.

Serious injuries and death have been caused when people have been struck by waste vehicles or equipment during operation.

Batteries, gas cylinders, aerosols, flammable liquids – When disposed of in general waste create a high probability of fire and explosion.

Batteries of various types, including automotive lead-acid batteries, contain corrosive chemicals which may be released if the batteries are damaged or improperly handled. They also contain other toxic chemicals including metals and metal compounds and may be very dense. These properties cause a risk of injury to workers, damage to vehicles, plant or other equipment, and environmental harm if improperly packed or restrained.

Lithium-based batteries can cause fires if they are short-circuited or have their cases ruptured during compaction or other forms of mechanical handling. These types of batteries contain high stored energy even when a user may regard them as fully discharged and dispose of them in a waste bin. They are also present in many electronic devices (e-waste). They can self-ignite and cause other waste to burn. The batteries themselves can be very difficult to extinguish.

Compressed gases, aerosols and flammable liquid containers can be ruptured by compaction, releasing the contents. The action of the compactor arm, dragging the container across the steel body of the truck, can create sparks and ignite the released gas.

Bulk liquid wastes contaminated with flammable liquids have caused explosions resulting in serious injury and death.

Electric shock – Waste transporting vehicles may be at risk of contact with power lines or other electrical infrastructure, because of their height, their use of lifting equipment, or because of dangerous electrical infrastructure at or near loading and unloading locations.

Drivers and others may be at risk of electrocution not only when a vehicle contacts powerlines of infrastructure, but also when they are too close. Power lines do not need to contact a vehicle for this risk to exist. The presence of live power can create an "arc flash" like a lightning bolt which travels through the air to strike a vehicle or person. For high-voltage powerlines, there may be a danger zone of several metres which should not be entered. This risk may be increased at locations where there is poor visibility, low light, and limited room for manoeuvre.

Advice on safe clearances from powerlines can be obtained from your state workplace health and safety regulator, electrical safety regulators, or power distribution companies. The Look Up and Live app also contains safety information about working near electrical infrastructure, and a map of the location and characteristics of powerlines.

Loading/unloading – Waste vehicles often operate in complex confined conditions with little visibility or room to manoeuvre. During loading operations, a vehicle may be required to operate in low light with no assistance, often in places where members of the public may be present. Parked vehicles, roadside furniture or building features may obstruct access, limit driver vision, and create distraction. There may be need to access narrow sites in urban areas, sometimes with limited vertical clearance and high levels of vehicle or foot traffic. On some sites, there may be other vehicles and plant competing for space to load or unload and site personnel may be applying pressure to complete the task quickly. In domestic waste collection and skip operations there may be pedestrians, including children, and vehicle traffic on the street. See **Vulnerable road users**.

Uncontrolled vehicle movement during loading and unloading is a significant hazard that has caused serious safety incidents, including vehicle rollover. Load mass and distribution, soft or slippery ground conditions and gradients are important factors to be considered in assessing operational safety. Load instability and uncontrolled movement of load components during loading and unloading causes risks of injury and of vehicle rollover.

Skips, bins and lifting gear may have structural faults, including rust or damage, that cause them to fail during lifting, creating a risk of injury to drivers or other workers near the vehicle while loading. **See Maintenance**.

Recycled or scrap materials, such as car bodies, may have complex shapes that make them difficult to stack and restrain, or may be deformed in transit. This creates a high probability of uncontrolled movement during unloading, causing a risk to workers while removing load restraint and during the unloading process. Scrap metal packed into shipping containers may penetrate the container and protrude, or cause the container to bulge, creating a risk of collision with other vehicles or infrastructure.

Load restraint – Waste receptacles and heavy waste materials that are not properly restrained cause a serious risk of injury and damage. Batteries, including automotive batteries, are very dense and may damage handling equipment such as pallets, or create a high risk of load loss if not properly packed and restrained.

Liquid wastes may be chemically hazardous or have physical properties such as flammability or lubricating qualities that cause a risk to other road users and pedestrians if they escape containment. Some liquid wastes will damage pavements or other vehicles that come into contact with them.

Loads with complex shapes and stacked loads may be prone to shifting or crushing the load beneath during transport and thereby loosening restraints. Low strength or hollow items, such as motor vehicle bodies, may crush during transport, which can loosen restraints.

Lightweight waste materials that escape containment cause a risk of injury through direct contact with persons and can cause a hazard to other road users. These types of waste materials also present a high risk of environmental harm, including littering and damage to waterways.

Mass and dimension - Over-mass and over-dimension loads cause significant safety risks, including reduced vehicle controllability, damage to infrastructure, increased mechanical wear and component failure.

Poorly distributed loads can cause an increased risk of vehicle rollover while driving and may reduce steering effectiveness.

Maintenance - Waste operations create a demanding environment for heavy vehicles and associated equipment. Rough and uneven ground, and use of vehicle-mounted equipment can apply large forces to vehicle bodies and chassis components. Exposure to corrosive or abrasive waste materials and soil or mud can degrade vehicle components, including important safety items such as brakes, steering and suspension. Waste collection can involve frequent stopping, which increases the wear rate of braking components.

Lifting gear, including hydraulics and chains, skips, and bins, and load securing components can be damaged through wear and tear, excessive loading, corrosion or exposure to the elements.

Mirrors, lights, mudflaps etc. may be at higher risk of damage than in some other types of heavy vehicle operations, due to the environment and conditions where vehicles are operated.

Asbestos - comes in several forms including asbestos sheeting, bonded materials containing asbestos or friable asbestos (which in a dry form is easily crumbled with minimum pressure into a powder). Asbestos consists of very fine particles that pose a risk of serious harm to workers and members of the public. It should only be handled by properly qualified persons. Asbestos waste which is mixed with other materials in a bin can be released during handling, causing a risk of harm to workers and a risk of environmental harm. Asbestos is readily aerosolised. When asbestos is present without the knowledge of workers, the risk of uncontrolled exposure to the hazard is significantly increased.

Asbestos removal and disposal are regulated under state and territory environmental protection, WHS and public health legislation; these activities are not specifically analysed in this code. Your local environmental and WHS regulators are the best source of expert advice on asbestos handling and regulatory requirements.

Environmental harm - Waste materials which are not intrinsically dangerous to handle, including rubber, plastics, paper/cardboard and bulk organic materials such as garden waste or timber, etc, may cause environmental harm if allowed to enter waterways or contaminate land. Garden and landscape wastes may contain weed seeds and soils may contain insect pests such as fire ants, which can cause widespread environmental harm if allowed to spread through poor handling.

Biosolids - Despite appearing to be dry, biosolids contain water, which can cause the material to become liquid under hard braking or during cornering. This can cause the material to "slosh" over the sides or front wall of the typical tipper body truck used to carry it.

HAZARDS, RISKS AND CONTROLS

The sections above contain guidance on use of this code and on managing safety in your transport activities. The controls below are suggested actions to assist you to ensure your activities are safe.

The WRC provides guidance only. Your responsibility is to assess each circumstance on its own merits to ensure that so far is reasonably practicable, public risk is eliminated, and, to the extent it is not reasonably practicable to eliminate such risks, they are minimised. As noted above, that may require additional steps to those suggested below.

Many of the controls require action to be taken by workers, including drivers. These workers must be properly trained, supported, and empowered to make decisions and take actions that ensure safety within the course of the duties they perform on your behalf.

Your responsibility is to support and instruct your workers, with good equipment, high-quality training and effective operating processes, so that they can do their job for you with confidence that they are working safely.

1 Risk: Injury to persons due to vehicle operations

Refer to *Heavy Vehicle Purchasing Guide* (https://www.nhvr.gov.au/document/278) for guidance on driver aids that may assist with managing this risk.

1.1 Hazard: Members of the public in vehicle operating area

1.1.1 Control: Ensure pedestrians are excluded from operating area

a) Establish and clearly mark safe areas and paths for pedestrians to use.
b) Assess and regularly review the operating conditions at each site e.g., times and volumes of pedestrian and vehicular traffic flows, obstacles to driver vision or vehicle access, direction of safest access to loading site, necessity for driver assistance such as a traffic controller/spotter, etc.
c) Ensure that initial site assessments are carried out by personnel with operating experience in the field. Eg; an experienced driver or supervisor.
d) Designate loading and unloading sites in places that are not accessible to pedestrians.
e) Schedule operations to avoid busy traffic and pedestrian movements.
f) Report changed conditions at an operating area to the waste contractor and liaise with them to make necessary adjustments.
g) When new drivers commence, or when drivers' routes are changed, ensure that they are trained to manage hazards on their route.
h) Train drivers to carefully survey the operating area before commencing any activity in areas trafficked by pedestrians, or where it is suspected people may be present e.g., crossing a footpath to enter a property, entering a narrow city lane where there may be people sleeping rough, moving off after loading a wheelie bin at the kerbside, etc.
i) Provide drivers with portable safety barriers and traffic warning cones for deployment, when necessary, to assist in excluding pedestrians from the truck operating area.
j) Install electronic driver aids and train drivers in their use e.g., reversing cameras, blind spot cameras, collision detection and avoidance systems, etc.
k) Install warning lights, flashers, beacons, and reversing alarms on all heavy vehicles and train drivers in their use.

1.1.2 Control: Ensure driver can see or have warning of any pedestrians or vehicles entering the waste vehicle path or operating area

a) Install auxiliary vehicle lighting to assist driver vision.
b) Install electronic driver aids and train drivers in their use e.g., reversing cameras, blind spot cameras, vulnerable road user detection systems, etc.
c) Provide traffic control/spotters where necessary.

1.2 Hazard: Lifting equipment obscures driver's vision

1.2.1 Control: Ensure that lifting equipment does not obstruct driver's vision from the cabin of the vehicle while using the road network

a) Ensure that front-lift vehicles are fitted with lifting equipment that can be safely stowed above the line of sight of the driver before entering the road network.
b) Ensure that vehicles are fitted with safety interlocks that prevent or limit operation when lifting equipment is not safely stowed.
c) Train drivers to understand safe operation of the vehicle, including safe stowage of lifting equipment.
d) Install cameras, mirrors or other devices to assist driver vision and reduce blind spots if vehicle is operated with lifting equipment lowered; e.g., while loading, or while moving between bins in a customer's premises.
e) Provide spotters to assist driver if vehicle must be operated with lifting equipment lowered.

1.2.2 Control: Ensure drivers are aware of blind spots and are trained to take extra safety measures while operating vehicles.

a) Train drivers to understand blind spots that exist in the vehicle(s) they drive. This may vary for different types of vehicle and loading equipment.
b) Train drivers to use driver aids such as cameras that are fitted to the vehicle.
c) Ensure drivers are competent to apply good driving practices to reduce the risk associated with blind spots e.g., slow down, move the head to obtain a view around obstructions, scan mirrors/camera displays frequently, understand and react appropriately to vulnerable road user detection system alarms.

1.3 Hazard: Vehicle rolls away while parked

Further information relating to this hazard may be found at: Fact sheet: Prevention of vehicle roll-aways and safe immobilisation | Safe Work Australia

1.3.1 Control: ensure that vehicle park brake is applied when vehicle is unoccupied

a) Fit vehicle with safety interlocks to ensure that driver is made aware through activation of an alarm when the park brake is not properly applied before the vehicle door is opened. Systems are also available that will automatically apply the park brake when a driver exits a vehicle.

1.4 Hazard: Driver is close to heavy vehicle while operating equipment

1.4.1 Control: Ensure vehicle and associated equipment are safe to operate

a) Conduct regular scheduled maintenance on vehicle safety systems and lifting equipment. Refer to section 2.2.1 for other maintenance controls.
b) Include inspection of brakes, hydraulic systems, chains and hooks, load restraint equipment, during daily checks.
c) Implement a system to remove a vehicle from use until any safety faults are rectified.
d) Train drivers to check bins, skips, etc. for structural damage before lifting.
e) Ensure any additional safety equipment such as wheel chocks, stabiliser bolsters, etc. is provided and available for use as necessary.

