

A close-up photograph of a hand touching a large, treaded tyre. The tyre is mounted on a machine, and the tread pattern is clearly visible. The background is dark and industrial.

JANUARY 2026

# Retread Tyre Sector in Australia

Comprehensive Market Analysis



## Retread Tyre Sector in Australia: Comprehensive Market Analysis

**Version 1.0**  
**January 2026**

**Client:**

Tyre Stewardship Australia (TSA)

**Authors:**

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with RPS and BBEC



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# Foreword

## 100 year old circular economy under threat



Australia's well-established tyre retreading industry can be traced to the 1920s, when Melbourne-born swimming champion and businessman Sir Frank Beaurepaire established one of the country's first retreading businesses in Sydney. The venture followed his exposure to retreading operations in Canada while competing at the 1920 Antwerp Olympics.

The global retread industry grew rapidly in parallel with the huge increase in global road transport. The retread industry became invaluable during the Great Depression (1929-39) because tyre casings were able to be used until they wore out, rather than having to replace them due to minor damage. This marked **the beginning of the retread industry's role in buffering the transport industry against economic and material supply chain shocks – risks that are still live today.**

During the 1940s, the retread industry accelerated partly due to the US military relying on and further developing the retread industry during the Second World War.

For the next few decades, the number of retreading operations steadily increased globally and in Australia, adapting to major changes in tyre design (i.e. tubeless and radial tyres).

Whilst the industry was growing, the retread product quality was variable during this period. Some poor retread performance during the 1980s and early 1990s (i.e. tread

separation) still mar the retread industry reputation some 40 years on despite major improvements in retread manufacturing and product quality.

During the 1990s and 2000s, the retread industry went through a period of significant investment in high-tech, computer-controlled tyre retreading equipment, including the use of ultrasound and x-ray technology. This resulted in significant increases in industry productivity and retread product quality. By the end of the 2000s, retreading was a well-developed industrial process which consistently produced very high-quality products<sup>1</sup>.

While the retread industrial process was reaching maturity and productivity was improving, the cost for new tyres across all segments was falling due to the globalisation of the new tyre manufacturing industry. **The continual decrease in the cost of new tyres and the entry of lower upfront cost tyres have put the retread industry under significant pressure globally since the 1990s.**

In the 1990s, passenger tyres were the first to exit the retread market due to the lower price point and changes in passenger tyre design, including lighter casings less suited to retread.

Light truck<sup>2</sup> tyres were a key part of the retread market, globally and in Australia, until the 2000s. In 2025, the light truck segment was only a very small portion of the retread industry in Australia.

Historically, heavy commercial truck and bus tyres have been the 'backbone' of the retread industry, and that remains the case in Australia today. These larger, heavy-duty tyres are often used on fleets of trucks and buses and have a higher price point, making them ideal for retread. Until the 2000s most trucks and buses (globally) ran retread tyres on drive and trailer tyres. However, even this 'ideal' retread market segment is now under threat from lower quality, lower upfront cost, single-use tyres.

The retread industry is one of Australia's most significant re-manufacturing industries that has been contributing to a circular economy in Australia for around 100 years and in 2025 produces a top-quality product. Unfortunately, like much of Australia's industrial sector, the retread industry is under threat from lower quality, lower upfront cost imports that are undercutting Australia's retread industry.

**By 2010, Australia had lost all tyre manufacturing capacity. In 2025, Australia is at the crossroads of either supporting or losing its tyre re-manufacturing sector.**

<sup>1</sup> Source: <https://www.tirerecappers.com> (cited Sept 2025)

<sup>2</sup> Truck & bus tyres are in two categories, heavy commercial (22.5 inches and above) & light commercial (17.5 inches or less).

# Summary

Tyre retreading takes a quality worn tyre, refurbishes and applies new tread to the tyre, and provides a 'like new' refurbished product. Retreading reuses the structure of the tyre, referred to as the casing, and conserves most of the embodied materials/energy.

The contemporary Australian retread industry consists mostly of heavy commercial truck and bus tyres, which are the focus of this report.

Not all heavy commercial tyres are designed for retreading and reuse and the heavy commercial tyre retread industry faces increasing pressure from lower quality, lower upfront cost, single-use tyres.

This report investigates what can be done to support the Australian retread industry, recognising that:

- The heavy commercial retread industry provides Australia with sovereign tyre re-manufacturing capacity that keeps our transport sector rolling during supply chain, economic, and global conflict shocks.
- Retreading is a proven part of the circular economy that reduces emissions, conserves resources, and provides an onshore market for tyre-derived materials via new tread manufacturing.
- Retread use can improve transport productivity in Australia by reducing costs per kilometre when compared with the use of lower quality, lower upfront cost, single-use tyres.

## Tyre quality 'Tiers' and retreading

The quality of the tyre casing construction is key to determining the suitability for retread. For this report, the following tyre quality Tier definitions are applied:

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Tier 1: the highest quality/price, designed for several additional lifecycles via retread.

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Tier 2: are high quality/price, designed for additional lifecycles via retread.

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Tier 3: are moderate quality/price, potentially suited to one additional lifecycle via retread.

---

Tier 4 & 5: the lowest quality/price and are designed for one, short, lifecycle (single-use).

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### Australia's retread industry under threat

A well-documented decline in the number of retreading facilities has occurred globally and in Australia.

Since the 2000s, the decline has been driven principally by the entry of lower quality, lower upfront cost, single-use truck and bus tyres. The number of retread facilities in Australia has declined from 61 to 22 facilities, a 64% decline. In 2025, five main companies remain in the Australian retread industry: Bandag/Bridgestone with 14 facilities, Michelin with 4, NBR with 2 and Freedom Retread with 1. Retread capacity is concentrated in New South Wales, Victoria and Queensland. New South Wales and Victoria each hold 6 facilities, Queensland with 4, Western Australia with 2, and South Australia and Tasmania with 1.

Over the past nine years the average retread production of heavy commercial tyres in Australia was ~390,000 per year and has been gradually declining. Figure E1 shows that from 2017 to 2025 the retread market share has halved from ~20

to ~10%. Retread production has not halved since 2017; the decline is due to the sale of new heavy commercial drive and trailer tyres increasing by ~80% (~1.5M to ~2.7M tyres). The continual fall in retread market share is clear, and the cause is also well understood by the industry – the uptake of lower quality, lower upfront cost, single-use truck and bus tyres.

**These trends are concerning and should be a call to action for the Australian Government to act and incentivise the use of retread in heavy commercial applications over lower quality, lower upfront cost, single-use tyres to prevent the loss of an important Australian industry that is fundamental to the circular economy.**

### Australia's remaining retread industry capacity

The estimated capacity across the remaining 22 facilities in Australia is 550,000–825,000 heavy commercial tyres working on a single shift. This capacity would be doubled running double shifts, and tripled on triple shifts. With approximately 310,000

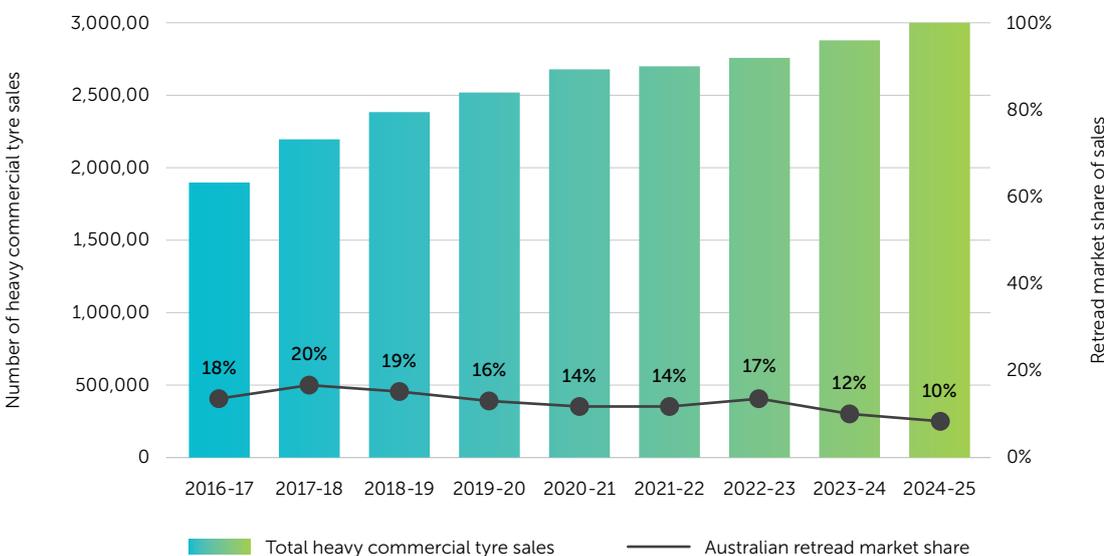
retreads produced in 2025, the retreading industry is estimated to be operating at around 31–56% of its capacity. Whilst this is of concern, the flipside is that with the right incentives in place, **Australia still has a retread industry working at full (triple shift) capacity to retread around 55% to 80% of the estimated ~3 M heavy commercial tyres sold in 2025.**

### Retread industry direct jobs estimate

Based on the 2025 estimated production of 310,000 tyres, around 125 people were directly employed to retread tyres in Australia in 2025. If all of Australia's retread facilities were operating at the high end of estimated capacity, on a triple shift, retreading could directly employ ~1,000 people.

**With effective market incentives in place to enable Australia's existing retread industry to operate at full capacity, an estimated 850 additional jobs could be created above the 2025 job numbers.**

Figure E1. Retread market share of heavy commercial tyres sales in Australia (excl. steer) (%/yr.)



## Retread vs single use: product comparison

**Table E1** outlines key product performance factors and compares Tier 1 and Tier 2 new tyres that are retreaded with single-use tyres.

Factor	Comparison
Price	Tier 1,2 higher initial cost, assume ~\$600-\$800. Retread cost ~ \$250 per reuse. Single-use ~ \$250 per tyre.
Tyre life	Tier 1,2 & retread: significantly higher tyre life (km or hours). Single-use: as low as 33% of Tier 1 tyre life in hard-wearing applications. <b>Half the expected life is a common experience.</b>
Construction materials	Tier 1,2 & retread: construction quality is higher and advanced rubber compounds used resulting in more strength and durability. <b>A more stable casing (under load) wears more evenly and is less prone to failure.</b> Single-use: lower construction quality and lower cost rubber compounds results in a less stable tread, reduced mileage, increased rolling resistance, irregular wear, and higher risk of failure.
Rolling resistance & fuel efficiency	Tier 1,2 & retread: industry testing in high km application (long haul, regional) <b>show fuel savings of 2-5% compared to single-use.</b> Retreads now can offer new Tier 1 levels of rolling resistance. Single-use: lower casing construction quality, tread design, and rubber compounds result in faster and often uneven wear – increasing rolling resistance and lowering fuel economy.
Break down risk	Tier 1,2 & retread: thicker and stronger tread and side walls on a Tier 1 tyre reduce the risk of puncture or total tyre failure. Single-use: lower quality tyre construction increases the puncture or total tyre failure risk.
Changeovers costs	Tier 1,2 & retread: longer tyre life means less time in the workshop changing over tyres and improved productivity. Single-use: tyres need to be changed more often reducing productivity.
Retread lifecycles & disposal costs	Tier 1,2 & retread: the number of retread lifecycles varies based on the quality of the new tyre casing (Tier 1 or 2), the amount of kms the casing does between retreads, and the maintenance and care of the tyre during use. Single-use: not suited to retread and are single-use only. There are also higher waste disposal costs (three to six times higher).
Tread design and compound	Tier 1,2 & retread: offer customers the ability to apply application specific treads that can outperform Tier 1 new treads for a target application. Single-use: more limited tread design engineering (basic patterns) and use faster wearing rubber compounds.
Wet braking & aquaplane distance	Tier 1,2 & retread: tested and accredited for higher wet braking and aquaplane performance. Retreads provided by Tier 1 companies including Michelin and Bridgestone meet an equivalent standard. Single-use: unknown testing and accreditation of low-cost single use tyres. Industry report non-ADR compliant tyres being sold on the market, risking safety.

