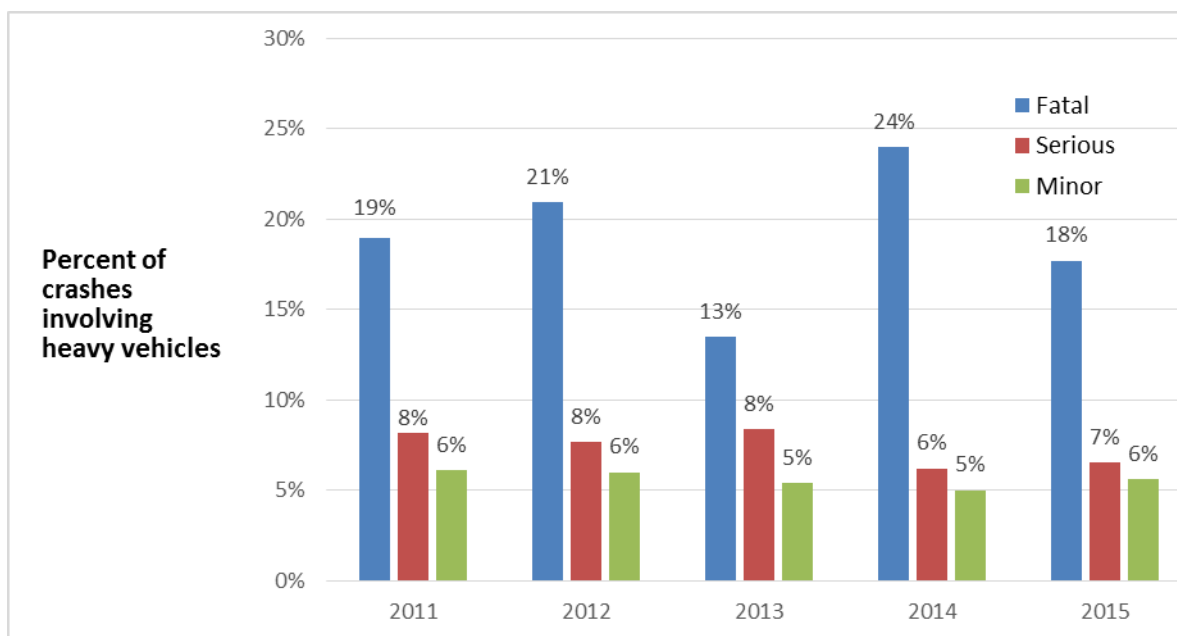


## HEAVY VEHICLE DRIVERS INVOLVED IN ROAD CRASHES IN SOUTH AUSTRALIA

**OVERVIEW** Heavy vehicles<sup>1</sup> travel more than 1.3 billion kilometres per year in South Australia. They represent 8% of the kilometres travelled in the State<sup>2</sup> and are involved on average (2011-2015) in 19% of fatal crashes and 7% of serious injury crashes. Heavy vehicles are not over-represented relative to kilometres travelled in minor and serious injury crashes, they are however over-represented in fatal crashes. Last year there were 17 fatal crashes that involved a heavy vehicle.

The mass and rigidity of heavy vehicles can contribute to the severity of crashes especially if another vehicle collides with them. Figure 1 shows the percent heavy vehicles represent in crashes by crash severity. Table 1 shows the number of fatal and serious injury crashes involving heavy vehicles.

**Figure 1: Percent of heavy vehicle crashes as a representative of all crashes, South Australia, 2011-2015**



<sup>1</sup> Heavy vehicle includes the following types: Rigid truck, Semi Trailer, Bus, B Double & Other defined motor vehicle over 4.5 tonnes

<sup>2</sup> Data sourced from Australian Bureau of Statistics 'Survey of Motor Vehicle Use', 12 months ended 31 October 2014, Cat. No. 9208.0. Includes vehicles exceeding 3.5 GVM.

