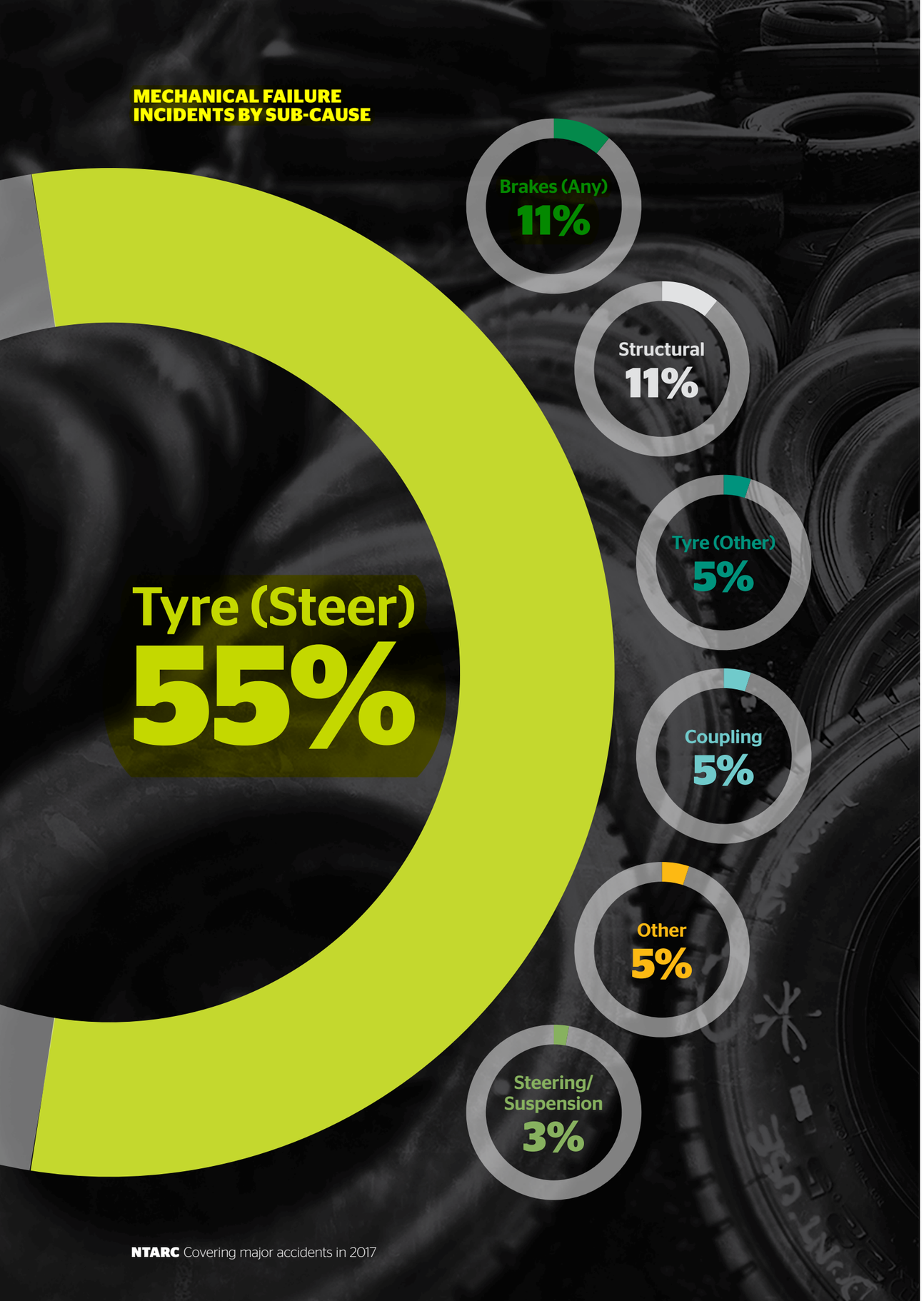
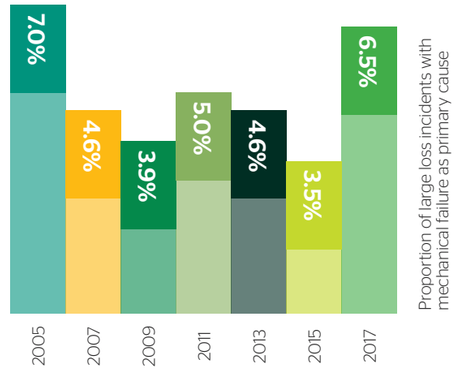