**Table E1. Tier 1 or 2 & retread vs single-use tyres product comparison**

## Retread vs single-use: cost per kilometre (CPK)

The project found CPK savings for using Tier 1 tyres & retreading versus using single-use tyres, that varied by the market segment, as summarised below. Over a 10 year evaluation period, retread outperformed single-use tyres in every segment. The comparison focuses on 'tyre v tyre' CPK factors. Other cost savings from reduced fuel use, breakdown, and tyre changeover time would result in additional savings (particularly for long haul applications).

	Urban waste/bus	Short haul (regional)	Long haul
Single-use	1.47	0.74	0.39
Tier 1 & retread	1.05	0.51	0.30
Saving/cost	0.43	0.22	0.09

**Table E1. Tier 1 & retread vs single-use tyres CPK by segment (cents per kilometre)**

### Retread waste reduction and resource conservation

Over the past decade, Australia has been retreading around 390,000 heavy commercial tyres annually. This equates to a ~16,000 tonne per annum reduction in waste generation via tyre retread and reuse. Over the past 10 years, the retread and reuse of heavy commercial tyres in Australia has reduced waste generation by ~160,000 tonnes. Very few industries can point to such significant achievements in reducing waste generation via reuse, and with the appropriate support mechanisms in place, Australia’s retreading industry has the potential to contribute significantly more.

### Carbon dioxide equivalent emission reductions

Based on an estimated emission savings of 115 kg CO<sub>2</sub>-e per tyre and an average of 390,000 retreads annually, the Australian retreading industry is reducing emissions by ~44,500 t CO<sub>2</sub>-e annually. This is equivalent to taking ~10,000 cars off the road each year.

### Retread market growth opportunities

The total estimated number of heavy commercial tyres in use in 2024 is estimated at ~7 million and is projected to increase to ~10 million by 2045. **Figure E2** provides market size projections by retread segment.

#### Three market segments opportunities stand out:

- **Urban good transport** is projected to become the largest market segment, increasing from 2.7 million to 4.5 million tyres by 2045.
- **Interstate (long haul) goods transport** is currently the largest market and will continue to grow, from 2.9 million to 3.6 million tyres by 2045.
- **Construction trucks** are the third largest market segment and projected to grow strongly, from ~1 million to 1.6 million tyres by 2045.

### Governance issues constraining retreading in Australia

The report identifies the following key issues/gaps constraining heavy vehicle retreading in Australia:

A mandatory product stewardship scheme is needed to support retread use in Australia.

The US and EU are moving to support their retread industries while Australia becomes the ‘soft target’.

Scope 3 emissions offsets & procurement requirements need promotion.

Australian Design Rules (ADR) for imports are slow to update & lack enforcement.

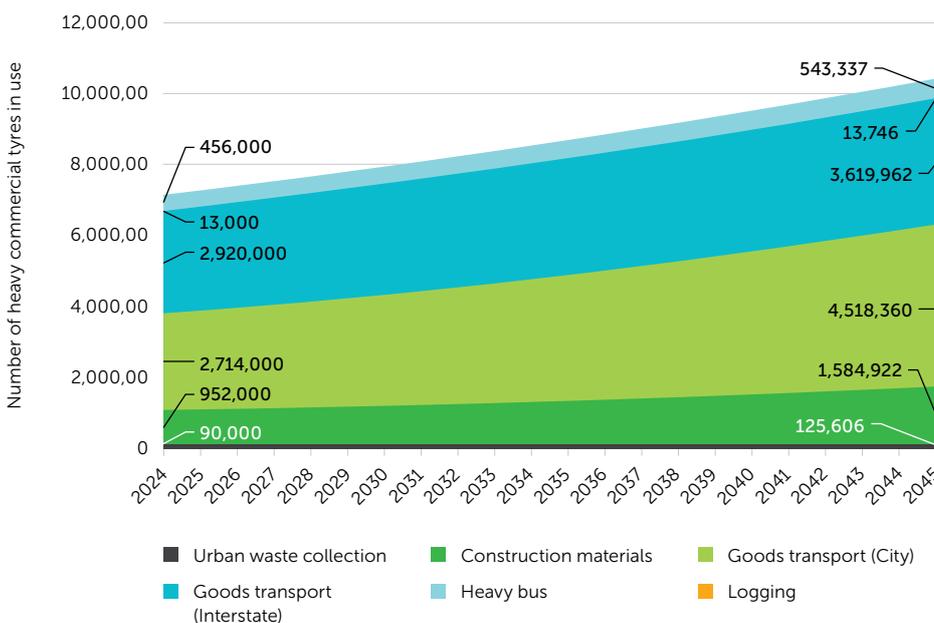


Figure E2. Twenty-year projections of heavy commercial tyre market size by segment

<sup>3</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>

## Conclusion

**Modern retreads are a high-quality product and offer significant cost per kilometre savings, productivity gains, and environmental benefits for the heavy commercial vehicle sector.**

However, the Australian retread industry's market share of replacement heavy commercial tyres has fallen from around 20% ten years ago to around 10% in 2025. The continual fall in retread market share is clear and the cause is also well understood by the industry – the uptake of lower quality, lower upfront cost, single-use truck and bus tyres that are undercutting retread.

Australia still has the industrial capacity to retread at least 50% of heavy commercial replacement tyres, but that capacity is underutilised and under threat.

The US and EU retread industries are faced with the same threat. Both have acted to incentivise and protect their retread industries. Australia will become a proximity 'soft target' for trade dumping of lower quality, lower upfront cost, single-use tyres unless action is taken.

**This threat to one of Australia's most significant re-manufacturing industries, and our last onshore tyre production capability should be a call to action for the Australian Government to act and incentivise the use of retread in heavy commercial applications over lower quality, lower upfront cost, single-use tyres.**

**Supporting the retread industry could support an additional 850 direct jobs, lower transport sector costs and emissions, while growing Australia's circular economy. It's a 'no brainer', so what is stopping us?**

## Roadmap: take the road to supporting retread

Below is a list of recommendations from the report that form a roadmap to reverse the decline in Australia's retread industry and ensure it remains viable for the long term.

The recommendations are grouped under market development and government actions. They are not sequential nor interdependent. All recommendations will assist the industry, and if all were implemented promptly, Australia's retread industry will survive and thrive.

### Government actions

▼ Australian Government develop and implement a mandatory-participation product stewardship scheme for Australia that is designed to incentivise the use of retread heavy commercial tyres re-manufactured in Australia.

▼ Australian Government investigate options to incentivise retread and or prevent trade dumping of lower quality, lower upfront cost, single-use heavy commercial tyres.

▼ All levels of government and the private sector promote the procurement specification of retread use on all heavy commercial vehicles as a means of increasing reuse, reducing waste and emissions, and claiming Scope 3 emission offsets.

▼ Australian Government explore ways to increase enforcement of the ADR on the import of loose tyres.

### Market development actions

▼ Promote the waste reuse achievements of the retread industry in national waste reporting and flag the potential to significantly decrease waste tyre generation tonnages in Australia if the retread industry was operating at capacity.

▼ Retread industry investigate the current market share of retread use by market segment and fleet size to improve market development planning for the retread industry.

▼ Retread industry develop a simple way to communicate the CPK savings by retread segment and fleet size for retailers to use.

▼ Retread industry engage with relevant goods transport industry representatives to develop a strategy to increase retread use and lower fleet running costs.

▼ Retread industry engage with relevant construction segment representatives to develop a strategy to increase retread use and lower fleet running costs.

## SECTION 1

# Introduction

In May 2025, Tyre Stewardship Australia (TSA) engaged Randell Environmental Consulting (REC) in association with Brock Baker Environmental and RPS to complete a *Comprehensive Market Analysis and Report on the Retread Tyre Sector in Australia* (the report).

Tyre retreading takes a worn tyre, refurbishes and applies new tread to the tyre, and provides a 'like new' refurbished product. Retreading reuses the structure of the tyre, referred to as the casing, and conserves most of the embodied materials/energy.<sup>4</sup>

The contemporary Australian retread industry consists mostly of heavy commercial truck and bus tyres, which are the focus of this report.

Not all heavy commercial tyres are designed for retreading and reuse, and the heavy commercial tyre retread industry faces increasing pressure from lower quality, lower upfront cost, single-use tyres.<sup>5</sup>

At the same time there is a significant push from all levels of Australian Government and progressive corporations to build the circular economy. In 2024, the Australian Government published *Australia's Circular Economy Framework - Doubling our circularity rate*.<sup>†</sup>

This framework commits to double Australia's circularity rate and three overall targets:



#### TARGET 1

Reducing material footprint by 10%



#### TARGET 2

Lifting materials productivity by 30%



#### TARGET 3

Safely recovering 80% of our resources.

The retread industry is one of Australia's most significant re-manufacturing industries and is fundamental to the circular economy for tyres.

## 1.1 Purpose

This report investigates what can be done to support the Australian retread industry, recognising that:

The retread industry provides Australia with sovereign tyre re-manufacturing capacity that keeps our transport sector rolling during supply chain, economic, and global conflict shocks.

Retreading is a proven part of the circular economy that reduces emissions, conserves resources, and provides an onshore market for tyre derived materials via new tread manufacturing.

Retread use can improve transport productivity in Australia by reducing costs per kilometre, when compared with the use of lower quality, lower upfront cost, single-use tyres.

<sup>4</sup> Appendix A provides a detailed explanation of the modern retread process.

<sup>5</sup> Refers to heavy commercial tyres that have a lower quality, cost, and strength casing that means they are not constructed for retread and reuse (i.e. they are single-use only).

<sup>6</sup> Truck & bus tyres are in two categories, heavy commercial (22.5 inches and above) & light commercial (17.5 inches or less).

<sup>†</sup> <https://www.dcceew.gov.au/sites/default/files/documents/australias-circular-economy-framework.pdf>

## 1.2 Scope

The project provides analysis of the retread tyre sector in Australia focusing on the following four areas:

1. Australian retread industry profile
2. Retread product and cost comparison analysis with single use tyres
3. Retread product environmental benefits review
4. Heavy commercial market projections and retread opportunities.

### 1.2.1 Tyre segments

Recognising the modern composition of Australia's retread industry, the focus of the report is **heavy commercial truck and bus tyres**. Light truck tyres are also considered but are not the primary focus.<sup>6</sup>

Retread of passenger car tyres is no longer happening in Australia at scale and therefore is excluded from the analysis.

Off-the-road (OTR) tyres are a specialised segment of the retread industry and, whilst important, are not the focus of the report.

### 1.2.2 Retread market segments

Retread use offers differing benefits for a range of applications, so the report analyses the retread industry by market segments. The retread market segments included in the report are:

- Municipal waste collection
- Construction materials
- Goods transport – City Rigid tray
- Goods transport – City Articulated trailer
- Goods transport – Interstate
- Public Transport
- Logging.

## 1.3 '101' of the retread tyre offering for heavy commercial applications

### 1.3.1 Tyre product 'tiers' and brands

Heavy commercial tyres are typically categorised in 'tiers' according to their price point and to some extent the brand. Some brands only provide medium to top quality/price product while other brands only provide lower cost/quality product. However, a company product offering can change over time, so it is perhaps more accurate to look at the quality/price of the specific tyre in question (rather than the brand). The adage 'you get what you pay for' very much applies in the highly competitive and mature industry of commercial tyres.

**For the project analysis, the following tyre Tier definitions are applied:**

Tier 1: the highest quality/price, designed for several additional lifecycles via retread.

Tier 2: are high quality/price, designed for additional lifecycles via retread.

