spoke in support of the resolution and stronger road safety action. The resolution endorses the offer of the Government of Brazil to host the Second Global Ministerial Conference on Road Safety in 2015; encourages the inclusion of road safety in the post-2015 development agenda; invites WHO to continue monitoring progress in the Decade of Action; and requests organisation of the Third UN Global Road Safety Week in 2015 on children and road safety.

The UN Road Safety Collaboration meets every six months. The next meeting will be held at WHO headquarters in Geneva on 6-7 October, 2014.

Applying online fleet driver assessment to help identify, target and reduce occupational road safety risks

by Will Murray

Research Director, Interactive Driving Systems
Visiting Fellow, Loughborough University and Centre for Accident Research and Road Safety – Queensland,
will.murray@virtualriskmanager.net

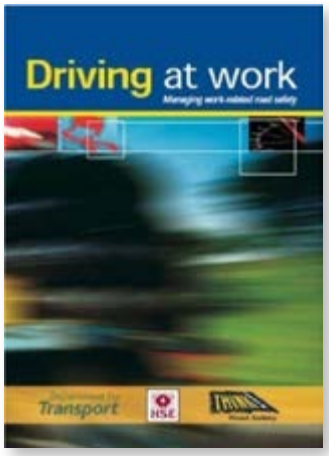
Introduction

This paper focuses on the application of online fleet driver assessment tools to help identify, target and reduce occupational road safety risks. It covers the principles of risk assessment, the uses of online tools, predictive validity analysis, intervention allocations and some suggested next steps.

Risk assessment

Driver risk assessment, monitoring and improvement is important to organisations requiring their people to travel - for a range of business, legal, financial and even societal reasons in the UK and globally. As a basic compliance-led start point in the UK, the soon to be re-launched Health & Safety Executive Guidance 'INDG382 Driving at work: Managing work-related road safety' says that: *organisations need to risk assess the safety of their drivers, vehicle and journeys*.

Essentially, risk assessment for any work-related driving activity should follow the same principles as those for any other work activity. It should identify and document the potential hazards; who might be harmed; and reasonable measures to support your drivers to protect themselves from harm.



A range of approaches are available for driver risk assessment, including combinations of in-vehicle assessments, psychometric tests and online assessments. Each is important, depending on the nature of the work and operating environment. Over the last 10 or so years, however, a growing number of online programs have been developed promising many benefits – particularly around costs compared to face to face assessments, reduced 'time off the tools' for employees and lower risks. Online tools allow everyone who drives on business - including car, van, occasional, two-wheeler, specialist, site vehicle and grey fleet drivers - to be included in a program that traditionally may have only catered for specialist commercial vehicle drivers.

With these developments in mind, the remainder of this article focuses on applying online fleet driver assessment to help identify, target and reduce occupational road safety risks.

Online assessments

Online assessment programs require drivers to log onto a secure internet portal and answer a series of questions, which will then generate a ranking. This is more often than not based on red, amber and green traffic lights sometimes known as a RAG rating to symbolise high, medium and low risk drivers which can be utilised:

- Pre-employment as part of recruitment pre-screening, at interview, during induction and as part of the new employee training process;
- For current staff as part of the permit to drive process; for selecting instructors and assessors; to evaluate training needs and review the success of training; and for post-collision investigation purposes; and
- In other ways such as to drive policy and process compliance; allocate company and hire cars; engage drivers in cash for car and own vehicle schemes; for high employee turnover operations; risk assessments for due diligence, insurance, underwriting and vehicle hire; as part of the business development process; and as a third party service to clients.

Depending on the background and origins of the online assessment supplier – typically in the driver training, vehicle leasing, insurance and behavioural sectors – the emphasis and content of the various assessment tools available will vary. Typically most of the available tools focus some attention on the exposure levels of the driver, the type of vehicle they drive and journeys they undertake, as well as testing combinations of their attitude, behaviour, knowledge and hazard perception. Interventions such as feedback, training, workshops or One-To-Ones will then be allocated on the basis of the risks identified.