**Table 1: Fatal and serious crashes involving heavy vehicles, South Australia, 2011-2015**

Year	Fatal	Serious Injury	Total
2011	18	64	<b>82</b>
2012	18	49	<b>67</b>
2013	12	56	<b>68</b>
2014	23	37	<b>60</b>
2015	17	43	<b>60</b>
<b>5yr Avg</b>	<b>18</b>	<b>50</b>	<b>67</b>

**Crash types**

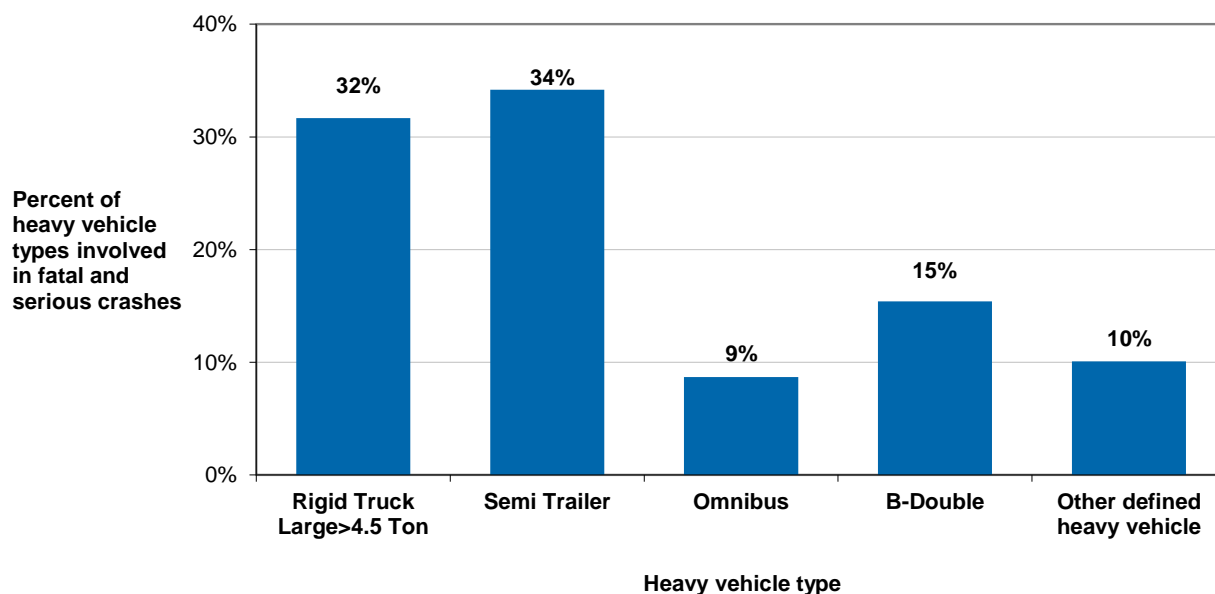
The most common type of serious casualty crash involving heavy vehicles during 2011-2015 was right angle crashes (21%). Head on collisions represented 19% of crashes, rollovers 13% and side swipe 12%.

**Vehicle types**

The majority of heavy vehicles involved in serious casualty crashes, outlined in Figure 2, are rigid trucks larger than 4.5 tonne and semi trailers, together representing two thirds of the total number of heavy vehicles involved in serious casualty crashes. However, there has been a decline in rigid trucks involvement in serious casualty crashes from 40% in 2011 to 32% in 2015.

Other defined heavy vehicle includes vehicles such as, but not limited to; fire trucks, garbage trucks, animal transporter vehicles and drilling rigs all over 4.5 tonnes.

**Figure 2: Types of heavy vehicles involved in fatal and serious crashes, South Australia 2011-2015**



### Responsible

For the five years from 2011 to 2015, there were 88 fatal crashes involving heavy vehicles of which 91 percent (80) involved a light vehicle, pedestrian, motorcyclist or cyclist. The heavy vehicle driver was deemed responsible in just 20 percent of these crashes.