1.4.2 Control: Ensure driver competency

a) Ensure drivers have all necessary licences, including high risk work licences, for the vehicles they operate.
b) Train drivers in safe work procedures for the vehicle and task assigned and assess driver competency to operate vehicles and waste handling systems.
c) Provide drivers with checklists to assist them to work safely.

1.4.3 Control: Ensure operating conditions are safe

a) Train drivers to understand safe operating limits for the waste vehicle being used and to assess the operating environment for potential hazards before commencing loading or unloading. For example, excessive gradient, soft ground, obstructions, etc.
b) Place waste receptacles on firm, level ground, clear of obstructions.
c) Ensure waste cannot fall from receptacles during loading or unloading.
d) Train drivers to safely and correctly deploy vehicle safety equipment to prevent uncontrolled vehicle movement e.g., stabiliser legs are extended, with timber placed under the feet where necessary; park brake is engaged; wheel chocks are in place, etc.
e) Install remote control devices to allow drivers to operate equipment from a safe distance.

1.5 Hazard: Electric shock

Your state or territory energy safety WHS regulator or your local electricity distributor are expert authorities on electric shock hazard management. You should refer to those organisations for advice if you are concerned that this hazard may exist within your operations.

1.5.1 Control: Ensure safe clearance from electricity infrastructure

a) Assess operational areas for the presence of electricity distribution infrastructure such as powerlines. Online tools such as the Look Up and Live website or app may assist.
b) Report dangerous powerlines to the infrastructure owner for repair. For example, sagging or damaged lines, unsafe line alignments.
c) Ensure waste receptacles awaiting pickup are located away from electricity distribution infrastructure such as powerlines.
d) Request that infrastructure owners fit visual indicators to powerlines that may present a hazard.
e) Ensure that power lines which may present a hazard are fitted with visual indicators.
f) Use spotters to assist where waste loading must take place near to dangerous power lines and other electricity distribution infrastructure.
g) Ensure drivers and spotters are trained and competent to understand safe clearances and operate safely near power lines and other electricity distribution infrastructure.
h) Ensure the operating area is clear of personnel not involved in loading or unloading. Electric shock can occur some distance from powerlines in contact with the ground.

1.5.2 Control: Respond safely to contact with electricity infrastructure

a) Ensure drivers and spotters are trained to understand and competent to safely respond to arc flash or contact with powerlines or other electricity distribution infrastructure.
b) Conduct regular retraining to maintain competency.

2 Risk: Collision

2.1 Hazard: Heavy loading reduces safety margins in an emergency

2.1.1 Control: Ensure vehicles are not overloaded

a) Provide relevant information to transporters to ensure the correct vehicle type is allocated e.g., type of skip or bin to be loaded, mass and nature of material, special operational requirements such as vertical clearance, etc.
b) Obtain relevant information from waste generators and contractors to ensure the correct vehicle type is allocated e.g., type of skip or bin to be loaded, mass and nature of material, special operational requirements such as vertical clearance, etc.
c) Clearly mark each piece of transport plant and waste handling equipment with the relevant mass or mass requirement. For vehicles, include GVM, GCM, ATM and tare mass. For bins and skips, include the maximum load mass and bin tare mass.
d) Determine mass of material and receptacles before or while loading to ensure it will not cause the vehicle to exceed mass requirements.
e) Develop loading plans for specific vehicle and waste types to ensure mass limits are not exceeded.
f) Ensure waste in open receptacles is protected from rain.
g) Train workers to understand and follow loading plans. Provide a readily accessible quick reference guide to loading plans for loaders and drivers.
h) Install on-board mass measurement devices or use a weighbridge to ensure vehicles are not overloaded. Where these methods are not reasonably practicable, develop a method for ensuring that vehicles are not excessively loaded e.g., weigh material before loading, calculate loading volume based on material density, etc.
i) Train workers to implement alternative method(s) of ensuring that vehicles are not overloaded. Rectify any detected overloads before using the road network.
j) Record, report and review load mass data to identify any loads that were transported exceeding the maximum mass. Work with other CoR parties to avoid future overloads.

2.1.2 Control: Plan loads to reduce variation in mass

a) Record load mass data and reduce mass variation between loads. If there are high and low mass loads, adjust loading to produce loads of approximately equal mass to provide more predictable vehicle handling for the driver.

2.2 Hazard: Inadequate maintenance causes mechanical failure

2.2.1 Control: Ensure vehicles are properly maintained

a) Establish service and maintenance plans in accordance with manufacturer recommendations and ensure vehicles which have exceeded maintenance intervals are not assigned to work until maintenance is completed.
b) Schedule maintenance more frequently for vehicles which are often heavily loaded or operate in arduous environments e.g., rough or muddy ground, corrosive environments, etc.
c) Record reported faults and analyse fault data to assess effectiveness of maintenance schedules e.g., reduce time between maintenance activities if a particular type of fault is noted to occur more frequently.
d) Train drivers to perform pre-start safety checks and allow sufficient time to do so e.g., tire condition, light functions, lifting and load restraint equipment condition, hydraulic fluid levels, etc.
e) Provide workers with an effective mechanism to report faults and develop a pro-reporting mindset amongst workers so that faults are actively raised/reported.
f) Train workers to report faults detected in operation or during pre-start checks.
g) Remove unsafe vehicles from service until faults are repaired.

2.3 Hazard: Unbalanced or loose loads affect vehicle stability when driven

2.3.1 Control: Ensure that loads are well constructed and secure

a) Train workers to understand how to load waste receptacles and vehicles to ensure load and vehicle stability e.g., heavy items are not placed on top of lightweight items, load is not concentrated on one side, bins do not overhang rear of tray, etc.
b) Restrain loads to comply with the loading requirements and loading performance standards.
c) Train workers to understand how to restrain loads in compliance with the loading performance- standards. Refer to Appendix C of this code and the Load Restraint Guide.
d) Check loads for uneven loading, unstable or loose material and rectify before leaving loading site.
e) Develop an emergency procedure to follow if load shifts during transport.
f) Ensure drivers and supervisors are trained to follow emergency procedures if load shifts during transport.

2.4 Hazard: Waste collection is requested from areas marked as no standing or no stopping zones

2.4.1 Control: Identify locations where waste can be collected safely

a) Train sales representatives, supervisors, and drivers to identify and report locations that are unsafe.
b) Work with other parties and waste generators to identify safer locations.
c) Ensure that waste receptacles which cannot be readily moved are placed in the safest collection location available.
d) Develop and implement traffic management plans for collection at sites where no acceptably safe location for unassisted loading can be identified.

2.4.2 Control: Take waste to a safe location for collection

a) Educate waste generators about safe collection locations.

b) Ensure that waste can be moved safely to an identified safe collection location.
c) Ensure that a safe parking location is provided for vehicles collecting waste that cannot be moved e.g., grease traps, sullage pits, septic tanks, large bins, clean up waste, etc.
d) Include contractual terms allowing the transport operator to reject collection of loads in unsafe locations.

2.4.3 Control: Schedule collection times to allow safe collection of waste where standing or stopping is prohibited

a) Undertake a risk assessment to identify safe waste collection time(s).
b) Work with road managers to identify safe waste collection time(s).
c) Schedule collection to take place at a safe time.
d) Develop and implement traffic management plans for collection at sites where no safe time can be identified.

2.4.4 Control: Make suitable adjustments to contracts to allow extra time or work to safely collect waste from locations where stopping is restricted

(a) Allow sufficient time for drivers to move waste receptacles to and from an identified safe collection location. Provide appropriate manual handling equipment.

3 Risk: Fire, explosion

For dangerous goods waste, refer to the Australian Dangerous Goods Code and ensure that materials classified as dangerous goods are transported in compliance with that code. Requirements include:

- Use vehicles and receptacles that are properly configured for the type of waste to be loaded.
- Ensure that where dangerous goods are present, they are documented as required.
- Ensure that dangerous goods waste is properly packed and restrained.
- Waste vehicles and containers should be fitted with signage appropriate to the waste being transported.
- State or territory environmental regulators require certain waste categories to be traceably identified and their transport/disposal tracked and reported. These wastes are commonly known as controlled or regulated wastes, although different jurisdictions may use a different term within their specific regulation. Refer to Appendix A of this code for a list of relevant agencies for each jurisdiction.

3.1 Hazard: Undeclared batteries, gas cylinders, aerosols or flammable liquids

3.1.1 Control: Keep batteries and flammable items out of general waste stream

a) Train waste generators to use accessible and safe alternative disposal mechanisms for these types of waste. Provide easy access to safe disposal options.
b) Install driver aids to assist with inspecting waste during loading. Ensure drivers are trained to use installed systems e.g., cameras, thermal or smoke detection systems.
c) Liaise with consignors to ensure bulk liquid wastes do not contain undeclared flammable components.
d) Provide appropriate testing equipment e.g., volatile hydrocarbon detection equipment.
e) Train workers to use testing equipment provided. Some volatile hydrocarbons may have a noticeable odour, but this should not be relied upon as a detection method.
f) If loading bulk liquid wastes, test waste before loading to assess whether volatile hydrocarbons are present.
g) Ensure that if undeclared volatile hydrocarbons are detected in a load of bulk liquid waste, the load is treated in accordance with the relevant requirements of the Australian Dangerous Goods Code or relevant environmental regulator, for flammable liquids. Advise the consignor that this has occurred.
h) Develop procedures to ensure load safety when materials described above are detected e.g., stop loading/stop compaction and unload suspect material if safe to do so before continuing loading or compaction, etc.
i) Train drivers and supervisors to follow procedures to ensure load safety when batteries, gas cylinders, aerosols or flammable liquids are detected.
j) Do not place drivers under pressure to accept loads that may be unsafe.
k) Include contractual terms allowing drivers to reject unsafe loads.

Note: for the purposes of 3.1.1 (a), training may include public education in situations where individualised training is not reasonably practicable, such as kerbside collection of domestic waste.

3.1.2 Control: Ensure that incidents are managed safely and effectively

a) Ensure that each vehicle is equipped with appropriate fire control equipment. For compactor trucks, where a fire may be difficult to safely access, install automatic or remotely operated fire control systems, which allow easy connection to fire hoses.
b) Train drivers in the use of fire control equipment and conduct regular retraining to maintain competency.
c) Check the on-vehicle fire control equipment regularly at appropriate intervals and immediately replace any which does not meet the test criteria or has been used in an incident response.
d) Develop procedures to be followed when an incident such as a fire occurs during transport or loading.
e) In consultation with emergency services and government authorities, determine a list of suitable locations for safely dealing with incidents and facilitating emergency response e.g., isolated, clear spaces where burning material could be dumped for extinguishment by a driver or by fire services.
f) Train drivers and supervisors to follow procedures for safely and effectively responding to incidents.

3.1.3 Control: Review incident reports to identify risk factors

a) Establish a protocol for incident reporting and provide contact details of persons who should be notified.
b) Record and review all incidents, including close calls/near misses, undeclared batteries, gas cylinders, aerosols or flammable liquids are detected before or during loading, etc.
c) Analyse reports to determine root causes and assess and improve effectiveness of responses.
d) Identify high risk activities, vehicles, waste materials, routes, or other factors.

e) Notify consignors/waste generators if it is determined that an incident has been caused by waste collected from their premises.

3.2 Hazard: Incompatible materials are present in a load and react or ignite when combined

Similar controls apply as for section 3.1 above, with the addition of the controls listed below.

3.2.1 Control: Separate incompatible materials

a) Identify potentially reactive materials before consigning them and provide the information to transporters and other CoR parties.
b) Train all workers and waste generators to understand waste types that must not be carried in the same load e.g., strongly acidic and strongly basic liquids, oxidising agents and flammable materials, etc. Refer to the Australian Dangerous Goods Code and your State or Territory environmental regulator (see Appendix A of this code).
c) Test waste for pH if applicable before loading.
d) Ensure that waste receptacles can safely accommodate the waste material they carry, and do not leak or become ruptured during handling.

