



Report summarising:

The AA Driver Education Foundation workshops

‘Creating a Crash-Free Culture’

Auckland, Wellington and Christchurch

12-14 March 2008

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1 Introduction

This report summarises the outcomes from a series of open workshops on 'Creating a crash free culture' held during March 2008 in Auckland, Wellington and Christchurch. Other sessions were also held with Shell, Tranzqual and MoT. In total the six sessions were attended by over 3000 participants from the organisations shown in Appendix 1. The workshops covered the following topics, all of which are described through the remainder of the report.

- The ministerial perspective on occupational road safety in NZ.
- Innovation: Driver risk assessment, monitoring and improving.
- Innovation: Driver distractions.
- Innovation: Using on-board cameras.
- Work-related road transport law – role of the Ministry of Transport.
- Australian Accreditation and Operator Rating Schemes, and their benefits.
- NZ Operator Rating Scheme.
- Eliminating driver fatigue: Combined Government agencies' update from the Ministry of Transport and ACC.
- Driver wellbeing: Truck driver health and wellness.
- Driver training: The NZ Police perspective.
- Driver training: The NZ AA perspective on defensive driver training for experienced drivers.
- ACC update on its incentive programmes.
- Vehicle selection, sustainability and energy efficiency.
- Shell New Zealand operator experience.
- Debate on "safety culture" responsibilities of driver and managers.

We believe that creating a crash free culture is not just for the benefit of the fleet sector, but is also important as a professional responsibility to maintain driver wellbeing for the good road safety as a whole, to the benefit of all users of the road.

2 Transport Safety Minister's perspective

At the Wellington session the Hon Harry Duynhoven made the opening keynote address to the conference. His full speech follows.

Hon Harry Duynhoven AA Driver Education Foundation speech

Occasion: AA Driver Education Foundation work-related road safety seminar.

Date and time of speech: 9.00am, Thursday 13 March.

Audience: Seminar attendees – a mix of transport operators, vehicle fleet owners, driver training providers, taxi companies, government agencies, local authorities – approximately 70 people.

Location: Royal New Zealand Police College, Papakowhai Road, Porirua.

Purpose of this speech

To open the AA Driver Education Foundation work-related road safety seminar in Wellington on 13 March, and to acknowledge the work being done to create safer driving practices in the workplace.

Background information on event

The AA Driver Education Foundation is running three seminars in Auckland, Wellington and Christchurch to discuss driver safety in the workplace and tools to improve work-related road safety.

Keynote speakers include Dr Will Murray, an expert in work-related road safety research, and Peter Baas, a renowned transport researcher with particular expertise in heavy vehicle safety and energy efficiency.

The seminars will cover such topics as innovations in work-related road safety, the importance of a crash-free culture in the workplace, and the work underway by government agencies to develop and promote driver safety and encourage safe and sustainable vehicle selection.

Salutations

- Dr Will Murray, Research Director, Interactive Driving Systems
- Peter Baas, Managing Director, Transport Engineering Research NZ Limited
- Peter Sheppard, AA Driver Education Foundation (seminar convenor)

Structure of this speech

1. Introduction
2. Driver safety in the workplace
3. Initiatives to develop crash-free workplaces
4. Conclusion

Thank you for inviting me to open your seminar this morning. As Minister for Transport Safety it's a pleasure for me to meet with a group of people, representing many different businesses and organisations, to discuss this very important area of road safety.

This seminar is a really great idea and I congratulate the AA Driver Education Foundation for coming up with the initiative. I understand yesterday's workshop in Auckland was very successful, and I'm sure tomorrow's seminar in Christchurch will be equally so.

But it's our turn in Wellington today and I thank you for taking time out from your busy schedules to attend this event.

We all know that New Zealanders want safer roads, lower fuel use and cleaner air, and all of our workplaces – whether large or small – can do their bit to help achieve this.

My goal as Transport Safety Minister is to ensure that across all the transport modes, fewer lives are lost each year. Deaths relating to rail, air and sea are minor compared with the big killer – the motor vehicle.

In 2006, the road toll was the lowest for nearly 50 years, which was great news. But last year, this trend was reversed and 423 people lost their lives on our roads.

This was heartbreaking for the families and friends of the victims – and a tragic way to end 2007.

Sadly, 2008 hasn't started well. We are already tracking ahead of last year's road toll with the number of deaths on our roads up by more than a dozen on the same period in 2007.

This is a big setback, given the resources that are being put into road safety.

I'm sure many of you here today recall the initiative led by the Ministry of Transport in mid-2006 called 'See You There – Safe As'. This was designed to seek the opinions of road safety professionals and members of the public on what are the main road safety issues, and what needs to be done.

It was a good exercise in tapping into public opinion and debate. Many of the ideas put forward were incorporated into the Road Safety Policy Statement released by the Transport Minister and myself at the end of 2006, and subsequently into a package of road safety initiatives released just before Christmas last year.

These latest initiatives target speedsters, young and novice drivers and those who persistently break road rules by red light running and not wearing seat belts. The proposals include changes to the current demerit points system, changes to penalties for some speed offences and measures to cut the high crash risk to young people behind the wheel.

A key issue arising from the 'Safe As' consultation concerned the Graduated Driver Licensing System. The package aimed at young and novice drivers proposes extending the minimum period under-25 years olds spend on a learner licence from six months to twelve, and placing more focus on the current demerit points system.

As demerit points are seen as a far more effective deterrent than fines, these measures will make it tougher for young drivers who repeatedly break the rules while on their graduated licences.

While working through this engagement process, what really stood out was that there is no single answer to reducing the road toll. If New Zealanders want to cut the number of deaths and injuries on the roads, a collaborative effort is needed – a combination of engineering improvements, tougher enforcement and further education.

This is where the AA Driver Education Foundation – and all of you here today – have such an important part to play.

You're already demonstrating your commitment. By attending today's seminar, you're showing a willingness to proactively promote a road safety culture in your workplaces, and I thank you for this.

Work-related road safety is a big issue. In fact, it's probably a bigger part of the road safety picture than many people realise.

Every day, drivers around New Zealand take to the road in the course of their work. Whether it's to dash across town in a courier van, to hit the highway in a big rig to deliver goods or to line up at an airport taxi rank – there are literally thousands of drivers on the road doing their daily job.

But how safe are your drivers, and what more can we be doing to develop a driver safety culture in the workplace?

Under the Health and Safety in Employment Act, the onus is on employers to ensure their employees are safe when driving for work. This is a clear-cut matter of corporate social responsibility, and the right step towards a crash-free driving culture.

Research shows that in 2006, work-related traffic fatalities contributed to nearly 30% of all fatal injuries in the workplace in New Zealand. This is the human cost, a tragic cost. But financial costs of work-related road safety can also be crippling.

We have to all work together to promote safer driving practices and to bring the road toll down.

Several initiatives have been undertaken in the last year or so, and I'd like to touch briefly on some of these.

There is, of course, the Automobile Association initiative aimed at giving experienced drivers an education "top-up". We all know that complacency can be a killer, so these courses are a great way to tune up rusty driving skills.

Not only are there safety benefits in completing such a course, there are also some environmental synergies. For example, it's estimated that up to 30% of all fuel in New Zealand is wasted through poor driving styles or such as speeding and having a heavy foot on the brake and accelerator.

There has been the introduction of several smart tools and guides for work-related road safety. These include:

'Your Safe Driving Policy', a guide developed by Land Transport New Zealand and the Accident Compensation Corporation, with the assistance of the Department of Labour, to help organisations write and implement safe driving policies; **'Rightcar'**, a website which provides comprehensive, searchable information to car buyers on how different makes and models rate for safety and sustainability; **'KiwiRAP'**, the road assessment programme

launched by the Automobile Association in January and **Future Fleet**, a road show and website that encourages fleet buyers to purchase safe and sustainable vehicles.

There is an ongoing programme of law changes, all of which are designed to improve road safety. For example, there's to be a new compulsory roadside drug impairment test and there are changes in the licensing system for public transport operators including taxi drivers.

And there's a lot of ongoing work to address the challenges of driver fatigue, which is a serious issue for workplaces, and driver distraction. I understand you will get an update this morning about the Driver Fatigue Strategy, developed by a cross-agency team, that I launched late last year.

Tired drivers contributed to the deaths of more than 40 people and the injury of nearly 1000 in road crashes in 2006, and the Strategy has an action plan that sets out a number of key initiatives to help address the road safety risks posed by driver fatigue.

But, we know that there are no simple answers to some of these issues. We can only make so many laws and we have a limited number of people to enforce them. We can only run so many road safety campaigns on television.

The Government has an important role to play in road safety, but so too do groups and businesses such as yours. That's why I'm pleased to see you at this seminar today, and why I'm so supportive of the Foundation's initiative.

I know there will be plenty of debate today, and I know you will go away with good ideas which I encourage you to put to use in creating a crash-free driving culture in your workplace.

Thank you for inviting me. I'll now let you get down to the business of helping make our roads safer.

3 Driver risk assessment, monitoring and improvement

Dr Will Murray, Research Director, Interactive Driving Systems, willmurray@roadrisk.net

Road collisions have been widely acknowledged as one of the biggest causes of premature death. Driving to or for work is a particularly high risk activity. For this reason, occupational road safety has taken off around the world, as an important issue for governments, researchers and industry over the last few years.

