



Managing container-laden heavy vehicle rollover risk

A guide for Toll's
customers and clients

TOLL

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What is the purpose of this guide?

This guide is designed to inform Toll's customers and clients about the rollover risk associated with freight transported on the road within shipping containers, and how that risk may be managed. This guide explains:

- the specific hazards and risks associated with containerised loads;
- how parties in the supply chain can control, eliminate or minimise the risk of rollovers;
- which parties are likely to hold legal obligations under Chain of Responsibility laws; and
- where further information and resources can be found.

This guide focuses primarily on road transport, however many of the risk controls outlined in this guide are also good practice for other transport modes. It is recommended that you seek further advice if your transport task is multi-modal.

The information in this guide is general in nature and should not be used as a substitute for legal advice.

What is Chain of Responsibility?

Chain of Responsibility (or CoR) is a legal concept used in Australian road transport law. CoR recognises that what happens on the road is not solely directed by the driver but can sometimes be influenced by off-road parties in the supply chain.

For example, if a driver is provided a Container Weight Declaration (CWD) that understates the actual weight of the container, the vehicle could become unstable and roll over due to overloading. In this instance, the consignor may not have considered the extra weight caused by a last-minute product change. The loader may not have thoroughly checked the accuracy of the paperwork. The due diligence process may have been rushed meaning that the operator's executive officers did not pick up on the problems. All these decisions and omissions could cause the driver to operate the vehicle while overloaded.

On-road safety requires all parties in the chain to behave in ways that ensure that safe vehicles with safe drivers and safe loads are on the road at all times. This is a shared responsibility that requires everyone to do their part. One fundamental principle of CoR is that any party in the chain who can influence or control the transport activity is responsible for the safety of the transport activity. This means that a party's level and nature of responsibility depends on their capacity to control, eliminate or minimise the risk.

For most states and territories, CoR is given effect through the Heavy Vehicle National Law (HVNL) which became operational in Australia from February 2014 and was updated in October 2018. However, CoR is not new – it has been in force in several Australian states in various forms since the late 1980s. Western Australia introduced CoR provisions for mass, dimension, load restraint, vehicle permits and vehicle safety in April 2015.

For further information on chain of responsibility see: <https://www.tollgroup.com/about/safety-toll/our-commitment-road-transport-safety>

What is different about containerised freight?

Containerised freight presents unique challenges to the supply chain. In a traditional, general freight arrangement, the driver and operator often have considerable influence on how their vehicles are loaded and the freight restrained. In a containerised freight situation, the driver and operator may have less control because:

- **Containers are often loaded and packed outside Australia.** The parties with the most influence and control over container loading and packing are packers and consignors ('packers' and 'consignors' are named parties in CoR). However, overseas parties are outside Australian jurisdiction, so obligations are difficult to enforce. This issue is compounded where the safety standards in the country of origin do not match those in Australia.
- **Containers are often loaded and packed without the driver present.** This removes the driver's ability to influence and control how the container is packed, and the driver's ability to physically inspect the packing to identify deficiencies or hazards, like high centre of gravity or inadequate load restraint.
- **Container loading and packing are often difficult to inspect after loading.** There are several reasons for this:
 - a. Legacy design issues mean some port precincts have been slow to make space and facilities available for drivers to inspect containers before departure.
 - b. To effectively inspect container packing, containers often require full or partial unloading to gain adequate visibility of the entire load. This can have cost and productivity implications.
 - c. Customs and biosecurity protocols mean that some containers must only be opened under controlled conditions which are often only available at the container's destination.

These factors mean that consignors must exercise their influence and control to ensure the safety of the transport activity. As the parties sourcing and paying for goods, consignors arguably have the most influence and control over the way the container is packed. Consignors, therefore, need to ensure that goods in the container are packed and restrained in a way that eliminates or minimises the rollover risk.

Who is the Consignor?

Under the law, a consignor of goods is the individual or organisation that engages a heavy vehicle operator to transport goods by road for commercial purposes. A consignor might engage a heavy vehicle operator directly or indirectly through an agent or other intermediary. Consignors are usually named and identified as such in the formal documentation for the road transport of the goods. Less commonly, where a consignor is not formally identified it may be deemed to be the person who last had physical possession of, or control over, the goods immediately prior to road transport.

What is the risk?

In 2012, a light vehicle driver was killed after a container-laden heavy vehicle rolled as it navigated a bend on a NSW road (*pictured, right*). The investigation found that the load inside the container was inadequately packed and the load

shifted as the vehicle turned, making the vehicle unstable and causing it to roll. A NSW court found the consignor and its directors guilty for not ensuring the load was adequately packed and secured. The container had been loaded and packed outside Australia.

