Special Feature

Heavy vehicle safety: A comprehensive approach

by Keith Simmons, General Manager Safer Vehicles, RTA

A news article published in the *Sydney Morning Herald* on 11 July 2010 commented on the increased rate of speeding among heavy vehicles in NSW and the fatal impact this has on the road toll. The article quoted from a report published by the Roads and Traffic Authority of NSW (RTA) detailing that as many as 37.7% of heavy vehicles exceeded the speed limit in 100km/h zones. This was reported as a significant increase from an estimated 28% of heavy vehicles 10 years ago, according to an RTA survey at that time.

Since this is a major road safety concern, what are the RTA and other agencies doing about it?'

Heavy vehicles are defined as those weighing 4.5 tonnes or more and include rigid trucks, articulated vehicles and buses. In 2009, there were around 114,000 heavy vehicles registered in NSW. In addition, thousands more heavy vehicles that are registered outside NSW travel on NSW roads. Some estimates suggest as much as 80% of the national freight task moves within or through NSW.

Heavy vehicles represent about 2.5% of all vehicles registered in NSW, but along with those from interstate, were involved in nearly 6% of all crashes. Sadly, this translates to around 14% of all fatal crashes where at least one person is killed. However, this has decreased from around 22% of fatal crashes in 2003.

RTA response

The RTA has identified three main contributory factors for crashes involving heavy vehicles. Speed is the major cause, followed by fatigue and vehicle roadworthiness. In 2007-08 nearly 50,000 fines with a value of around $17.7 million were issued against heavy vehicles and their drivers in NSW. This includes various offences such as speeding, unlicensed driving, failure to wear seat belts and other offences.

A comprehensive suite of responses, using a multi-agency approach, is required to address these and other road safety issues, for an industry that has a deeply entrenched set of cultural values, has operated at the limits of competitiveness during the Global Financial Crisis, is subject to pressure from others outside their direct line of responsibility and has a range of characters who consider themselves 'hard men and women' who can keep going when the going gets tough. All this, while driving on roads with ever increasing numbers of other vehicles, driven by people who act impatiently and are often oblivious to a heavy vehicle's turning circle, swept path or braking distance requirements.

To improve road safety and to limit the damage to roads and bridges, the RTA undertakes a broad range of responsibilities in the areas of regulation, detection and enforcement associated with heavy vehicles.

In his response to the NSW Auditor General's report of May 2009, *Improving road safety – Heavy vehicles,* the RTA's Chief Executive Michael Bushby wrote, 'The challenge of regulating heavy vehicles requires a mix of technology, regulation and enforcement initiatives to provide the economic, environmental and safety outcomes the community expects. While on-road enforcement is a critical compliance and enforcement tool in regulating heavy vehicles, it has to be complemented by other compliance assurance tools to meet the challenge of increasing freight tasks in NSW and increasing complexities in the road freight and logistic sector.

'An integrated and more sophisticated heavy vehicle compliance and enforcement framework is required in addition to conventional on-road enforcement. This framework now includes chain of responsibility legislation, accreditation and incentive based schemes, industry consultation and education, a professional RTA inspectorate, and better use of technology such as the Intelligent Access Program. The framework facilitates appropriate and timely regulatory responses to areas of non-compliance that pose high risks to road safety and road wear. The highest deterrent value is achieved by appropriate enforcement. For example, chain of responsibility investigations and prosecutions have produced significant improvement in the compliance of vehicle loading.'

Enforcing compliance

On the ground, these over-arching statements translate into actions that are and will continue to improve road safety in NSW. In 2009 the RTA commenced introduction of a point-to-point camera system that detects heavy vehicle speeding over a known route, in order to manage and deter speed-related behaviours. At present there are two point-to-point systems operational, from Harwood to New Italy on the Pacific Highway and from Meadow Flat to Raglan on the Great Western Highway. The RTA will deliver a further 19 point-to-point systems by the end of 2011, with six of these already partially constructed. The point-to-point scheme commenced operation on 1 April 2010 and included a period of warnings prior to sanctions being imposed.

Heavy vehicle speeding is also enforced by the network of 172 fixed speed cameras in 141 locations throughout NSW. Fixed speed cameras in NSW are supplemented by on-road heavy vehicle speed enforcement operations by the NSW police force, and the deployment of mobile speed cameras and the use of point-to-point speed enforcement technology will identify and breach speeding heavy vehicle drivers.

Since 1991, Australian Design Rule 65 has required all heavy vehicles with a GCM over 12 tonnes to be fitted with an effective speed limiting device, to restrict their maximum driving speed to 100km/h. In NSW, the Road Transport Legislation (Speed Limiters) Amendment Act 2005 exists to support enforcement for the speed limiting of heavy vehicles.