3.1 Background

In many ways New Zealand, which has approximately 400 road fatalities per annum, has been at the forefront of initiatives in occupational road safety:

New Zealand government has clarified that Occupational Health and Safety laws do apply to drivers who are at work, has introduced several innovative resources for corporate road safety including guides on vehicle selection and a comprehensive guide to fleet safety policy.

Despite the lack of “Purpose of Journey” data in New Zealand’s road transport and safety statistics, some research has focused on quantifying the extent of the problem of occupational road safety. For example McNoe et al identified that work-related traffic fatalities contributed to 29% of all fatal injuries in the workplace in New Zealand. According to Sultana et al the non-fatal work-related motor vehicle crash rate is 109 per 100,000 workers per year, at an average cost of \$2,884 per incident. Department of Labour research showed that about 25% of commercial vehicles are involved in a collision each year. The department proposed a proactive model for organisations to apply to improve their performance, which has already proved successful in other countries such as the UK and USA.

An obvious next step is for corporate New Zealand to focus more attention on managing the safety of its drivers. There are several reasons why this is important, but particularly:

1. CSR – corporate social responsibility, in that using the road is the most risky activity that most people in New Zealand face. More and more successful organisations are including road safety in their CSR and community enhancement strategies for this reason. It is a lead which corporate New Zealand should follow.
2. Legally, both Transport and Occupational Health and Safety legislation require organisations to assess, manage, monitor and improve the safety performance of people travelling on their behalf, and an effective road risk program can keep organisations ahead of and protected from their legal requirements. In many cases, proactive organisations help to shape and lead forthcoming safety regulations, and gain a competitive advantage by being ahead of more reactive organisations.
3. From a business perspective, there are clear links between safety, quality, customer service, efficiency, environment, fuel use, asset damage, downtime and wear and tear. Effective work-related road safety also offers many marketing, business development, CSR, staff well-being, brand enhancement and brand protection opportunities. At the most simple level, it is much easier to promote a good news story such as winning a safety award, than it is to have to react to and suppress the outcomes of a major incident.
4. Financially, the implications of work-related road safety can be massive, with significant increases in insurance costs, ambulance chasing and personal injury costs in recent years. Australian research suggests that typically workplace injury

costs are met 40% by the employee, 30% by the employer and 30% by the community as a whole. In a company with an average vehicle repair bill of \$1,000 per incident, and making 10% profits, the hidden costs can be as much again as the repairs. This means that the company has to generate \$20,000 in revenues just to fund the costs of a collision. It is often much easier and more cost effective to invest some time and energy in avoiding the collision in the first place.

In other countries around the world, particularly UK, Australia and the US, many organisations have successfully implemented work-related road safety programs to achieve all these outcomes. Examples are shown at www.fleetsafetybenchmarking.net and www.virtualriskmanager.net

It is our conviction that an opportunity exists for NZ organisations to follow this lead, by adopting a PROACTIVE approach and working towards developing a crash free culture in their businesses, based on application of the Haddon Matrix shown in Appendix 2. One good example is that of **Roche Australia, which has cut its risks, collisions and costs.**

3.2 Roche case study

Roche Products Pty Limited of Australia (Roche) is a pharmaceutical manufacturer and distributor, part of the wider global Roche Company based in Switzerland. Employee safety on the road is of great importance to the company all over the world. In Australia, we are dedicated to creating a safe driving culture for our 650 staff. Our aim is to promote heightened awareness and responsible driving behaviours for all employees, to prevent vehicle collisions, reduce personal injury and minimise property loss claims.

This case study describes four key initiatives Roche has undertaken with support from its insurer, Zurich Australia, and Interactive Driving Systems:

1. Implemented Virtual Risk Manager (VRM) for all existing staff and new employees.
2. Policy development.
3. Communications program.
4. VRM enhancements.

Since starting the program in January 2005, Roche has successfully **implemented VRM** Driver Profile, RoadRISK, One More Second and RoadSKILLS modules and the MIS that supports these tools. This approach enabled Roche to carry out risk assessments, and to monitor and improve the safety of its employees. Roche also took the opportunity to roll out its **Vehicle Safety Policy** and **Driver Licence Checks** as part of VRM, allowing a seamless process for driver risk assessment, monitoring and improvement – achieving almost 100% compliance on each of the four modules for existing staff. New recruits undertake the program soon after joining the organisation, as part of their extended induction.

The program was effective immediately - generating discussion in corridors, over morning teas and at question times. Roche analysed and targeted high, medium and low risk areas, for the company as a whole and at an individual employee level. The outcomes provided both short term and long term objectives, which were addressed by working closely with Interactive Driving Systems and internal teams such as HR and OSH.

For example, one of the RoadRISK questions is 'Have you had an eyesight test within the last 12 months?' Over 25% of employees answered 'NO'. This was drawn to the attention of the HR department, who subsequently offered free eyesight tests to all employees – whether

entitled to a company vehicle or not. In total, 138 employees took the opportunity to have their eyes tested, 64 required further examination and 28 required glasses. This is now an annual assessment process for all employees.

As part of the program, Roche has also developed, implemented, monitored and **improved its policies, procedures, processes, driver manual and on-going communications** including initiatives on collision reporting and investigation, anti-lock brakes, speed, seatbelts, alcohol, fatigue, holiday driving, back pain, journey management (to minimise employee kilometres), vehicle checks, tailgating (**Appendix 3**) and driving whilst pregnant.

3.3 Outcomes

The program has improved safety based on both proactive and reactive indicators.

One of the key reasons for adopting VRM was the availability of extensive university and industry-based **proactive evaluation data**. Based on the first 422 Roche drivers to complete RoadRISK a clear correlation between the assessment outcomes and driver crash history was identified.

The ultimate **reactive** measure of the success of a program is in relation to ROAD SAFETY OUTCOMES. Based on data provided by Zurich insurance underwriters, Roche has reduced all its major collision types including 'Failed to yield'(failed to give way), 'Rear enders' and 'Reversing', improved its loss ratio from 69% to 48% and cut its costs.

The program has also received external recognition recently by being the first Australian organisation to be recognised by the prestigious 2007 Fleet Safety Forum Awards, hosted by the UK-based road safety charity Brake. Roche was Highly Commended in both the Road Risk Manager of the Year and Company Driver Safety awards. It also won Australasian Fleet Managers Association (AFMA) Safety Award 2007.

3.4 Summary and future steps

As well as showing a major commitment to road safety, the program is also innovative:

- Application of sophisticated internet-based technology to fleet safety in Australia.
- Research-led approach based on independent evaluations and internal data.
- Extensive MIS, allowing data visibility, with results easily centralised, analysed and actioned.
- MIS developed to include own policies, licence checks and methodology to effectively risk manage starters and leavers.
- Highly cost effective - by targeting most risky areas in a standardised way, allowing employees to receive a large element of their recruitment, induction, risk assessment and corrective training before they and their trainers are exposed to the risks of the road.
- Not tied to expensive and poorly targeted in-vehicle driver skills based interventions.

Despite the successes to date, Roche is not standing still and is working on steps to:

- Sustain and maximise the use of VRM for all existing employees and new starters.

- Develop new initiatives to reinforce Corporate Policy, including its newly revised mobile phone policy.
- Design and implement new VRM modules, including the Safe Driving Pledge, Risk Foundation policy assessment, version 2 of the RoadRISK Profile, RiskCOACH, bespoke KPIs and CrashCOUNT.
- Engage in external programs such as benchmarking and road safety outreach through best practice case studies to help other organisations learn from its initiatives.

Overall there have been many innovations in work-related road safety, which is an emerging global issue that has the potential to improve general road safety in New Zealand. There is a range of societal, business, legal and cost reasons to improve it. Successful organisations focus on measurable policies, processes and procedures enabling them to work toward developing a crash free culture.

3.5 References

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4 Driver distractions

Peter Baas and Dr Samuel Charlton, TERNZ Ltd, www.ternz.co.nz, p.baas@ternz.co.nz

There are many forms of driver distraction and factors that increase their incidence. This presentation looked at three aspects:

- Cell phone use.
- Driving without awareness.
- Effect of fatigue on awareness.

4.1 Cell phones

Preliminary results from a research project conducted by Waikato University and TERNZ suggest the risk of talking on a mobile phone while driving – whether hand-held or hands-free – is significantly greater than talking to a passenger in the car. Drivers stop talking to an in-car passenger when they have to cope with a hazardous situation, but they don't stop talking on a mobile phone in the same situation. This is partly due to 'conversational suppression' on the part of the passenger, who can see the hazardous situation developing and tends to stop talking until the situation has been successfully negotiated. People on the other end of a phone call cannot see the road situation and do not stop talking. Drivers approaching an intersection at speed while on the phone, for instance, barely slowed down, whereas with a passenger they slowed markedly. Talking on a mobile phone is riskier than other driver distractions that are often cited as equally distracting – e.g. eating, changing a radio station – because these are discretionary activities usually conducted when the road is clear. Mobile phone use slows drivers' reaction to hazards, and impairs memory of road signs. Full results from the research study are expected to be published later in 2008.