4 Risk: Load falls from vehicle

4.1 Hazard: Parties who load vehicles lack expertise or equipment to load the vehicle correctly

4.1.1 Control: Ensure loads are approved by competent staff before using the road network

a) Train drivers to assess acceptability of loads as presented and include contractual terms that allow drivers to reject loads they assess as unsafe.
b) Ensure that workers at loading sites are trained to understand how to load heavy vehicles to ensure vehicle stability and load safety. For example, employees or sub-contractors at building sites, loading machine operators at waste transfer stations or manufacturing sites, etc.

4.2 Hazard: Load inadequately restrained to meet performance standards

4.2.1 Control: Ensure that no inadequately restrained loads leave a loading site

a) Identify the physical characteristics of the material to be loaded e.g., density, moisture condition, potential for load shift, etc.
b) Establish the suitability of vehicle/bin/compactor/trailer combinations for the transport of the specific material(s) to be loaded.
c) Ensure that the correct vehicle is procured for the work required e.g., match vehicle to bin or skip type, ensure bin type is suitable for the waste type and quantity, etc.
d) Provide suitable restraints such as straps, chains and covers to restrain the load.
e) Inspect load restraint devices regularly. Replace any that are degraded or damaged to the extent that they are no longer capable of restraining the load. Refer to Load Restraint Guide.
f) Train drivers in load restraint techniques specific to the types of loads and vehicles they will be operating e.g., chain attachment points for skips or bins, correct method for restraining IBCs or bagged waste, safe method(s) for restraining irregularly shaped loads such as car bodies, etc.
g) Inspect vehicle before using the road network to ensure that waste cannot be blown or spilled out of containment during transport e.g., nets or tarps are correctly installed over skips or tipper bodies, all waste dumped into a compactor has been captured within the body, liquid waste tanks have properly closed hatches and valves, etc.
h) Establish a safe area at the loading site where loads can be assessed for safety before vehicles enter the road network.
i) Record and review incidents to inform improvements in load restraint techniques and training.
j) Conduct random audits of vehicles to ensure that trucks are loaded correctly, and load restraints correctly applied. Record and assess data from audits to inform any corrective action that may need to be taken to improve operational practice.
k) Communicate audit results or insights to other CoR parties.

4.3 Hazard: Liquid waste receptacles leak

4.3.1 Control: Ensure liquid waste receptacles are sealed

a) Ensure liquid waste handling equipment, including tanks, IBCs and other receptacles, is regularly inspected for leaks and taken out of service if leaks are observed.
b) Train drivers, loaders, and unloaders to check for leaking seals and valves and report them e.g., during daily pre-start checks, or during operation. Remove vehicle or receptacle from service if leaks are observed.
c) Ensure appropriate locks are used for liquid waste vehicles and receptacles.
d) Train drivers and other workers to manage spills safely and effectively.

5 Risk: Vehicle rollover during loading or unloading

5.1 Hazard: Unbalanced or loose loads affect stability

5.1.1 Control: Ensure that loads are safe to lift

a) Educate waste generators to fill receptacles with care to ensure vehicle stability.
b) Ensure that the vehicle allocated is suitable for the task.
c) Ensure that the correct receptacle for the type of waste material is being used.
d) Ensure that vehicle stability control equipment is in good repair and can be deployed as needed.
e) Train workers to assess load distribution for effect on vehicle stability.
f) Ensure that skips, bins or tipping bodies are not overloaded or unevenly loaded.
g) Ensure that heavy items within a load will not compromise vehicle stability.
h) Train drivers to reject loads that are unsafely packed or loaded.
i) Include contractual terms that allow drivers to refuse an unsafe load.

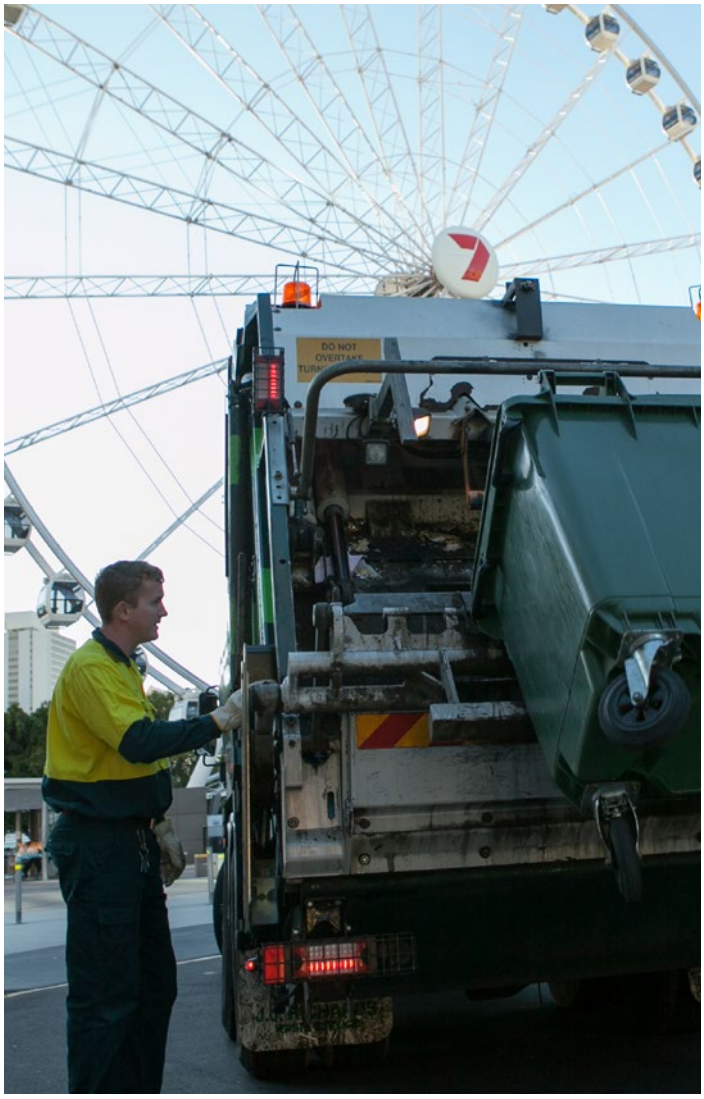
5.2 Hazard: Slippery or unstable ground at loading or unloading sites

5.2.1 Control: Ensure ground is safe for operations

a) Ensure a safe area is made available for loading and unloading.
b) Monitor weather, ground and site conditions and act to ensure changing conditions do not reduce operational safety. Alert drivers to changes in the condition of the loading or unloading site.
c) Train workers to check loading and unloading area ground conditions for safety before accessing them and include contractual terms that allow drivers to refuse to load or unload if conditions are unsafe.
d) Train drivers to assess requirements for any special safety measures required, such as wheel chocks or additional bolsters under stabiliser feet to create a level platform.

5.2.2 Control: Use vehicle stability control equipment

a) Install safety interlocks to prevent equipment operation outside safe parameters e.g., angle sensors, load limit switches, etc.
b) Train drivers to ensure vehicle stability control equipment is properly deployed and any additional actions needed to ensure safe operations are carried out. Refer to 5.2.1(d)



5.2.3 Control: ensure an adequate exclusion zone is maintained around operating trucks and machinery

a) Define and clearly mark an appropriately sized zone from which pedestrians and other vehicles are to be excluded during loading or unloading operations. For example, tipping lanes of appropriate width at tip faces or transfer facilities, a suitable space within which a waste vehicle can deploy its loading equipment, etc.
b) Ensure that workers are trained not to enter the exclusion zones whilst a waste vehicle is operating.
c) Install signage to inform members of the public of the appropriate operating clearance required to ensure waste vehicles can operate with safety.

5.3 Hazard: Operation of loading or unloading equipment causes vehicle to roll over

5.3.1 Control: Ensure driver competency

a) Train drivers and/or assess their competency to safely operate vehicle-mounted equipment and provide regular refresher training.
b) Ensure drivers have all necessary licences, including high risk work licences for vehicle being operated.
c) Provide checklist for driver in vehicle cab to assist them to follow safe work procedures.
d) Encourage other CoR parties and business partners to provide feedback on any unsafe operations observed, or suggested changes to processes to improve safety.
e) Record and review feedback to evaluate possible training or process improvement requirements.

6 Risk: Damage to vehicles or property

6.1 Hazard: Other vehicles or plant are in the operating area

6.1.1 Control: Ensure loading areas and access paths are clear

a) Ensure a safe area is made available for loading and unloading e.g., free of other vehicles and mobile plant.
b) Create safe operating procedures for all sites. Sites with complex operating environments that increase safety risks should have specific risk mitigation processes documented.
c) Coordinate scheduling to avoid conflicts with other site traffic. Provide traffic control/spotters where necessary.
d) Train drivers to perform a site safety assessment before commencing any activity in areas trafficked by vehicles or mobile plant.
e) Include contractual terms that allow drivers to refuse to load if conditions are unsafe.
f) Establish a process for drivers to report loading sites where unsafe conditions exist.
g) Review driver reports and provide feedback to other CoR parties on unsafe conditions.
h) Train drivers, supervisors, loading managers, etc. in documented safe operating procedures for each site.
i) Install electronic driver aids and train drivers in their use e.g., reversing cameras, blind spot cameras, collision detection and avoidance systems, etc.
j) Install warning lights, flashers, beacons, and reversing alarms on all heavy vehicles and train drivers in their use.

6.2 Hazard: Waste transport vehicles or associated plant and equipment are degraded by exposure to hazardous materials

6.2.1 Control: Ensure suitable vehicles and waste receptacles are used

a) For dangerous goods waste, refer to the Australian Dangerous Goods Code and use only receptacles that are properly configured for the type of waste to be loaded, carried in properly licensed vehicles.
b) For waste that may be hazardous to transport or handle but that is not classified as a dangerous good, ensure that vehicles and receptacles are assigned that can handling and carry the waste safely e.g., metal scrap, demolition or building waste, abrasive slurries, soil/water mixtures, etc.
c) Ensure hazardous wastes are properly contained within secure, locked containers and do not leak or otherwise escape containment through overfilling or poor handling practices.

6.2.2 Control: Ensure that vehicles carrying hazardous wastes are properly maintained

a) Train workers to regularly inspect hazardous waste vehicles and receptacles for damage.
b) Remove hazardous materials from vehicles and receptacles as soon as reasonably possible after exposure e.g., corrosive or abrasive materials that may damage the truck or receptacles.

7 Risk: Damage to infrastructure

7.1 Hazard: Load protrudes beyond vehicle body

7.1.1 Control: Ensure loads do not exceed dimension requirements

a) Provide accurate information about the dimensions of waste material during consignment, so that appropriate vehicles are allocated.
b) Identify waste materials such as demolition or building waste, that may move during transport or that may exceed standard dimension limits.
c) Train workers to understand dimension requirements for a vehicle and to adequately restrain loads so that load items do not shift and cause an over-dimension condition.
d) Display information about the height of the loaded vehicle in a place readily seen by the driver.
e) Provide equipment and/or design facilities to enable the height of a loaded vehicle to be determined e.g., height gauges, lasers or other devices, safe ladders, steps, or platforms that enable the top of the load to be inspected without the risk of falling, and measuring sticks or tapes.
f) Develop a process, after loading, for checking that waste materials do not exceed dimension limits and are properly restrained. Rectify any issues before allowing the vehicle to enter the road network.
g) Monitor loads and loading to identify patterns of over-dimension loads or poorly constructed/restrained loads. Share the information with other parties in the CoR and work with them to ensure that loads are safe.

h) Ensure vehicle-mounted equipment, including loading or handling equipment and stability equipment such as outrigger legs, is properly secured for transport and does not protrude from the truck body
i) Ensure driver is aware of the loaded dimensions of the vehicle before entering the road network.
j) Consign over-dimension materials in a suitable vehicle so that the loaded vehicle meets the requirements of a gazette notice, or obtain a permit.

7.1.2 Control: Plan routes where roadways and infrastructure will accommodate the loaded vehicle dimensions

a) Ensure that any necessary permits are obtained before using the road network.
b) Plan and check routes to ensure that the loaded vehicle will be able to pass safely without striking infrastructure such as bridges, tunnels, power lines, etc.
c) Obtain and compile information about bridge heights in the local area, and on frequently travelled routes. Share this information with workers and parties in the CoR.
d) Ensure that drivers and supervisors are trained to understand and comply with conditions of permits or notices e.g., approved route and time of travel are adhered to, loads are properly signed and flagged, vehicles have appropriate lighting and signage, escort vehicles are used where necessary, etc.