Tier 3: are moderate quality/price, potentially suited to one additional lifecycle via retread.

Tier 4 & 5: the lowest quality/price and are designed for one, short, lifecycle (single-use).

### 1.3.2 Heavy commercial tyre positions

Heavy commercial tyres perform different roles depending on where they are located on the vehicle. This is defined by the axle they are mounted on - steer, drive, or trailer, see **Figure 1**.

**Steer tyres:** the steering axle needs tyres that can handle the turning stresses and be capable of providing a precise steering response. Retread tyres are typically not used for steer tyres, although some fleets in the EU are starting to use retread tyres in all positions, reflecting the confidence in the modern retread product.

**Drive tyres:** are responsible for managing the engine output, and driving the truck forwards or backwards and aren't designed to turn. These are placed near the engine to keep the driveshaft short and the power input from the engine efficient. These tyres are designed to cope with the stresses from the transmission and braking systems. They often have a tread designed to give more traction instead of focusing on high mileage.

**Trailer tyres:** are designed to provide high mileage, protect against 'scrubbing' (twisted on vertical axis when stationary), and to cope with the stresses put on them from static and dynamic loads.

**All position tyres:** are designed as a hybrid tyre and can be used in any position.



Figure 1. Heavy commercial tyre positions

**Note:** there are legally allowable loads for each axle group. Steer tyres often carry a higher proportion of their rated load (i.e. >90%) while tyres on drive axle typically carry ~70% of their rated load and for Trailer axle ~60% of rated load. Steer tyres often ‘work harder’ than Drive tyres which work harder than Trailer tyres (source: industry comms. 2025).

**1.3.3 From steer, to drive, to trailer – the self-sustaining retread casing generation model**

For the retread industry to operate, it must have access to high quality used casings. For most retread customers, the best way to incorporate retread is to purchase a Tier 1 or 2 steer tyre, and once it is worn, have it retread for reuse as the drive tyre, and retread it once again for reuse as the trailer tyre. The model means that over time, a fleet can potentially be running retread on all positions apart from the steer tyres, resulting in a cumulative savings for the fleet operation.

**Note:** on some fleets, tyre sizes are different for each axle position, making it more difficult to move them around the vehicle.

**1.3.4 Heavy commercial tyre typical purchase price point in 2025**

Review of advertised heavy commercial tyre prices in 2025<sup>7</sup> found some variation in prices by tyre position and large price differences between Tier 1 and Tier 4 tyres. **See Figure 2.**

Lower quality, lower upfront cost, single-use (Tier 4,5) tyres can be purchased for any tyre position for ~\$200-\$300 AUD in Australia in 2025. Tier 1 heavy commercial tyres can be purchased for ~\$400 and ~1200<sup>8</sup> depending on the position and the brand and quality.

**1.3.5 Retailing heavy commercial retread tyres**

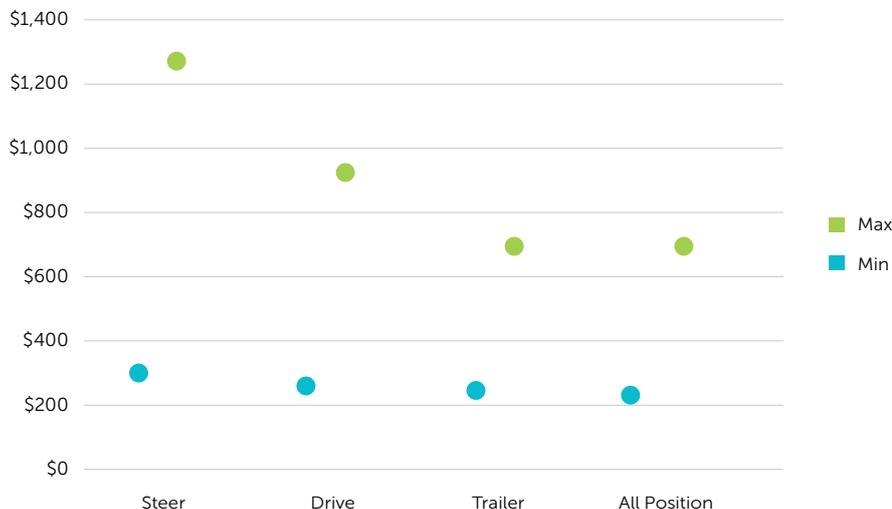
Major retread providers including Bridgestone/Bandag and Michelin have major heavy commercial service centres, some of which have a retread operation co-located onsite. Other points of retread retail around the country are established for tyre retail and fitment only.

Like all retail sectors, tyre retailers are focused on maximising sales efficiency and profitability. Retailers that stock retread tyres will also stock a range of new tyres and may have a wide range of tiers available (premium quality to lower upfront cost).

During consultation, the retread industry raised concerns about tyre retailers being more inclined to ‘push’ the sale of lower upfront cost single-use tyres, as they can often make a higher margin on the sale of a single-use tyre rather than a quality retread. Selling retreads requires separate handling and collection of retread casings, which can increase operational time requirements and on-site space demands for retailers

However, as has been the experience in the US and the experience of some retailers consulted in Australia, **the retread model offers retailers the opportunity to build long-term commercial relationships with fleet operators and provide cost per kilometre savings for the customer; as well as long-term, stable, profit for the retailer.** See Section 5 for further discussion of retread retail recommendations.

**Figure 2. Heavy commercial tyre prices by position max and min prices 2025.**  
Sources: online price analysis



<sup>7</sup> Represents 175 heavy commercial tyres samples across 30 brands from three online price lists.

<sup>8</sup> This was the highest cost listed for Tier 1 steer tyre. Tier 1 and 2 steer tyres in the \$600-\$800 range were also listed.

## SECTION 2

# Australian retread industry profile

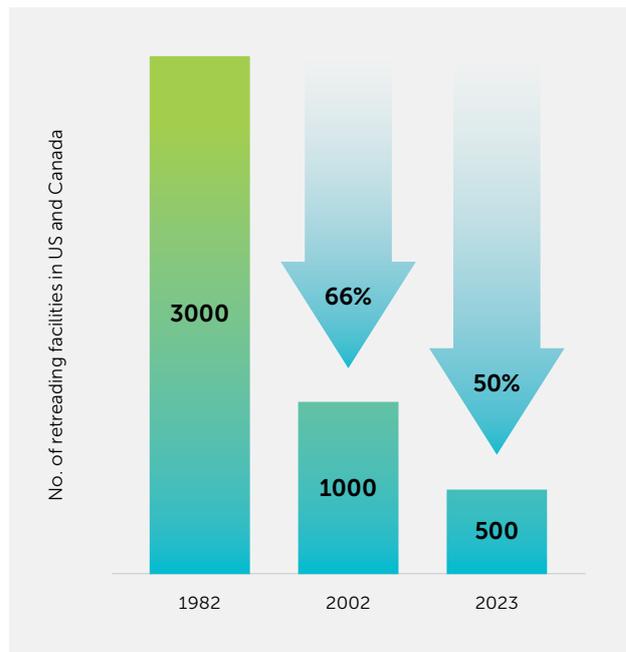
This section provides analysis of the historic and current retread industry in Australia. It includes analysis of national trends in retread production, industry capability and capacity, and direct retread manufacturing jobs. The content is based on site visits and consultation with the Australian retread industry in mid-2025 and literature review by the authors.

## 2.1 A decline in global and Australian retread capacity

A well-documented decline in the number of retreading facilities has occurred globally and in Australia.

Since the 2000s, the decline has been driven principally by the entry of lower quality, lower upfront cost, single-use truck and bus tyres. J. Woodrooffe 2024 provides analysis of the decline in the US and Canada. **Figure 3** shows an estimated 50% decline since 2002 in retreading facilities in the US and Canada.

**Figure 3. Decline in the US and Canada retread facilities**  
(source: J. Woodrooffe (2024))

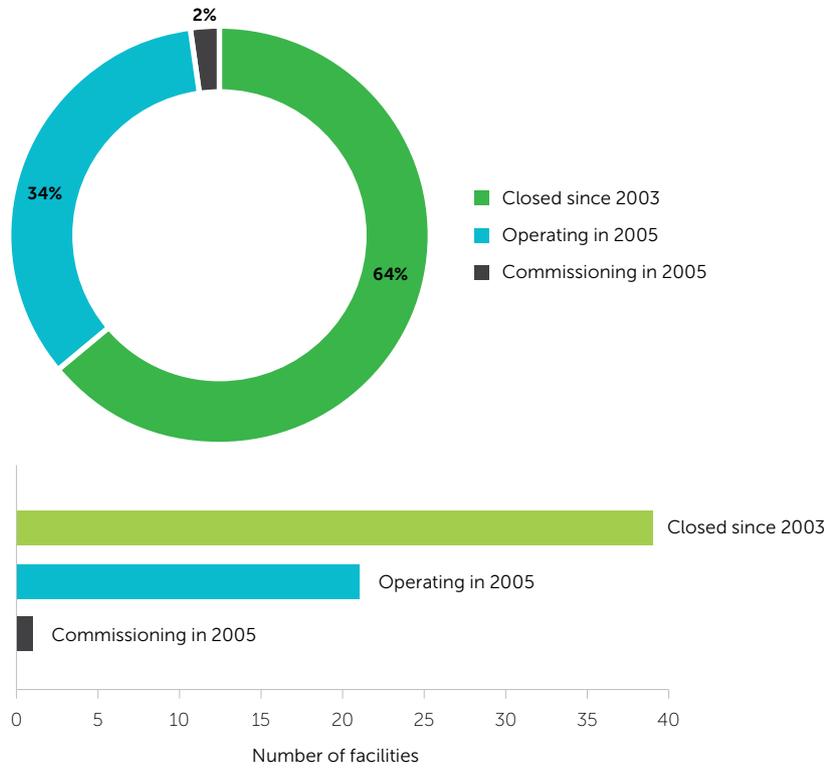


Australia has undergone a similar decline in retreading facilities since the 2000s. Michelin (2003) estimated that there were 61 retread facilities operating in Australia - including 31 Bandag facilities - and that around 50% of the truck and bus market used retread tyres.

In 2025, the number of retread facilities identified has fallen to 21 facilities, a 64% decline in retread facilities in Australia since 2003. A new facility was under commission in Melbourne in 2025, perhaps indicating a stabilising of Australia's retread market capacity.

**Figure 4** illustrates the decline in facilities in operation since 2003, based on Michelin's estimate of facilities operating in 2003 and the report analysis of facilities operating in 2025.

**Figure 4. Decline in Australia's retreading facilities since 2003.**



Source: Michelin 2003

This report could not identify all 61 of the facilities operating in 2003. The report did identify 46 facilities (24 closed, 21 operating, one commissioning) in 2025.

The locations of these facilities are included in **Figure 5**. It is important to note that there are many more (hundreds) retread points of retail around Australia.

**Figure 5. The decline in retreading facilities and the current operational sites**



(a) Known pre-decline facility locations

(b) 2025 operational facilities locations

## 2.2 Australia's retread providers in 2025

For 2025, the 21 operational and 1 commissioning retread facilities, their locations and partner companies are listed in **Table 1** by their State location.

In 2025, 5 partner companies remain in the Australian retread industry. Bandag/Bridgestone has 14 facilities, Michelin with 4, NBR with 2 and Freedom Retread has 1.

Retread capacity is concentrated in New South Wales, Victoria and Queensland. New South Wales and Victoria each have 6 facilities. Queensland has 4, Western Australia has 2, and South Australia and Tasmania each have 1 facility.

Known facility closures include 7 in Victoria, 6 in New South Wales, 5 in Queensland, 3 in Western Australia, 2 in South Australia, and 1 in the Northern Territory. The loss of the Northern Territory's only retread

facility, and the loss of 50% or more of capacity in Western Australia and South Australia, are of particular concern for the national provision of retread tyres.