RoadRISK assessment

As an example, at Interactive Driving Systems our online risk assessment tool, which was first developed through trials undertaken at the University of Huddersfield in the UK in 1998, is known as RoadRISK. Through its Profile, Defensive Driving and Feedback modules, which take about an hour to complete in total, RoadRISK covers each driver's personal exposure to risk, attitudes to safe driving and behaviour on the road. It has been evaluated in some detail through research undertaken at Edinburgh Napier and Loughborough universities based on large numbers of British Telecommunications (BT) drivers [1] and also through predictive validity analysis with many other organisations, including most recently the likes of Wal-Mart ASDA, Roche Australia [2], E.ON and Nestlé.

Predictive validity

Figure 1 shows the relationship between the RoadRISK assessment outcomes and the average driver claim rate for a large company car and van fleet with about 4,000 drivers. Participants identified as being at high risk on the assessment are the same drivers who have the highest collision rate. Although not perfect, this gives the organisation the opportunity to PREDICT who its most at-risk drivers are for targeting relevant next steps and interventions.

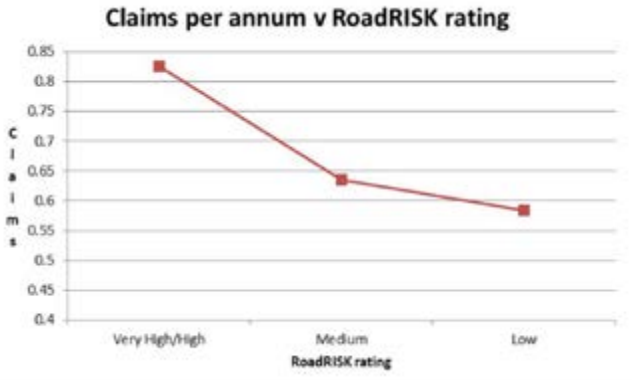


Figure 1. Predictive validity analysis for RoadRISK assessment

To give an indication of how online risk assessments have traditionally worked:

1. The 'RoadRISK: Driver Profile' is a 49 question review of each participant's personal risk exposure, the vehicle they drive and the journeys they make. As well as good practice, it also helps meet health and safety requirements for risk assessment in line with the HSE guidance mentioned above.
2. 'RoadRISK: Defensive Driving' is a 45 question assessment of participant attitude, behaviour, knowledge of the Highway Code and hazard perception on the road.
3. On completion, 'RoadRISK: Driver Feedback' reviews participant responses, providing good practice guidance and details of the next steps required as well as completion certificates.

Allocation of relevant driver safety improvement interventions

From such web-based driver assessment, outcomes data feeds into an online management information system, and recommendations are provided for interventions - such as those shown in Table 1 below.

Over the last 10 years, this approach has stood the test of time, and brought many positive benefits for the fleet industry. BT is a very good example, with its online RoadRISK assessment and engagement process touching over 80,000 employees since first being piloted in 2001. As its compliance has increased and programs have become more robust year on year, so BT's overall claim rate and costs have significantly reduced as can be seen in the following regression analysis (Figure 2).

Like many other similar organisations, BT has very successfully used its risk assessment program to drive organisational policy and process by working with its line managers and drivers to promote compliance, targeted interventions on the basis of risk and hence safer travel [3].

Table 1. Indicative risk based driver improvement interventions

Outcome	% of drivers	Typical interventions
At high risk	2 - 20	RoadRISK Profile and Defensive driving feedback Mandatory computer based training (CBT) Mandatory One-to-one with manager Mandatory group-based session In-vehicle session if required Relevant CBTs and communications as required
At medium risk	40 - 70	Profile and RoadRISK feedback Mandatory CBT One-to-one with manager if required Group-based session if required In-vehicle session if required Relevant CBTs and communications as required
At low risk	10 - 50	Profile and RoadRISK feedback Relevant CBTs and communications as required

Conclusion and next steps

Online driver risk assessment is only one part of a wider motor risk management system focusing on policy, compliance, leadership, mobility management, driver wellbeing, vehicle management, collision management and stakeholder engagement. It is, however, in many cases the glue that binds all these areas together.

Driver risk assessment, monitoring and improvement has many uses and benefits for organisations requiring their people to travel, and is evolving in several ways including focusing more on policy compliance and driver commitment, as well as through increasingly sophisticated online coaching modules for drivers and managers.