7.1.3 Control: Ensure emergency procedures are in place to manage load shift resulting in over-dimension condition

a) Establish an emergency response plan for loads that shift in transit and ensure drivers and supervisors are trained in the requirements of that response.
b) Install cameras or other driver aids to alert drivers when a load shifts to exceed a dimension requirement. Ensure drivers are trained to use systems that are installed.

7.2 Hazard: Loaded vehicle exceeds mass requirements

7.2.1 Control: Ensure vehicles do not exceed mass requirements

a) Provide accurate information about the mass of waste material during consignment, so that appropriate vehicles are allocated.
b) Plan loads so that mass requirements are not exceeded.
c) Assess load as presented to ensure that mass to be loaded will not cause the vehicle to exceed a mass requirement.
d) Display information about the mass limits of each vehicle in a place readily seen by the driver and others e.g., GVM, GCM, ATM and axle group load limits.
e) Install on-board mass measurement devices or use a weighbridge to ensure vehicles are not overloaded and rectify overloads before using the road network.
f) Train workers to understand the mass requirements for specific vehicles and combinations.
g) Record and review load mass data to identify loads that were transported exceeding mass requirements. Share the information with other CoR parties and work with them to avoid future overloads.

7.2.2 Control: Plan routes where roadways and infrastructure will accommodate the loaded vehicle mass

a) Ensure that any necessary permits are obtained before using the road network and drivers and supervisors are trained to understand and comply with conditions of permits or notices.
b) Plan and check route to ensure that the loaded vehicle will not exceed maximum designed load capacity of infrastructure e.g., bridge or road load limits.
c) Ensure that vehicles do not deviate from planned route and comply with all conditions.
d) Ensure that drivers and supervisors are trained to understand and comply with conditions of permits or notices e.g., approved route and time of travel are adhered to, loads are properly signed and flagged, vehicles have appropriate lighting and signage, escort vehicles are used where necessary, etc.

7.3 Hazard: Vehicles load in areas with limited access

7.3.1 Control: Assess the operating conditions at all sites

a) Plan ahead and ensure that appropriate vehicle is dispatched for each site.
b) Create safe operating procedures for all sites. Sites with complex operating environments that increase safety risk should have specific risk mitigation processes documented e.g., specific instructions in relation to approaching a narrow access, or instructions on vehicle positioning to avoid low overhead clearance, etc.
c) Provide training or inductions to drivers who will enter a site. Share safe operating procedures with drivers and other CoR parties in a convenient format e.g., use a QR code to link to a brochure or video.
d) Ensure waste receptacles are placed to allow safe operation of load handling equipment.
e) Ensure waste receptacles can be readily and safely handled for movement to a safe location for loading if necessary.
f) Ensure drivers are trained in the minimum clearance required to operate truck-mounted waste handling equipment e.g., height required to lift a skip or bin; swing radius of front, side or rear lifting plant; dimensions of bins/skips, etc.
g) Install electronic driver aids and vehicle lighting to assist driver vision and improve awareness when approaching obstacles. Ensure drivers are trained to use systems that are installed e.g., cameras, collision detection and avoidance systems; rear or side mounted floodlights, etc.

8 Risk: Harm to the environment

All of the states and territories **have environmental protection and dangerous goods legislation with requirements for identifying, separating, tracking, transporting, reporting, storing, receiving and/or disposing of different categories of waste.**

As a rule, those specific requirements should take priority over the more general duty in the HVNL.

In most cases, complying with those specific requirements would also meet the requirements of the primary duty in the HVNL. However, waste material which does not fall under these laws may still cause environmental harm if released during transport. For example, a small quantity of a dangerous good or toxic substance which is under the relevant threshold for tracking, a load of recyclable plastic or metal containers, etc. The primary duty requires that parties in the CoR ensure that these materials are handled and transported in a way that causes no harm to the environment.

Refer to Appendix A for the agencies who administer those laws in each jurisdiction.

8.1 Hazard: Waste materials are not identified or sorted and may contain environmentally harmful materials

8.1.1 Control: Ensure waste is properly identified and sorted

a) Train waste generators to identify and separate environmentally harmful materials unsuitable for disposal as general waste.
b) Ensure waste containing environmentally harmful materials is properly identified e.g., include contractual terms requiring waste consignors to identify such material, etc.
c) Provide appropriate, labelled receptacles and segregation methods to store environmentally harmful waste types e.g., sealable containers for liquid wastes.
d) Provide a quick reference guide for users to identify an appropriate receptacle for each waste type.
e) Train workers to identify and check for the presence of environmentally harmful materials before/during loading.
f) Ensure that environmentally harmful material identification, control and incident management procedures are properly understood by workers and supervisors e.g., provide a quick reference guide for operators in the cab of loading machinery, with a descriptive list of typical hazardous waste items.
g) For kerbside collection, implement a process to check, assess and control the risk presented by environmentally harmful items in bins. This may include visual and/or electronic inspection of contents as they are discharged from the bin into the waste vehicle.
h) Monitor and report back to waste generator when environmentally harmful waste is found mixed with general waste.

Note: for the purposes of 8.1.1 (a), training may include public education in situations where individualised training is not reasonably practicable, such as kerbside collection of domestic waste.

8.1.2 Control: Ensure that waste which may contain environmentally harmful material is treated as contaminated

a) Ensure that waste receivers are notified that waste may be contaminated.
b) Ensure that waste is delivered to a properly licensed facility.

8.2 Hazard: Biosolids liquefy during transport

8.2.1 Control: Ensure biosolids and sludges are adequately contained

a) Ensure that vehicle bodies used for transporting biosolids, or semi-solid sludges are suitable to contain a load which may liquefy under forces experienced in transport.
b) Train drivers to understand the effect of hard braking on biosolids and adapt driving behaviour e.g., maintain extended following distance, anticipate when approaching lower speed limit zones and adjust speed accordingly, etc.

GLOSSARY

HVNL Definitions

ATM (aggregate trailer mass) (HVNL s 5), of a heavy trailer, means the total maximum mass of the trailer, as stated by the manufacturer together with its load and the mass imposed on the towing vehicle by the trailer when the towing vehicle and trailer are on a horizontal surface.

Business practices (HVNL s 5), of a person, means the person's practices in running a business associated with the use of a heavy vehicle on a road, including:
- the operating policies and procedures of the business; and
- the human resource and contract management arrangements of the business; and
- the arrangements for preventing or minimising public risks associated with the person's practices.

Consign and consignor (HVNL s 5)—

A person consigns goods, and is a consignor of goods, for road transport using a heavy vehicle, if—
a) the person has consented to being, and is, named or otherwise identified as a consignor of the goods in the transport documentation relating to the road transport of the goods; or
b) the person engages an operator of the vehicle, either directly or indirectly or through an agent or other intermediary, to transport the goods by road; or
c) if paragraphs a) and b) do not apply—the person has possession of, or control over, the goods immediately before the goods are transported by road.

Consignee, of goods—
a) means a person who—
   i) has consented to being, and is, named or otherwise identified as the intended consignee of the goods in the transport documentation relating to the road transport of the goods; or
   ii) actually receives the goods after completion of their road transport; but
b) does not include a person who merely unloads the goods.

Dimension requirement (HVNL s 5) means:
- a prescribed dimension requirement (under HVNL s 101); or
- a requirement as to a dimension limit relating to a heavy vehicle under a condition to which a mass or dimension authority is subject (where the dimension limit is more restrictive than the relevant prescribed dimension requirement); or
- a requirement as to a dimension limit under a PBS vehicle approval; or
- a requirement as to a dimension limit indicated by an official traffic sign; or
- a requirement as to a dimension limit for a component vehicle as prescribed by a heavy vehicle standard.

Due diligence (HVNL s 26D) includes taking reasonable steps:
a) to acquire, and keep up to date, knowledge about the safe conduct of transport activities; and
b) to gain an understanding of—
   i) the nature of the legal entity's transport activities; and
   ii) the hazards and risks, including the public risk, associated with those activities; and
c) to ensure the legal entity has, and uses, appropriate resources to eliminate or minimise those hazards and risks; and
d) to ensure the legal entity has, and implements, processes—
   i) to eliminate or minimise those hazards and risks; and
   ii) for receiving, considering, and responding in a timely way to, information about those hazards and risks and any incidents; and
   iii) for complying with the legal entity's safety duties; and
e) to verify the resources and processes mentioned in paragraphs c) and d) are being provided, used and implemented.

Employee (HVNL s 5) means an individual who is employed by someone else.

Employer (HVNL s 5) means a person who employs someone else.

Executive (HVNL s 26D), of a legal entity, means:
- for a corporation – an executive officer of the corporation; or
- for an unincorporated partnership – a partner in the partnership; or
- for an unincorporated body – a management member of the body.

Executive officer, (HVNL s 5) of a corporation, means:
- a director of the corporation; or
- any person, by whatever name called and whether or not the person is a director of the corporation, who is concerned or takes part in the management of the corporation.

GCM (gross combination mass) (HVNL s 5), of a motor vehicle, means the total maximum loaded mass of the motor vehicle and any vehicles it may lawfully tow at any given time—
a) if the registration authority has specified the total maximum loaded mass of the motor vehicle and any vehicles it may lawfully tow at any given time—specified by the registration authority; or
b) otherwise—stated by the motor vehicle's manufacturer.

GVM (gross vehicle mass) (HVNL s 5), of a vehicle, means the maximum loaded mass of the vehicle:
- if the registration authority has specified the vehicle's maximum loaded mass – specified by the registration authority; or
- otherwise stated by the vehicle's manufacturer

Heavy Vehicle (HVNL s 6) means a vehicle with a GVM or ATM of more than 4.5t, or a combination that includes a vehicle with a GVM or ATM of more than 4.5t.

Load, when used as a verb, and loader (HVNL s 5)—
A person loads goods in a heavy vehicle, and is a loader of goods in a heavy vehicle, if the person is a person who—
a) loads the vehicle, or any container that is in or part of the vehicle, with the goods for road transport; or
b) loads the vehicle with a freight container, whether or not it contains goods, for road transport.

Loading manager (HVNL s 5), for goods in a heavy vehicle, means:
a) a person who manages, or is responsible for the operation of, regular loading or unloading premises for heavy vehicles where the goods are—
   i) loaded onto the heavy vehicle; or
   ii) unloaded from the heavy vehicle; or
b) a person who has been assigned by a person mentioned in paragraph (a) as responsible for supervising, managing or controlling, directly or indirectly, activities carried out by a loader or unloader of goods at regular loading or unloading premises for heavy vehicles.

Loading requirements and loading performance standards (HVNL s 110), are the requirements prescribed in Schedule 7 of the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation*, about securing a load on a heavy vehicle or a component of a heavy vehicle. The loading requirements include requirements about the restraint or positioning of a load or any part of it on a motor vehicle or trailer.

Mass requirement (HVNL s 5) means:
- a prescribed mass requirement (under HVNL s 95); or
- a requirement as to a mass limit relating to a heavy vehicle under a condition to which a mass or dimension authority is subject (where the mass limit is lower than the relevant prescribed mass requirement); or
- a requirement as to a mass limit under a PBS vehicle approval; or
- a requirement as to a mass limit indicated by an official traffic sign; or
- a requirement as to a mass limit under the GVM or GCM for a heavy vehicle; or
- a requirement as to a mass limit for a component vehicle as stated by the manufacturer or as prescribed by a heavy vehicle standard.

Operate and operator (HVNL s 5) means
A person operates a vehicle or combination, and is an operator of the vehicle or combination, if the person is responsible for controlling or directing the use of—

a) for a vehicle (including a vehicle in a combination)—the vehicle; or
b) for a combination—the towing vehicle in the combination.