As retread facilities close, access to retread tyres becomes more challenging for fleets in smaller regional and rural markets, further accelerating the shift toward lower quality, lower upfront cost, single-use tyres.

**Table 1. Australia's retread facilities in 2025 by State**

Company	Partner company	City	State
Black Rubber - Ingleburn	Michelin	Ingleburn	NSW
Border Bandag/Bridgestone Tyre Service	Bandag/Bridgestone	Albury	NSW
Shoalhaven Bandag	Bandag	South Nowra	NSW
Gippsland Tyre Service Eden	Bandag	Eden	NSW
GK Denney Tyres	Bandag	Coffs Harbour	NSW
Quality Tyre Sales	Bandag/Bridgestone	Sydney	NSW
Nam Bee Rubber (NBR)	NBR	Penrith	NSW
Riverina Bandag	Bandag	Wagga Wagga	NSW
Quality Tyre Sales	Bandag/Bridgestone	Wacol	QLD
Black Rubber - Archerfield	Michelin	Archerfield	QLD
Freedom Retreads	Vipal	Carole Park	QLD
Green Highway	Bandag/Bridgestone	Toowoomba	QLD
Adelaide Independent Bandag	Bandag	Wingfield	SA
Tasmanian Bandag	Bandag	Hobart	TAS
Jasbricam Pty Ltd	Bandag	Portland	VIC
Latrobe Valley Bandag	Bandag/Bridgestone	Morwell	VIC
Ron Finemore Tyres	Michelin	Derrimut	VIC
Sailun Tyres	ELT	Campbellfield	VIC
Solar City Tyre Service	Bandag/Bridgestone	Shepparton	VIC
Western Bandag	Bandag	Altona North	VIC
Black Rubber - Kewdale	Michelin	Kewdale	WA
EcoGreen Retreads	NBR	Midvale	WA

### 2.3 Australian retread production rates and market share

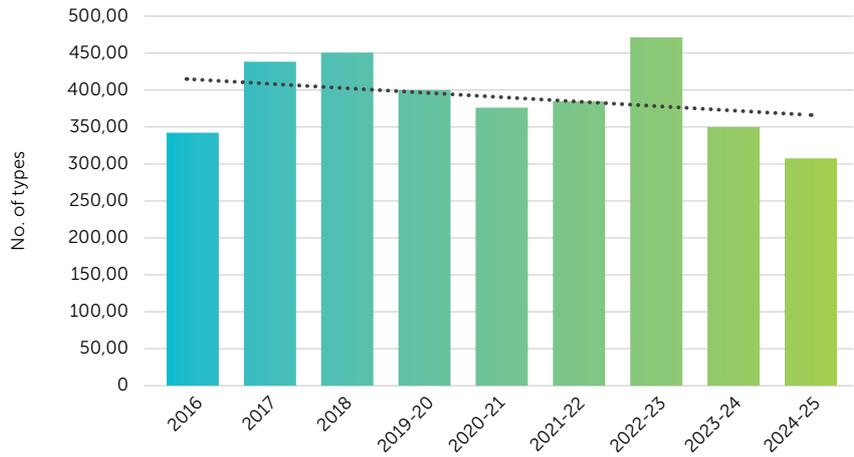
TSA has been surveying the retread industry for the past 9 years to estimate the retread production rate. Based on TSA’s annual survey, **Figure 6** shows the estimated number of retread tyres produced in Australia since 2017. Over the past 9 years the average retread production of heavy commercial tyres in Australia was ~390,000 per year. **Figure 6** also illustrates a gradual decline over the past 9 years, indicating an ongoing trend away from the use of retread.

This trend is more apparent when retread sales (from local production and from imported retread) are compared to the number of heavy commercial truck and bus drive and trailer tyre sales, see **Figure 7** and **Table 2**. Michelin (2003) estimated retread was used for ~50% of Australia’s heavy commercial vehicles in 2003.

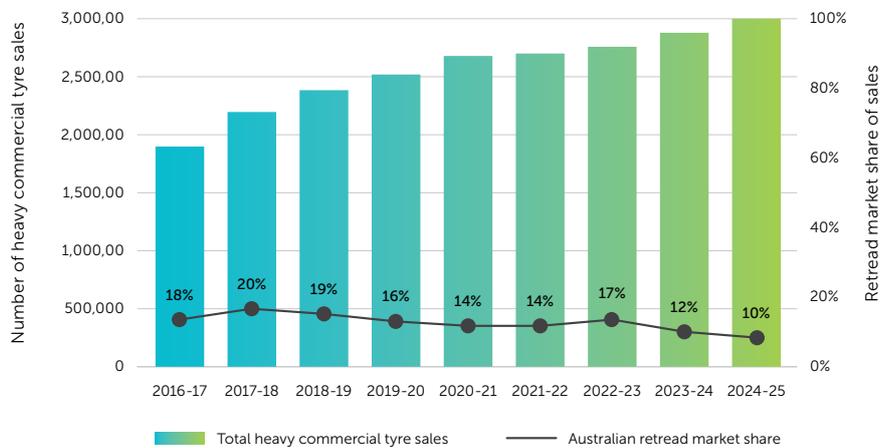
**Figure 7** and **Table 2** show the total market share of retread in 2017 is estimated to have fallen to ~20%. This decline correlates with the facility decline in **Figure 4**. From 2017 to 2025, retread market share is estimated to have halved again to ~10%. **Figure 6** shows that retread production has not halved since 2017, however, the sale of new heavy commercial drive and trailer tyres has increased by ~80% (~1.5M to ~2.7M tyres). The continual fall in retread market share is clear, and the cause is also well understood by the industry – the uptake of lower quality, lower upfront cost, single-use truck and bus tyres.

**These trends are concerning and should be a call to action for the Australian Government to act and incentivise the use of retread in heavy commercial applications over low quality, lower upfront cost, single-use tyres to prevent the loss of an important Australian industry that is fundamental to the circular economy.**

**Figure 6. Estimated number of heavy commercial retreads produced in Australia 2016 to 2025**



**Figure 7. Retread market share of heavy commercial tyres sales in Australia (excl. steer) (%/yr.)**



**Table 2. Retread market share of heavy commercial tyres sales in Australia (excl. steer tyres) (%/yr.) \***

Financial year	2017	2018	2019	2020	2021	2022	2023	2024	2025
Heavy commercial tyre sales (#)	1.8 M	2.2 M	2.4 M	2.5 M	2.7 M	2.7 M	2.8 M	2.9 M	3.1 M
Australian made retread	18%	20%	19%	16%	14%	14%	17%	12%	10%
Total retread (import & Aus made)	20%	22%	21%	17%	15%	15%	18%	12%	10%

\*Source: Australian Bureau of Statistics import data, TSA survey. Classification codes inc:4011200086, 4011200021, 4012120085 Assumes 10% of heavy commercial tyres are steer tyres, therefore excluded from retread market share totals as retread not used on steer position (typically)

## 2.4 Comparison with the United States retread production rates and market share

While the United States has experienced a similar decline in the number of retread facilities since the early 2000s, its retread market share is reported to have remained relatively resilient compared with Australia's continued decline. **Figure 8** illustrates that US truck retread has maintained around a 40% market share, while Australia has fallen to around 10%.

According to Bridgestone's Ben Rosenblum, Vice President of Strategy and Business Transformation at Bridgestone Americas, the US market has maintained most of its market share by building long-term

relationships with fleet customers and using an integrated casing tracking system (BASYS) that demonstrate the total cost per kilometre (or hour) savings. Rosenblum also points to educating tyre retailers so they understand how retread can help their business grow, and to ensure retailers are able to promote the retread benefits to fleet customers.

**Figure 9** correlates Rosenblum's comments, showing excellent market above fleet sizes of 100 vehicles.

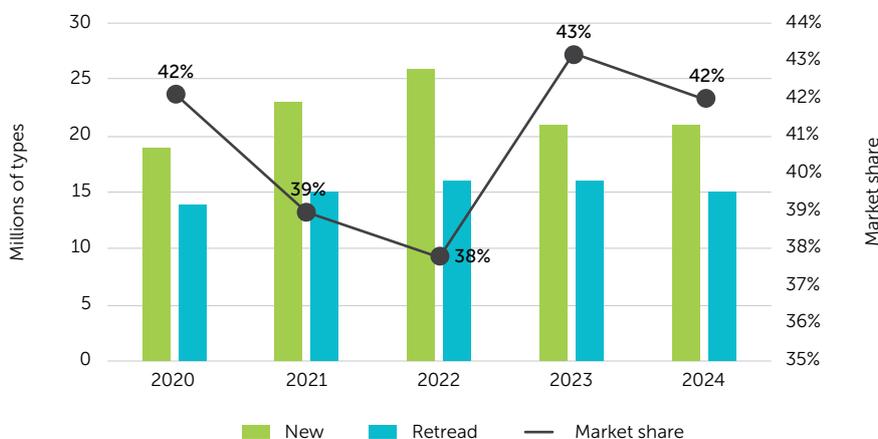
Industry consultation also pointed to the very large fleets in the US and economies of scale helping the

US industry. In addition, the US has applied a range of tariffs on heavy commercial tyre imports from China and Thailand since around 2018.

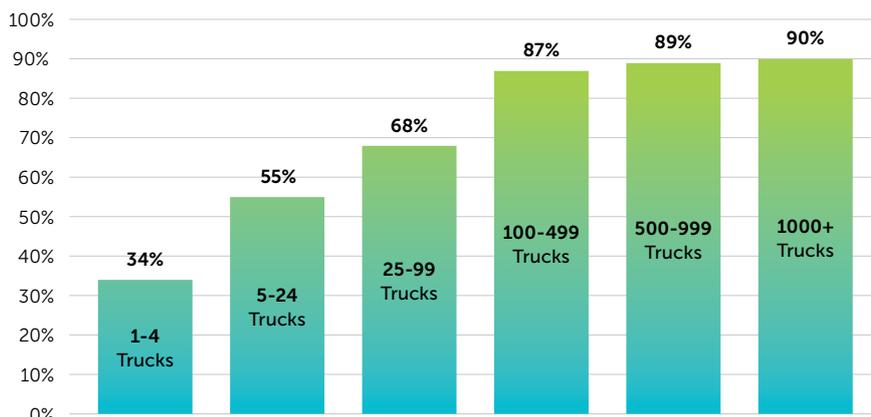
The US Government has also taken action to support their retread industry, discussed in Section 6.2.

Consultation with the Australian retread industry suggests the retread industry still has a strong market share with large fleet companies in Australia, but almost zero market share in fleets of 100 or less. Accurate retread market share by fleet size data was not available and is needed (see Section 5.2 for further discussion).

**Figure 8. US new truck tyre sales and retread sales 2020 to 2024. Source: Stevens, D (2025)**



**Figure 9. US percentage of retread market share by fleet size in 2018. Source: Golder, J.S. et al. 2018**



## 2.5 Australia's current retread industry capability and capacity

### 2.5.1 Retread capability in Australia

Whilst there is some variation in the capabilities of the retread facilities across Australia, all are understood to be operating to a high standard and meeting or exceeding the [Australian Standard AS 1973-1993 Pneumatic Tyres - Passenger Car, Light Truck and Truck / Bus - Retreading and Repair Processes](#). Appendix A includes an overview of the retread process stages including advanced technologies operating in Australia currently.

The quality of retread tyres has improved significantly since the 1990s and the manufacturing process is now to the standard of new tyres. Industry now reports retread failure rates at below 0.1%. For example, in 2019, Ron Finmore Michelin plant [reported](#) that from 20,000 retreads, only 16 had failed, at a rate of 0.08%. The industry has continued to improve.

[International studies](#) have proven that tyre debris often seen on the side of highways is not the result of a retread tread bond failure (a common assumption). Study of tyre debris show that the cause of failures are a result of:

- ▼ A tyre puncture, deflation, and sidewall failure due to heat (more likely to occur in a Tier 4 or 5 product)
- ▼ Road hazards, such as potholes, causing tyre failure (more likely in Tier 4 or 5 product)
- ▼ Poor maintenance and under-inflation, leading to excessive heat and side wall failure.

