A new vision for heavy vehicle compliance: Leveraging from the Heavy Vehicle National Law for improved road safety outcomes

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Abstract

The history of heavy vehicle compliance in Australia is partly a success story, with fatalities involving heavy vehicles trending downwards since the 1970s. However, the fact remains that transport and logistics is the most dangerous sector in which an Australian can be employed and our half a million heavy vehicles are over-represented in total road deaths. The new Heavy Vehicle National Law represents a significant opportunity to improve road safety outcomes in the freight industry. To maximise the potential arising from a national approach, the NTC has spent the last two years researching the reasons why non-compliance with the law occurs. We have interviewed drives at roadside, consulted with peak industry bodies and operators and accompanied enforcement officers on road all over Australia. We’ve compared our experience with our counterparts in the United Kingdom, New Zealand and the United States and drawn on insights from the behavioural sciences, regulatory analysis and transport history. Our research has identified 6 motivations for non-compliance as follows: (1) Failure of regulatory reach (2) Lack of ability to comply (3) Lack of willingness to comply (4) Economic imperative (5) Opportunism (6) Determined recidivism. We have developed a new framework for heavy vehicle compliance that tailors the intervention strategies possible under the new law to the different categories of non-compliance. Our objective is to make genuinely risk-managed intervention and enforcement possible and to normalise compliance within the industry.

Introduction

In 2013 Australia will, for the first time, adopt a national approach to the regulation of heavy vehicles. This has been described as a revolution 150 years in the making. The Heavy Vehicle National Law (HVNL) consolidates more than twenty years of ‘model laws’ designed to harmonise heavy vehicle freight operations across the country. The HVNL is intended to promote public safety; manage the impact of heavy vehicles on the environment, road infrastructure and public amenity; provide for the efficient movement of goods and passengers and promote efficient, innovative, productive and safe business practices.

The law, and its administration by the National Heavy Vehicle Regulator (‘the Regulator’), represents an unprecedented opportunity to take a fresh look at regulatory compliance. The National Transport Commission undertook a review designed to unearth the motivations for non-compliance within the industry and assess the powers under the HVNL to respond and change behaviour. A better understanding of the motivations will be useful in enabling the NHVR to acquit its functions regarding identifying and promoting best practice methods for complying with the law and managing the risks to public safety arising from the use of heavy vehicles on the road. (S. 600(j))

Methodology

The review involved both primary and secondary research. The original research involved structured interviews with industry including peak bodies, drivers and owner/drivers. The project team spent considerable time at roadside observing enforcement activities in situ and asking questions of those involved. On road observation occurred at mobile and static checking stations in New South Wales (NSW), Victoria, Western Australia, New Zealand and the United Kingdom (UK). We were fortunate to have access to previously unseen enforcement data from police in two
states and conducted our own review of court data across the country. In this paper I will focus on the findings of our structured interviews, which sought to gain a deeper understanding of the reasons why non-compliance occurs.

Safety Implications of Non-Compliance

There is no doubt that the story of compliance in the heavy vehicle industry is – to a considerable extent – a success story. Stakeholders interviewed for this project testify to the changing consciousness about safety from the early 1970s when it was a peripheral concern to today where it is core business for many operators. Laws and policies introduced since the 1970s have significantly modified on-road behaviours and community norms.1

The success of the interventions is reflected in the statistics, which indicate a decline in fatalities of 10% from 2006 to 2011.2 This decline occurred even through the freight task was increasing.

Despite the advances made in safety, the heavy vehicle industry can be risky. While heavy trucks and buses make up only 3% of registered vehicles and about 8% of the vehicle kilometres travelled (VKT) on Australia’s roads, they are involved in (albeit not necessarily responsible for) 18% of total road deaths and 3% of total injuries.3 In NSW, which has the highest volume of interstate freight in Australia, heavy vehicles were involved in 21% of all fatalities on the state’s roads between 2003 and 2007.4 A recent study found that an individual was three times more likely to die in a crash where a heavy vehicle was involved.5 The grief and trauma occasioned by these crashes is incalculable. The purely economic cost is estimated at around $3.8 billion per year.6

There are clear links between non-compliance with heavy vehicle laws and undesirable safety outcomes.7 Vehicles that are loaded beyond mass limits are likely to be less manoeuvrable in an emergency and therefore more difficult to control. Fatigue and speeding are also associated with higher crash rates. These risks make compliance essential.