IN DEPTH:
MECHANICAL FAILURE – STEER TYRE FAILURE

While mechanical failure is not one of the largest contributors to NTI's large losses, it has consistently been the primary causal factor in around 1 in every 20 large losses. There has been a 60% increase in mechanical failure large losses in 2017 (compared to an average of the 2013 and 2015 data) and, as such, deserves closer investigation.

MECHANICAL FAILURE INCIDENTS BY YEAR



If we examine these losses more closely, it becomes apparent that the majority of these losses relate to tyres and in particular to steer tyres. It should be noted that these results do not necessarily reflect any issues with the manufacture of the tyres themselves. Inadequate tyre inflation is identified anecdotally as a leading cause of tyre failure however there is an opportunity for further research in this area.

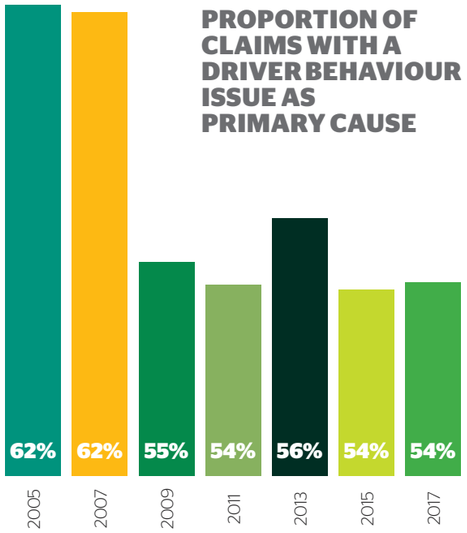
The steer tyre failure incidents in the data set all resulted in vehicles having high speed crashes with little to no opportunity for the driver to respond before striking barriers or leaving the roadway. Given the sudden and catastrophic nature of the crashes in these incidents, it is somewhat surprising that the only loss of life from these crashes in 2017 was that of a driver's best friend, his faithful dog.

STEER TYRE FAILURES BY SPEED ZONE

IN DEPTH:

DRIVER ERROR – INADEQUATE FOLLOWING DISTANCE

PROPORTION OF CLAIMS WITH A DRIVER BEHAVIOUR ISSUE AS PRIMARY CAUSE



Combining the Driver Error, Fatigue and Inappropriate Speed cause codes allows the contribution of driver behaviour towards large losses to be tracked over time.

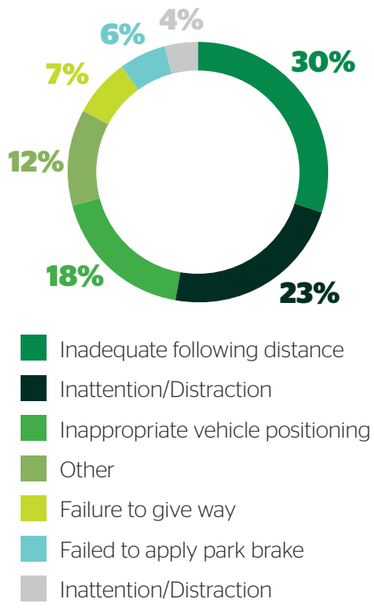
The sharp drop in 2009 reflects a sharp reduction in fatigue losses between 2007 and 2009. This corresponds with the introduction of standardised heavy vehicle work diaries in most states in September 2008.