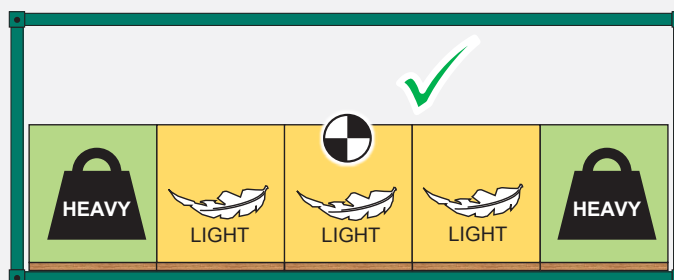
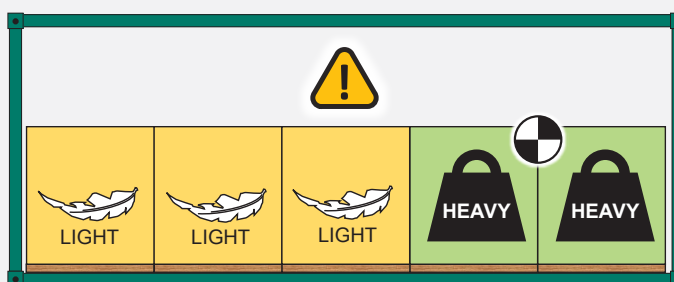
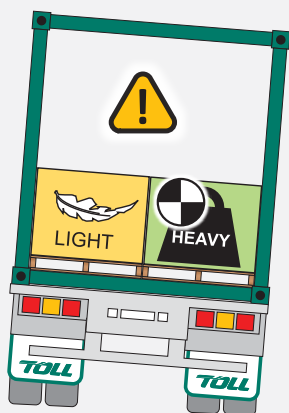
Unfortunately, this is not an isolated incident. Significant on-road incidents involving container-laden heavy vehicles are 36% more likely to result in rollover, compared to vehicles carrying general freight.¹

A common factor in these incidents is vehicle instability caused by the load inside the container. The law states that a load on a heavy vehicle *must not be placed in a way that makes the vehicle unstable or unsafe*.² This includes loads within containers.



A load in a container can make the heavy vehicle unstable in three ways:

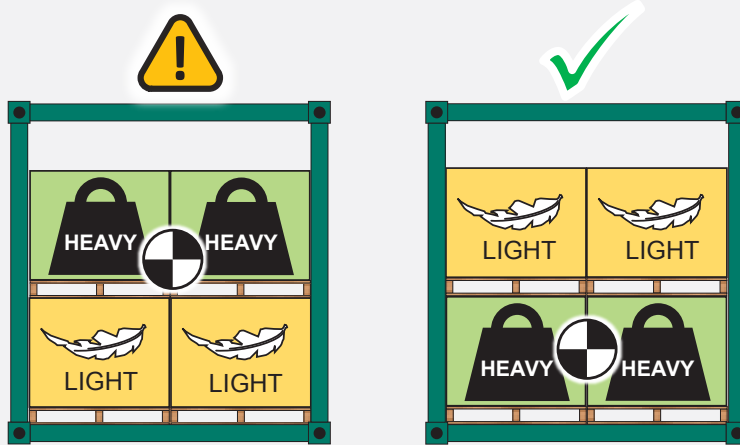
1. **Unbalanced loading.** Loads which are not balanced across/along the container can make the vehicle unstable and increase the rollover risk. Stability of container handling equipment such as cranes is also dependant on balanced loading. When loading containers, it is important to load the mass centrally along and across the container.



