

# SHARING THE ROAD – WHAT ARE DRIVERS REALLY READY TO LEARN?

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## Introduction

### *The issues*

The Victorian Road Freight Advisory Council advises VicRoads on the development, planning, regulation and operation of road freight services in Victoria. Each year the Council consults with the road freight industry and other stakeholders through a series of road freight forums.

One of the most frequently raised issues at the forums is the perceived lack of understanding by the road users about the operational requirements of heavy vehicles. The development of a comprehensive communication plan to improve the understanding of the issues related to sharing the roads with heavy vehicles has been included as an action item in the Council's Work Program. The two projects summarised in this paper were commissioned to support this work.

### *The projects*

The first project was commissioned to deal with two distinct issues:

- the most common types of collisions with trucks and the messages that can be developed to advise the drivers of other vehicles of the most salient sources of danger when driving close to trucks
- the potential impact of the different messages developed.

The second qualitative research project was commissioned to gain a better appreciation of what road users thought about sharing the road with trucks, and to test their reaction to the advisory messages developed in the first project.

The present paper integrates the findings from the two projects, identifies the messages which are likely to be effective with car drivers, and presents the lessons which can be learned from combining the two approaches.

## **Project 1 – Identifying behaviour contributing to truck crashes**

Numbers and trends in truck and bus crashes over the years 2000-2004 were examined. The key features are:

- total crashes involving all categories of vehicles decreased from over 18,000 per year to just over 16,500 per year, a decrease of 9.2%
- articulated truck crashes per year fell by 33 or 7%; they accounted for approximately 2.5% of all crashes throughout the period
- rigid truck crashes per year fell by 206, or 26.4%; they declined from 4.3% of all crashes at the start of the period to 3.5% at the end of the period
- just over half the crashes occur in 60 km/h zones
- the next largest totals were for 80 km/h zones (14.5%), 70 km/h (10.5%), 50 km/h or less (10.4%) and 100 km/h (10.0%)
- trucks were under-represented in crashes where the speed limit was 50 km/h or less involved trucks, but over-represented in crashes where the limit was 80 km/h or greater.

These numbers of crashes are equivalent to approximately 600 truck and bus crashes per year (out of approximately 10,000 vehicle-vehicle crashes/year<sup>1</sup>) in urban areas and approximately 200 truck and bus crashes per year (out of a total of approximately 1,600) in rural areas.

In urban areas, six types of crash identified by individual DCA codes accounted for the majority of vehicle to vehicle crashes. Table 1 shows these six crash types, the number which occurred in each speed zone, and the percentage of cases in which the heavy vehicle was Vehicle 1, i.e. the vehicle whose driver was most likely to be primarily responsible for the crash. The six DCA categories accounted for 54% of vehicle to vehicle crashes involving heavy vehicles in 50 km/h zones, 72% of cases in 60 km/h zones, 62 % of cases in 70 km/h zones, and 69% of cases in 80 km/h zones.

The concentration was less marked in rural areas, but the three crash types that stood out from the others still accounted for 56% of crashes. The DCA codes, numbers of crashes in different speed zones and percentage of occasions the heavy vehicle was Vehicle 1 are shown in Table 4.

### ***Analysis of individual crash report forms***

In order to identify the specific behaviours associated with each type of crash, individual crash report forms were examined in detail. For each type of crash, a specific set of questions was

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<sup>1</sup> This figure excludes single vehicle crashes and pedestrian crashes which are included in the total crashes above.

posed, the set of questions varying from crash type to crash type, but standardised for all cases of a particular crash type. The crash types selected for further examination were:

- 60 km/h zone right near, head-on, right thru, rear end, rigid truck only
- 100 km/h zone lane change, articulated truck only; head-on, rigid truck only.

For each crash category, the last fifty crashes to be recorded were selected for analysis in detail. For some crash types, less than fifty cases had occurred over the study period, and so all available cases were included.