### Location of crashes

Over the past 5 years (2011-2015) midblock crashes (crashes not at in intersection) accounted for 59% of serious casualty crashes involving at least one heavy vehicle, roads in which midblock crashes most frequently occurred on are

- Sturt Highway – 27 serious casualty crashes
- Dukes Highway – 22 serious casualty crashes
- Port Augusta to Port Wakefield Road – 14 serious casualty crashes
- Stuart Highway – 7 serious casualty crashes
- South Road – 7 serious casualty crashes

### Alcohol and Drugs

Most driver and rider fatalities and a proportion of serious injuries are tested for either or both alcohol and drugs. Even in a serious crash, truck drivers may only receive minor or no injuries, and as a result, may not be tested for alcohol or drugs. A zero BAC applies to drivers of all heavy vehicles including buses. While alcohol is a factor in 24% of all driver and rider fatalities in South Australia, there have been just two heavy vehicle driver fatalities in the last 5 year period 2011-2015 who had BAC readings of less than 0.05. No heavy vehicle driver fatalities had a BAC over .05 (legal limit for full licence holders of light vehicles). Similarly for drugs, although 22% of fatally injured drivers or riders test positive to an illegal drug, there was one heavy vehicle driver fatality that tested positive to an illegal drug.

### Seatbelts

For the 5 year period 2011-2015, 12% of heavy vehicle drivers killed or seriously injured were not wearing a seatbelt at the time of the crash. This is higher than the proportion of car drivers, 9% of light vehicle drivers killed or seriously injured were not wearing a seatbelt.<sup>63+</sup>

### Fatigue

Fatigue is a known contributing factor to road crashes but the number of crashes in which fatigue plays a part is often difficult to accurately determine. There is no universal definition of fatigue and it is difficult to objectively measure the degree of driver fatigue following a crash. However the Australian Transport

Bureau<sup>3</sup> (ATSB) constructed an operational definition of a fatigue-related crash. The definition is based on a set of well-researched selection criteria and uses crash characteristics routinely collected by different traffic authorities.

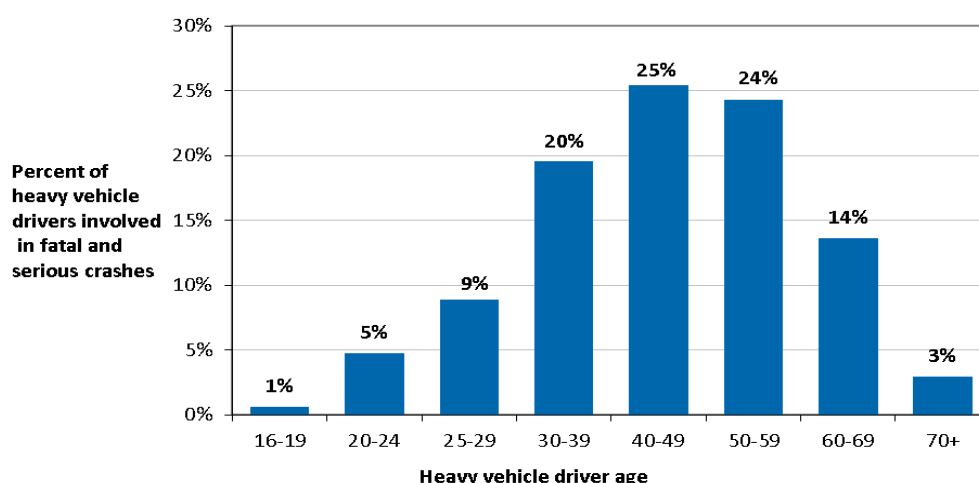
Using the ATSB definition it was found that 16% of fatal crashes involving heavy vehicles in SA were due to fatigue (14 fatal crashes). Three fatal crashes were single vehicle and the remaining 11 involved another vehicle. The heavy vehicle driver was deemed responsible in four of the 14 fatal crashes.

Nationally ATSB found that a third of articulated truck crashes involved driver fatigue, more than double the proportion of non-articulated truck crashes that involved driver fatigue over the same period. Nearly 80% of the fatigue-related articulated truck crashes involved more than one vehicle and 62% occurred during the day time hours of 6am-6pm. Again it wasn't necessarily the truck driver that was fatigued; in fact where it could be identified which driver was fatigued in a two car collision, more than two thirds were drivers of passenger cars.