One of the changes in this edition of the Major Crash Investigation Report is the categorisation of data within the Driver Error cause code. With the Driver Error category accounting for one in five crashes, additional sub-causes around particular driver behaviours have been added to provide deeper insights.

This revealed that nearly one in three driver error crashes resulted from inadequate following distance which, in the majority of cases, then resulted in a 'ran into rear' crash. While it is tempting to apportion this to heavy vehicle driver behaviour, it is important to consider that heavy vehicles do not operate in isolation.

It should be noted that driver behaviour reflects the environment in which they operate, so any initiative would need to address following distance holistically across all vehicle categories.

DRIVER ERROR INCIDENTS BY SUB-CAUSE



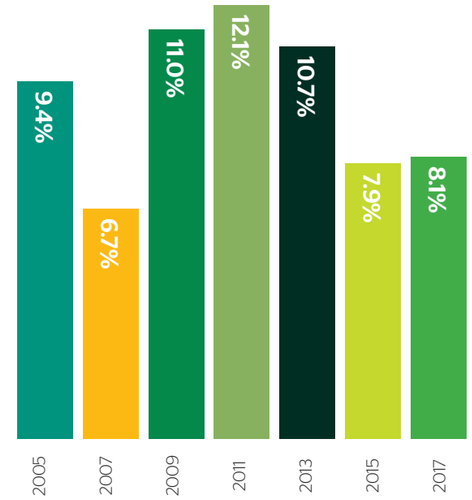
IN DEPTH:

NON-IMPACT FIRE

Non-impact fire was the major theme of the 2013 NTARC report and became a significant industry focus in the 12 months that followed. In 2015, there was a reduction of over 20% in the proportion of claims arising from fire and it has remained steady at this level in 2017.

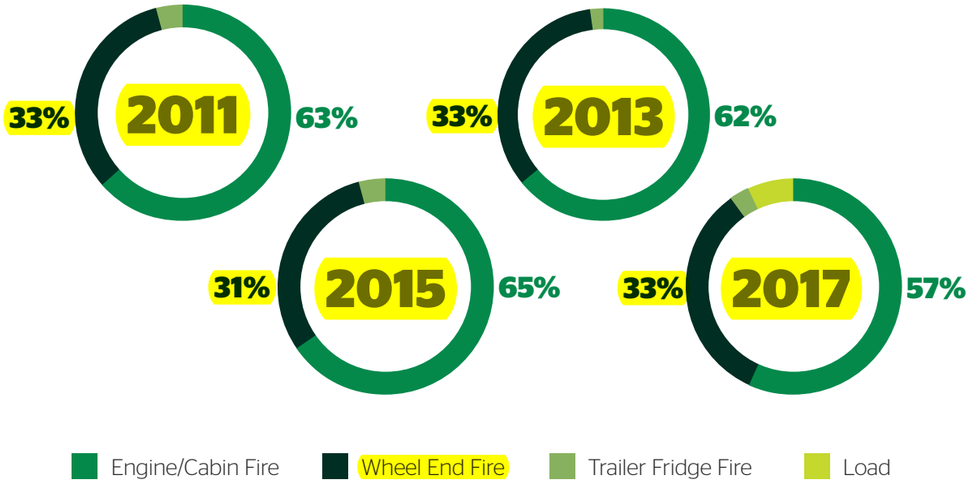
Notably, while the overall proportion of non-impact fire losses has decreased, the distribution of the cause of the incidents has remained reasonably consistent, with only a small decrease in the proportion of fire originating in the cab/engine bay.