### ***Detailed analysis – example of right near crashes***

This section describes the detailed analysis of the most frequent types of heavy vehicle crashes and the development of messages developed from the general analysis.

**Table 2: Events in right near crashes, 60 km/h zones**

<b>Event</b>	<b>N of cases (%)</b>
Total cases	31 (100%)
Truck Vehicle 1	20 (65%)
Truck Vehicle 1 and turning	18 (58%)
Truck Vehicle 1, turning and ran red light	14 (45%)
Truck Vehicle 1, turning and ran Give Way sign	4 (13%)
Truck Vehicle 1, turning and ran Stop sign	2 (6%)
Car ran red light	5 (16%)

Thirty-one case were available for analysis. The number of times each of the events relevant to the analysis occurred is shown in Table 2, expressed as the number cases on which the event was detected, and as a percentage of the 31 total cases. The truck was Vehicle 1 (the vehicle primarily responsible for the crash) in 65% of cases; it was turning in 58% of cases, and was turning and ran a red light in 45% of cases. The truck was Vehicle 1, was turning and ran a sign control in a further 19% of cases. The car ran a red light in only 16% of cases.

It would therefore appear that there is a problem with heavy vehicles running red lights which the road transport industry ought to address. However, the appropriate message for car drivers is 'Wait for trucks to complete their manoeuvres before proceeding'.

**Table 1 Breakdown of crashes by main crash types and speed zones**

<b>Urban roads</b>							
<b>DCA</b>	<b>Code</b>	<b>Artic. truck</b>		<b>Rigid truck</b>		<b>Bus</b>	
		<b>Crashes</b>	<b>%</b>	<b>Crashes</b>	<b>%</b>	<b>Crashes</b>	<b>%</b>

<b>description</b>			<b>Veh 1</b>		<b>Veh 1</b>		<b>Veh 1</b>
<b>50 km/h</b>							
Cross traffic	110	3	31	28	39	10	30
Right near	113	1	100	5	80	7	0
Head on (not overtaking)	120	2	50	10	30	3	0
Right thru	121	3	67	17	47	3	0
Rear end	130	4	25	12	67	5	40
Right rear	132	0	0	6	50	1	0
<b>60 km/h</b>							
Cross traffic	110	27	44	101	42	29	41
Right near	113	11	55	78	54	23	35
Head on (not overtaking)	120	20	30	68	28	10	20
Right thru	121	45	49	113	47	30	40
Rear end	130	81	77	219	68	48	38
Right rear	132	20	80	101	80	11	64
<b>70 km/h</b>							
Cross traffic	110	11	36	12	42	3	100
Right near	113	6	33	17	53	3	67
Head on (not overtaking)	120	4	25	23	57	4	0
Right thru	121	16	50	34	47	4	4
Rear end	130	44	63	112	72	14	50
Right rear	132	3	100	12	83	1	100
<b>80 km/h</b>							
Cross traffic	110	11	45	31	48	5	40
Right near	113	31	39	49	57	6	0
Head on (not overtaking)	120	14	36	35	57	1	0
Right thru	121	32	59	55	40	4	0
Rear end	130	119	72	191	68	22	41
Right rear	132	5	40	23	61	0	0
<b>Rural roads</b>							
		<b>Artic truck</b>		<b>Rigid truck</b>		<b>Bus</b>	
<b>DCA description</b>	<b>Code</b>	<b>Crashes</b>	<b>% Veh 1</b>	<b>Crashes</b>	<b>% Veh 1</b>	<b>Crashes</b>	<b>% Veh 1</b>
<b>100 km/h</b>							
Head on (not overtaking)	120	106	24	92	25	16	1
Rear end	130	128	59	118	46	3	67
Lane change left	135	70	81	33	73	2	0

## ***Messages extracted from the crash data***

The messages extracted in this manner, and the percentage of urban and rural truck crashes to which they are relevant are shown in Table 3.