Pack and packer (HVNL s 5)—
A person packs goods, and is a packer of goods, if the person—
a) puts the goods in packaging, even if that packaging is already on a vehicle; or
Example for the purposes of paragraph (a)—
A person who uses a hose to fill the tank of a tank vehicle with petrol packs the petrol for transport.
b) assembles the goods as packaged goods in an outer packaging, even if that packaging is already on a vehicle; or
c) supervises an activity mentioned in paragraph a) or b); or
d) manages or controls an activity mentioned in paragraph a), b) or c).

Party in the chain of responsibility (HVNL s 5), for a heavy vehicle, means each of the following persons:
- if the vehicle's driver is an employed driver – an employer of the driver
- if the vehicle's driver is a self-employed driver – a prime contractor for the driver
- an operator of the vehicle
- a scheduler for the vehicle
- a consignor of any goods in the vehicle
- a consignee of any goods in the vehicle
- a packer of any goods in the vehicle
- a loading manager for any goods in the vehicle
- a loader of any goods in the vehicle
- an unloader of any goods in the vehicle.

Prime Contractor (HVNL s 5) is a CoR party which engages someone to drive a heavy vehicle under a contract for services.

Public risk (HVNL s 5) means:
- a safety risk; or
- a risk of damage to road infrastructure.

Public place (HVNL s 5) means a place or part of a place:
- that the public is entitled to use, is open to members of the public or is used by the public, whether or not on payment of money; or
- the occupier of which allows members of the public to enter, whether or not on payment of money.

Public safety (HVNL s 5) means the safety of persons or property, including the safety of:
- the drivers of, and passengers and other persons in, vehicles and combinations; and
- persons or property in or in the vicinity of, or likely to be in or in the vicinity of, road infrastructure and public places; and
- vehicles and combinations and any loads in them.

Reasonably practicable (HVNL s 5), in relation to a duty, means that which is, or was at a particular time, reasonably able to be done in relation to the duty, weighing up all relevant matters, including—
a) the likelihood of a safety risk, or damage to road infrastructure, happening; and
b) the harm that could result from the risk or damage; and
c) what the person knows, or ought reasonably to know, about the risk or damage; and
d) what the person knows, or ought reasonably to know, about the ways of—
   i) removing or minimising the risk; or
   ii) preventing or minimising the damage; and
e) the availability and suitability of those ways; and
f) the cost associated with the available ways, including whether the cost is grossly disproportionate to the likelihood of the risk or damage.

Regular loading or unloading premises (HVNL s 5) for heavy vehicles, means premises at or from which an average of at least 5 heavy vehicles are loaded or unloaded on each day the premises are operated for loading or unloading heavy vehicles.

Safety duties is a prescribed list of eighteen HVNL duty and offence provisions in relation to which executives have a duty to exercise due diligence, and for which authorised officers have extra investigative powers. The most important duty in this category is the primary duty (s 26C). For the full list, see s 5 HVNL.

Safety risk (HVNL s 5) means a risk:
- to public safety; or
- of harm to the environment.

Scheduler (HVNL s 5) for a heavy vehicle, means:
a person who—
a) schedules the transport of any goods or passengers by the vehicle; or
b) schedules the work times and rest times of the vehicle's driver.

Transport activities (HVNL s 5) means activities, including business practices and making decisions, associated with the use of a heavy vehicle on a road, including, for example:
- contracting, directing, or employing a person:
  - to drive the vehicle; or
  - to carry out another activity associated with the use of the vehicle (such as maintaining or repairing the vehicle); or
- consigning goods for transport using the vehicle; or
- scheduling the transport of goods or passengers using the vehicle; or
- packing goods for transport using the vehicle; or
- managing the loading of goods onto or unloading of goods from the vehicle; or
- loading goods onto or unloading goods from the vehicle; or
- receiving goods unloaded from the vehicle.

Unload and unloader (HVNL s 5)—

A person unloads goods in a heavy vehicle, and is an unloader of goods in a heavy vehicle, if the person is a person who—
(a) unloads from the vehicle, or any container that is in or part of the vehicle, goods that have been transported by road; or
(b) unloads from the vehicle a freight container, whether or not it contains goods, that has been transported by road.

OTHER DEFINITIONS

Australian Code for the Transport of Dangerous Goods by Road or Rail (Australian Dangerous Goods Code, ADG Code) provides consistent technical requirements for the land transport of dangerous goods across Australia. The ADG Code should be read in conjunction with relevant state or territory law.

Axle group load means the total mass on an axle group, including the mass due to the truck and the mass due to the load.

Chain of responsibility is the principle that recognizes that heavy vehicle safety depends upon the whole supply chain. The term is also defined under the HVNL as ten defined functions, in relation to a heavy vehicle. Any person or business that performs one of those functions has a primary duty to ensure, so far as reasonably practicable, the safety of their transport activities. See HVNL s 5, s 26C, s 26F, s 26G, s 26H.

Code of Practice is a document which establishes standards and procedures for parties in the chain of responsibility to identify, analyse, evaluate, and mitigate risks to public safety associated with their transport activities.

Controls are the activities undertaken and physical resources used to eliminate or minimise risk.

CoR means Chain of Responsibility.

Dangerous goods means any material which is classified as a dangerous good in the Australian Dangerous Goods Code or which has characteristics that require special handling precautions to ensure safety during transport. Dangerous goods must be stored and handled in accordance with relevant Australian Standards for dangerous goods storage and handling.

E-waste means materials that contain electronic components, including batteries.

Environmentally harmful materials are those with a potential to cause environmental harm but may not be themselves dangerous or hazardous to handle.

Hazard is anything with the potential to cause harm or loss. This could be an activity or behaviour, a physical object, a situation, or a management practice.

Hazardous material is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the transported load or heavy vehicle, due to its chemical or physical properties, such as being flammable, reactive, corrosive, toxic.

HVNL stands for the *Heavy Vehicle National Law*.

Intermediate bulk container (IBC) is a standard liquid-handling/ storage receptacle, generally consisting of a cubical plastic container fitted with a valve or tap, encased within a lightweight metal cage framework, supported on a platform that enables forklift handling.

Industry is the Waste and Recycling industry which consists, for the purposes of the document, of any individual or organisation that is involved in the loading of waste, transport of loads, or unloading at a facility.

Infrastructure means any structure associated with the operation of roads and may include roadways, bridges, tunnels, signage and its supporting structures, culverts, drains, etc.

Kerbside collection refers to loading of a waste vehicle with material from multiple bins, generally plastic “wheelie bins” or wheeled trade waste bins containing household or commercial waste material.

Load includes waste and recycling materials transported using any type of heavy vehicle design or configuration.

Loading performance standards, Schedule 7 of the *Heavy Vehicle (Mass, Dimension & Loading) National Regulation* prescribes the legal standards for loading and restraining loads on heavy vehicles.

Load restraint, or restraint, is the way loads are effectively restrained on a vehicle. Loads can be restrained by two basic methods: tie-down or direct restraint (which includes containing, blocking, and attaching).

Load Restraint Guide provides guidance about designing and implementing a load restraint system that will meet the loading performance standards (see above).

Master Code of Practice is a general code of practice for heavy vehicles.

NHVR stands for National Heavy Vehicle Regulator. The NHVR is Australia’s independent regulator for all vehicles over 4.5 tonnes gross vehicle mass.

NWRIC stands for National Waste & Recycling Industry Council. NWRIC represents waste and recycling companies at a national level working with the state-based affiliates towards improved industry outcomes in all areas.

RICP stands for Registered Industry Code of Practice; an RICP has an evidentiary status under s 632A of the HVNL. A court may have regard to the contents of a registered code of practice when determining whether a party in the CoR has done what was reasonably practicable to ensure safety. Specifically, the contents of a code can be used as evidence of what a party knew, or ought to have known, about hazards, risks, risk assessments and controls in relation to the subject matter of the code.

Risk for the purpose of this Code, is a harm that may arise from an operational hazard.

Risk management means the coordinated activities to direct and control risks associated with an organisation's activities. The risk management process consists of four key steps, including identifying hazards; assessing risks; controlling risks; and monitoring and reviewing controls.

Schedule, or trip schedule, is the journey task provided to the driver. The schedule includes time, distance, route, and rest options.

Segregate means separate and isolate. Segregated hazardous materials are stored in a way that prevents incompatible materials from interacting.

Waste generator for the purpose of this Code, is a person or other entity that creates waste products which are transported on a heavy vehicle.

Waste and Recycling Industry is collectively the organisations that conduct or are involved with heavy vehicle operations and associated operations that collect, transport, process and dispose of waste materials from the economy including materials that can be recycled or reused.

WHS stands for Work Health and Safety, also known as Occupational Health and Safety (OHS).

WRC stands for Waste and Recycling Industry Code of Practice. It is this document and serves as a supplementary document to the NHVR Master Code to be used for the improvement of safety in the Waste and Recycling Industry in relation to the loading, transport and unloading of loads of waste materials.

WRIQ is the Waste and Recycling Industry Association of Queensland, the sponsoring organisation for this code of practice.

APPENDICES

APPENDIX A ENVIRONMENTAL JURISDICTIONAL AGENCIES

Jurisdiction	Organisation	Website
New South Wales	Environment Protection Authority	www.epa.nsw.gov.au
Australian Capital Territory	ACT Environment and Sustainable Development Directorate	www.accesscanberra.act.gov.au/city-services/environment-protection-authority
Queensland	Qld Dept of Environment	www.desi.qld.gov.au
South Australia	Environment Protection Authority – South Australia (EPA)	www.epa.sa.gov.au
Tasmania	Environment Protection Authority Tasmania	www.epa.tas.gov.au/business-industry/waste-resource-recovery
Victoria	Environment Protection Authority Victoria	www.epa.vic.gov.au
Western Australia	Environment Protection Authority	www.epa.wa.gov.au
Northern Territory	NT Environment Protection Authority	ntepa.nt.gov.au

APPENDIX B TRAINING

Section	Recommended training	Who
Risk: Injury to persons during loading or unloading		
1.1.1	Perform a site safety inspection before commencing any activity in areas trafficked by pedestrians, or where it is suspected people may be present	Drivers
1.1.2	Use and interpretation of electronic driver aids	Drivers
1.2.2	Safe work procedures for the vehicle and task assigned	Drivers
1.2.3	Assess operating environment for potential hazards to safe operation	Drivers
1.2.3	Understand safe operating limits for the waste vehicle being used	Drivers
1.2.3	Use vehicle safety equipment	Drivers
1.4.1	Understand safe clearances from electricity distribution infrastructure, operate safely near electricity distribution infrastructure	Drivers, spotters
1.4.2	Understand safe response to contact with electricity infrastructure	Drivers, spotters
1.4.3	Retrain regularly to ensure competence in safe work around electrical distribution infrastructure	Drivers, spotters
Risk: Collision		
2.1.1	Understand and follow loading plans	Drivers, loaders
2.1.1	Implement method(s) of determining vehicle mass when direct measurement is not available	Drivers, loaders
2.2.1	Perform pre-start checks	Drivers
2.2.1	Report faults detected in operation or during pre-start checks	Drivers
2.3.1	How to load waste receptacles and vehicles to ensure load and vehicle stability	Drivers, loaders
2.3.1	Restrain loads to ensure performance-based standards are met	Drivers, loaders
2.3.1	Emergency procedures to follow if load shifts during transport	Drivers, supervisors
2.4.1	Identify unsafe locations for waste collection	Sales reps, drivers, supervisors
Risk: Fire, explosion		
3.1.1	Use safe methods of disposal for batteries, e-waste that may contain batteries, gas containers and aerosols, flammable liquids	Waste generators
3.1.1	Use and interpretation of electronic driver aids	Drivers
3.1.1	Use testing equipment supplied	Drivers
3.1.1	Follow procedure to ensure load safety following detection of batteries, e-waste, gas and aerosol containers, flammable liquids	Drivers, supervisors
3.1.2	Safe use of on-vehicle fire control equipment	Drivers
3.1.2	Safely and effectively respond to load fires or explosion incidents	Drivers, supervisors
3.2.1	Understand waste types that may not be carried in the same load	All
Risk: Load falls from vehicle		
4.1.1	Assess acceptability of loads as presented and reject unsafe loads	Drivers
4.1.1	Understand and comply with regulated requirements for mass, dimension and loading	Loaders, drivers
4.2.1	Load restraint techniques specific to the type of loads and types of truck being driven	Drivers
4.3.1	Check for leaking seals and valves on liquid waste trucks and liquid receptacles	Drivers, loaders/unloaders, maintenance workers
4.3.2	Manage spills safely and effectively	Drivers, loaders
Risk: Vehicle rollover during loading or unloading		
5.1.1	Fill receptacles in a manner that prevents uncontrolled freight movement	Waste generators
5.1.1	Assess load distribution for effect on vehicle stability	Drivers, loaders
5.1.1	Reject loads that are unsafely packed or loaded	Drivers, loaders
5.2.1	Check loading and unloading area ground conditions for safety	Drivers, loaders
5.2.1	Avoid loading or unloading if conditions are unsafe	Drivers, loaders
5.2.1	Assess requirements for any special safety measures required, such as wheel chocks or additional bolsters under stabiliser feet to create a level platform	Drivers
5.2.2	Ensure vehicle stability control equipment is properly deployed and any additional actions needed to ensure safe operations are carried out.	Drivers