Powers to respond to non-compliance

The Heavy Vehicle National Law provides several modes of intervention to combat non-compliance. The law largely reproduces the Compliance and Enforcement Bill of 2003. This Bill was heavily influenced by the theory of responsive regulation which holds that responses to a breach should at least be partly contingent on the reasons for non-compliance. For example, if a driver is non-compliant because they simply don’t understand the law then repeatedly hitting them with a fine will do little to change the root cause of the behaviour.

Responsive regulation also holds that responses should be proportionate to the offence and its motivation. It recognises a distinction between, say, failing to tick a box in a work diary and repeatedly overloading a vehicle to gain a competitive advantage. These breaches require quite different responses so responsive regulation promotes a suite of intervention options targeted at different forms of non-compliance.

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1 These include seat belt legislation, national fatigue laws and national laws for mass, dimension and loading.
4 NSW Centre for Road Safety, Roads and Traffic Authority (RTA) Submission to the Joint Standing Committee on-road Safety, Submission 22-Attachment A Heavy Vehicle Driver Fatigue and Speeding Compliance Legislation, 7 April 2009, p. 3
The interventions possible under the HVNL are pictured below.

**Figure 1. Responsive regulation in the C&E legislation**

The C&E Bill has been largely reproduced in the Heavy Vehicle National Law so it will apply across all Australian states and territories, with the exception of Western Australia.

**Findings**

**Failure of Regulatory Reach**

The first and most obvious reason why a target group may not comply with a law is that they are blithely unaware of it. My interviews at roadside suggest that long haul truck drivers strongly identify as part of the industry and have a sound awareness of the heavy vehicle national law and its penalties.

It is questionable if the same can be said for industries that see truck driving as ancillary, rather than central, to their business. This category includes those in the construction, courier, primary production and tourism sectors. As one enforcement officer put it, ‘a farmer carrying milk in a truck thinks he’s a farmer. He doesn’t realise he’s also a truckie’.

**Regulatory response**

We have recommended an education campaign targeted explicitly at these groups to promote awareness of their obligations under the law. The HVNL does not explicitly provide for an educative function but it does charge the Regulator with the identification and promotion of best practice methods for complying with the law (s. 600 (2ji)). Further, the best practice methods

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9 There are some exceptions. For example, higher penalties for second and subsequent offences have been removed (although this is under review by the Penalties Framework review project).

10 It should be noted that during the consultation process the bus industry was vocal about the need for policy to differentiate between freight and passenger movements.
include ‘to encourage and promote safe and productive business practices of persons involved in the road transport of goods or passengers’. (s. 600 (2k)). Education and persuasion are likely to be effective in responding to failures of regulatory reach and where persons are generally inclined to comply but may misunderstand the law.

**Lack of Ability to Comply**

It stands to reason that a target group must be able to comply.\(^{11}\) This relates to the quality and sufficiency of the law itself. It is not enough to simply promulgate law and expect obedience.\(^{12}\) The law must provide a clear and unambiguous picture of what compliance looks like.

It is questionable if the fatigue laws achieved this. Concepts and definitions that are essential to the ability to comply are open to interpretation. For example, what is a 24-hour period? Does it start from the beginning of a shift? Or roll along until a reset? What is the distinction between ‘work’ and ‘rest’? If one is pulled over for enforcement purposes, for example, is this work or rest? How should time be counted? From a short or a long rest break? Given these questions it’s arguable that the way the law is written makes both compliance and enforcement unnecessarily difficult.

Furthermore, there is a mismatch between what the law prescribes and the infrastructure that makes it possible. Hence, legislated rest breaks require places where heavy vehicles may safely pull off the road and the driver is able to maximise the benefits of rest. However, there is an acknowledged shortage of suitable rest areas on the road network.\(^{13}\)

Confusing and internally inconsistent laws can hamper the efforts of the well intentioned. When those who are inclined to comply are thwarted by unclear or contradictory advice the resulting frustration can lead to the abandonment of self-regulation.

**Regulatory Response**

We are working to eradicate this confusion through reviews of the counting time rule and a revamp of the national work diary. We have also been involved in the Electronic Work Diary (EWD) pilot being run by Roads and Maritime Services (RMS) in NSW. EWD are recognised in law but have not been used because of a lack of policy frameworks.