4.2 Driving without awareness

Most of our road safety interventions assume drivers are aware and attentive while in fact most drivers are driving without awareness, most of the time. Drivers may notice as few as 1 in 10 road signs and have very poor memory for road signs. This presentation described how driver behavior can be managed through the use of perception-based treatments. A number of examples of effective perception-based treatments were given, based on TERNZ research. For example, the management of speed around curves through the use of chevrons and road markings and the reduction of inadvertent speeding at rural-urban thresholds through the appropriate use of gateways and road markings.

4.3 Driver fatigue

The main effect of fatigue is a progressive involuntary withdrawal of attention from road and traffic demands. This often manifests itself in the form of drivers not remembering where they have just driven, reduced vehicle control, wandering thought patterns, and missing turn-offs. As the level of fatigue increases, drivers become increasingly distracted as their attention focuses on inner thoughts and their fixation shifts to being close to front of vehicle

(called 'Empty Field Myopia'). As the effects of fatigue increase, drivers will experience micro-sleeps, which may last a few seconds, during which the driver will be totally unaware of the road being traversed. At 100km/h, the vehicle will travel 28 metres for every second of micro-sleeping. The final stage of fatigue is "nodding-off", with the driver only responding when woken up, for example, by the vehicle leaving the road. 4,500 people died or were injured on NZ roads as a result of fatigue between 2001 and 2005 (MOT). Fatigue was reported by Police as being a factor in 7% to 18% of fatal and injury crashes in New Zealand. Because it is difficult to determine if the driver was affected by fatigue after a crash, overseas studies have estimated that the actual proportion of fatigue related crashes may be up to three times higher than reported.

5 Using on-board cameras

Haydn Bowbyes, Commvee NZ Ltd, www.drivecam.com, info@commvee.co.nz

The latest in fleet risk management technology is here in the form of dual lens, in-cab cameras. Triggered by g-force, these cameras are proving themselves to be an unbeatable tool to manage and maintain fleet safety culture. With onboard cameras you can:

- Regularly monitor and assess your employees' practical driving skills.
- Immediately identify your level of risky driving from an individual driver and the organizational perspectives.
- Test and dramatically improve your driver safety policies and procedures.
- Know where your next incident is likely to come from, and move to prevent it.
- Protect your employees from fraudulent 3rd party claims and potential prosecution.
- Experience first-hand the benefits of vastly improved work-related road safety coupled with sustainability and energy efficiencies.

A series of sample video clips from high risk situations were included in the presentation:

6 Work-related road transport law

David Eyre, Manager, Land Safety Management, Land Transport Environment and Safety, Ministry of Transport d.eyre@transport.govt.nz

Role of the Ministry of Transport

Text of presentation for the AA Driver Education Foundation *Creating a Crash-Free Culture* work-related road safety workshops, held on 12 – 14 March 2008

Transport in New Zealand

“Moving People, Moving Freight”
.....into and out of New Zealand
.....around New Zealand
.....within cities and town

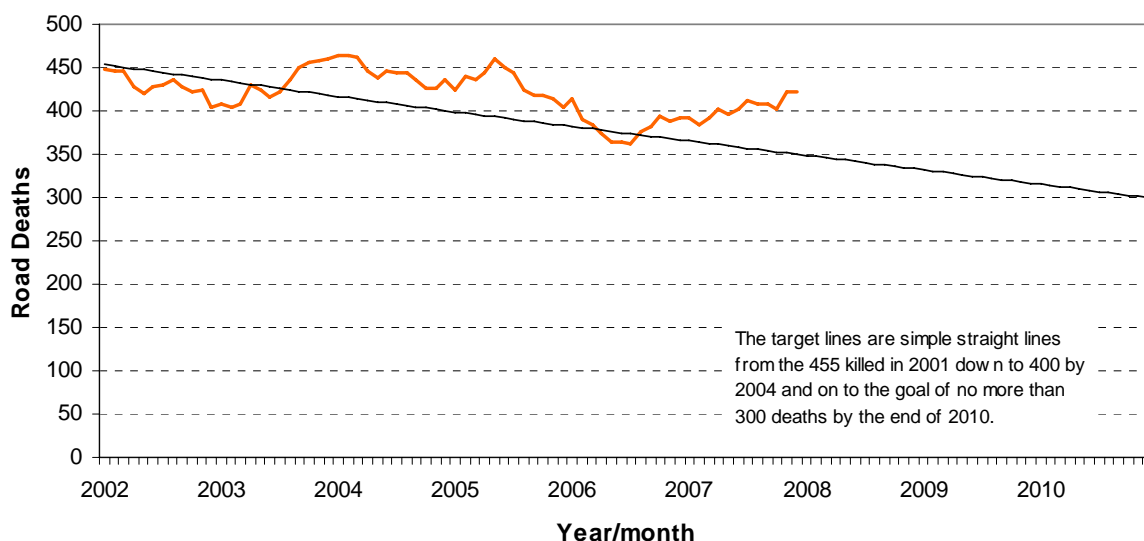
Role of the Ministry of Transport

- As the government's principal transport policy adviser, the Ministry both leads and generates policy. The government's New Zealand Transport Strategy (NZTS) provides the framework within which transport policy is developed.
- In 2008, the government will publish an Update of the New Zealand Transport Strategy. This update will:
 - provide direction for the transport sector until 2040 in the context of the government's sustainability agenda and other government strategies
 - translate that direction into high-level targets for the transport sector and intermediate targets for sub-sectors (air, sea, road, vehicle fleet etc.) to help achieve the high-level targets
 - provide clearer guidelines for decisions about funding allocations
 - contain an action plan, including accountabilities for actions, reflecting how we intend to reach the transport targets

Note: The Government sector includes five Crown Entities and one Trust: Civil Aviation Authority, (including the Aviation Security Service), Land Transport New Zealand, Maritime New Zealand, Transit New Zealand, Transport Accident Investigation Commission & the Road Safety Trust.

These agencies are responsible for the day-to-day “hands-on” management of our daily traffic, aviation, rail and maritime activities. The roles they play, and the composition of their Boards, are set out in legislation.

Road Safety



In 2006, the road toll was the lowest for nearly 50 years, but last year the trend was reversed with 423 deaths

Note: As you can see from this graph more needs to be done if we are to achieve our road safety targets. Research shows that in 2006 work related traffic fatalities contributed to nearly 30% of all fatal injuries in the workplace in New Zealand so this is an important area where businesses can make a real difference.

The orange line is tracking the road toll based on the toll for the immediately preceding 12 months.

Some recent Government road safety /vehicle initiatives

- **Vehicle Emissions Rule** **January 2008**
- **KiwiRAP launch** **December 2007**
- **Further road safety initiatives** **December 2007**
- **Driver Fatigue Strategy** **December 2007**
- **Future fleet roadshow** **November 2007**

Note: The Vehicle Emissions Rule will mean tighter restrictions on used imports and will have both safety and environmental benefits

The New Zealand Road Assessment Programme, KiwiRAP, is a road safety partnership between the Automobile Association and New Zealand's main transport agencies.

The latest road safety initiatives target speedsters, young and novice drivers and those who persistently break road rules by red light running and not wearing seat belts. The proposals include changes to the current demerit points system, changes to penalties for some speed offences and measures to cut the high crash risk to young people behind the wheel.

The Driver Fatigue Strategy will be covered in more detail in a later workshop presentation.

The Future Fleet roadshow was led by ACC and Land Transport NZ with input from the Ministry of Transport and New Zealand Police. The focus was encouraging fleet buyers to

purchase safe and sustainable vehicles because these flow into the second hand market within 2-3 years.

Some upcoming work for the Ministry of Transport

- Updating New Zealand Transport Strategy to be released
- Next Steps Implementation – merging Transit NZ & Land Transport NZ
- Road Safety to 2020 strategy development
- Vehicle Safety Technology Campaign – led by Land Transport NZ & ACC: encouraging the wider public to buy safe & sustainable vehicles
- New compulsory roadside drug impairment test before Select Committee
- Continued work on driver fatigue and driver distraction

Note: The driver fatigue strategy includes reporting progress on the agreed action plan, and development of next year's action plan.

7 Australian Accreditation and Operator Rating Schemes

Summary of Austroads research on the safety benefits

Peter Baas, TERNZ Ltd, www.ternz.co.nz, p.baas@ternz.co.nz

TERNZ has been undertaking an investigation into the safety benefits of the Australian heavy vehicle accreditation schemes. Accreditation is a formal means of recognising operators who have good safety and other (e.g. mass) management systems in place. These systems need to be properly documented and audited by third parties to verify that they have been implemented and are used on a routine basis. The safety benefits were determined by analysing the crash rates of combination vehicles (B-doubles, tractor-semitrailers etc) accredited to either or both TruckSafe and NHVAS and those not accredited. A wide range of stakeholders were interviewed and international studies on the effectiveness of accreditation and safety management were reviewed.

The results are based on an analysis of the crashes of 48,000 combination vehicles that occurred over a 3 year period in Victoria, New South Wales and Queensland. In addition insurance claims records were analysed and a number of North American studies reviewed.