Australia's facilities can retread all sizes of truck and bus tyres, including light truck. Retread of OTR tyres up to 25 inch is also possible using the same equipment. Retread of larger OTR tyres requires specialised facilities such as those at [Tytec](#) or [Big Tyre](#). However, it is understood that the retread of giant OTR tyres (63 inch) is not yet available in Australia. Tier 1, Tier 2, and some Tier 3 casing can be retread unless they are badly damaged or have already been retread too many times and are at end-of-life.



### 2.5.2 Retread capacity in Australia

Information regarding the processing capacities for all the facilities across Australia was not available. However, it is understood that the capacity at each of the facilities operating will vary based on the number of processing lines, technologies used, and the number of shifts per day.

Review of online information regarding retread production rates at facilities across Australia identified the following:

- Bridgestone's Bandag facility in Wacol, Queensland (Australia's largest facility) retreading around 200 truck and bus tyres per day. Source: [here](#)
- Ron Finemore Tyres (Michelin) facility retreading around 20,000 tyres per year, or 80 per day based on a single day's operation and 250 days per year. Source: [here](#)
- Freedom Retread facility retreading 75 tyres per day and plans to increase to 150. Source: [here](#)

For the project analysis, it is assumed that the average facility production capacity of heavy commercial retreads is 100-150 per day, on a single shift, and working 250 days per year (five-day week).

The resulting capacity across 22 sites in Australia would be around 550,000–825,000 heavy commercial tyres. This capacity would be doubled running double shifts, and tripled on triple shifts.

Based on the above estimates, and with approximately 310,000 retreads produced in 2025, the retreading industry is estimated to be operating at around 31–56% of its capacity. This correlates with industry consultation that pointed to underutilised capacity in 2025.

**Whilst this is of concern, with the right incentives in place, Australia still has a retread industry (working triple shifts five days a week) with the capacity to retread around 55% to 80% of the estimated ~3 M heavy commercial tyres sold in 2025.**

## 2.6 Retread industry direct jobs estimate

Information regarding the number of people employed across retread facilities in Australia was not available. An estimate of the potential direct employment in the retread facilities can be made based on estimated production capacity. For this report analysis, an average output of 10 retreads/day/per employee is assumed.

Based on the 2025 estimated production of 310,000 tyres, approximately 125 people were directly employed to retread tyres in Australia in 2025.

To produce the estimated single shift capacity of 550,000–825,000 retreads per year 220 to 320 additional jobs would be required.

If retread facilities were operating at the high end of estimated capacity on a triple shift, for 250 days per year, the industry would produce ~2.5 M retreads per year and employ ~1,000 people.

**With effective market incentives in place to enable Australia's existing retread industry to operate at full capacity, an estimated 850 additional jobs could be created above the 2025 job numbers.**

<sup>9</sup> Directly employed in the manufacturing of retread tyres

<sup>10</sup> Source: [Retreading Business 2025](#) and industry comms.

## SECTION 3

# Product and cost comparison analysis

Having profiled the retread industry in Australia, this section provides analysis of the retread product value proposition across heavy commercial retread application segments when compared to lower quality, lower upfront cost, single-use tyres.

Table 3 includes a summary of the product performance factors to consider and how Tier 1,2 & retread compare to using lower quality, lower upfront cost, single-use tyres.

## 3.1 Tier 1 & retread vs single-use heavy commercial tyre – cost comparison by segment

The retread application segments have been consolidated into similar tyre performance requirements. Three retread application cost comparisons are provided below:

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Start, stop & scrub urban applications (municipal waste truck, buses)

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Short haul (regional) applications (construction, logging)

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Long haul applications (interstate transport)

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**CPK modelling limitation:** The report scope focuses on 'tyre v tyre' CPK factors for Tier 1 vs single-use. Other cost savings from reduced fuel use, breakdown, tyre change time would be additional savings to those presented and require additional information and modelling.



Table 3. Factors to consider in purchasing heavy commercial tyres: Tier 1,2 &amp; retread vs single-use tyres.

Factor	Tier 1,2 & retread	Single-use
Price	Higher initial cost for Tiers 1 or 2 tyre. Retread cost approx. the same as single-use.	Cheaper upfront cost than Tier 1 or 2 tyres.
Tyre life (km/hours of use)	Significantly higher tyre life (km or hours) for Tier 1 or 2. Retread tyres have proven over decades of product development to last as long as new Tier 1, 2 tyres. In some applications, with specific tread applied, retread can last longer than the new Tier 1 tyre.	Industry report single-use tyres lasting as little as 33% of Tier 1 tyre life in hard wearing applications (such as urban). Half the expected life is a common experience. This report assumes single-use tyres last 50% as long as Tier 1 tyres, on average.
Construction materials	Construction quality is higher and advanced rubber compounds used. Tier 1 has four cross laid belts in crown, better steel belts, thicker sidewalls and cords. All results in more strength and durability. A more stable casing (under load) wears more evenly and is less prone to failure.	Lower construction quality and lower cost rubber compounds. For example, three belt crown not cross laid, less steel in belts, thinner side walls and cords results in a less stable tread, reduced mileage, increased rolling resistance, irregular wear, and higher risk of failure.
Rolling resistance & fuel efficiency	Industry testing in high km application (long haul, regional) show fuel savings of 2-5% when using a Tier 1, 2 tyre compared to single-use. The higher quality casing, tread, and compound all contribute to lowering rolling resistance under load and decreasing fuel consumption.  Retreads have evolved to be able to offer treads with Tier 1 new tyre levels of rolling resistance.	Lower casing construction quality, tread design, and rubber compounds result in faster and often uneven wear – increasing rolling resistance and lowering fuel economy (particularly under load).
Break down risk	Thicker and stronger tread and side walls on a Tier 1 tyre reduce the risk of puncture or total tyre failure. For heavy commercial fleets this has a real cost that should be considered, particularly when servicing more remote locations that take more time and cost to support in a breakdown.	Lower quality tyre construction increases the puncture or total tyre failure and breakdown risk and cost.
Tyre changeover costs	Longer tyre life means less time in the workshop changing over tyres and improved productivity.	Tyres need to be changed more often reducing productivity.
Retread lifecycles & disposal costs	The number of retread lifecycles varies based on the quality of the new tyre casing (Tier 1 or 2), the amount of kms the casing does between retreads, and the maintenance and care of the tyre during use. For example, a Tier 1 tyre used in waste collection that is well maintained can have six lifecycles. Comparatively, a Tier 1 used in long haul application may have three retread lifecycles (due to the high km application and casing wear).	Due to the construction of these tyres (detailed above) these tyres are not suited to retread and are single-use only.  There are also higher waste disposal costs that could be 3 to 6 times higher than when using retreads (depending on the tyre segment and number of lifecycles).
Tread design and compound	Retread offers customers the ability to apply application-specific treads that can outperform Tier 1 new treads for a target application. For example, the Australian made Bandag BRM STEALTH tread is designed specifically for urban waste and bus applications to deliver the highest level of performance and lowest CPK.	Lower cost single-use tyres typically have more limited tread design engineering (basic patterns) and use faster wearing rubber compounds.
Cost per km	The overall CPK for the application needs to consider all the above factors.	
Wet braking & aquaplane distance	Tier 1 products typically are tested and accredited for higher wet braking and aquaplane performance. Retreads provided by Tier 1 companies including Michelin and Bridgestone meet an equivalent standard.	Unknown testing and accreditation of low-cost single-use tyres. Industry report non-ADR compliant tyres being sold on the market, risking safety.

Sources: [Kal Tire website](#) cited 2025, [Performance Plus Tire website](#), cited 2025, Industry comms.

### 3.1.1 Start, stop & scrub urban applications (urban waste truck, buses)

Shown right are the results of the present value total cost of ownership analysis for municipal waste trucks and urban buses. These applications are grouped due to similar wear rates across the applications.

**Finding:** using a Tier 1 retreadable tyre on urban waste trucks and buses is estimated to save \$107 per year and 0.43 cents per kilometre per tyre.

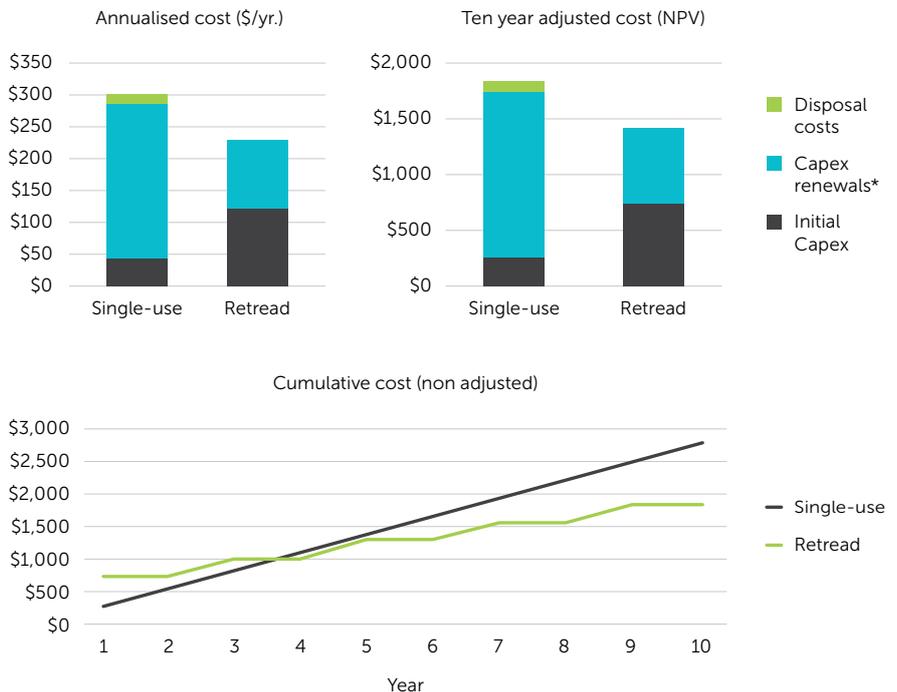
Table 4. Total cost of tyre ownership key assumptions for segment

Total cost of ownership: key scenario assumptions	
<b>Retread application segment</b>	Urban waste truck and bus
<b>Cost tier for single-use</b>	Budget
<b>Cost tier for retreadable</b>	Premium
<b>Application segment km/year</b>	25,000
<b>Single-use tyre</b>	
Retail price (\$)	260
Life (km) for application	20,000
<b>Retreadable tyre</b>	
Retail price (\$)	750
Life (km) for application	40,000
Max no. of retread lifecycles	6
Retread price (\$)	250
Retreaded life (kms)	40,000

Table 5. Resulting annualised and cost per kilometre (CPK) by segment

	Single-use	Retread	Saving/cost
Annualised cost	\$368	\$261	\$107
Cost per km (CPK)	\$1.47	\$1.05	\$0.43

Figure 10. Annualised cost (\$/yr), ten year adjusted cost, and cumulative cost (non-adjusted)



### 3.1.2 Short haul (regional) applications (construction, logging)

Shown right are the results of the present value total cost of ownership analysis for short haul (regional) applications including trucks used in construction and logging. These applications are grouped due to similar wear rates across the applications.

**Finding:** using a Tier 1 retreadable tyre on short haul (regional) construction and logging trucks is estimated to save \$173 per year and 0.22 cents per kilometre per tyre.