Section	Recommended training	Who
5.3.1	Safely operate vehicle-mounted waste handling equipment	Drivers
5.3.1	Understand and operate within manufacturers specified limits for safe operation	Drivers
5.3.1	Regular refresher training	Drivers
Risk: Damage to vehicles or plant		
6.1.1	Perform a site safety assessment before commencing any activity in areas trafficked by vehicles or mobile plant.	Drivers
6.1.1	Understand documented safe operating procedures for each site	Drivers, supervisors, loading managers
6.1.1	Use electronic driver aids and warning light systems	Drivers
6.2.2	Inspect waste vehicles and receptacles for damage	Drivers, loaders, unloaders
Risk: Damage to infrastructure		
7.1.1	Understand dimension requirements	Drivers, loaders
7.1.2	Understand and comply with conditions of permits or notices	Drivers, supervisors
7.1.2	Understand and safely adapt to the effect of over-dimension loads on cornering, braking, and steering	Drivers, supervisors
7.1.3	Understand and carry out the requirements of the emergency response to a load that shifts in transit	Drivers, supervisors
7.2.1	Understand the regulated loading requirements for specific vehicles and combinations	Drivers, loaders
7.2.2	Understand and comply with conditions of permits or notices for over-mass loads	Drivers, supervisors
7.3.1	Understand and follow safe operating procedures for each site	Drivers, supervisors
7.3.1	Minimum clearance required to operate truck-mounted waste handling equipment	Drivers
7.3.1	Use and interpretation of electronic driver aids	Drivers
Risk: Harm to the environment		
8.1.1	Identify and separate hazardous or environmentally harmful materials unsuitable for disposal as general waste	Waste generators, drivers, loaders
8.2.1	Understand and follow emergency procedures if loss of material is detected	Drivers, supervisors
8.3.1	Understand the effect of hard braking on biosolids	Drivers

APPENDIX C LOAD RESTRAINT GUIDANCE

The following pages are guidance that parties in the CoR can use to develop procedures for the safe restraint of loads on hook loaders, dino (roll-off) loaders, skip loaders and front-lift or rear lift bins on flat bed/crane trucks.

This content is based on guidance previously published by the Waste Contractors and Recyclers Association of NSW, with some revisions following testing and analysis by qualified engineers.

If the guidance is followed comprehensively, CoR parties can be assured that loads would meet the loading requirements and the loading performance standards in Schedule 7 of the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation*.

It is not compulsory to follow this guidance.

There are many ways that loads can be restrained to meet the loading requirements. The following pages are examples of systems that do meet the requirements, but failure to adopt one of these systems does not of itself indicate a breach of the loading requirements. Systems that do not follow this guidance should be assessed for compliance in the same way that any other load restraint system is assessed.

This guidance provides assurance of compliance with the loading requirements, only if:

- Drivers and loaders are suitably trained. (Appendix B of this code has information on training that may be required, including training in the safe operation of the type of vehicle being used, and in restraining loads).
- Guidance in Section 4.2 of this code is followed by relevant parties.
- Load restraint equipment is regularly inspected and repaired or replaced according to manufacturers' recommendations. (A typical indicator of unacceptable wear or damage to a lashing would be damage to 10% of its width, or reduction in width or thickness of 10% of its initial size).
- Hydraulic or pneumatic devices relied on to provide load restraint or containment (for example, on dino loaders) have a suitable load-holding or locking valve located on the cylinder, or a positive mechanical locking device, and are certified by their manufacturers as capable of performing the task.
- Lashings (webbing or chains) are in good condition and comply with the relevant Australian Standard (AS4380 for webbing, AS4344 for chain).
- 50mm webbing must have a minimum rated lashing capacity (LC) of 2500 kgf, 75mm webbing must have a minimum LC of 5000kg, chain must be at least 8mm Grade 70 or equivalent.
- Tensioning devices can provide lashing tension of at least 15% of the lashing capacity.

APPENDIX C.1 LOADING AND SECURING HOOK AND DINO (ROLL OFF) BINS AND TRUCKS

Before loading, check that:
☑ All waste in the bin is secured and tightly packed. (If waste is not secured, or may move during transport, repack or consolidate before loading the bin onto the truck).
☑ Doors are properly latched and secured with locking pins or safety chain.
☑ Nothing is loaded above the sides of the bin.
☑ Nothing in the load can move and penetrate the cover.

While loading, check that:
☑ The bin is correctly positioned between the guides on the truck.
☑ There is no movement of loose waste materials. All material in the bin must be securely contained (rectify loose loads if necessary).

After loading, ensure that:
☑ The bin or container is correctly positioned between the guides on the truck.
☑ The mass of the loaded bin does not exceed axle mass or GVM requirements.
☑ The load cover is in place and properly secured.

Hook Bins

Perform a walk-around inspection to check that:
☑ The locking clamps are engaging with at least 50% of the width of the rails on the bin or container (figure 1).
☑ The hook is engaged with the loop on the bin and the hook latch is closed. (figure 2).
☑ Doors are properly latched and secured.

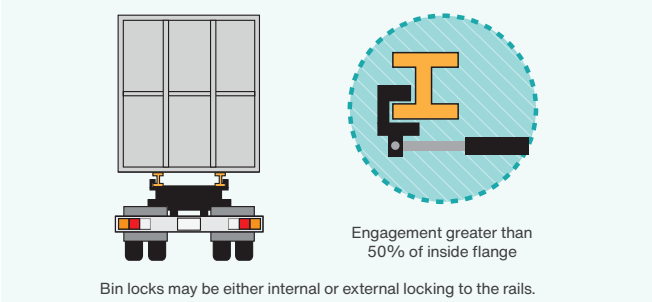


Figure 1. Locking clamps engaging bin rails.

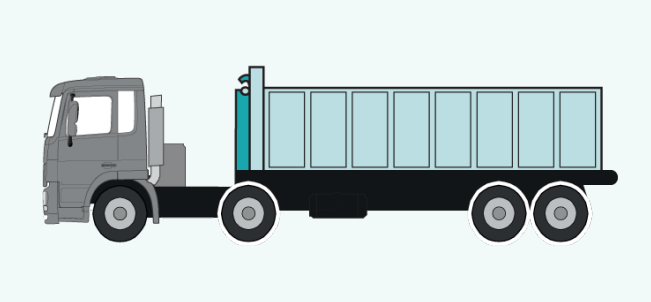


Figure 2. Hook engaging bale on hook bin.

Dino (Roll Off) Bins

Perform a walk-around inspection to check that:
☑ The locking tongues are fully engaged with the bin or container (at least half the length of the tongue) (figure 3).
☑ The bale arm is firmly engaged with a hook on the bin (figure 3).

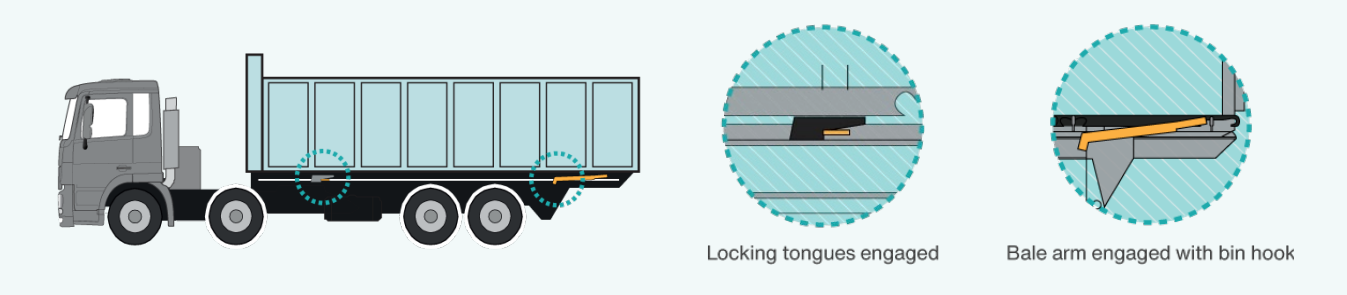


Figure 3. Hook engaging bale on bin.

APPENDIX C.2 LOAD RESTRAINT GUIDANCE – SKIP BINS

Restraint method	
✓	Where vehicles are fitted with blocking devices of suitable capacity, either 'direct restraint' or 'tie-down' methods may be used.
✓	Where vehicles are not fitted with suitable blocking devices, direct restraint is the preferred method.
✓	When using direct restraint, chains or 75mm webbing are preferred for filled bins.

Friction	
✓	Increasing the friction between the truck deck and bin will improve the effectiveness of any load restraint method.
✓	Do use high-friction rubber load matting or timber to increase friction.
✗	Do not use conveyor belt as load matting unless testing has been performed to determine its coefficient of friction under all likely conditions of use. Some conveyor belt materials are extremely slippery when wet.

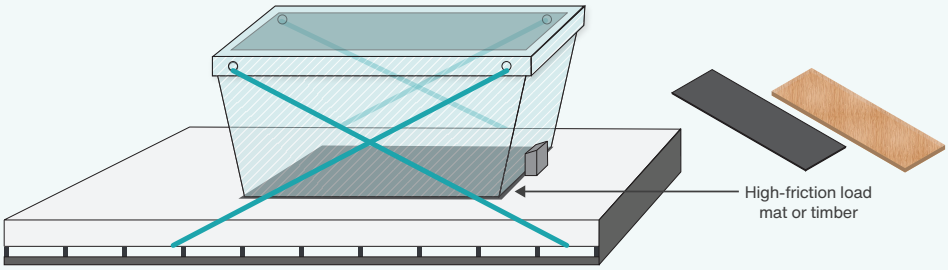


Figure 4. Place high-friction material under bin when loading.

APPENDIX C.2A DIRECT RESTRAINT WITHOUT BLOCKING

- ✓ Bins must be loaded onto high-friction load matting or timber.
- ✓ Lashings should be firmly tensioned to the capacity of the load binder.
- ✓ The lashings must form an angle of no greater than 45° with the truck deck (table 1).
- ✓ Lashings for direct restraint **MUST** have minimal wear. Cut or frayed webbing or worn/corroded chain should not be used for this method.

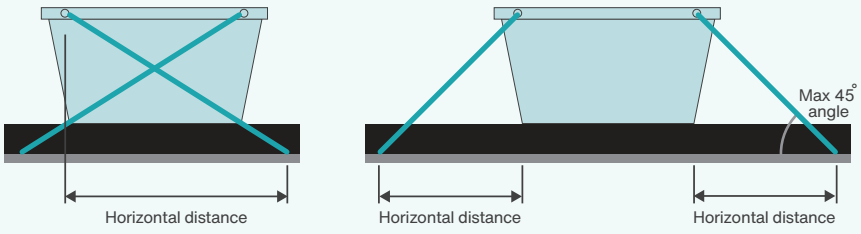


Figure 5. Lashing arrangement options for direct restraint.