Special Feature

Under these laws, the responsible person for a vehicle commits a speed limiter offence when a heavy vehicle that is required by law to be speed limited travels at a speed in excess of 115 km/h. Apart from the speeding offence incurred by the driver of the vehicle, the speed limiter is deemed to be functioning incorrectly and the vehicle operator is heavily penalised. This law applies to all vehicles, not just those registered in NSW.

The Safe-T-Cam program operated by the RTA in NSW is an initiative designed to reduce the risk associated with heavy vehicle driver fatigue, in order to prevent heavy vehicle crashes. By monitoring the time taken to travel between two known locations, the system can detect vehicles or drivers that may be exceeding safe limits on driving (work) hours or possibly falsifying log book entries. Safe-T-Cam also detects unregistered heavy vehicles that operate on NSW roads.

The RTA is introducing improved camera triggering systems that will be deployed from next year. This involves the installation of Transportable Infra-Red Traffic Loggers (TIRTLS) at 22 Safe-T-Cam locations. The TIRTLS enhance the Safe-T-Cam performance to overcome behaviours such as shepherding, where vehicles travel close together in an attempt to avoid camera detection.

Monitoring

The RTA operates seven heavy vehicle checking stations, sited strategically along major freight routes in the state. Heavy vehicle checking stations are an important tool to monitor and enforce vehicle condition, loading and driver fatigue en-route. Four of the stations have automated screening lanes, where a Safe-T-Cam camera will read the number plate and check earlier Safe-T-Cam sightings and registration records, while other sensors check the vehicle's weight and height. These data, combined with driver and vehicle offence histories, are used to determine if a vehicle should be directed into the checking station.

In addition to fixed heavy vehicle checking stations, the RTA deploys their 280 heavy vehicle regulation inspectors across 170 roadside inspection sites, where heavy vehicles can be safely stopped and checked. Inspectors are rostered and deployed using a risk-based approach to target locations and vehicles based on traffic flow, crash history, results of previous actions and seasonal changes in movements. This is on top of the annual roadworthiness inspection program, which ensures vehicles are maintained properly; where vehicle identification irregularities are identified, these are referred directly to the NSW police force.

In addition to all of the above, the RTA is increasing its team of chain of responsibility investigators, to be able to more effectively investigate parties in the supply chain that force drivers to take risks by setting unrealistic deadlines and ensure they are held accountable. The RTA is working with the NSW Road Freight Advisory Council to help the trucking industry develop a 5 Star Trucking Scheme, that would recognise and reward effort for those owners and operators who are achieving industry best practice for safety. The RTA is undertaking a pilot of electronic work diaries with other states to further improve heavy vehicle driver fatigue management and speed compliance.

Regular multi-agency activities include working with WorkCover NSW to visit truck stops and heavy vehicle rest locations, to educate drivers about fatigue management reforms and health and safety initiatives that relate directly to them. The RTA provides additional funding to the NSW police force to increase the visible police presence on the road and undertake enhanced enforcement above normal operating requirements.

The RTA is undertaking a campaign of targeted advertising, using radio and print media, and localised campaigns incorporating roadside advertising, variable message signs and bridge banners, to address safety issues like speeding, wearing of seatbelts, fatigue and drug use. All of these increase the profile of road safety in the heavy vehicle industry.

As Mr Bushby noted in his closing comments to his letter to the NSW Auditor General, 'In comparison to other states in Australia, NSW has the largest road transport enforcement workforce, the greatest number of checking stations, a Safe-T-Cam network across the state, and the highest level of investment and usage of technology in heavy vehicle compliance and enforcement. The RTA will continue to develop an integrated approach to heavy vehicle compliance and enforcement.'

Improving worker safety through better visibility

by Agota Berces, Traffic Safety Systems Division, 3M Australia

Road trauma represents a significant cost on society, and governments are developing various measures and safety programs to reduce the number of fatal accidents and serious injuries. The recent Safe Work Australia report [1] shows that in the 2006 to 2007 period, 453 people lost their lives in work-related injuries, with 295 dying of injuries sustained in the course of work activities. Of these 295 workplace fatalities, around 35% (103) people died in road-related trauma, which was a 32% increase on the previous reporting period.

The casualties from road trauma represent 13% of the national road toll, and the estimated costs in relation to workplace accidents comprise $1.5 billion annually. This amount, however, might not include medical expenses, rehabilitation, lost productivity, costs of investigation and vehicle damage, and write-off expenses, among other items. This figure represents a huge burden on our society, which is why cooperating stake-holders are open to investigating innovative technologies that can help reduce and prevent workplace death and injuries.