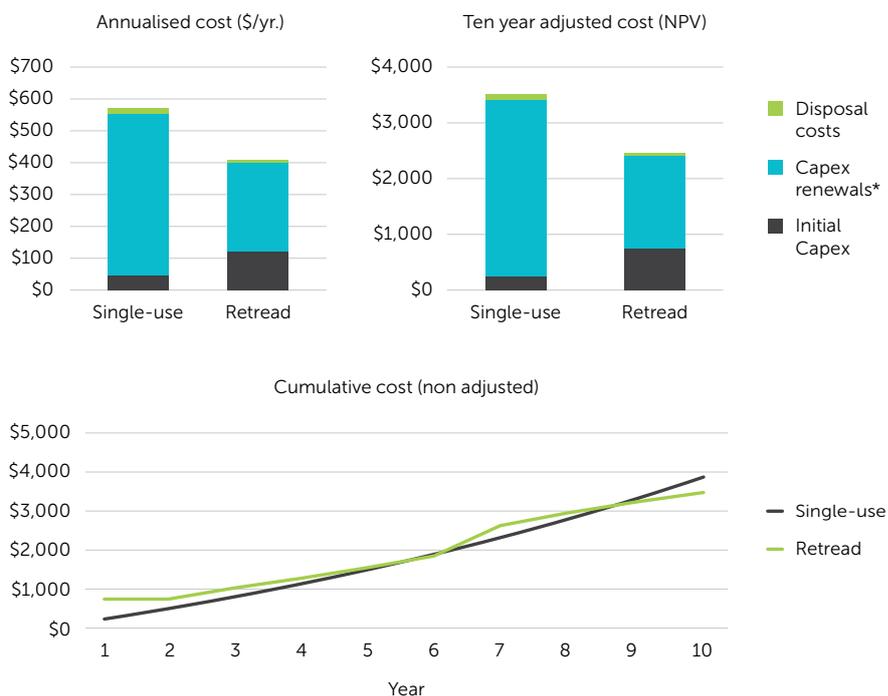
Table 6. Total cost of tyre ownership key assumptions for segment

Total cost of ownership: key scenario assumptions	
<b>Retread application segment</b>	Construction, logging trucks
<b>Cost tier for single-use</b>	Budget
<b>Cost tier for retreadable</b>	Premium
<b>Application segment km/year</b>	78,000
<b>Single-use tyre</b>	
Retail price (\$)	260
Life (km) for application	40,000
<b>Retreadable tyre</b>	
Retail price (\$)	750
Life (km) for application	80,000
Max no. of retread lifecycles	4
Retread price (\$)	250
Retreaded life (kms)	80,000

Table 7. Resulting annualised and cost per kilometre (CPK) for application

	Single-use	Retread	Saving/cost
Annualised cost	\$574	\$401	\$173
Cost per km (CPK)	\$0.74	\$0.51	\$0.22

Figure 11 Annualised cost (\$/yr), ten year adjusted cost, and cumulative cost (non-adjusted)



### 3.1.3 Long haul applications (interstate transport)

Shown right are the results of the present value total cost of ownership analysis for long haul (interstate transport).

**Finding:** using a Tier 1 retreadable tyre on long haul (interstate transport) is estimated to save \$137 per year and 0.09 cents per kilometre per tyre. The modest CPK difference is partly due to the high km/yr and the resulting casing wear and lower maximum number of retread lifecycles. For this segment, Tier 1 & retread use is also driven by lower rolling resistance (and fuel savings) and lower risk of breakdown due to high casing quality (source: industry comms).

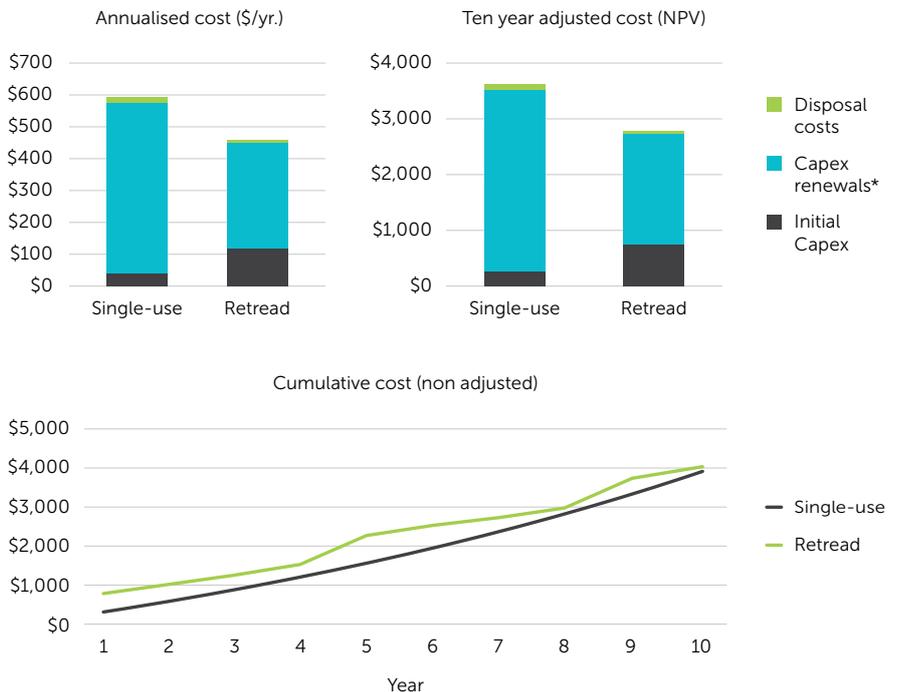
Table 8. Total cost of tyre ownership key assumptions for segment

Total cost of ownership: key scenario assumptions	
<b>Retread application segment</b>	Goods transport - interstate
<b>Cost tier for single-use</b>	Budget
<b>Cost tier for retreadable</b>	Premium
<b>Application segment km/year</b>	150,000
<b>Single-use tyre</b>	
Retail price (\$)	260
Life (km) for application	75,000
<b>Retreadable tyre</b>	
Retail price (\$)	750
Life (km) for application	150,000
Max no. of retread lifecycles	3
Retread price (\$)	250
Retreaded life (kms)	150,000

Table 9. Resulting annualised and cost per kilometre (CPK) for application

	Single-use	Retread	Saving/cost
Annualised cost	\$590	\$453	\$137
Cost per km (CPK)	\$0.39	\$0.30	\$0.09

Figure 12. Annualised cost (\$/yr), ten year adjusted cost, and cumulative cost (non-adjusted)



## SECTION 4

# Retread environmental benefits

The environmental benefits for using retread tyres are well documented. This section summarises and overlays the benefits over the Australian market data to illustrate the potential benefits that could be realised in Australia.

A high quality retread of a high quality tyre keeps materials in use, reduces new tyre manufacturing CO<sub>2</sub> emissions, and conserves natural resources – delivering on the [three pillars of the circular economy](#).

## 4.1 Importance of tyre care and maintenance to maximise lifecycles and benefits

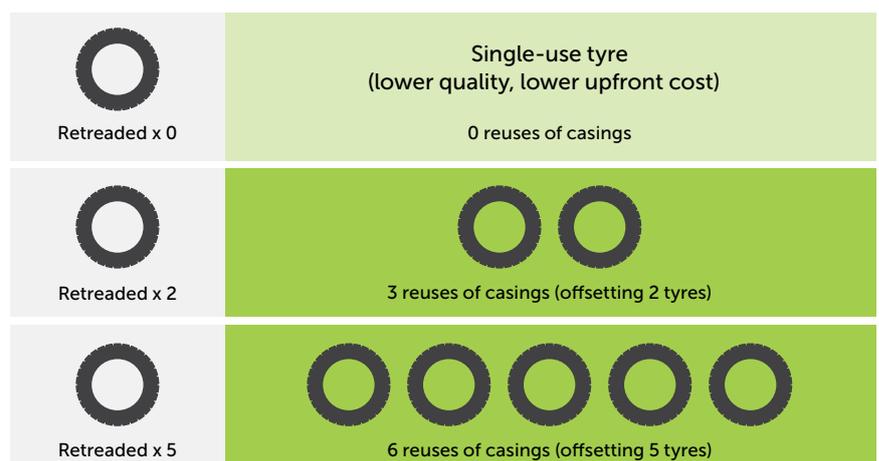
The environmental benefits of retread use are impacted by the number of retread lifecycles that are achieved by the application (See Section 3).

The number of retread lifecycles varies based on the quality of the new tyre casing (Tier 1 or 2), the amount of kms the casing does between retreads, and the maintenance and care of the tyre during use. For example, a Tier 1 tyre used in waste collection that

is well maintained can have up to 6 lifecycles. Whereas, a Tier 1 used in long haul application may have 3 retread lifecycles (due to the high km application and casing wear).

Operators need to monitor tyre inflation pressure and check tyre condition during use to allow the casing to have the maximum number of potential lifecycles.

Figure 13: The more retreading of a casing, the more new tyre manufacturing emissions and resources are offset



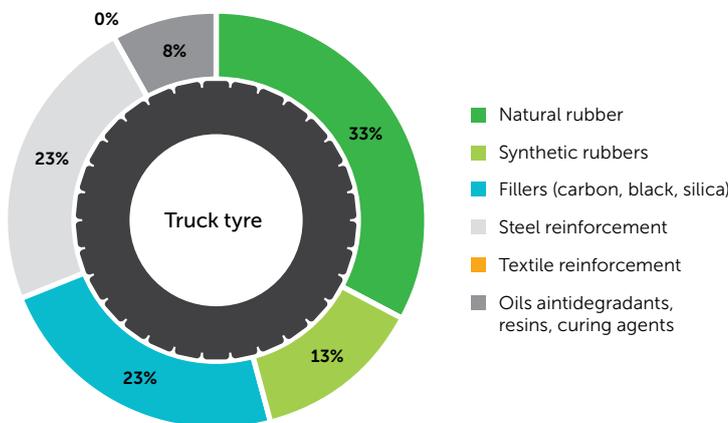
## 4.2 Waste reduction and resource conservation

**Figure 14** shows the average composition of a heavy commercial tyre.

Heavy commercial truck and bus tyres weigh ~50-56 kg on average. The replacement tread applied to a heavy commercial tyre weighs ~12-18 kg (depending on the application) and has a composition similar to a new tread.

Reusing a heavy commercial casing can conserve around ~70-80% of the steel, natural and synthetic rubber and carbon black materials used to build a new truck tyre.

Assuming a worn 56 kg heavy commercial tyre is retreaded with a 16 kg tread, ~40 kg of materials will be conserved each retread lifecycle. Assuming the above material composition, each retread lifecycle would save around 16 kg of rubber (natural and synthetic), 12.5 kg of steel, 8 kg of carbon black, and 3.5 kg of chemical additives per retread.



**Figure 14.** The average composition of a heavy commercial tyre (source TSA, 2025)

<sup>11</sup> Average for 22.5 inch truck and bus.

<sup>12</sup> The key raw material use to produce synthetic rubber is crude oil, therefore retreading can lead to a reduction in oil consumption.

<sup>13</sup> The exact amount of each material saved is uncertain as composition of treads are commercial in confidence.

<sup>14</sup> UMSICHT 2022, JATMA 2021, JATMA 2012

<sup>15</sup> <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>

## 4.3 Carbon dioxide equivalent emission reductions

Published analysis<sup>14</sup> estimates the emissions reduction from manufacturing a heavy commercial retread tyre vs the equivalent new tyre manufacturing range between ~115-135 kg CO<sub>2</sub>-e per tyre. These savings are generally based on countries that manufacture both new and retread tyres and therefore have similar energy mixes for both processes. It should be noted Australia’s energy mix and emissions profile of the retreading industry may differ to the countries within reviewed analysis.

Assuming emissions savings of 115 kg CO<sub>2</sub>-e per tyre and an average of 390,000 retreads annually, the Australian retreading industry is reducing emissions by ~44,500 t CO<sub>2</sub>-e annually. This is equivalent to taking ~10,000 cars off the road each year.