Table 1. Lashing angle

Height of bin attachment (mm)	Horizontal distance to truck attachment (mm)
Up to 1,200	1,000–2,000
<2,000	1,500–3,000

Table 2. Maximum mass – direct restraint (no blocking)

Lashing type	No. of Lashings	Maximum mass of bin(s)
50mm webbing	4	4,000kg
75mm webbing	4	8,000kg
8mm transport chain	4	6,000kg

APPENDIX C.2B DIRECT RESTRAINT WITH BLOCKING

Blocking

- Bins must be blocked in the forward directions by bin stop devices that are sufficiently strong to support at least 30% of the mass of the load.
- Blocking devices must be at least 100mm in height.
- There should be no gap between the bin and blocking devices in the forward direction.
- Lashings must be firmly tensioned to the capacity of the tensioner (see table 5.)

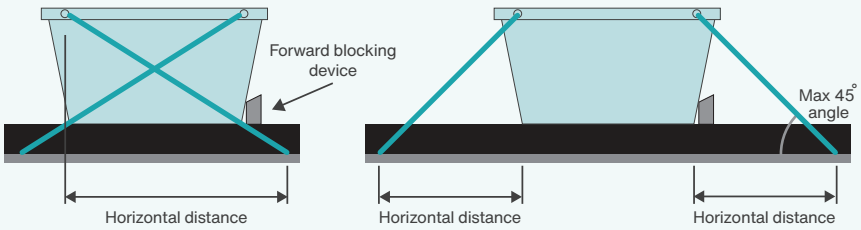


Figure 6. Lashing arrangement options for direct restraint.

Table 3. Lashing angle – direct restraint with blocking

Height of bin attachment (mm)	Horizontal distance to truck attachment (mm)
Up to 1,200	1,000-2,000
<2,000	1,500-3,000

Table 4. Maximum mass – direct restraint with blocking

Lashing type	No. of Lashings	Maximum mass of bin(s)	
		Bin directly on truck deck	Bin on wood or load mat
50mm webbing	4	4,000kg	8,000kg
75mm webbing	4	8,000kg	10,000kg
8mm transport chain	4	6,000kg	10,000kg

Lashing specification

- Lashings (webbing or chains) must be in good condition. Refer to the Load Restraint Guide for tips on assessing lashing condition.
- 50mm webbing must have a minimum rated lashing capacity (LC) of 2500 kgf, 75mm webbing must have a minimum LC of 5000kg, chain must be at least 8mm Grade 70 or equivalent.
- Tensioning devices can provide lashing tension of at least 15% of the lashing capacity.

Table 5. Lashing specification

Lashing type	Minimum required capacity (kgf)	
	Lashing	Tensioner
50mm webbing	2500	375
75mm webbing	5000	750
8mm transport chain	3800	570

APPENDIX C.2C TIE-DOWN WITH BLOCKING

Tie-Down with blocking
✓ Bins must be loaded onto high-friction load matting or timber.
✓ Bins must be blocked in the forwards and sideways directions by a bin stopping device sufficiently strong to block at least 30% of the mass of the load.
✓ Blocking devices must be at least 100mm in height.
✓ There must be no gap between the bin and blocking devices in a forward direction.
✓ There must be no more than 50mm gap between the bin and blocking devices on each side.
✓ Where more than one bin is loaded, there should be no gap between bins.
✓ Total of all gaps must not exceed 200mm.
✓ Lashings must be firmly tensioned to the capacity of the load binder (see table 5.)

Table 6. Maximum mass – tie-down restraint with blocking

Lashing type	No. of Lashings	Maximum mass of bin(s)
50mm webbing	2	4,000kg
50mm webbing	3	6,000kg
50mm webbing	4	8,000kg
50mm webbing	5	10,000kg
8mm transport chain	2	10,000kg

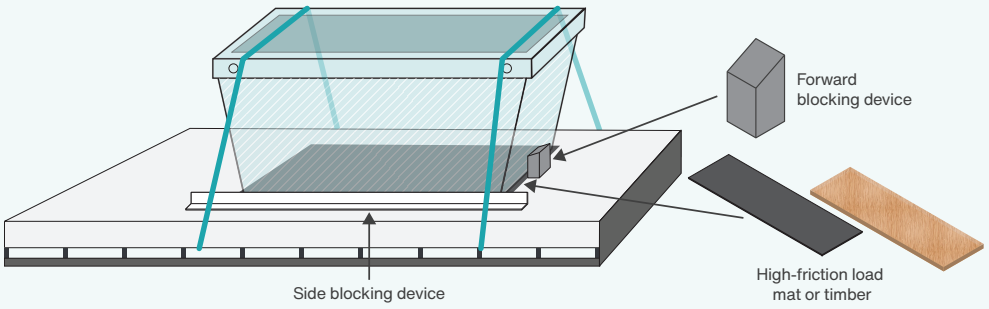


Figure 7. Skip bin tie-down restraint with blocking.

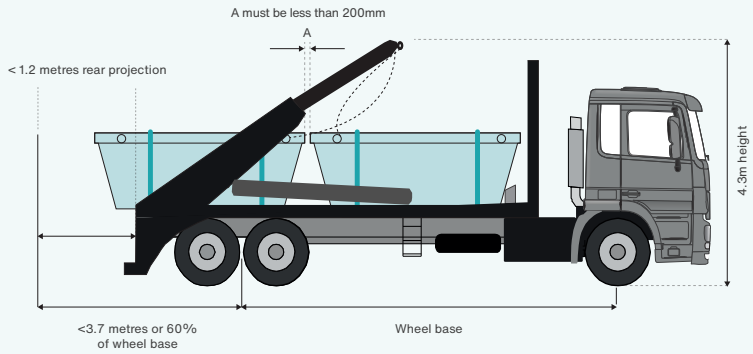


Figure 8. Skip bin tie-down restraint with blocking, multiple bins.

APPENDIX C.2D STACKED BINS

Stacked Bins

- Load bins centrally within other bins.
- The total height of the stack must be no more than 1.5 times the width of the bottom bin.

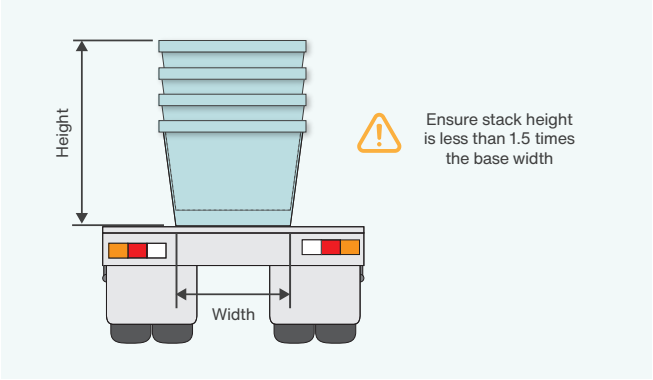


Figure 9. Stacked bins

Stacking Empty Bins

- Each bin must be fully seated in the bin below.
- When using blocking or direct restraint methods, lashings must be applied to the top bin in the stack.

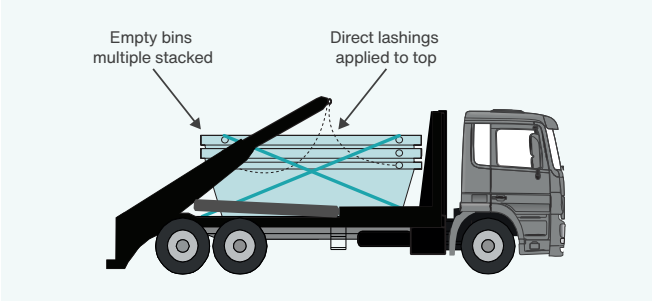


Figure 10. Direct restraint – empty bins.

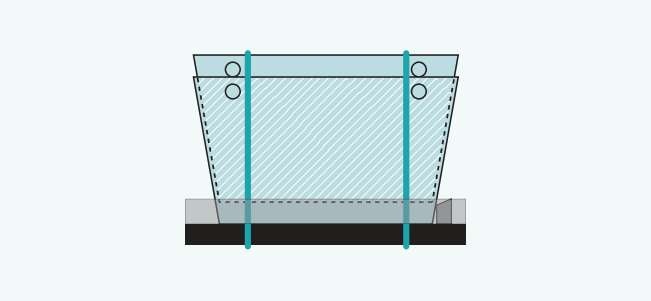


Figure 11. Tie-down restraint with blocking – empty bins.

Stacking filled bins

- No more than 2 filled bins may be stacked together.
- The heavier bin must be at the bottom of the stack.
- Filled bins should be seated at least 400mm into the bin below. A bin that is filled to closer than 400mm below the top should not be placed at the bottom of a stack.
- If using tie-down restraint for stacked filled bins, auto-tensioner devices should be used on the top bin and the bottom bin must also be restrained.
- When using blocking or direct restraint methods, apply lashings to the bottom bin and apply 2 additional tie-down lashings to the top of the stack.

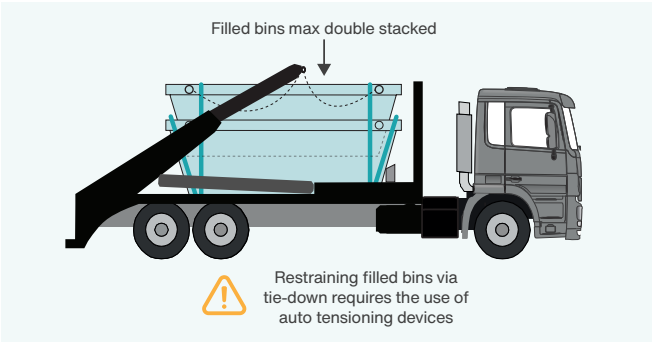


Figure 12. Tie-down restraint with multiple bins.

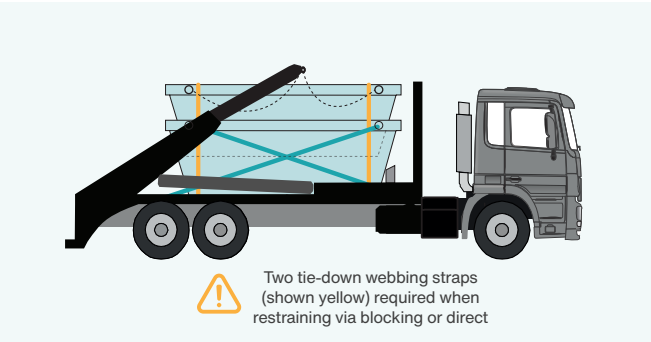


Figure 13. Tie-down and direct restraint with multiple bins.

APPENDIX C.3 FRONT/REAR LIFT BINS ON FLAT-BED TRUCKS

Plastic front-lift or rear-lift bins

- Volume = 660 litres; Max. loaded mass = 310kg
- Volume = 1,100 litres; Max. loaded mass = 510kg
- Increasing the friction between the truck deck and bin will improve the effectiveness of any load restraint method.

Friction –	
✓	Do use high-friction rubber load matting or timber to increase friction.
✗	Do not place bins directly onto the truck deck. Plastic-on-steel has very low friction.
✗	Do not use conveyor belt as load matting unless testing has been performed to determine its coefficient of friction under all likely conditions of use. Some conveyor belt materials are extremely slippery when wet.

660 & 1100 litre bins

Figure 14.

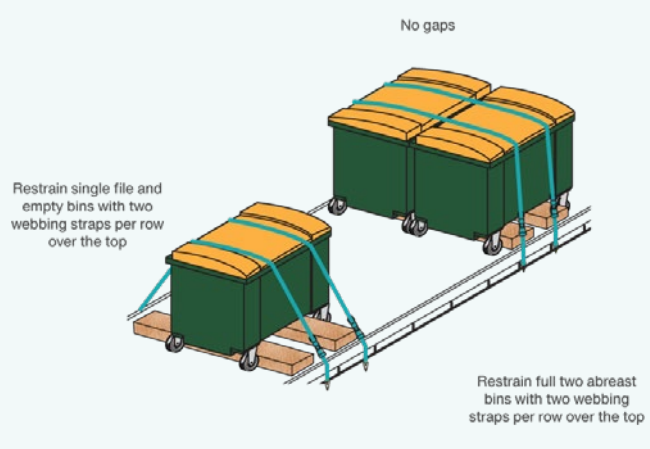


Figure 15.