EWD have enormous potential to promote compliance because they take the ‘guess work’ out of complex legislation thereby giving drivers and operators comfort that they are operating within the law. Further, through automatic computation of work, rest and resets the EWD can radically reduce the time devoted by both industry and enforcers to managing fatigue. It also has the potential to better manage schedules through add-on applications such as advice to drivers on approaching suitable rest areas and the time remaining before rest breaks are required. This technology is being trialled with great early success in the United States. Importantly, the data made possible by EWD means that enforcement officers will be able to differentiate between systematic and inadvertent non-compliance: something that is enormously difficult (if not impossible) to do with a written work diary. This should guide an enforcement officer in whether say, an infringement of $600 is an appropriate response, or whether an improvement notice or warning will achieve compliance with less financial pain.

Improvement notices and formal warnings are two of the educative and persuasive strategies possible under the law. Under s. 516 improvement notices can be issued where an authorised officer

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\(^{11}\) OECD, *Reducing the Risk of Policy Failure: Challenges for Regulatory Compliance*, 2000, p. 11


\(^{13}\) See *Audit of Rest Areas Against National Guidelines*, 2008. NatRoad estimates that there is a national shortage of about 22,000 rest areas. See NatRoad *Response to Heavy Vehicle National Law Draft Regulatory Impact Statement*, 13 May 2011, p. 21.
believes a road law is being contravened or is likely to be contravened. The notice requires the contravention to be remedied within a set time frame of, generally, more than seven days. Failure to remedy the contravention is an offence incurring a maximum penalty of $8000 (s. 517(1)) but the initial contravention is not. Hence, it provides the opportunity for remedial action without threat of punishment.\footnote{In this way it is broadly analogous to an ‘enforceable undertaking’.}

Under s. 532 formal warnings provide an alternative sanction to initiating proceedings for non-compliance in circumstances in which the person has taken all reasonable steps to prevent the breach and was unaware of it. However, the formal warning can only be used where it is proportionate to the offence. Thus it cannot be used in relation to substantial or severe contraventions of mass, dimension and loading requirements. It can be withdrawn within 21 days and proceedings instituted in its stead.

One enforcement agency estimated that, where improvement notices are issued, they are effective in securing compliance in 90% of cases. This is consistent with recent American experience that indicates that in somewhere between 62% and 83% of cases carriers who received warnings about deteriorating safety performance resolved the safety or compliance problem.\footnote{Again, however, methodological differences in regulatory approach mean that this figure should be interpreted with some caution. Ferro gives the 83% figure: Anne Ferro, Administrator, FMCSA (US Department of Transport) Statement before the House Committee on Transportation and Infrastructure Subcommittee on Highways and Transit, 13 September 2012, p. 11. The 62% figure is offered by Green and Blower Evaluation of the CSA 2010 Operational Model Test, FMCSA, 2011. It should be noted that there are significant methodological and policy differences between the Australian and American systems.}

However, warnings and improvement notices are not being widely used, with less than 350 issued Australia wide to August 2012 last year. Part of the reason for their limited use appears to be lack of knowledge about where and how they might be appropriate. In consultation with enforcement bodies, the Regulator is developing guidance material for the use of improvement notices and formal warnings.

\textbf{Lack of willingness to comply}

A target group has to be willing to comply with a law. For this to occur, regulatees must perceive the law as having a substantive purpose. The OECD research highlights that willingness to comply can be compromised by regulation that is considered petty, restrictive or unprincipled.\footnote{OECD, Reducing the Risk of Policy Failure: Challenges for Regulatory Compliance, 2000} In such cases target groups may abandon self-regulation as a form of protest and resistance against laws that they do not respect. For example, the National Tax Board of Sweden had to reverse its decision to raise the tobacco tax because the rise in costs resulted in a steep rise in tobacco smuggling.\footnote{OECD, Reducing the Risk of Policy Failure: Challenges for Regulatory Compliance, 2000, p. 16} Regulatees simply rejected the new law as an unfair imposition on civil liberties and flouted it to such an extent that it had to be repealed. One could make the case that the common practice of ‘flashing’ headlights to warn oncoming traffic about an enforcement presence ahead is another form of civil resistance prompted by cynicism about the intent of speed cameras. A 2005 study of heavy vehicle drivers found that speeding infringements were unlikely to be experienced as embarrassing and that a general commitment to ‘not wanting to break the law’ was unimportant to around 20% of drivers.\footnote{AMR Interactive, Survey Research on Speed Behaviours of Long and Short Haul Heavy Vehicle Drivers, September 2005, p. 22}

Industry peak bodies have suggested that some elements of the supply chain simply do not credit a link between compliance with the law and enhanced safety outcomes, thereby lowering their inclination to comply.

