

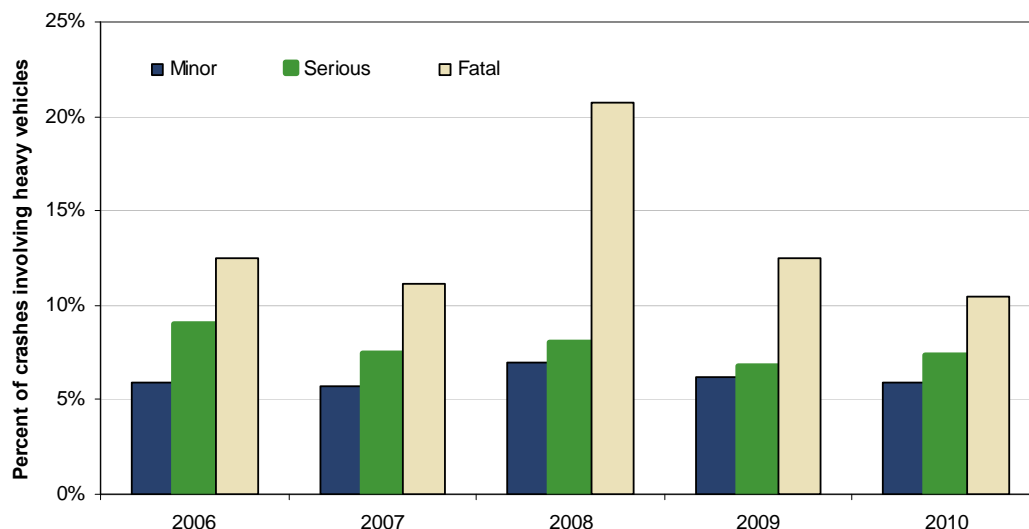


## Heavy Vehicle Involvement in Road Crashes in South Australia

Heavy vehicles<sup>1</sup> travel more than 1 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 in 13% of fatal crashes and 8% of serious crashes. Fatal and serious crashes involving heavy vehicles are estimated to cost over \$100 million per year.

Heavy vehicles present a significant road safety issue because of the long distances they travel and because of their mass and rigidity if another vehicle collides with them. Figure 1 shows that heavy vehicles are accurately represented in minor and serious injury crashes, they are however over-represented in fatal crashes. Table 1 shows the number of fatal and serious injury crashes involving heavy vehicles.

**Figure 1: Percentage of heavy vehicle crashes as a representative of all crashes, South Australia, 2006-2010**



**Table 1: Fatal & serious crashes involving heavy vehicles, South Australia, 2006-2010**

Year	Fatal	Serious Injury	Total
2006	13	98	111
2007	12	81	93
2008	18	73	91
2009	13	62	75
2010	11	65	76
<b>5yr Avg</b>	<b>13</b>	<b>76</b>	<b>89</b>



Government  
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<sup>1</sup> Heavy vehicle includes the following types: Rigid truck, Semi Trailer, Bus, B Double

<sup>2</sup> Data sourced from Australian Bureau of Statistics 'Survey of Motor Vehicle Use', 12 months ended 31 October 2007, Cat. No. 9208.0. Includes vehicles exceeding 3.5 GVM.

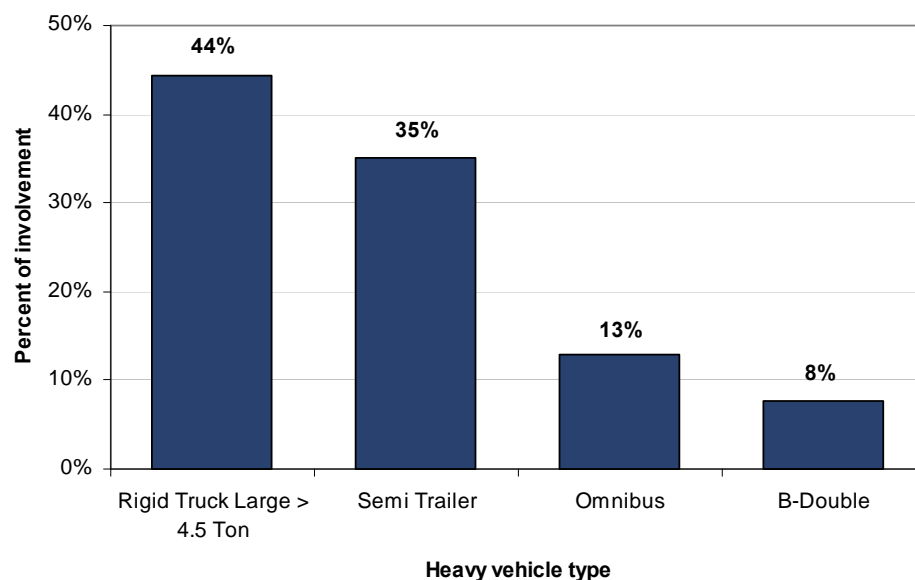
## Crash types

The most common types of serious casualty crashes involving heavy vehicles are right angle (18%) and rear end crashes (17%) of heavy vehicle crashes. The next most common types are head on crashes (13%) and rollovers accounting for 12% of crashes.

In 54% of serious casualty crashes the driver deemed responsible was the heavy vehicle driver, this includes crashes involving two or more heavy vehicle drivers where one of them was deemed responsible.

The majority of heavy vehicles involved in serious casualty crashes, outlined in figure 2, are rigid trucks larger than 4.5 tonne (44%), the vehicle with the least involvement is the light truck less than 4.5 tonne.