### Age of driver

The heavy vehicle drivers involved in serious casualty crashes are generally older than the passenger vehicle drivers. This is likely to reflect that there are a greater number of heavy vehicle drivers in the older age groups. The following figure is an overview of the age of heavy vehicle drivers involved in serious casualty crashes in the last 5 years.

**Figure 3 – Age of heavy vehicle drivers involved in fatal and serious crashes, South Australia, 2011-2015**



<sup>3</sup> Definition is from the ATSB Road Safety Research Report OR 23 'Fatigue-related crashes: An analysis of fatigue related crashes on Australian roads using an operational definition of fatigue'

## Speed

Vehicle travel speeds affect both the risk of crash involvement and the severity of any crashes that happen, including crashes caused by factors other than speed.

A national study of heavy vehicles and speeding has shown that a high proportion of heavy vehicles exceed sign posted speed limits on both open rural and urban roads<sup>4</sup>. A paper on speed and heavy vehicle safety estimated a 29% reduction in heavy vehicle crashes if all heavy vehicles complied with speed limits<sup>5</sup>.

The following tables contain data collected from rural Culway sites in South Australia, it shows the proportion of heavy vehicles exceeding the speed limit for 2006 and 2015<sup>6</sup>. Since 2006, the overall proportion of heavy vehicles speeding has decreased.

**Table 2 – Degree of speeding from SA sites, 2006**

Proportion of Sample Speeding				
Excess Speed (km/h)	Rigid	Articulated	B-Double	Road Train
≤ 5km/h	8%	45%	54%	34%
6-15km/h	3%	5%	6%	46%
> 15km/h	0%	0%	0%	3%
<b>Total speeding</b>	<b>11%</b>	<b>51%</b>	<b>61%</b>	<b>84%</b>

**Table 3 – Degree of speeding from SA sites, 2015**

Proportion of Sample Speeding				
Excess Speed (km/h)	Rigid	Articulated	B-Double	Road Train
≤ 5km/h	8%	29%	36%	34%
6-15km/h	1%	3%	0%	9%
> 15km/h	0%	0%	0%	0%
<b>Total speeding</b>	<b>9%</b>	<b>33%</b>	<b>37%</b>	<b>43%</b>

<sup>4</sup> National Transport Commission, Australia (2005). *Heavy vehicle speed compliance: Review of Regulatory Approaches, discussion paper*, Melbourne, October 2005.

<sup>5</sup> Brooks, C. (2002). *Speed and Heavy Vehicle Safety*. Papers for the NRTC/ATSB National Heavy Vehicle Safety Seminar, Melbourne, October 2002.

<sup>6</sup> 2006/2015 Culway speed distribution data from Road Asset Management Section, DPTI

## Definitions of police reported casualty types:

**Casualty Crash** - A crash where at least one fatality, serious injury or minor injury occurs.

**Casualty** – A fatality, serious injury or minor injury.

**Fatal Crash** - A crash for which there is at least one fatality.

**Fatality** - A person who dies within 30 days of a crash as a result of injuries sustained in that crash.

**Serious Casualty Crash** - A crash where at least one fatality or serious injury occurs

**Serious Casualty** – A fatality or serious injury.

**Serious Injury Crash** - A non-fatal crash in which at least one person is seriously injured.

**Serious Injury** - A person who sustains injuries and is admitted to hospital as a result of a road crash and who does not die as a result of those injuries within 30 days of the crash.

**Minor Injury Crash** - A crash for at least one person sustains injury but no person is admitted to hospital or dies within 30 days of the crash.

**Minor Injury** – A person who sustains injuries requiring medical treatment, either by a doctor or in a hospital, as a result of a road crash and who does not die as a result of those injuries with 30 days of the crash.

## Data sources

The data presented in this report was obtained from the Department of Planning, Transport and Infrastructure Road Crash Database. The information was compiled from police reported road casualty crashes only.

## Enquiries

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