Even if the laws are considered to be meaningful, willingness to comply can be eroded by the mode of enforcement. One jurisdiction reported that the permit process for mobile crane operators can be slow and is hampered by inadequate mapping of the ‘do not cross’ structures. As a result, some
operators simply take on jobs without a permit to the understandable frustration of operators that are waiting for their permits to come through. In such situations there is a risk that operators’ respect for, and propensity to comply with, the law will be diminished.

Just as laws must be internally coherent and comprehensible to those whom they regulate, they must be even more so to those charged with enforcing them. It is difficult to enforce what one does not understand. There is a consistent message from authorised officers (both police and transport officers) that the complexity of the law – particularly fatigue law – creates enforcement challenges. As one police officer interviewed for the project put it:

*The current legislative framework and model legislation for heavy vehicle enforcement creates enormous difficulties for both operators and enforcement agencies due to being overly complex and unwieldy.*

Authorised officers pointed researchers to literally crate-loads of policies, procedures and laws that they had to take on-road and refer to when working. Small wonder if, under such circumstances, mistakes and inconsistencies arise. The problem with those mistakes and consistencies is their cumulative effective in eroding the industry’s faith in the law and their general propensity to abide by it.

Heavy Vehicle laws in this country are enforced by two separate groups: transport authorised officers whose powers are set out in the HVNL and who are employees of transport regulators and police who operate under state-based police legislation. These two groups are trained differently, have different cultures and may take on responsibility for different sections of the law. Only Victoria, the Northern Territory and South Australia have policing units with specific heavy vehicle capability.

The general police training may have covered heavy vehicle law but it’s likely that the average officer receives no refresher training to take account of changes in the law. The limitations of police knowledge about heavy vehicle law have been a matter of public record since the early 1990s when one report noted that ‘[police] effectiveness in enforcing road laws, especially laws for heavy vehicles, may be limited by lack of specialist equipment and training’. The same theme appeared in the 2008 National Heavy Vehicle Enforcement Strategy, which was explicit about the need for ‘specific and appropriate training for enforcement officers’.

**Regulatory Response**

The challenge for regulators is to respond to non-compliance in an even-handed, consistent and procedurally fair way in a bid to ‘win back’ those unwilling to comply and to prevent those trying to do the right thing from falling prey to the cynicism that will lower their self regulation. The commencement of the Regulator represents an unprecedented opportunity in this regard because it can standardise training in enforcement techniques across Australia. The NHVR is charged with promoting ‘a nationally consistent approach for enforcing contraventions of laws involving heavy vehicles’ (HVNL, s. 600 21). ‘The same outcome in the same circumstances’ will go a significant way to enhancing perceptions of the law and its administration as having a substantive purpose.

**Economic Imperative**

When asked why non-compliance with heavy vehicle law occurred, almost all respondents interviewed for this project cited economics as a key reason. Put simply, the economic reality of the

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19 In contrast transport officers in RMS have real-time access to policies and procedures online.
20 These are the Road Safety Taskforce and Investigations Unit (Victoria), Highway Patrol Unit (Northern Territory) and Heavy Vehicle Enforcement Group (South Australia).
21 NRTC, *Compliance with the Road Transport Law – Principles, Objectives and Strategies*, June 1994, p. 6
22 NTC, *National Heavy Vehicle Enforcement Strategy*, October 2007, p. 6
industry encourages non-compliance.

The heavy vehicle industry is characterised by a high proportion of owner-operators, accounting for 60% of the road transport industry but only around 11% of the income. The profitability of the non-employing owner-operator segment of the industry can be quite low. Owner-operators interviewed for this review state that margins are tight and competition can be fierce, encouraging some to either overload their vehicles or speed up their trips to enhance profitability. In 2008 the commercial disadvantage accruing to compliant operators as a result of other operators’ non-compliance was estimated at 3–5%. This may not sound significant, but placed in the context of slim margins, it presents a clear temptation to either speed, drive fatigued or overload.

This temptation is compounded by the structure of the industry. The heavy vehicle freight industry shares with the textile industry a typically long supply chain and ‘accountability distance’ between the contracting body and the contracted party. Bargaining power tends to dilute along the chain and the initial contracting party is able to abrogate responsibility for untoward outcomes. This theme was apparent in a recent survey with drivers and operators expressing the view that if they refuse to take overloaded or otherwise unsafe loads the contracting party will simply find someone else who is prepared to do so.