The results indicated that:

- operators who have safety management practices that meet accreditation standards are significantly safer than non-accredited operators. The calculated difference in average crash rates was substantial, with vehicles accredited to the schemes having between $\frac{1}{2}$ and $\frac{3}{4}$ fewer crashes on average than non-accredited vehicles.
- the findings are in line with overseas experience.
- operators show substantial improvements through the process of becoming accredited
- accredited operators found that accreditation made internal processes easier to manage and the external audits helped to drive positive change within their companies. There is also some evidence indicating that accreditation improves financial performance (e.g. a higher return on assets)
- improvements appear to be driven by a change in safety culture. An example of this occurring was reported by operators who noted that, after their sub-contracted operators became accredited, they tended to be more open with information, better at communicating and were more professional and willing to exchange information with their peers
- the smaller the fleet, the greater the benefits that will be produced by becoming accredited.

The full report will be available by mid year on the Austroads website:

www.austroads.com.au/ under Publications.

8 NZ Operator Rating Scheme (ORS)

Contact: Rick Barber, Manager Transport Relationships – Northern, Land Transport NZ
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Regulations exist to protect licence holders, their drivers and customers, and to improve road safety for all road users. Unfortunately, some licence holders take illegal shortcuts. These actions may undermine the business of compliant licence holders and result in unsafe vehicles and driving behaviour on the road.

The NZTA is working towards an environment where businesses can select licence holders with high safety standards. The Operator Rating System will be in place mid-2009 and will enable regulatory activities and roadside enforcement to be targeted to where it is most needed. Ratings will range from one star for poor, two stars for unsatisfactory, three stars for average, four stars for good and five stars for excellent.

The ORS is based on data collected on operators, their vehicles and drivers. It will focus on safety events that occur over a rolling 24-month period. Different types of events will be weighted according to their severity. The ORS calculation will take into consideration fleet size and number of events.

All transport service licence (TSL) operators will be rated. A rating will not be assigned to an operator for the first time until a minimum of six months event information has been collected. A new rating will be recalculated and published within at least six months of the last assigned rating. Information used to make up the ratings will include: crash information, Certificate of fitness (CoF) information, operator reviews and investigations, roadside inspection information and driver and operator convictions and infringements.

To ensure they have effective management systems in place, operators should contact their nearest NZTA office and ask to speak to a transport regulatory advisor (TRA). The TRA can provide advice on how an operator's performance might be analysed.

9 Eliminating driver fatigue: Government Agencies update and assistance

Christopher Foley, Principal Adviser, Land Transport Environment and Safety, Ministry of Transport

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Debbie Stearns

ACC Workplace Safety Programme Manager

Email: Debra.Stearns@acc.co.nz

Fatigue is recognised as a hazard for drivers, particularly those that drive for work.

What is driver fatigue?

MOT in 2007 defined driver fatigue as a physiological condition that can occur long before you fall asleep at the wheel. It has a negative impact on your reaction time, your ability to concentrate and your general understanding of the road and traffic around you.

The Big 3 causes of fatigue

1. Time on task - Length of time awake (or how long since last sleep)
2. Sleep debt – quality and quantity of sleep -- acute debt or chronic debt
3. Circadian factors - time of day factors

Driver Fatigue: Injuries and Social cost - reported fatigue crashes 2002-2006

There were 256 fatalities, with 4351 injuries both serious and minor at a social cost of 1,579.06 million dollars.

The effects of fatigue on driving

The most obvious warning signs of fatigue are a person's eyes feeling sore, heavy, itchy, vision blurry, as well as frequent yawning, daydreaming or inattention, feelings of thirst, hunger or irritability. Driving behaviour changes where driving speed fluctuates, e.g. crossing the centre line with no memory of the last few kilometres. There is a definite decrease in attention to safety-related tasks and tendency to drive vacantly gazing at one point. The most extreme effect is falling asleep or 'zoning out'.

Ways to avoid fatigue

Plan your trip with a good night's sleep beforehand. Try not to travel for more than 8-10 hours per day. Plan and take regular breaks, starting your trip early in the day. If necessary, stop and spend the night somewhere, if you feel tired.

When driving, keep the temperature in the vehicle cool. Eat well-balanced meals at usual meal times. Don't drink alcohol before driving. Check that any medications you take do not cause drowsiness. Share the driving if possible. And, if you feel tired, stop and take a power nap from 20 to no more than 40 minutes.

Agency response

The Honourable Minister of Transport Harry Duynhoven signed the Driver Fatigue Strategy in December 2007. You can find the document at the following website:

www.transport.govt.nz/assets/NewPDFs/DriverStrategicFrameworkamend3.pdf

An interagency fatigue group meets quarterly to keep up to date on the activities and resources being developed regarding the issue of fatigue.

For instance, ACC has developed a wide range of resources such as the *Fatigue Training Package* for delivery in the workplace, but covers the driving to and from work as well as personal driving. ACC conducts *Driver Reviver* stops throughout the country, primarily on holiday weekends. ACC and CVIU “team up” with other road safety partners to hold Truck Stops throughout the country, at weigh bridges. There are a variety of posters, wallet cards and DLE cards available regarding the issue.

Find more information:

- www.acc.co.nz/injuryprevention/worksafety/Fatigueintheworkplace
- Contact Debbie Stearns, Debra.Stearns@acc.co.nz

10 Driver wellbeing: Truck driver health and wellness

Peter Baas and Hamish Mackie, TERNZ Ltd, www.ternz.co.nz, p.baas@ternz.co.nz

This presentation described a research project undertaken by TERNZ for the Log Transport Safety Council and ACC. The research investigated concerns about the incidence of health and injury related problems and time off work as a result of these problems, especially among older drivers in their industry. The driver survey and observations found that:

- Log truck drivers appear to be very overweight compared with other New Zealanders of similar age and gender.
- Hearing problems are wide-spread among log truck drivers.
- Approximately 10-20% of drivers have problems with sleepiness or fatigue.
- Drivers who have fatigue problems may also be more stressed and find log truck driving more difficult in general.
- A large proportion of drivers have had problems with relationships or family life and long hours of work appear to contribute to these problems. This appears to be more of a problem with younger drivers.
- There is a relatively high risk of musculoskeletal injury among drivers, especially during loading and unloading operations.
- In general, drivers have a positive view of their employer, have a passion for trucks and appreciate that many problems are related to the wider forestry supply chain system.
- There are advantages to log truck driving compared with other truck driving sectors. Periods of sustained driving are relatively short which helps with fatigue, being in the forest is a pleasant work environment and there is relatively little other traffic to worry about.

The industry's biggest health problem – obesity, is also a significant problem for the nation, and there is a wide range of government and national level resources available to address this problem. Within the log transport sector there are a number of areas that could be addressed, which would likely have an immediate impact on the health and well-being of drivers. The key areas that require attention are:

- Obesity – nutrition and exercise.
- Work/life balance – hours of work, start times, relationships and family, stress.
- Workplace injuries – Hearing, skid site safety, sitting in the cab, getting in and out of the cab.

11 Driver training: the Police perspective

Although not on the brochure program, at the Wellington workshop a short public comment was presented by the National Coordinator: Professional Police Driver Programme, Senior Sergeant Barry Rippon.

He said that NZ Police were very supportive of the content of the workshops and that they try at all times to build this perspective into, and keep working for enhancements in, their own driver training programmes.

12 Driver training: NZAA perspective - Defensive Driving for Experienced Drivers

Karen Dickson, AA Driver Training, Email: kdickson@aa.co.nz, Website: www.aa.co.nz

Road crashes cost New Zealand businesses millions. A safe driver policy and driver safety training are the cornerstones to managing the risk to business, and to keeping your employees safe on the roads.

Imagine this: your salesman is driving along the highway when a beep on his Blackberry alerts him to a redirected email from a difficult customer. The email is an irate demand for a discount based on a very flimsy claim of inadequate service. Distracted by this, your salesman only notices a tractor emerging from a side road, in time to swerve violently. He leaves the road and smashes into the front wall of a nearby farmhouse at high speed. The salesman is badly injured but rescued, his car is a write-off, a person inside the farmhouse suffers minor injuries and the house itself suffers serious damage. The house owner's insurance company then invokes vicarious liability and warns if you don't pay up it will sue your company to recover the loss. Your lawyer advises you to settle.

Not a good day. You've lost a key staff member vital to your income, a car, and you're facing a whopping bill to restore the farmhouse to its owner's satisfaction.

Now do you see the point of having a safe driving policy?

Because the Accident Compensation Commission scheme is a 'no fault' one, New Zealand employers have, to a certain extent, been lulled into a false sense of security about the damage road crashes can do to their business. If the crash described above had occurred in any other nation, the cost of repairing the house would be the least of your worries. The queue of litigants and the damages they might seek would be astronomical. But this is not to say that road crashes are not costing New Zealand employers a great deal of money.

According to *Your Safe Driving Policy*—a guideline for employers published by Land Transport New Zealand and the Department of Labour—road crashes cost New Zealand businesses \$250 million in direct vehicle claims alone.

A survey of 85 firm representatives attending a driver safety workshop found that, on average, one in four work vehicles were involved in a work-related crash. One company surveyed had damage costs of \$3 million per year. Its hidden costs were about as much again, and its return on sales figure was eight percent. This meant that just to pay for the \$3 million in 'metal bashing' costs, it had to generate \$75 million in revenues. Over four years, this equates to \$12 million in bent metal, \$24 million in total costs and \$300 million in revenues to pay for it.

For any organisation which puts people on the road, a safe driving policy is not a 'nice to have'—it's actually an important tool in managing your business risks.