Over the past decade, Australia has been retreading around 390,000 heavy commercial tyres annually. This equates to a ~16,000 tonne per annum reduction in waste generation via tyre retread and reuse, including:

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7,000 tonnes of rubber (natural and synthetic)

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3,600 tonnes of steel

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3,100 tonnes of carbon black.

Over the past 10 years, the retread and reuse of heavy commercial tyres in Australia has reduced waste generation by ~160,000 tonnes.

**Very few industries can point to such significant achievements in reducing waste generation via reuse. With appropriate support mechanisms in place, Australia’s retreading industry has the potential to contribute significantly more.**



**Recommendation:** promote the waste reuse achievements of the retread industry in national waste reporting and flag the potential to significantly decrease waste tyre generation tonnages in Australia if the retread industry was operating at capacity.

## SECTION 5

# Heavy commercial market projections and retread opportunities

This section estimates the total market size (by number of vehicles and tyres in use) of each of the retread application segments and projected rate of growth for the next 20 years.

Combined with the analysis presented in Section 4, discussion is provided of growth opportunities for the retread industry in Australia.



## 5.1 Twenty-year projections of heavy commercial tyre market size by segment

Figure 15 and Table 10 provide the 2024 heavy commercial tyre market size by segment and projected growth rate to 2045. The total estimated number of heavy commercial tyres in use in 2024 is estimated at ~7M and this is projected to increase to ~10M by 2045.

Figure 15. Twenty-year projections of heavy commercial tyre market size by segment

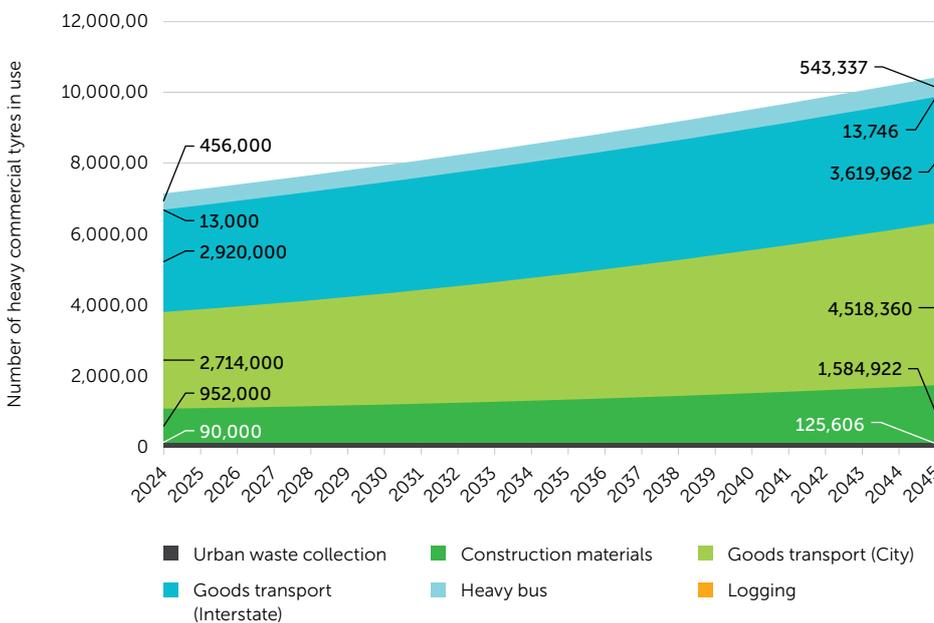


Table 10. Twenty year projections of heavy commercial tyre market size by segment

Market segment	2024 market (vehicles)	2024 market (tyres)	CAGR	2045 forecast market (tyres)	Assumption/comments
Urban waste	9,000	90,000	1.60%	124,000	Declining MSW weight trend likely over
Construction materials	74,000	952,000	2.50%	1,560,000	Driven by infrastructure needs and economic growth, slightly above population growth.
Goods transport - City	211,000	2,714,000	2.50%	4,447,000	Continued growth of e-commerce, among other factors, will support
Goods transport - interstate	227,000	2,920,000	1.00%	3,563,000	GDP, but moderated by efficiency gains
Logging	1,000	13,000	0.20%	14,000	Constraining of native forestry
Heavy bus	38,000	456,000	0.80%	535,000	Heavy bus growing at 0.6% last 10 years (BIRTE 2024, ABS)
Totals	560,000	7,145,000		10,243,000	

Sources: BITRE 2024, Pickin, J et. al. 2024, ABS

## 5.2 Retread use by market segment data is needed

Section 2.4 discussed how **fleet size** in the US and Australia impacts retread market share, with much higher existing market share in large fleets.

Section 3.1 demonstrates how the saving (CPK) from retread use differs significantly by **market segment**.

This report provides the market share for retread (~10%, 310,000 tyres) of the replacement tyre market and the total market size by segment (total of ~7M tyres in 2025).

A comprehensive understanding of the Australian heavy commercial current retread market share by fleet sizes and market segment is needed to determine the size of the market opportunity in each segment.

For example, industry pointed to urban waste trucks being a great retread segment (validated by the retread CPK vs single-use). **Table 10** shows that an estimated 9,000 trucks and 90,000 tyres are in use in this segment. With 310,000 retreads produced in 2025, it could be that this market segment is close to full retread use in all but small fleets.



**Recommendation:** industry investigate the current market share of **retread use by market segment and fleet size** to improve market development planning for the retread industry.

## 5.3 Retread market growth opportunities

With just 10% retread market share of replacement heavy commercial tyres in 2025, there are significant opportunities to grow the retread market. There are likely opportunities across all retread segments, particularly in smaller sized fleets (<100) where industry report a very low percentage of retread.

### 5.3.1 Retailers need a simple tool to communicate retread CPK savings

Industry point to consumers, particularly in smaller fleets, being 'sold' on the lower upfront cost of single-use tyres. Customers that have the time and resources to calculate the total CPK and monitor it generally stay with retread – long term.

Michelin and Bandag both have online tools to enable consumers to calculate CPK savings of using retread.

What appears to be lacking from the retailer toolkit is a simple way to communicate the CPK savings by retread segment and fleet size. Many small fleet operators need a CPK comparison provided by the retailers in a simple form that can be communicated quickly (i.e. less than a minute) and not require complex information inputs from the consumer (in their 'own' time).

Retailers should be able to 'pitch' an indicative CPK saving to consumers with only the fleet size and retread segment in under a minute.



**Recommendation:** retread industry develop a simple way to communicate the CPK savings by retread segment and fleet size for retailers to use.

### 5.3.2 Huge market in urban and interstate goods transport – just getting bigger

**Figure 15** and **Table 10** show that urban and interstate goods transport are using around 6 million heavy commercial tyres in 2025 and this is projected to grow to 8 million in 2045.

Industry reports strong sales for goods transport, particularly in large, long-haul fleets. However, the **overall** market share of retread into this segment appears to be very low given only 310,000 retreads were produced in Australia (sold across all segments).



**Recommendation:** retread industry engage with relevant goods transport industry representatives to develop a strategy to increase retread use and lower fleet running costs.

### 5.3.3 Construction trucks – 1 million tyre market and growing

Larger fleets in construction segment also reportedly use retread on drive tyres and all tyres on trailers in some fleets. Again, with an estimated ~1 million tyres in use, retread market share looks low. Given the projected growth in this segment, it is worth engaging directly with the industry to promote retread.



**Recommendation:** retread industry engage with relevant construction segment representatives to develop a strategy to increase retread use and lower fleet running costs.

### 5.3.4 The 'start, stop, and scrub' urban waste and public transport market remain steady

Industry report widespread use of retread in the urban waste and public transport segments, due to the particularly high wear application and a high CPK saving. As noted above, the market share for this segment needs to be quantified. Assuming a reasonable market share, currently, these markets are projected to remain steady and should maintain market share.

## SECTION 6

# Governance issues constraining retreading in Australia

This section analyses the regulatory framework around heavy vehicle retreading in Australia with a focus on regulatory gaps and reforms that are needed to support the industry.

## 6.1 A mandatory product stewardship scheme is needed to support retread use in Australia

Australia has no market and/or regulatory mechanisms to incentivise the design of heavy commercial tyres to be retreadable or to incentivise the use of retread tyres.

The implementation of a mandatory participation tyre product stewardship scheme under *existing* national or jurisdictional product stewardship legislation<sup>16</sup> would ensure *all* heavy commercial tyre importers contribute and sufficient funding is available to rebate or otherwise incentivise onshore retread manufacturing.



**Recommendation:** develop and implement a mandatory participation product stewardship scheme for Australia that is designed to rebate or otherwise incentivise the use of retread heavy commercial tyres that are re-manufactured in Australia.

## 6.2 The US and EU are moving to support their retread industries while Australia becomes the 'soft target'

In the US, the *Retreaded Tire Jobs, Supply Chain Security and Sustainability Act* seeks to incentivise the US retread industry due to an influx of lower quality, lower upfront cost, single-use heavy commercial tyre imports. The legislation would provide 30% or \$30 USD per retread tyre (whichever is less) and tax credits for American fleet purchasers of tyres retreaded in the US. Additionally, if a retread tyre is available on the US Government's GSA<sup>17</sup> tyre schedule in the size, load range, and tread designation desired, the head of the Government agency is required to purchase the retread instead of a new, non-retreadable tyre.

The EU has *anti-dumping and anti-subsidy measures* in force on imports of lower quality, lower upfront cost, single-use heavy commercial tyres from China and is currently considering anti-dumping measures for passenger cars and light trucks from China.

The EU and the US are implementing regulations to support their domestic retread industries, and if Australia does not act, it risks increased dumping of lower quality, lower upfront cost, single-use tyres.

A mandatory-participation product stewardship scheme implemented under existing legislation could be designed to prevent trade dumping of heavy commercial tyres. Other mechanisms to prevent trade dumping may also be effective, however, would need further investigation beyond the scope of this report.



**Recommendation:** Australian Government investigate options to incentivise retread and/or prevent trade dumping of lower quality, lower upfront cost, single-use heavy commercial tyres.

### 6.3 Scope 3 emissions offsets & procurement requirements need promotion

All levels of Government in Australia have made commitments to reducing emissions and waste. Many private companies have made similar commitments. As detailed in Section 4, retread increases reuse, decreases waste generation, and reduces emissions (that can be claimed as Scope 3<sup>18</sup> emission offsets).

Infrastructure projects around Australia procure transport fleets - however, it is unclear how well retread is understood as a means of waste avoidance and reuse and offsetting Scope 3 emissions. Projects needing heavy commercial vehicles need to preference the use of retread in procurement specifications, and applicants using retread tyres need to specify the use of retread in their environmental offering.

Government and industry fleets also procure large amounts of heavy commercial tyres. Again, there needs to be a preference for the use of retread to meet waste reduction policies and to claim Scope 3 emission offsets.



**Recommendation:** Governments and the private sector to promote the procurement specification of retread use on all heavy commercial vehicles as a means of increasing reuse, reducing waste and emissions, and claiming Scope 3 emission offsets.

### 6.4 Australian Design Rules (ADR) for imports are slow to update & lack enforcement

Heavy commercial tyres in Australia are governed by the ADRs and the in-service *Heavy Vehicle (Vehicle Standards) National Regulation*. These rules ensure safety, compatibility, and proper load capacity.

The overall intent of the ADR is that harmonisation is achieved between the ADR and the United Nations Economic Commission for Europe Regulations - however, there is often a lag time for updates to the ADR.

For imported (new and second-hand) heavy commercial vehicles: *ADR 96—Commercial Vehicle Tyres* specifies requirements for new pneumatic tyres designed primarily for commercial vehicles. The Commonwealth Government receives a statement of compliance by the vehicle importer, including tyre compliance.

Industry raised concerns that non-ADR compliant new and used heavy commercial tyres are being imported and used on in-service vehicles and trailers. This practice means that trucks and buses could be using non-ADR compliant tyres (risking road safety), more used tyres are being generated, and the retread industry is being undermined.