**Regulatory Response**

The HVNL has a very powerful tool at its disposal to deal with economically motivated non-compliers, as well as others who are generally unwilling to comply. That tool is the chain of responsibility, or CoR, legislation. The legislation extends the reach of regulators and enforcers beyond drivers to the rest of the supply chain including packers, loaders, vehicle operators and consignees. In addition, directors and senior managers of corporations involved in the industry are subject to liability for breaches of the road law. In effect this means that every party along the supply chain is answerable for compliance outcomes. So, for example, a consignee that unloaded over-mass vehicles or a scheduler that forced drivers to speed to meet deadlines would be just as culpable for the non-compliance as the traditional target of enforcement: the driver. CoR differs from other enforcement activities in that directly observable breaches (such as vehicle overloading or speeding) are considered potential symptoms of a deeper malaise requiring further investigation to get at the root cause.

Unlike the typical infringement, which sits at around $600, the fines imposed for CoR breaches run into the tens of thousands. The monetary penalty is designed to be sufficiently high that it cannot be dismissed as a cost of doing business, to deter similar practices among other companies and give comfort to those that do the right thing that the ‘bad guys’ will be suitably punished. In two recent Victorian cases penalties of $74,000 and $95,000 were issued to corporations. A heavy vehicle operator was recently ordered to pay compensation in the order of $1 million for an accident that brought down a pedestrian bridge in Maitland, NSW in 2009. Powerful court-based sanctions are available such as commercial benefits penalties, supervisory intervention orders and prohibition orders. The evidence we collected, however, suggests that they may be under-utilised by the courts.

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24 ibid.
26 Karp, Jann, ‘Conversations with Truckies: Looking at Life through Glass’, presentation to the National Transport Commission, 8 August 2012.
The establishment of the NHVR, which will have its own CoR unit, is timely. Until now, those states that had chain of responsibility laws were empowered only within their jurisdiction. Given that supply chains stretch across states, this limitation hampered the depth and reach of CoR. Thanks to the HVNL the law, like supply chains themselves, no longer stops at state borders.

**Opportunism**

Some elements of the industry do not comply with the law for the simple reason that they believe they will get away with it. This is subtly different to a lack of *willingness* to comply, which stems from the regulatee’s conviction of the law’s inherent unreasonableness or unfairness and resulting disposition towards non-compliance. In contrast, the opportunist has deduced that their chances of detection are so slim that, on balance, non-compliance is worth the risk.

Given Australia’s vast distances, dispersed towns and downward-trending enforcement resources relative to freight task, this belief is quite rational. In the states where intercept data was available, more than 11 billion vehicle tonnes kilometre were travelled by heavy vehicles but only 332,214 on-road intercepts occurred. By 2030 the total national road freight task is expected to be 1.8 times its 2008 level. By 2050 the freight task is expected to treble. It is unrealistic to expect that enforcement resources will double to keep pace with this expansion. Indeed, some jurisdictions report that their enforcement resources relative to freight task are already trending downwards.

**Regulatory Response**

Regulators must be *seen* to be ‘catching the bad guys’ to deter those who might otherwise be inclined to push their luck and to give confidence to compliant operators that they are not being ‘taken for a ride’. A visible, on-road presence is required to temper opportunism. This presence can be either static and predictable (as at checking stations such as Marulan) or mobile and random. It can take the form of physical human presence or technologies such as point-to-point cameras and TIRTL or both.

The relationship between certainty of detection and compliance is suggested by the Tasmanian experience. Around four years ago Department of Infrastructure, Energy and Resources (DIER) transport inspectors stopped on-road weighing of vehicles. The result was a noticeable increase in over-mass breaches. On-road intercepts for mass checking were re-introduced and the non-compliances nearly halved, as charted in Figure 24.29

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29 These intercepts exclude annual inspections but include all on-road intercepts (i.e. at checking stations and mobile on road). VKT data derives from Australian Bureau of Statistics Survey of Motor Vehicle Use for the Year Ended October 2010
31 Infrastructure Partnerships Australia, *Meeting the 2050 Freight Challenge*, 2009, p. v
32 Data extracted from DIER annual reports 2006–07 to 2010–11.
It is important that operators who strive to do the right thing believe they are not being disadvantaged by their compliance. Publicising the outcomes of prosecutions is one way to give comfort to the law-abiding that the ‘bad guys’ are being dealt with. A recent survey on compliance and enforcement suggested that industry wants to know about prosecutions and feels they supply tangible evidence of the impact of CoR reforms. The risk of prosecution is also likely to influence opportunistic non-compliers by demonstrating that people can and do experience the full force of the law.