A safe driving policy covers things like:

- What sort of vehicles you acquire.
- Who uses them.
- How and when they are used (for example, do we switch off phones while driving?).
- How actual experience is recorded and analysed.

Sometimes information derived from implementing a safe driving policy can also be used to determine how economically your vehicles are being used. For example, you may well find the drivers who use the least fuel per kilometre travelled are also the drivers who have the fewest insurance claims as well.

One part of any safe driving policy that has to be considered is driver training. Employers are obliged to ensure that any staff member who is required to drive is legally entitled to drive. But just holding a licence isn't the whole story when it comes to being given the responsibility to manage an employer's vehicle.

It is a sad fact of human nature that people simply don't look after other people's property (including that of their employer) as well as they look after their own. Statistics show that people driving company vehicles are twice as likely to have a crash as those driving private vehicles.

The *Your Safe Driving Policy* booklet says: 'Consider who needs what level of training, eg, staff who drive a company or pool vehicle, inexperienced drivers, staff recently involved in accidents or offences, and those who drive their own vehicles to work. Overseas experience suggests that companies should keep up regular training sessions—one-off sessions are not adequate.'

The booklet suggests:

- Your own internal courses—regular staff meetings to discuss driving issues can help develop and maintain a road safety culture.
- Corporate defensive driving courses—teaching drivers to identify dangerous situations and make adjustments to avoid a crash.
- Individually designed courses—delivered by individual providers to suit specific needs.
- Courses for special vehicles, eg, 4WD, forklifts.
- First aid courses.
- Transporting dangerous goods courses.
- Driver assessment courses, carried out by an approved driving instructor, to assess a driver's hazard identification, and search, control and traffic observing skills. After assessment, training requirements and programmes can be recommended.

Generally, we find most organisations want to put their people through the classroom training and then have their most troublesome drivers assessed by a driver trainer. Responsible employers are keen to identify how staff members are driving and what can be done to minimise the costs of the crashes and keep their drivers safe.

It's important to stress that the course depends on a safer driving policy, just as the safer driving policy depends on the training. It is pointless to train people to be safer drivers but then present them with working conditions which encourage them to be unsafe again.

A defensive driving course is not about training people to swerve better. It is about training them so they never need to swerve in the first place. It is about educating ordinary people about how to think about their driving so that they, and everyone else, are safer on the road.

Road crashes are not random events. They are a business risk whose frequency depends on your management. Luck is not a business management strategy. Developing a safe driver policy and working with a driver training organisation is.

The Automobile Association has been helping New Zealanders with their driving for over a century. AA Driver Training is the largest driver training provider in the country with 60 on-road driving instructors and 80 classroom instructors around New Zealand.

All our driving instructors are approved and licensed by Land Transport New Zealand—which is a legal requirement—and they are regularly audited. The Association's defensive driving course—designed for businesses and experienced drivers—is specifically mentioned in appendix C (page 60) of *Your Safe Driving Policy*.

The Defensive Drivers Experienced Drivers Course is for every driver in New Zealand who holds a full licence whether that be a bus, a bike, a truck, or a car. The classroom course is a four-hour tutorial. It is an opportunity to look at your driving personality, the habits you may have developed and things to consider that will make you safer, plus road rule changes as they apply now. This four hours is often the first exposure many people have had since they got their licence 20 to 40 years ago.

The in-vehicle assessment examines habits and behaviours that drivers have acquired over many years. This may include training to allow these drivers to experience for themselves how wrong some of their assumptions about their safety may be.

13 ACC update, incentives programme and opportunities

Debbie Stearns, ACC. Email: debra.stearns@acc.co.nz, Website: www.acc.co.nz

ACC has developed levy discount schemes for all employers of road transport in New Zealand.

After showing a health and safety programme, an employer can apply for a levy discount according to the criteria of the specific programme.

The three programmes available are:

- Partnership Programme
- Workplace Safety Management Practices (WSMP)
- Workplace Safety Discount programme

The **Partnership Programme** is appropriate for the largest employers, and as a guideline, pay an annual levy to ACC of \$100,000 or more. The employer carries the responsibility, including cost, for your employees work injury claims. The reduction in ACC levy can be up to 90%. There are various levels of discount and responsibility. In this programme the employer is subject to annual audit.

The **Workplace Safety Management Practices** (WSMP) is appropriate for medium size employers who pay an annual ACC levy of between \$10,000 and \$100,000. There are 3 levels of discount based on effectiveness of health and safety systems. With this programme the discount is valid for 24 months subject to audit.

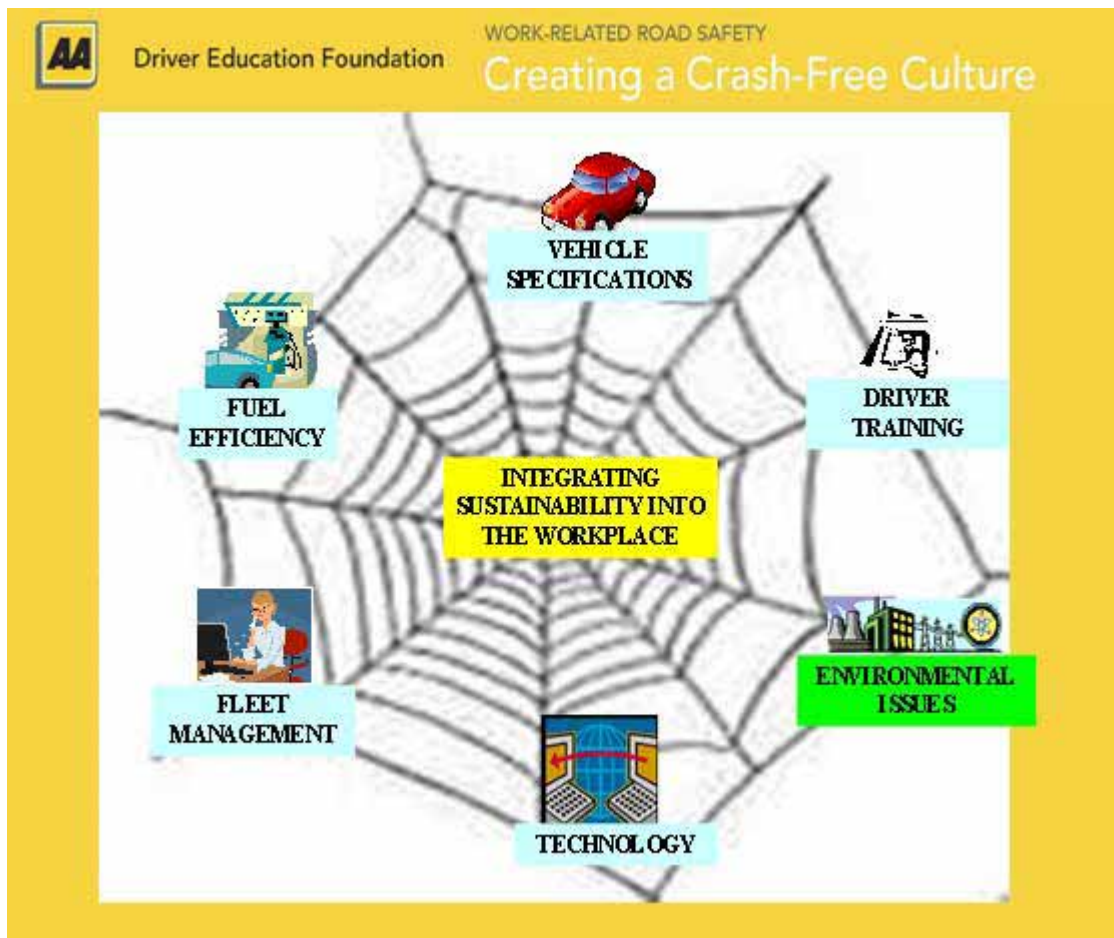
When you achieve the **Workplace Safety Discount** programme you get a 10% on the work component of the ACC levy for small businesses and self employed people who can show sound health and safety practices. The discount applies for 3 tax years from the date your application is accepted. Eligibility for this programme requires 1) Liable earnings of \$450,000 or less, OR 10 or less full time employees. 2) You pay your levy to ACC in an eligible classification unit. The industries that this programme is offered to are Road Transport, Agriculture, Forestry, Construction, Metal Manufacturing , Fishing and Motor Trades.

You can find more information on ACC Incentive programmes at the ACC website at the following: www.acc.co.nz/levies-and-cover/employers/how-to-pay-less

14 Vehicle selection, sustainability & energy efficiency in a crash-free culture

Introduced by Peter Sheppard, Board of Trustees, AA Driver Education Foundation, and Transport Safety and Sustainability Consultant. Email: pcs.transcon@xtra.co.nz

Creating a crash-free culture in the workplace fits with sustainability efforts fleet operators are taking. Road safety issues, particularly in terms of speed management, journey planning, vehicle selection and maintenance, are intrinsically linked to environmental issues and CO2 emissions. In particular, efforts to drive and operate motor vehicles in a fuel efficient manner directly correlates to safety. Sustainability therefore becomes the catalyst to create a web linking the key components:



15 Driver training standards: Tranzqual

Setting National Standards in Work-Related Road Safety

Tony Lansdown
Group Manager
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Tranzqual
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Hello Everyone...