**Table 3: Estimates of percentages of urban and rural crashes likely to be affected by the different proposed messages to car drivers**

<b>Message</b>	<b>% urban crashes addressed</b>	<b>% rural crashes addressed</b>
'Wait for trucks to complete their manoeuvres before proceeding'	20%	0%
'Stick to your own side of the road, trucks cannot get out of your way easily' On rural roads, this particularly applies at left-hand curves.	6%	21%
'When turning across a traffic stream, watch out for trucks.'	20%	6%
'Give plenty notice of turns or stops, especially in heavy traffic.'	32%	26%
'Give trucks plenty space when they change lanes'.	13%	21%

The messages vary considerably in the number of crashes they are likely to affect, and some messages are clearly more relevant for urban crashes than rural crashes and vice versa. Some messages appear to have considerable relevance in both environments, and all apply to a reasonable percentage of crashes in at least one environment. Many of the messages have relevance to more than one type of crash, as would be expected with advice regarding safe driving practices.

## **Project 2 – Exploring road user attitudes to trucks and refining communication strategy/guidance**

### ***Group discussions***

Road user interpretations of the messages developed in the first project and their attitudes to trucks were explored in a series of eight group discussions. Six of the groups included a cross-section of drivers in the Melbourne metropolitan area who were part of The Reality Check Monitor® ongoing syndicated qualitative program, including a dedicated probe around attitudes in relation to road safety. Two further groups were recruited specifically for the study, one a group of motorcyclists and the other a group of country drivers.

The topic was introduced by probing attitudes to driving on ever busier Victorian roads, then explored specifically through introduction of a series of visuals depicting trucks in a range of typical road situations, as well as the various messages identified via Project 1. Attitudes were explored across a 45 minute discussion within syndicated groups, and 1.5 hours in the two dedicated group discussions. The goal was both to determine both spontaneous levels of mention for different issues, but and to probe the motivational potential of the different messages for encouraging improved driving behaviour around trucks.

## **Attitudes to trucks**

Three distinct driver mindsets in relation to sharing the road with trucks emerged:



even 'scared' driving alongside heavy vehicles. Many endorsed a worryingly simplistic strategy for dealing with heavy vehicles, which was to speed to avoid them.

- **'Truck Naive'** included more women and drivers with less experience. They also appeared to be much more influenced by the 'myths and folklore' regarding aggressive truckies.
- **'Truck Aware'** participants were older, more likely to be male, and were more likely to have had direct experience as heavy vehicle driver, or to have a family member or close friend who worked in the industry. Within this more attuned audience, a clear 'safety is best' attitude existed, even when not well informed on specific issues and risks.

Strongly entrenched negative perceptions emerged towards trucks and other heavy vehicles in general. Truck drivers were to some extent 'demonised' in terms of their share of responsibility. Media treatment of truck safety issues appeared to contribute to this, e.g. by not fully explaining the reasons why crashes occurred. To some extent this was offset by the more informed and sympathetic approach from the Truck Aware group, e.g.

*"Generally truck drivers are all professional drivers, car drivers are not professional, generally the truck drivers do the right thing."*

Most participants had little understanding of other road users *contribution* to crashes with trucks and heavy vehicles. This issue emerged as a significant barrier to acceptance of the proposed safety messages developed in Project 1. Despite this, there was:

- Universal support for *improved driver education*
- Unanimous agreement on the specific need for an education campaign (with an emphasis on 'shared responsibility' across various road user groups for mishaps)

The major factors which affected driver perceptions were:

- Increasing traffic of all kinds

- Recognition that currently *drivers are not deliberately taught (or reminded) to drive safely* around trucks
- 'Image' problems surrounding truckies "on drugs" or aggressors on the road aggravate perceptions
- As part of this, a perceived arrogance of truck drivers, felt to be regularly 'bullying' other road users e.g. by speeding and tailgating, and pushing in at major exits
- Lack of appreciation of everyday driving issues faced by Heavy Vehicle drivers (unless in the more 'truck aware' segment) – fuelling 'blame' the truckies mentality!
- Across the 'Truck Naïve' segment particularly, many emerged as complacent, or else simply ignorant of risks!