Transport authorities are overwhelmingly successful in their prosecutions, with success rates varying from 88% to 98% across the country. There is, therefore, little risk in publicising these outcomes. Despite this successful track record, only RMS makes the outcomes of its prosecutions publicly available on its website. In contrast, the Environmental Protection Authority issues media releases naming offenders and believes this to have a ‘clear reputational effect’. Similarly, Comcare makes information about its enforceable undertakings (including against high-profile transport operators) publicly available on its website. Our review encourages the NHVR to take a lead in publishing prosecution outcomes and penalties imposed.

**Determined Recidivists**

Research suggests that most regulated entities are ‘generally inclined to comply and, when they do not, it is usually because of ignorance and incompetence rather than deliberate intent’. However, there is a certain proportion of the human population that is more or less impervious to sanctions (indeed sensation-seeking recidivists may actively enjoy regulatory punishment).

A 2011 study of the efficacy of the demerit point scheme found that for most classes of driver licence the most effective predictor of reoffending is offence history. In other words, a history of offending is a stronger predictor of future offending than other variables such as age, sex and geographical location. Drivers with high demerit point balances were found to be significantly more likely to reoffend during the follow-up period than drivers with a low demerit point balance.

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37 Livingstone, Kerrie, *A comparison of the psychological, social and legal factors contributing to speeding and drink driving behaviour*, Queensland University of Technology, 2011
38 Austroads, *Road Safety Benefits of Australia’s Demerit Point Scheme*, 2011, pp. 8, 15
To date there has been very little research specifically targeted towards determined recidivists in the heavy vehicle industry. Studies of recidivist behaviour in the transport context have tended to focus on drivers – generally drink driving and speeding drivers. Depending on the definition that is used, 2.6–3% of all drivers could be characterised as determinedly recidivist. Some studies suggest that repeat offenders are typically young, probationary licensed males of lower socioeconomic status. In contrast, heavy vehicle drivers tend to be older males who hold specialist truck licenses. In fact, truck driving is experiencing a pronounced decrease in participation by people aged 15–24 so it is not likely to be over-represented by determinedly recidivist drivers.

This view is anecdotally supported by enforcers who tend to characterise determined recidivists as operators. They express frustration with ‘phoenix’ operators who have been forced out of the industry by the full force of the law only to ‘re-emerge’ in a different guise. Legally, there is nothing to tie a phoenix operation to a company or companies that it was formerly associated with. It is possible, therefore, for the ‘worst of the worst’ to re-invent themselves as new corporate entities and continue to demonstrate behaviours that compromise road safety and equity. This group presents particular compliance challenges.

**Regulatory Response**

The appropriate response to the most egregious offender is to invoke the sanction at the top of the enforcement pyramid: a prohibition order. A court can prohibit an individual from having a particular role or responsibility associated with the operation of a vehicle. As with some of the other elements of the C&E Bill, however, there is evidence that they are being under-utilised. The expectation was that there would be between six and 12 prohibition orders issued annually. There has been only one, in the state of NSW. This suggests either a lack of familiarity with prohibition orders or a reluctance to use them.

**Conclusion**

The research undertaken by the NTC suggests that compliance can be promoted through using the mix of strategies possible under the HVNL in a targeted way. Understanding the motivations for non-compliance and responding proportionately will encourage compliance and promote road safety outcomes.

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39 Willis, Katie & Gangell, Simone, ‘Profiling Heavy Vehicle Speeding’ *Trends and Issues in crime and criminal justice*, no. 446, October 2012 is an exception.

40 SWOV, “Can penalties prevent repeat violations (recidivism)?”, Netherlands, available at [http://m.swov.nl/en/fact-sheets/penalties-traffic/can-penalties-prevent-repeat-violations-recidivism/](http://m.swov.nl/en/fact-sheets/penalties-traffic/can-penalties-prevent-repeat-violations-recidivism/). Willis and Gangell’s study suggests that 3 and 4+ strikes offenders under the NSW Three Strikes and You’re Out policy accounted for about 3.5% of all offences. (NB: these offences relate to registered vehicles rather than drivers.)

41 Watson, 2010, p. 1


43 Jaguar Consulting Pty Ltd, 2003, p. 38
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