With technology and data converging, online risk assessment results are also being securely integrated with information from other sources such as

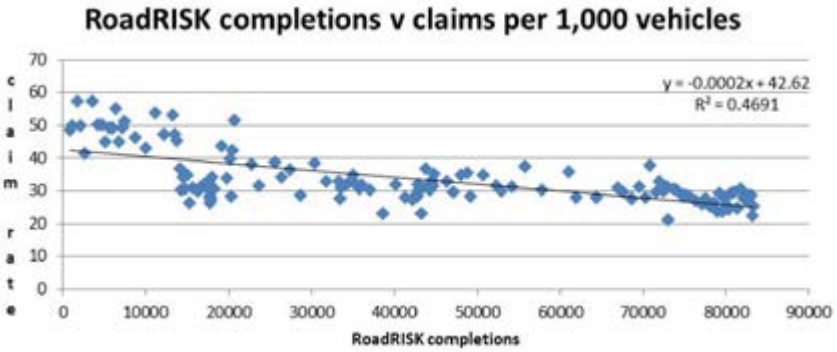


Figure 2. BT RoadRISK versus claims rate regression analysis

collisions and claims, license checks, in-vehicle telemetry systems, fuel, tyres, observed violations, tachographs and training to provide an overall picture of each driver, and the organisations' risks from which highly cost effective driver and manager level interventions, such as coaching and One-To-Ones, can be developed on the basis of need.

As well as some peace of mind with regards to meeting the requirements of documents such as the UK HSE's 'Driving at work: Managing work-related road safety' guidance INDG382 and other basic legal requirements such as the Highway Code or Rules of the road, if used well online programs offer many other opportunities to drive road safety a long way down the road to compliance and beyond.

When reviewing the market for online driver risk assessment tools, it is advisable to look around, and discuss the options with your insurer, vehicle leasing and driver training suppliers. Most good suppliers will also: offer dedicated support; assist with business cases; supply details of their research and predictive validity analysis; be willing to set up detailed pilot studies; provide excellent references, case studies and benchmarks; and, have the capability to integrate the types of external data described.

References

1. Darby P, Murray W. and Raeside R. Applying online fleet driver assessment to help identify, target and reduce occupational road safety risks. Safety Science. 47, 2009, 436-442.
2. Murray W, White J and Ison S. Work-related road safety: A case study of Roche Australia. Safety Science. 50 (1), 2012, 129-137.
3. Wallington D, Murray W, Darby P, Raeside R and Ison S. Work-Related Road Safety: Case Study of British Telecommunications (12-1196). Paper presented at the 91st Annual Meeting of the Transportation Research Board, Washington, D.C., January 22-26, 2012.

www.virtualriskmanager.net/validation provides more detail about validation studies for online driver risk assessment tools.

Improving road safety through truck visibility

By Pippa Batchelor

Technical and Regulatory Business Development Manager
3M Traffic Safety Division, Bldg A, 1 Rivett Road, North Ryde, NSW 2113
Office: +61 02 9498 9242 pbatchelor@mmm.com

Introduction

The Global Decade of Road Safety aims to reduce road deaths ideally to zero by 2020. Adopting visibility markings on heavy vehicles as in Europe, US, Canada and China could help to prevent fatal incidents on Australian roads.

Research studies

A leading university study in Germany found that more than 95% of night time accidents from the rear or side of a truck could be reduced by using outline vehicle visibility markings [1]. A truck, defined as a vehicle over 7.5 tonne gross weight, with outline reflective markings is recognised earlier than an unmarked truck. Using this visual information, a road user can deduce the likely type of the vehicle ahead, proximity and probable speed, giving them the best chance and more time to manoeuvre safely [2].

There are several other studies that provide compelling results for the introduction of vehicle markings. The US introduced mandatory vehicle markings in December 1993 to all new heavy vehicles. A study commissioned by the National Highway Traffic Safety Administration assessed the effectiveness of these vehicle markings in reducing truck accidents, with the study area covering Florida and Pennsylvania. They concluded that tape reduced side and rear impacts by up to 44% in dark conditions. The paper found that the tape was effective in all adverse weather conditions (except fog). Additionally, the study estimated the number of fatalities that could be saved, as well as other injuries, if tape was applied to all heavy vehicles. This conclusion lead to the mandating of retrospective application of reflective markings to all heavy vehicles and their trailers in 1999 [3].

Schmidt-Clausen conducted an extensive study in Europe which monitored 1000 trucks with reflective markings applied. The study concluded that reflective contour