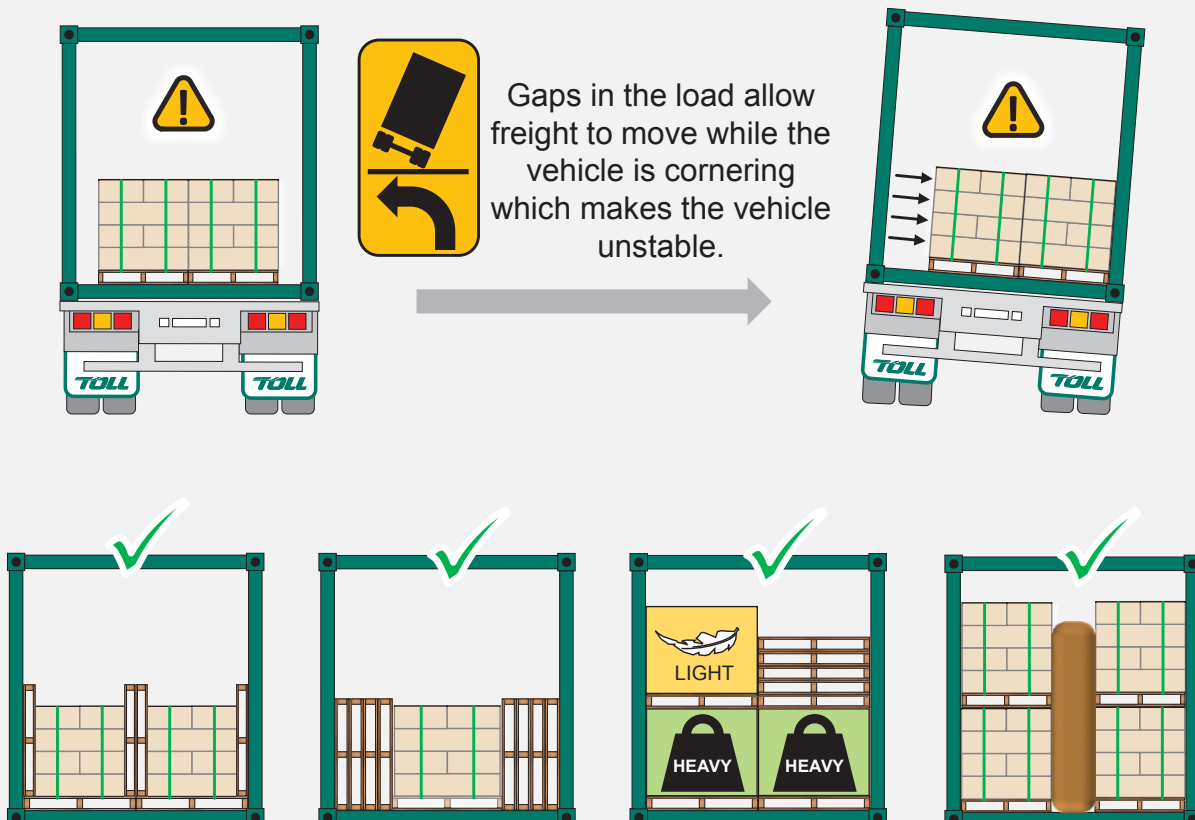
1 National Transport Insurance (NTI), 2018, unpublished data.

2 Heavy Vehicle (Mass, Dimension and Loading) National Regulation, s38.

2. **High Centre of Gravity (CoG).** Loads with a high CoG can make the vehicle unstable and more prone to rollover. Where a load has a high CoG, the rollover risk increases as the load's mass increases. Load heavy items closest to the container floor to lower the centre of gravity.



3. **Inadequate Load restraint.** Inadequately restrained freight can move and slide when the vehicle navigates bends and round-a-bouts. This causes the vehicle to become unstable and increases the rollover risk. The most effective way to restrain the load is to “pack out” or block all horizontal gaps to prevent the load from moving. This is commonly achieved with pallets or inflatable dunnage bags. It is important that all blocking and dunnage equipment is appropriate for the task.



As a consignor, what can I do to manage the rollover risk of container-laden heavy vehicles?

- 1 Develop a load plan specific to the load profile. Load plans should be based on industry best practice. The resources section of this guide is a good place to start. The load plan should include the following instructions:
 - a. How to package freight adequately prior to loading (ie ensure freight is sufficiently wrapped or strapped to pallets).
 - b. Where to position the load within the container.
 - c. How to restrain the freight within the container, preferably by packing out all horizontal gaps.

- 2 Verify the load has been loaded in accordance with the load plan.
 - a. Require a supervisor at the loading site to verify that the container has been loaded as per the plan. An inspection checklist can be used for this.
 - b. Require photos of the load to be sent and verified against the load plan before the container is sealed for transport.

- 3 Select an operator with vehicles/trailers appropriate for your freight profile (e.g. low deck height trailers for high CoG loads).

- 4 Provide complete and accurate information to your road transport operator. This includes:
 - a. Container Weight Declarations
 - b. Load plans and other loading information

- 5 Communicate and support the expectation that drivers should not depart a premises until safety concerns regarding the load are resolved.

- 6 When unloading the container, record any non-conformances, load shifts or other hazards and follow-up with the loader of the container.

- 7 Where load restraint is a consistent and systemic problem, find an alternative supplier prepared to load compliantly.

Resources

Chain of Responsibility

- Chain of Responsibility: A guide for Toll's Customers and Clients.
- Chain of Responsibility: Understanding your Obligations as a Customer in Western Australia.
- Master Code
- Heavy Vehicle National Law

Container loading and load restraint

- National Transport Commission Load Restraint Guide 2018
- IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units (CTU Code) 2014
- Heavy Vehicle (Mass, Dimension and Loading) National Regulation

For further resources, speak to your Toll account manager.

Contact us

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This guide is provided as general information only and should not be used as a substitute for legal advice.

This information is current as at June 2020.