PROPORTION OF CLAIMS FROM NON-IMPACT FIRE



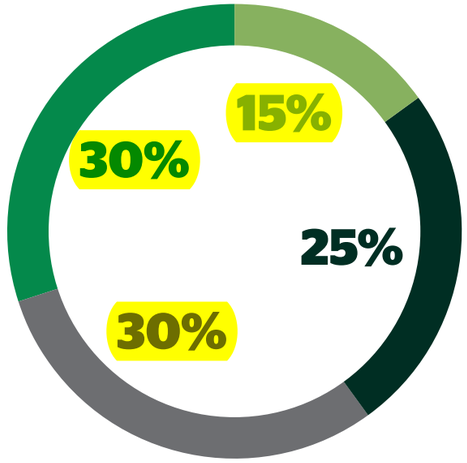
> *"Wheel bearings, brake chambers, fuel lines, starter power cables; get any of these wrong and your '$200,000 prime mover' might become '$3,000 of scrap metal'."*

FIRE LOSSES BY CAUSE



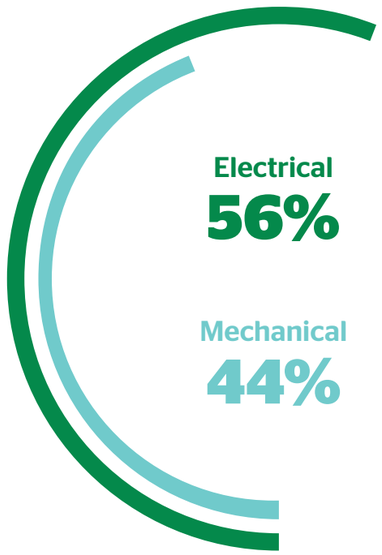
Examining the causes of these fires more closely starting with wheel end fires, we found that the predominant initial trigger for the fires is either wheel bearing or tyre failure.

This was closely followed by wheel end fires initiated by the braking system. Brake fires typically resulted from some defect in the parking brake system which resulted in the spring-applied park brake being lightly applied. Over time, the dragging brake resulted in an accumulation of heat causes the tyres, wheel bearing grease and other flammable material to spontaneously combust.



WHEEL END FIRES BY SUB-CAUSE

- Wheel end fire Brake
- Wheel end fire Bearing
- Wheel end fire Tyre
- Wheel end fire Other/Unknown

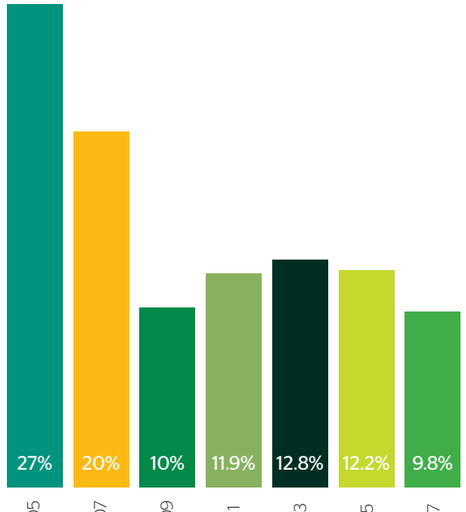


ENGINE/CABIN FIRES BY SUB-CAUSE

Engine/Cabin fires were split between those which resulted from electrical fires and those which came from the failure of a mechanical system. Of the electrical fires, the overwhelming majority of these were caused by the main starter motor power feed cable, with most of the remainder being from alternator power output cables.

For the fires arising from mechanical failures, common causes include high pressure fuel system leaks, turbocharger failures and hydraulic and oil line failures.

FATIGUE INCIDENTS AS PROPORTION OF ALL LARGE LOSSES



IN DEPTH: FATIGUE

In 2017, there was a decline in the proportion of all large losses caused by fatigue, dropping by around two percentage points when compared to 2013/2015. At 9.8% of losses, this is the lowest proportion recorded since the inception of this report series.

Looking at the geographical distribution of the fatigue losses, and after a spike in fatigue incidents in Victoria in 2015, there has been a sharp decline. Conversely, Western Australia has seen a sharp increase back to levels similar to that seen in 2009 , following its second lowest proportion of fatigue losses in 2015.

FATIGUE INCIDENTS BY STATE