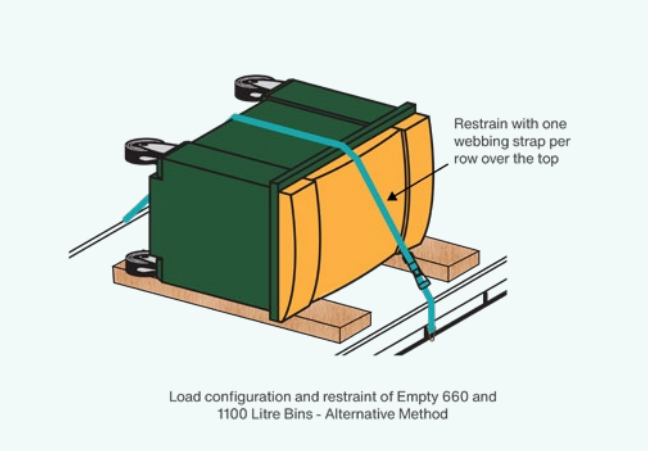


Figure 16.

Tie-down (over the top) restraint	
✓	For empty bins, an alternative is to load them, on their sides, onto timber dunnage or load mat (figure 16).
✗	There must be no gap between bins loaded 2 abreast (figure 15).
✓	Bins must be hard against the headboard or butted up tightly against bins in front (figures 17 and 18).
✓	Empty bins – 2 lashings on rearmost row, 1 lashing for all other rows (figure 17).
✓	Filled bins – 2 lashings per row (figure 18).
✓	Filled bins must be loaded upright on timber dunnage so that their wheels are not in contact with the truck deck.
✓	Empty bins may be loaded on their side as shown in figure 16.
✗	No overloaded bins. Bin lids must be fully closed.

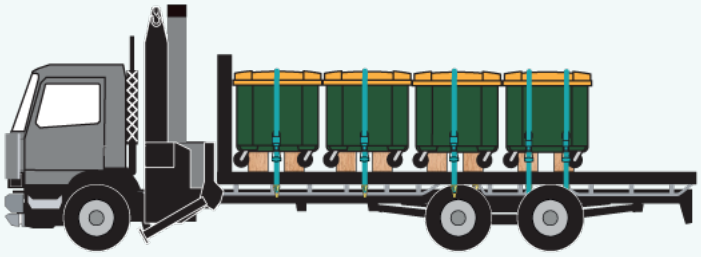


Figure 17. Empty bins

Containment	
✓	No lashings are required for empty plastic bins that are contained within purpose-built enclosures.
✓	Enclosures must comply with the loading performance standards and must prevent the bins or any part of them from falling from the truck.

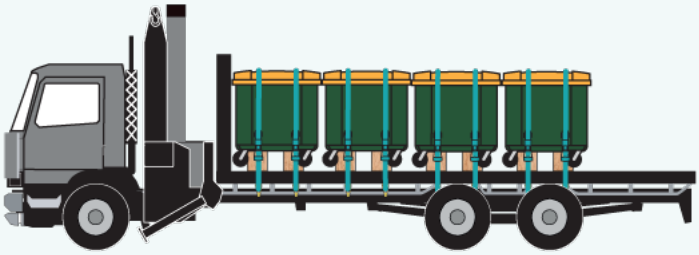


Figure 18. Filled bins

Metal front or rear-lift bins

- Volume = 1.5m^3 - 4.5m^3
- Max. loaded mass = 2500kg or Safe Working Load of front-lift equipment, whichever is lower.

Friction	
✓	Do use high friction rubber load mat or timber to improve effectiveness of restraint.
✗	Do not use conveyor belt as load mat. When wet it has extremely low friction.
✗	Do not place bins directly on truck deck. Steel-on-steel has very low friction.

General	
✓	Bins must be loaded in a single line along the centreline of the tray.
✓	Bins must be hard against the headboard or butted up tightly against bins in front (figure 21).
✓	Wheeled bins should be placed on timber dunnage, with wheels lifted above the deck (figure 19). This is the preferred method.
✓	Alternatively, trucks may be fitted with channels or gutters for wheels to sit in (figure 20).
✓	At least 2 wheels on each bin must be located within a channel if this method is used.

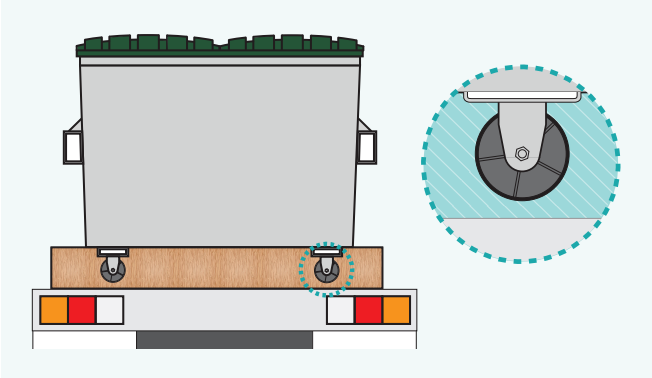


Figure 19. Wheels raised above deck by timber dunnage.

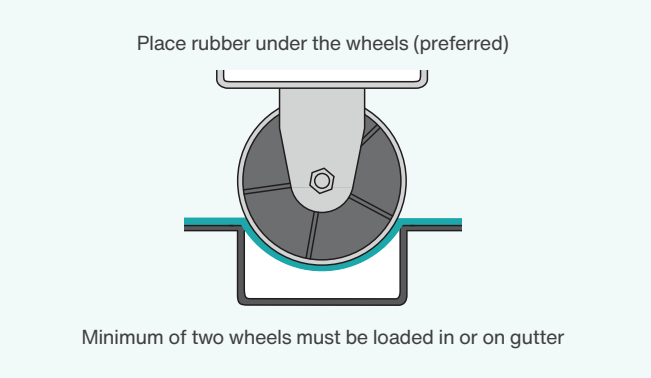


Figure 20. Rubber placed under wheels.

Direct restraint (preferred method) - this method will restrain a filled or empty bin of up to 2500kg mass.	
✓	Pass lashing through tine pockets and attach to truck crosswise in accordance with table 1 (figure 21).
✓	Webbing lashings must be protected where they pass over the edge of the tine pockets (figure 22).
✓	Bins must be loaded with the lid opening facing the rear of the truck.
✓	For double stacked empty bins, pass lashing through the tine pocket on the top bin and attach to truck crosswise in accordance with table 1 (figure 22).

Table 7 - Lashing angle for direct restraint – maximum total mass 2,500kg

	Minimum horizontal distance to truck attachment (mm)
Single stacked bins	600
Double-stacked bins	1,500

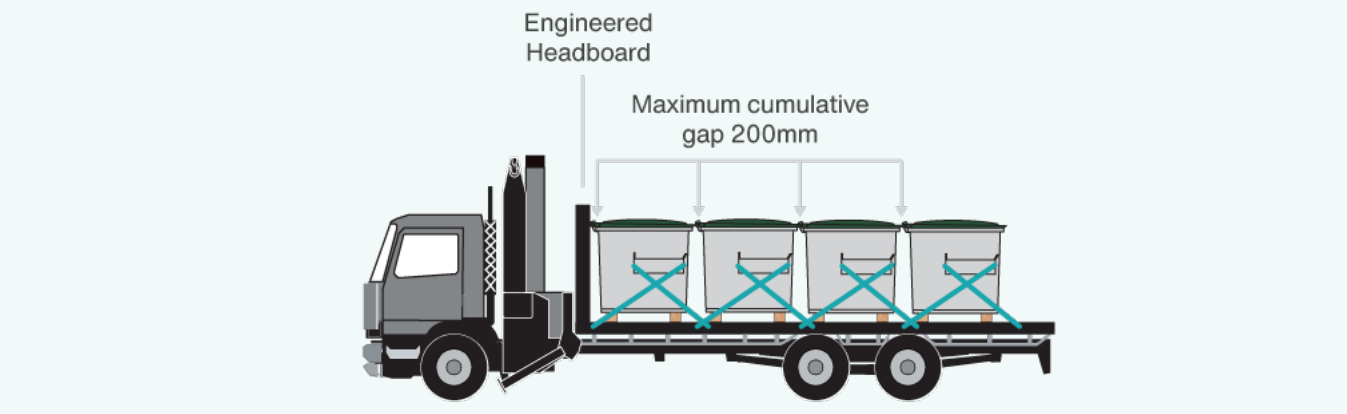


Figure 21. Bins loaded in single line against headboard.

Figure 22. Double stacked empty bins. Lashing with corner protector.

Tie-down restraint – this method will restrain single-stacked empty bins
✓ Webbing lashings must be protected where they pass over the edge of the bin.
✓ Bins must be loaded with the lid opening facing the rear of the truck.
✓ 2 lashings per bin (figure 23)

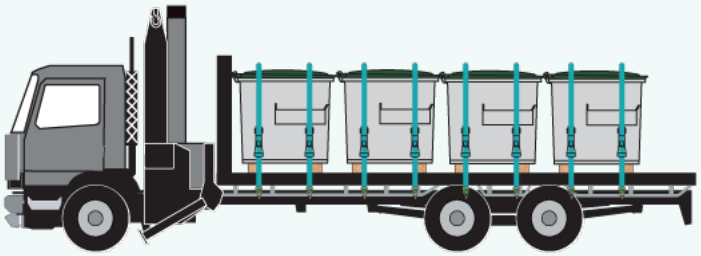


Figure 23. Single stacked empty bins.

Table 8 – Maximum Mass – Tie-down restraint

Friction	Mass of bin (kg)			
	No load rating on headboard >200mm cumulative gap between bins		Blocked by load-rated headboard	
	Webbing		Webbing	
	1	2	1	2
Steel on steel	180	360	290	580
Steel on wood	375	750	600	1,200
Steel on load mat	560	1,120	2,000	2,500

CODE ADMINISTRATION

This Code will be maintained by the NHVR in accordance with the conditions of registration in Section 706(2) of the HVNL, and the Guidelines for Preparing and Registering Industry Codes of Practice.

As Sponsor of this Code of Practice, the Waste and Recycling Industry of Queensland (WRIQ) will support the maintenance of this code and contribute to its review.

Providing Feedback

Feedback is invited on this Registered Industry Code of Practice from any stakeholder with an interest in the waste and recycling industry.

Feedback should be submitted to codes@nhvr.gov.au

All feedback received will be considered by the NHVR as part of the on-going code management process.

Further Information

If you require further information about the process for developing Codes of Practice, or about how to provide feedback, please see the NHVR website at www.nhvr.gov.au/safety-accreditation-compliance/industry-codes-of-practice or email codes@nhvr.gov.au

Review

The Waste and Recycling Code is scheduled for review by June 2029, if not reviewed earlier.

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- **Department of Infrastructure and Transport South Australia**
- **Ecobatt**
- **Environmental Protection Agency NSW**
- **Environmental Protection Agency Victoria**
- **Fire and Rescue New South Wales**
- **Hornby Transport**
- **Hyva Australia**
- **Isaac Shire council**
- **JJ Richards**
- **Local Government Association of NSW**
- **Local Government Association of Queensland**
- **National Transport Commission**
- **Queensland Fire and Emergency Services**
- **Ramscar**
- **Remondis**
- **SafeWork NSW**
- **Sims Metal Australia**
- **Superior Pak**
- **Townsville City Council**
- **Transport Workers Union**
- **Veolia**
- **Victorian Waste Management Association**
- **Waste Contractors and Recyclers Association of NSW**
- **Waste and Recycling Industry Association of Queensland**
- **Waste and Recycling Industry Association of South Australia**
- **West-Trans**
- **Westrex**
- **WorkSafe Queensland**
- **WorkSafe Victoria**

The load restraint guidance in Appendix C has been informed by previous work carried out by Bluescope and Graeme Agnew Consulting on behalf of the Waste Contractors and Recyclers Association of NSW. It has also been guided by testing done by Engistics on behalf of NHVR. We would like to thank all concerned for their support.

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