If I was to ask any one of you to check out my driving, I guess you'll:

1. Get me to actually drive a vehicle on the road...
2. Be sitting next to me so as to see what is going on during the "drive" and give me some instructions ...
 - Go first left after the Shell Service Station...
 - Turn right at the roundabout...
 - Stop and park alongside the ACC sign...
 - Reverse up the driveway...
 - Complete a 3-point turn outside the Police Station...
 - Observe my adherence to the rules of the road...
 - And so on...

... and at then end of the drive I'm picking that you will provide me with some feedback and an indication of how, according to you, I went.

But is that enough? Does that approach really set about to determine my driving skill and examine in any way my driving behaviour? And how do I know that I am being "measured" in a consistent manner with other drivers?

What we need are some standards – standards of competence maybe – and a more formal way of determining how my driving and that of others "stack up" against such standards. Standards that are recognised nationally and even internationally perhaps...

Well wouldn't you know it.... Driving related standards of competence do exist.

Skills standards...

Competency standards...

Unit standards...

Different names but they all mean the same thing... and in New Zealand these standards are managed by Tranzqual – the officially recognised Standards Setting Body for **DRIVING**:

- Light motor vehicle
- Heavy motor vehicle
- Specialist vehicle, such as four wheel drive

The suite of standards cover skills for driving:

- On road
- Off road
- Sealed surfaces, and
- Unsealed surfaces...

...and include a range of knowledge competencies associated with driving:

- Rules of the road
- Vehicle characteristics
- Vehicle dynamics
- Road safety elements such as fatigue

These standards are of course registered on the National Qualifications Framework and describe what a learner needs to know or what they must be able to achieve or do.

Standards then specify learning outcomes and declare a minimum level of performance.

You can download any of these standards from the NZ Qualifications Authority (NZQA) web site....

Let me now turn to driver training....

Driving, as we know, is an unsupervised and self-directed activity. Thus, drivers' emotions and motivations mostly determine the risks they are exposed to. Training then must attend to the physiological, emotional and cognitive elements of driver behaviour.

But training does not change people's behaviour. Rather training is a springboard for change. Real change can only occur **after** training.

Effective training helps participants prolong the learning experience and adapt it to the world they live in. Learning organisations consider training as only one type of experience that can contribute to change.

A variety of factors - environmental and contextual - influence drivers' behaviour in organisations.

It follows then that combining interventions such as training, policies and social and cultural activities will best address these factors. One treatment working in isolation is unlikely to have a positive long-term influence on the choices drivers make.

Effective driver training programs, incorporating training and non-training interventions, need clearly defined goals and performance indicators to guide tactical and strategic decision making.

Some people do not question the assumption that traditional driver training is an effective means for changing driver behaviour. But is this a sound assumption to make? Research demonstrates otherwise.

Driver training cannot and does not change participants' behaviour. People choose to change their behaviour after training as a consequence of how they think, feel and interpret the environment they go on to work and live in.

According to some Canadian research, the value contributed by each phase of the learning process has been estimated as being:

- 26% pre-training work
- 24% learning experience
- 50% follow-up (post learning).

Incidentally, it is estimated that, in terms of how training is funded...

- 10% pre-training
- 85% learning experience – the training
- 5% post-course follow-up.

So while we recognise follow-up as an important part of the learning process, how much effort do we actually put in at this stage? Seems as though the investment post-training is not allowing a higher level of follow-up activity.

Effective actions following training provides an enormous benefit to an organisation because it enhances the degree to which any learning is put into practice thus leveraging the

investment already made in the training. To be truly effective after the learning or training an environment must be created that periodically provides reminders about learned behavior and encourages use of that behavior.

However, in reality while people leave training programmes with the best of intentions, back on the job something happens. With the pressures of work and having to catch up from being away, good intentions evaporate and commitments are deferred. The result? Little or in some cases nothing of what has been learnt is transferred onto the job in a planned and conscious way.

Road safety and being crash-free is not just a matter of implementing a training programme... it is also how people are assessed and what... as I have touched on... happens after the training – the impact of the transfer of learning back on the job.

Traditional assessment systems usually have some or all of the following characteristics:

- Assessment associated to a training course or programme.
- Parts of the programme are assessed by means of subjects.
- Parts of the programme are included in final examinations.
- Passing criteria are based on marking scales.
- It is usually done within limited periods of time.
- Statistical comparisons are used.

COMPETENCY BASED [or standards based] **ASSESSMENT** is a basis for “certification” of competency and is carried out as a process that collects evidence about the performance and knowledge of a person with respect to a standard – of competency.

Thus it becomes a very valuable diagnostic instrument both for the staff member and employer.

Some of the key characteristics of competency-based assessment are:

- It is based on standards that describe the expected level of competency and performance.
- Standards include criteria that provide details of what is considered a good job.
- The assessment is individual - there is no comparison among workers.
- It provides a judgement for the assessed workers: competent or not yet competent.
- It is done, preferably, in real working situations.

- It does not take a predetermined period of time; it is a process rather than a particular moment.
- It is not subject to the completion of a specific training action.
- It includes the recognition of acquired competencies as a result of work experience...
“Recognition of current competency” or RCC.
- It is a tool for the orientation of subsequent learning of the worker; as such, it plays an important role in the development of skills and abilities of those assessed.

Competency assessment as a process has several steps:

- Setting goals.
- Collecting evidence.
- Comparing evidence with objectives.
- Forming an opinion or decision:
 - Competent – person meets (or exceeds) the standard
 - Partial competence – person meets some but not all of the standard
 - Not yet competent – person does not meet any requirement of the standard

In summary then standards-based assessment (SBA) refers to an assessment in which a person’s achievement is judged – assessed – by whether it meets a predetermined standard, or level of performance.

In terms of training... why do you train and what do you aim to get from your investment?

Let me suggest some great reasons why you should get into training and adopt a culture of training in your business...

1. JOB SATISFACTION

Training encourages job satisfaction, which can lead to fewer resignations.

2. GREATER PRODUCTIVITY

Training improves the efficiency and effectiveness of your workers, which leads to greater profitability.

3. IMPROVED STAFF MORALE

Employees, who feel good about themselves, because they're learning new things, help to build a positive work culture.

4. IMPROVED SAFETY

Good training helps to prevent accidents and thus assists in improving health and safety. And remember a vehicle is now considered a place of work in respect of OSH Legislation.

5. ADAPTABILITY TO CHANGE

Training will help your people adapt more quickly to change when changes happens which will help to keep productivity high.

6. POSITIVE ATTITUDE TO MANAGEMENT

Helping your people to gain new skills and knowledge shows that you care. If they like you, they'll work harder for you.

7. INCREASED CHANCE OF INTERNAL PROMOTION

Training helps to keep knowledge and skills within your organisation.

8. CONFIDENCE WITH CHANGING TECHNOLOGY

Training can help your people to stay in touch with new advancements and adapt quickly to new systems.

So there you have it.... And to me it seems to makes sense that to retain an edge over competitors, companies have to keep abreast of industry changes, technological advances and new industry legislation.

In some situations, training is not a "Return On Investment" issue, but an issue of "Train or Perish".

By adopting a standards-based learning culture you are in control by being able to:

- Determine current competence
- Identify any performance deficiencies (gaps)
- Develop an individual (performance) development plan
- Identify training needs.

Thus competency standards apply to a wide range of purposes and outcomes...

- Staff development
- Job evaluations
- Recruitment and selection

- Training
- Professional recognition
- Training needs analysis
- Job descriptions
- Assessment and appraisal – regular driving assessments for example
- Skills audits
- Organisational planning
- Qualifications
- Structured training programmes

The outcome is a powerful system aligned to industry agreed nationally recognised competency standards and training that keeps your businesses up-to-date and delivers the benefits outlined earlier.

As part of our role Tranzqual will work with you to:

- Help scope out your training needs
- Map competency standards to your internal training programmes and requirements
- Sort out a training delivery option that best suits your business
- Provide training and assessment resource support
- Link training outcomes to the National Qualifications Framework
- Provide regular reports on trainee progress

Address any training issues – delivery, quality, and so on

Examples of initiatives that Tranzqual has been involved with...

- ***Employee Evaluation Guide***
 - A tool to assist with the induction of new employees (and to confirm the skills and knowledge of existing staff)
 - Applicable to heavy motor vehicle operators
 - Free to companies

- **Fatigue Guide**

- A simple booklet that explains the affect of fatigue and ways to manage it
- Part of an Information Series being developed by Tranzqual
- Free

As the standards setting body for **DRIVING**, we are here to help your business get the best out of a standards-based training system.

Our Regional Teams are only too willing to meet and discuss your training needs.

Call **0800 45 QUALS (478 257)** or check out our website at www.tranzqual.org.nz for assistance.

16 Shell New Zealand operator experience

The presentations from Shell NZ Limited were delivered by (Auckland) Robert Hilliam, Senior Field Lubricants Engineer and (Wellington and Christchurch) Murray Young, General Manager, Alexander Petroleum.