### ***Communication Strategy Guidance:***

Participants recognized the need for a change in attitudes in relation to sharing the road with trucks, focusing on all road users sharing responsibility more fairly. The most important single step would be to create a perception that truck drivers have a sense of responsibility towards other road users, for example:

*"Show the human side of truck drivers, that they're not all bastards"*

*"The most effective thing you could do is a campaign to try and get us to feel more compassionate about them because everybody hates truck drivers"*

*"Prove to us that they are not on speed and that they are considerate of us and they are not just going to speed up just to get in front of us. If they can prove they are sober and they are looking out for us, we could all work together"*

*"Show the percentage of truck drivers who don't use drugs."*

*"Maybe if you can get into his mind... 'I have been on the road for ages, just want to get home to my wife and baby' and then you see all the risks on the road from the car drivers, see his personality, that'd be effective"*

While accepting this as an essential first step, there was also agreement about the need for more forceful education in relation to the risks while driving near heavy vehicles, particularly for *learner drivers*. The need for wider education was also recognised, particularly regular reminders around sharing the road. This is also important given the large proportions of 'truck resenters' and 'truck naïve' participants identified in the study.

All statements from Stage 1 proved loosely acceptable, and were rationally endorsed by both country and city drivers. The essential underlying platform was identified as *"Give trucks more space"*. This overarching message can then be adapted to fit different situations, and to convey the various support messages relevant to the different segments of the target audience, and different driving situations.

Key to persuasion is improving general appreciation around truck 'braking distances'/ 'need for longer stopping spaces'. Even though experienced drivers often thought they 'understood' the issue, it was plain that many in the Truck Naïve and Learner groups were not taking this into account when driving close to trucks.

Other strategy guidance related to an emphasis on '*showing, rather than telling*' – for example, highlighting the weight of trucks to explain why trucks take longer to stop. Some participants believed that making people aware of the weight of trucks will provide a rationale for the longer stopping distance, and also highlight the risks associated with collisions involving trucks..

*“Even a simple thing like ‘I’m 65 tonne’ ... making the point that it takes 100 metres for 65 tonne to pull up quickly.”*

*“They could get a 65 tonne weight and drop it on the car.”*

*“Like Jumbo the elephant and squash.”*

Another important suggestion to emerge from the discussion was to create opportunities for car drivers to really experience the driving task from the truckie's point of view. Films or simulations at country shows or in driving schools, or even a more conventional public education campaign would help educate the public and give them a sense of the reality of driving a truck:

*“A physical situation is a lot different to just seeing images – it would be better if you could demonstrate it to people”*

*“If you get people in a truck you can guarantee 8/10 of them will think differently next time they are on the road”*

*“They should have them at the Ballarat shows – the police turn up and they used to bring a rolled car and say this is what happens at 60 and you'd think bloody hell!”*

## **Conclusions**

This paper integrates findings from two complimentary research projects.

The first project involved detailed examination of crash records to determine the most frequent patterns of events associated with truck crashes. Six scenarios were identified for further investigation. Narrative and diagram components of the crash reports were examined in detail. Six messages to assist car drivers to avoid collisions with trucks were developed.

The second project involved qualitative testing of these messages by means of eight focus group discussions. It was evident that car drivers did not give a high priority to trucks as a safety issue,

but once the topic was raised, the discussion was highly emotive and generally negative. Much of the discussion was characterized by complacency and ignorance in relation to driving around trucks and other heavy vehicles. Although drivers could accept the specific messages developed in the first project, they recognised that the messages could be condensed to 'trucks need more space'.

The core need is to develop a long term, staged, multi-level strategy (with distinct target audiences). The key aims of all strands of the communication strategy should be to:

- Improve perceptions of truck drivers, and their professionalism
- Build other road users acceptance of their role in the problem (and willingness to learn)
- Get car drivers to understand driving situations from the truck driver's point of view.