The retread industry needs increased enforcement of the ADR to prevent non-compliant tyres being imported into the Australian market and undercutting the industry.



**Recommendation:** Australian Government explore ways to increase enforcement of the ADR on the import of loose heavy commercial tyres.

<sup>16</sup> *Recycling and Waste Reduction Act 2020* and *NSW Product Lifecycle Responsibility Act 2025*

<sup>17</sup> General Services Administration (GSA): A U.S. government agency that manages federal buildings, a wide range of government assets, and provides products and services to federal agencies.

<sup>18</sup> Are a mechanism for a company to compensate or claim offset for the indirect greenhouse gas (GHG) emissions that occur throughout its entire value chain, but which are not directly owned or controlled by the company itself.

SECTION 7

# Conclusion

Modern retreads are a high-quality product and offer significant cost per kilometre savings, productivity gains, and environmental benefits for the heavy commercial vehicle sector.

Australia's retread industry market share of replacement heavy commercial tyres has fallen from around 20% ten years ago to around 10% in 2025. The continual fall in retread market share is clear and the cause is also well understood by the industry – the uptake of lower quality, lower upfront cost, single-use truck and bus tyres that are undercutting retread.

Australia still has the industrial capacity to retread at least 50% of heavy commercial replacement tyres, but that capacity is underutilised and under threat.

The US and EU retread industries are faced with the same threat. Both have acted to incentivise and protect their retread industries. Australia will become a proximity 'soft target' for trade dumping of lower quality, lower upfront cost, single-use tyres unless action is taken.

**This threat to one of Australia's most significant re-manufacturing industries, and our last onshore tyre production capability should be a call to action for the Australian Government to act and incentivise the use of retread in heavy commercial applications over lower quality, lower upfront cost, single-use tyres.**

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Supporting the retread industry could create an additional 850 direct jobs, lower transport sector costs and emissions, while growing Australia's circular economy. It's a 'no brainer', so what is stopping us?

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## SECTION 8

# Roadmap: take the road to supporting retread

Below are a series of recommendations from the report that form a roadmap to reverse the decline in Australia's retread industry and ensure it remains viable for the long term.

The recommendations are grouped under market development and government actions. They are not sequential nor interdependent. All the recommendations will assist the industry and if all were implemented promptly Australia's retread industry will survive and thrive.

## Government actions

Australian Government develop and implement a mandatory-participation product stewardship scheme for Australia that is designed to incentivise the use of retread heavy commercial tyres re-manufactured in Australia.

Australian Government investigate options to incentivise retread and or prevent trade dumping of lower quality, lower upfront cost, single-use heavy commercial tyres.

All levels of government and the private sector promote the procurement specification of retread use on all heavy commercial vehicles as a means of increasing reuse, reducing waste and emissions, and claiming Scope 3 emission offsets.

Australian Government explore ways to increase enforcement of the ADR on the import of loose tyres.

## Market development actions

Promote the waste reuse achievements of the retread industry in national waste reporting and flag the potential to significantly decrease waste tyre generation tonnages in Australia if the retread industry was operating at capacity.

Retread industry investigate the current market share of retread use by market segment and fleet size to improve market development planning for the retread industry.

Retread industry develop a simple way to communicate the CPK savings by retread segment and fleet size for retailers to use.

Retread industry engage with relevant goods transport industry representatives to develop a strategy to increase retread use and lower fleet running costs.

Retread industry engage with relevant construction segment representatives to develop a strategy to increase retread use and lower fleet running costs.

## SECTION 9

# References

Bureau of Infrastructure and Transport Research Economics, BITRE 2024, [Road Vehicles Australia, January 2024, BITRE, Canberra, Australia.](#)

[City of Marion Asset Management Plan 2024-2034 Fleet, Plant and Equipment](#)

Fraunhofer Institute, (UMSICHT, 2022), Ecological Assessment of Retreading: Summary of key findings,

[Emissions Reduction Plan: Bathurst Regional Council, 2022](#)

Golden, J.S., Handfield, R., Daystar, J. and, J. Woodrooffe (2018) (Golder, J.S. et al. 2018) *Retread Tires in the United States & Canada: An Analysis of the Economic & Environmental Benefits for Fleet Operators and the U.S. Government.*

[KIAMA MUNICIPAL COUNCIL ANNUAL REPORT 2021-22](#)

Michelin Australia submission to the Australian Competition and Consumer Commission, 2003 (Michelin 2003), available [here](#).

Pickin, J, Jen Macklin (2024), (Pickin, J et. al. 2024) [National waste and resource recovery report 2024](#)

Stevens, D (2025), *The Global Threat to Retreading, Rubber Recycling Symposium October 8-9, 2025*

The Japan Automobile Tyre Manufacturers Association, Inc, April 2012, Tyre LCCO2 Calculation Guidelines Ver. 2.0

The Japan Automobile Tyre Manufacturers Association, Inc, December 2021 (JATMA 2021), Tyre LCCO2 Calculation Guidelines Ver. 3.0.1 (Limited disclosure version)

Woodrooffe, J (2024). *2024 Addendum to the 2018 The State of Retread Tires in the United States & Canada.*

Woodrooffe, J.F., Page, O., Blower, D., Green, P.E., [Commercial Medium Tire Debris Study, National Highway Traffic Safety Administration, Washington D.C., December 2008.](#)

## APPENDICES

# Appendix A

## The retread process



## Retread operations regulation

The *Australian Standard AS 1973-1993 Pneumatic Tyres - Passenger Car, Light Truck and Truck / Bus - Retreading and Repair Processes* sets out requirements that the Australian retread industry must follow to sell retreads on the Australian market. It includes the retreading process, inspections, and markings on the tyre.

## Summary of the typical retread process steps

**Figure 16** provides an overview of the tyre retread process that is discussed further below.

### It starts with a quality casing

While technology has come a long way in the retreading industry, the process needs to start with a quality casing with Tier 1 and 2 tyres built for multiple retreads and some Tier 3 tyres for a single retread.

### Technology improving retread quality, consistency, performance, and sustainability

The innovation of heavy commercial tyre retreading technology over the past couple of decades has focused on improving quality, consistency, performance, and sustainability of the retread tyre.

Modern retreading processes ensure retreaded tyres can match new tyre in safety and performance and advances in materials and techniques are making retreads more durable and customisable, offering environmental benefits and cost savings.

Key innovations in heavy commercial tyre retread making for a consistent quality tyre are:

- ▼
- KEY INNOVATIONS

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- Enhanced inspection

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- Advanced buffing, cementing, and repair

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- Innovative tread designs

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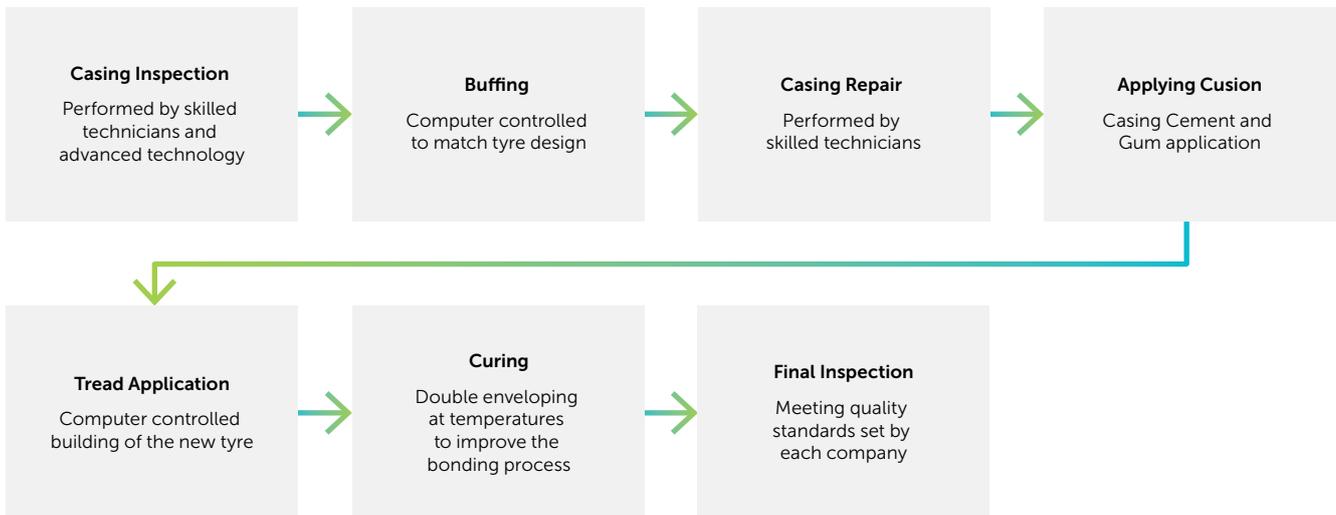
- Curing and bonding techniques

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- Digitalisation and data analytics.

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Figure 16. Overview of the retreading process





## KEY INNOVATION

### Enhanced inspection

Rigorous inspection processes identify potential issues early on, including issues not able to be seen by the naked eye, ensuring only high-quality casings are retreaded.

Technology enhancing the ability for trained technicians to inspect for potential issues include:

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**Grazing Light Inspection:** Grazing light detects the most subtle irregularities in a tyre casing.

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**Electronic Liner Inspection:** Electronic currents pulsate through the tyre to reveal otherwise invisible defects.

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**X-Ray Inspection e.g. Shearography:** Capable of detecting steel damage to hidden cable status to fluoroscopic x-ray inspections which help identify severe casing damage. Shearography uses laser technology to detect anomalies and structural weaknesses in the tyre casing; helping to identify internal separations, embedded debris, and other non-visible damage.

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1. INITIAL INSPECTION



2. ELECTRICAL INSPECTION



3. SHEAROGRAPHY



### KEY INNOVATION

## Advanced Buffing, Cementing, and Repair

Precise buffing techniques create an optimal profile for each of the variety of new tread designs and optimal surface for tread adhesion, while specialised cements ensure a permanent bond between the new tread and the casing. Any damage identified during the inspection process is repaired using industry-standard techniques.

Technology enhancing the consistency and quality of retreads include the following:

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**Radial buffing:** Computer-controlled radial buffing systems are used to ensure optimal under-tread depth for the different tread designs creating even treadwear and improved performance.

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**Heat cure repairs:** Heat curing addresses any necessary repairs for longer-lasting results compared to chemical repair processes.

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**Cement & fill:** Specialised adhesive cements are applied to the buffed surface, and minor imperfections are filled with a rubber compound to ensure a smooth and even surface.

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**Repair:** Any detected damages are repaired using industry-leading techniques ensuring casings are in the best possible condition before the new tread is applied.

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4. BUFFING



5. SKIVING/REPAIR



## KEY INNOVATION

### Curing and Bonding Techniques

In Australia, a pre-cure process (also known as 'cold cure') is used, which involves applying a new pre-moulded, pre-vulcanised tread to the casing. It is bonded to the casing by means of a thin layer of specially compounded uncured rubber (known as cushion or bonding gum) which, when vulcanized, acts as an adhesive.

Heat is a leading cause of damage to rubber and tyres, and temperatures over 118°C have been recognised as affecting the adhesion of the tyre casing rubber to the casing material. Improved curing and bonding processes ensure the new tread is permanently attached to the casing.

**Building:** New treads are applied automatically, using a machine that profiles the casing in precise detail. The tread must be straight and perfectly centred on the casing. Alternatively, 'ringtread' building systems can be used.

**Double-Enveloping:** This process ensures uniform pressure and temperature during curing. The inner envelope applies pressure to both sides of the repair, enhancing the quality of the retread.

**Curing:** The tyre is cured under controlled conditions to ensure optimal uniformity and integration of repairs. This step is crucial for durability and performance of the retread tyre.



6. APPLYING CUSHION



7. BUILDING



8. ENVELOPING



9. CURING