17 Debate on safety culture responsibilities of drivers and managers.

At the sessions in Auckland and Christchurch, a debate was held on the responsibilities of individual drivers and/or managers to improve occupational road safety. A summary of the main outcomes follows, based on the question: *Are managers or drivers the biggest cause of work related road crashes?*

Organisations:

- Need to manage client pressure and tensions between the purchasing departments and the dispatch operations better.
- There is rarely one cause – incidents happen and things go bad when a combination of things goes wrong.
- No one intervention is enough to manage all the risks.
- Everyone has to pull together across the company operations.

Managers:

- Often have unrealistic expectations of what drivers can achieve.
- Pass on cost pressures to drivers..
- Ask for too much from drivers in the time available.
- Put operational priorities above concern for staff.

Drivers:

- Are behind the wheel.
- Drive when tired, and can choose an unhealthy lifestyle.
- Don't follow the rules.

Overall, the audiences agreed that both managers and drivers are important, and need to be supported by good organisational policies, processes and procedures that set the organisation's overall safety culture.

18 Conclusions, participant pledges to action and next steps

The high number of work-related fatalities, crashes and injuries in New Zealand, means that more organisations are focusing attention on managing the safety and sustainability of fleet vehicles and their drivers, aiming to reduce crash risk and increase safety and profitability.

International research illustrates positive improvements in reducing work-related crashes through developing the organisational culture. The benefits also extend to environmental sustainability and fuel economy. With this in mind, the following conclusions can be drawn from the workshops.

- In opening the Wellington workshop Minister for Transport Safety, Hon Harry Duynhoven, highlighted the full extent of the problem, and the steps that the New Zealand Government is taking.
- ACC Workplace Safety Programme Manager Debbie Stearns believes that providing employees with the necessary tools and training to prevent an accident creates a safer work environment and is best practice. She concluded that: 'Driving is a high risk work-related activity so educating employees on better driving technique and creating defensive drivers has great benefits. Not only are there financial costs for an organisation and the employee involved in a crash, there are the hidden costs, and emotional and psychological issues'.
- Government agencies including Land Transport NZ, Ministry of Transport, Department of Labour and the New Zealand Police, all highlighted the role they are playing in raising awareness of a crash-free culture.
- Dr Will Murray focused on the importance of taking a data-led approach, though better "Purpose of Journey" data at the Government level, and proactive driver risk assessment, monitoring and improvement at the organisational level.
- According to the AA Driver Education Foundation, creating a crash-free culture within an organisation reduces the risk of negative publicity, reduces the high costs associated with a crash including vehicle insurance, vehicle repair bills and recruiting for replacement staff.
- Managing Director of TERNZ (Transport Engineering Research NZ), Peter Baas presented on the importance of 'wellness' to drive, covering a wide range of issues that can impact the effectiveness of a driver. He also presented on the comparative dangers of Distractions and benefits noted from Australian Accreditation Schemes.
- Sponsors Tranzqual ITO (which sets industry training standards) and Shell New Zealand both described their programs for investing in employees; and focused on the importance of raising awareness of creating a crash-free culture.
- Tranzqual ITO CEO, Wayne Smith showed how the workshop content is intrinsically linked to the qualifications Tranzqual offers and to the driver training standards in New Zealand. He concluded that: 'These workshops demonstrate just how an organisation, through investing in its employees can influence driving behaviour both at work and in their personal lives'.
- Shell New Zealand Corporate Communications Manager Jackie Maitland, in a pre-workshop press release, saw the workshop as an opportunity to share expertise. She

concluded that: '*Shell has a strong interest in occupational safety and is continually seeking ways to improve*'. Shell is proud of the standard that its transport operators have achieved and was pleased to be able to showcase their initiatives at the workshop.

Overall, it is clear that the workshops covered a range of important issues. Based on the feedback received to date, we believe that the investments made in this initiative by all the sponsoring and supporting agencies, as well as the participants, have been fully justified - with the project already having engaged more than 260 people.

After hearing the case studies and best practice information presented at the workshops, the participants made over 150 individual pledges to undertake a wide range of actions. These provide a very good list of ideas to consider implementing in an organisation's crash free culture. They are listed in full in Appendix 4.

A wide range of other material and resources that should be beneficial to readers is provided in Appendix 5.

As organisers of the events, and having pulled together all the above materials, and the supporting presentations together, we believe that in many ways, New Zealand is at the forefront of efforts to monitor, manage and improve occupational road safety.

Despite this, there is no room for complacency.

- At the government level there remains a need for Purpose of Journey data, research and agency led programmes in this area – to continue to support organisations that require their employees to use the road.
- At the organisational level, there are many societal, legal, business and cost reasons to focus on taking a positive, proactive approach to reducing their occupational road safety risks.

We hope that the practical material that accompanies this document will support these ongoing processes.

Will Murray, Kath Henderson, Peter Sheppard, Debbie Stearns, 9 May 2008

Appendix 1 – Participating organisations

AA
AA District Council
AA Driver Training
AA Roadservice
ACC
ADHB
AFL Transport
Agoge Logistics
Alexander Bulk Gases
Allied Concrete
AMS Group
ASB Bank
Avon City Ford
Black & White Driver Training
Blackwell Motors
BOP Polytechnic
BP Oil
Bridgestone
Bruce Buchanan
Cancer Society of NZ
Christchurch Airport
Christchurch City Council
City Care
Civil Whey Distributors
Contact Energy
DataBrake
DECA Training
Department of Labour
Department of Internal Affairs
Downer EDI Works
Drivewright
Dunedin City Council
Educating New Zealand
Firth Industries
Fonterra
Foodstuffs
Freight Lines
Fulton Hogan
Guardian Healthcare
Hall's Refrigerated Transport
Hauraki District Council
HEB Group
Higgins Group
Hopper Construction
Hutt City Council
IHC NZ Incorporated
IndeServe Limited
Inland Revenue
Johnston's Coachlines
K&S Freighters
Kaitaia Transport
Kapiti Coast District Council
Kapiti Skills Centre
Kiwibank
Kokiri Marae Hauora
Konica Minolta
Kordia
L.G. Anderson Transport
LTNZ
Mahurangi Technical Institute
Mana Transport
Manukau City Council
Master Drive
Ministry of Transport
MITO
MTA
Normtrans
Northland Health
Northpower
NZ Army
NZ Crane Group
NZ Police
NZ Road Transport Association
Onesource Group
OTS Group
Pakuranga Children's Health Camp
Peter Fletcher Transport
Plunket
Port of Christchurch
RNZAF
Rockgas
Rosetown Driver Training
South Waikato District Council
Stark Bros
Sureplan
Sustainable Business Network
Tai Poutini Polytechnic
Te Papa
Thomson Brookers
TNL Freightling
Toops
Transit NZ
Transpacific Industries
Transpower
Tranzqual
Tranzqual
Tulloch Transport
Uhlenberg Haulage
Ultimate Transport
Unitted Carriers
University of Otago
VIP Transport Service
Waipa District Council
Waitemata DHB
Walsh Trust
Wellington City Council
Wellington Combined Taxis
Wellington Free Ambulance
Westland District Council
Williams & Wilshier
Window Treatments
Zurich NZ

Appendix 2 – Haddon Matrix framework for Creating a Crash Free Culture

William Haddon is an American epidemiologist specializing in road traffic injuries. His original focus on the road, vehicle and driver has been extended here to include journey planning, management culture and societal issues.

	<i>Management culture</i>	<i>Journey</i>	<i>Road/site environment</i>	<i>Drivers and managers</i>	<i>Vehicle</i>	<i>Society/community</i>
<i>Pre-crash</i>	<ul style="list-style-type: none"> Policy and procedures Organisational climate tools Management structure Board level champion OHS or quality-led Safety committee Safety pledge Contractor standards 	<ul style="list-style-type: none"> Travel surveys Purpose Need to travel Modal choice Journey planning and route selection Shifts/working time 	<ul style="list-style-type: none"> Risk assessments Guidelines Site layouts Road improvement 	<ul style="list-style-type: none"> Select Recruit Induct Handbook Risk assess Train Driving pledge Use of communications technologies (mobile phones, radio, fax) Use of navigation technologies 	<ul style="list-style-type: none"> Selection Maintenance Checking Installed communications technologies (mobile phones, radio, fax) Installed navigation technologies Intelligent Transport Systems (ITS) and telematics to monitor 	<ul style="list-style-type: none"> Marketing program Community involvement Safety groups Road Safety Week Conference circuit Media and public relations (PR) Safety awards External benchmarking Regulator briefings and involvement CSR
<i>At scene</i>	<ul style="list-style-type: none"> Emergency support to driver 	–	<ul style="list-style-type: none"> Manage scene 	<ul style="list-style-type: none"> Known process to manage scene 	<ul style="list-style-type: none"> Crashworthy ITS to capture data 	<ul style="list-style-type: none"> Escalation process
<i>Post-crash</i>	<ul style="list-style-type: none"> Report, record, investigate and evaluate Change management 	<ul style="list-style-type: none"> Debrief and review 	<ul style="list-style-type: none"> Investigate and improve 	<ul style="list-style-type: none"> Driver debrief Counselling & support Reassess/train 	<ul style="list-style-type: none"> Investigate ITS data Vehicle inspection & repair 	<ul style="list-style-type: none"> Manage reputation and community learning process

Ask yourself the question: Do we have each of the above items in place? The ‘NOs’ are the gaps in your Crash Free Culture.