**Figure 2: Types of heavy vehicles involved in fatal and serious road crashes, South Australia 2006–2010**



## Location of crashes

Over the past 5 years (2006 – 2010) midblock crashes (crashes not at in intersection) accounted for 64% of crashes involving at least one heavy vehicle, roads in which midblock crashes most frequently occurred on are

- Sturt Highway – 16 serious casualty crashes
- Dukes Highway – 16 serious casualty crashes
- South East Highway – 13 serious casualty crashes
- Eyre Highway – 12 serious casualty crashes
- Port Wakefield Road – 10 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. While alcohol is a factor in 35% of all driver and rider fatalities in South Australia there has only been two heavy vehicle driver fatalities with an illegal BAC in the last 5 years. Similarly for drugs, although 23% of fatally injured drivers or riders test positive to an illegal drug, there were no heavy vehicle driver fatalities that tested positive to an illegal drug (from a total of 10 heavy vehicle driver fatalities tested) .

## Seatbelts

For the 5 year period 2006 – 2010, 32% of heavy vehicle drivers killed or seriously injured were not wearing a seatbelt at the time of the crash. This is well above the average of all drivers where about 11% of drivers killed or seriously injured were not wearing a seatbelt.

## 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 19% of fatal crashes involving heavy vehicles in SA were due to fatigue. Seventy-seven percent of fatigue cases involved more than one vehicle, in 80% of these cases it was the driver of the other vehicle that was fatigued, not the heavy vehicle driver.

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.

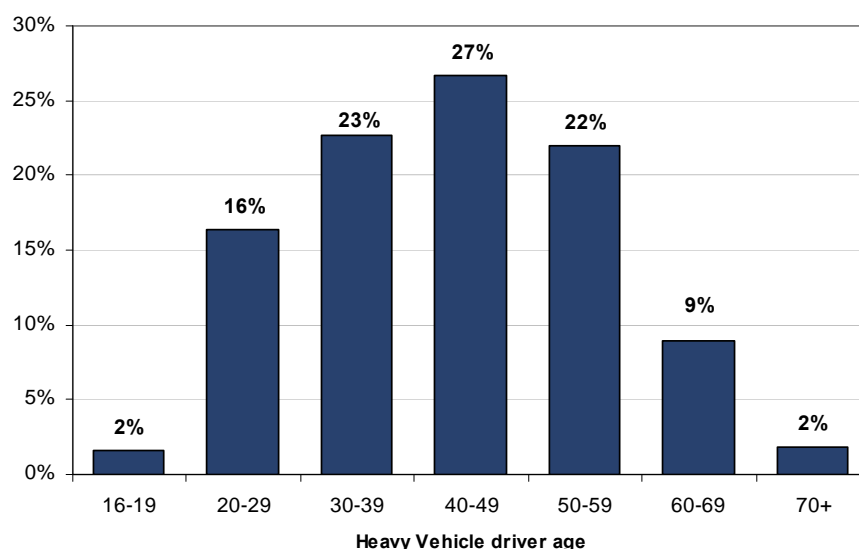
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<sup>3</sup> Definition is from the ATSB Road Safety Research Report OR 23 'Fatigue-related crashes: An analysis of fatigue related crashes on Australian roads using an operational definition of fatigue'

## Age of driver

The age of the drivers involved in heavy vehicle serious casualty crashes are generally older than those for passenger vehicles. This is likely to reflect that there are a greater number of heavy vehicle drivers in the older age groups. The National Transport Commission suggest that most transport operators and insurers give preference to older more experienced heavy vehicle drivers<sup>4</sup>. The following table is an overview of the age of heavy vehicle drivers involved in the last 5 years.

**Figure 3 – Age of heavy vehicle drivers involved in fatal and serious crashes, South Australia, 2006-2010**



## 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.

Speed is generally under reported as an apparent driver error in South Australian road crash data and under estimates the role of speeding in crashes.

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>5</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>6</sup>.

<sup>4</sup> National Road Transport Commission (1999). *Potential for Fast-Tracking Heavy Vehicle Drivers*, Melbourne, January 1999.

<sup>5</sup> National Transport Commission, Australia (2005). *Heavy vehicle speed compliance: Review of Regulatory Approaches, discussion paper*, Melbourne, October 2005.

<sup>6</sup> Brooks, C. (2002). *Speed and Heavy Vehicle Safety*. Papers for the NRTC/ATSB National Heavy Vehicle Safety Seminar, Melbourne, October 2002.

The following table shows that up to half of all heavy trucks exceed speeds up to 5km/h above the speed limit in 110km/h speed zones in South Australia for 2001<sup>7</sup> and 2006<sup>8</sup>. Over the time period, high level speeding of more than 15km/h over the speed limit has decreased. The proportion of Articulated and B-Double vehicles speeding 6-15km/h over the speed limit has generally halved.

**Table 2 - Degree of speeding from SA sites, 110km/h Speed Zone, 2001**

Proportion of Sample Speeding (%)				
Excess Speed (km/h)	Rigid	Articulated	B-Double	Road Train
≤ 5km/h	5%	41%	51%	33%
6-15km/h	2%	13%	11%	42%
> 15km/h	1%	2%	1%	6%
<b>Total speeding</b>	<b>8%</b>	<b>56%</b>	<b>63%</b>	<b>81%</b>

**Table 3 – Degree of speeding from SA sites, 100km/h Speed Zone, 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>

<sup>7</sup> National Transport Commission, Australia (2005). *Heavy vehicle speed compliance: Review of Regulatory Approaches, discussion paper*, Melbourne, October 2005.

<sup>8</sup> 2006 Culway speed distribution data from Traffic Information Unit, TIMS, DTEI, November 2007

## 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 for Transport, Energy and Infrastructure Road Crash Database. The information was compiled from police reported road casualty crashes only.

Figures relating to the current year are preliminary and are subject to revision.

## Enquiries

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