Appendix 3 – Sample Fleet driver safety communication: rear end collisions

New research by UK road safety charity Brake suggests that at-work drivers are significantly more likely to tailgate than other drivers. The research indicates that at-work drivers feel under pressure to 'get there quickly'. In total, 61% of at-work drivers admitted leaving less than a two-second gap with the vehicle in front, compared to 40% of other drivers.

According to UK Department for Transport Road Casualties Great Britain statistics, 'following too close' was a contributory factor in 10,024 crashes in 2006, accounting for 720 serious injuries and at least 54 deaths - with motorways a particular blackspot.

'Hit rear' or 'hit in rear' collisions appear in most of our clients' top five collision types, and usually make number 1 in terms of cost per incident.

For these reasons, we at Interactive Driving Systems have developed the following 14 tips to help reduce the risks of tailgating, following too close and causing or receiving a 'rear-ender'.

1. Plan journeys, allowing enough time to arrive safely without the need to drive hard.
2. Check brakes, lights, tyre pressure and tyre tread on at least a daily basis.
3. Don't tailgate - keep a safe following distance – 2 seconds when the conditions are good, 4 seconds otherwise.
4. Think about the vehicle behind you, by slowing down earlier and avoiding false starts at roundabouts you give people behind more time and space.
5. Constantly scan the road ahead, on either side, and in your mirrors to be aware of other road users around your vehicle.
6. If you are being tailgated, let the other driver pass as soon as it is safe to do so. You should also allow extra room ahead. Then, if you need to, you can slow down gradually and avoid braking suddenly - and being hit from behind by the tailgater!
7. Plan ahead for intersections and traffic signals and always be ready for sudden stops or movements by other drivers.
8. Stay calm in traffic, and allow more space between you and the vehicle in front so that you have time to stop. It should take three seconds or more for your vehicle to travel the distance of the gap.
9. Adjust your speed according to the weight of your vehicle, the vehicles around you and the road conditions. Drivers of loaded vehicles need four seconds or more.
10. Slow down, particularly when weather and driving conditions change - in the wet, poor visibility or on gravel roads.
11. Drive defensively by reading the road ahead – and braking early and gently.
12. Anticipate the good and bad intentions of other road users to avoid accidents.
13. Pay close attention to other vehicles and changes in their movement.
14. Always be calm and courteous to other drivers.

For a FREE information sheet for fleet managers and drivers on 'Keeping your distance' email (admin@brake.org.uk) or call (01484 559909) Brake.

Ends

This communication is an example of the regular monthly road safety mailings from Interactive Driving Systems. More details are available at www.virtualriskmanager.net

We are highly conscious of privacy and data protection, including anti-spam legislation to regulate unsolicited commercial emails. If you do not wish to receive our road safety news respond with the word REMOVE. Alternatively, please forward the information to others who may find it useful and ask them to email us to be included.

Appendix 4 - Participant pledges

Each participant at the workshops was asked to 'Pledge' to take an action as a result of their attendance. This provides a good list of ideas and outcomes from the workshop, which are listed below.

- To continue on improving our fleet management and safety.
- Use the tools and resources obtained at seminar during consultation with companies.
- Finalise and communicate importance of safety and sustainability in mobility and driving to regional team.
- Inform others about crash free culture.
- Discuss driver safety with my colleagues.
- Implement what has been learned.
- Develop and implement a company road safety policy and training package.
- Put a pledge in place with our drivers.
- Keep up to date with initiatives and improvements in my projects.
- Implement what's been learnt.
- Commence a crash free culture and make it work.
- Training for drivers, fuel reduction/consumption more concentration on fatigue and risk management.
- Feedback ideas to staff at our next staff meeting.
- Continue with fatigue management and driver education; supported by fleet improvement and management of journeys.
- Get the driver training restarted after previous provider withdrew.
- Using information such as fatigue management and risk assessments to raise our standards.
- Start asking questions and personally review our standards on health and safety and work related safety.
- Use the Haddon Matrix to reassess our company views, standards and policies/procedures especially relating to a crash free culture.
- I intend to target the weak areas within the company - turn it around to be a strength - Mainly at middle management level.
- Use my phone less while I'm driving.
- Ask questions.
- Set up a fatigue policy.
- Get in order process and system documentation for better management example and leadership around these issues.
- Refresh policy and review driver training and awareness and raise profile of risk in organisation.
- Pass on information received and ensure actions are carried out.
- Will put policy online.
- Manage sustainability to the best of ability and improve communication.
- Refresh drivers on fatigue management.
- Work on fuel efficiency behaviour.
- Train them hard.
- Review and update policy and procedures. Collect more data, organise training through AA. Distribute more information and communicate more with staff.
- Get my drivers to report near misses more and have more safety meetings.
- Get more info on DriveCam.
- Initiate continued/follow up safety messages.
- Enforce something's I learnt today.
- Share the comments from the workshop with my team.

- Support our site driver trainers more.
- Encourage driving staff and management to take more notice of their driving behaviour.
- Try to influence the purchase of quality vehicles in our company to be more fuel efficient, safe and sustainable.
- Pass on information I have taken away from this day to colleagues.
- To consider the effects of driver fatigue taking a holistic approach.
- Develop a safe driving policy.
- Pass on the information from today to management and drivers.
- Not use my mobile phone while driving.
- Continue with our ongoing training. It reassures me we are on the right track.
- We have many really great H&S policies that relate to this but will try and ensure that we actually make them more of a living document.
- Focus on staff awareness, driver audits, mentoring, management and control to help develop and create a crash free culture.
- Pass on some of the initiatives raised today to management.
- Ensure management systems include managing vehicle use with appropriate monitoring, training and incentives.
- Review and improve the work culture.
- Review our policies and driver/management training
- Organise driver competency checks.
- Introduce a more complex safe driving policy and ensure it is part of induction process.
- Look at driver wellness more carefully.
- Be proactive in creating a wellness programme including fatigue management.
- Show greater leadership.
- Implement cellphone policy for drivers.
- Driver training.
- Compare our induction procedures with material supplied - incorporating good ideas in our process.
- Review our policy and promote our training to better inform drivers, help change their habits, knowledge and culture.
- Find out from MOT what their definition of sustainability is.
- Integrate the 'bits' that are dispersed around driving/vehicles/fuel.
- Defensive driving for mature drivers.
- Follow up on available resources.
- Not drive when I am fatigued.
- Will continue to work on process and establish our workplace crash free culture.
- Write policy and implement transport strategy.
- Work on fatigue awareness.
- Try and introduce more training and awareness of driver safety.
- Assessment and training.
- Look at driver training when we have new fleet vehicles.
- Develop programs for the Maori community associated with our client base and community groups, staff included, covering fatigue workshops, learner licence, speeding, drink driving etc.
- Try to encourage driver awareness and pursue more in depth knowledge of driver fatigue.
- Raise the profile of safe driving and develop a policy.
- Drive policy procedures/process.
- Review policies.
- Look at driver training available and discussions.

- Work on the whole subject from scratch
- Golden Rules - comply, intervene, respect
- To ascertain if I am fatigued or not when travelling on long trips
- Get more sleep between shifts.
- Institute driver awareness through a poster campaign.
- Behaviour based driver training.
- Look at Trucksafe website and at Australian heavy vehicle accreditation schemes.
- Improve data analysis of our drivers driving history.
- Continuous improvement.
- Undertake a route risk assessment. Behavioural based driver training.
- Access resources - human and material - to keep developing appropriate programs.
- To continue to improve our safety culture.
- Update current safe driver training policy for civilian employees.
- Review our policy.
- Implement DriveCam.
- Investigate fatigue management systems with a view to implementation.
- Evaluate DriveCam or similar system.
- Institute driving training programme as a separate dedication.
- Implement DriveCam and driver fatigue management.
- Follow up with ACC on fatigue program.
- Look at small fleet purchase on suggested websites. Assist in the implementation of a driver behaviour improvement programme.
- Purpose of journey data on accident forms for future evaluation.
- Encourage and develop a proactive attitude amongst employees with regard to road safety and check our systems against the Haddon Matrix.
- Carry out a profile on each of my staff members.
- Review our safety policies.
- Training - more emphasis in workplace.
- Take what I learnt back to my industry.
- Investigate ways to create a practical driver competency test programme.
- Will be aware of fatigue while travelling.
- Developing a policy, communicating this policy to staff and ongoing provision of information and advice to staff who travel.

Appendix 5 – Useful resources

www.cdc.gov/niosh/programs/twu/
www.cdc.gov/niosh/contract-reports/WORS/WORS-04-10-2007.pdf
www.dft.gov.uk/pgr/roadsafety/drs/drivingforwork/workrelated/workrelatedroadsafety
www.dol.govt.nz/News/Media/2007/road-safety.asp
www.dsa.gov.uk/Category.asp?cat=194
www.fleetsafetybenchmarking.net
www.hse.gov.uk/pubns/indg382.pdf
www.hse.gov.uk/roadsafety
www.landtransport.govt.nz/commercial/safe-driving/safe-driving-policy-booklet.pdf
www.landtransport.govt.nz/vehicles/safety-features/
www.rospa.com/morr/information/18arguments.htm
www.scotland.gov.uk/Publications/2002/09/15363
www.thinkroadsafety.gov.uk/advice/wrrs/index.htm
www.virtualriskmanager.net