

Roads Australia Presentation Notes

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Road safety innovation and road barrier technology

Alan Hay – Director Strategic Analysis



Following the sale of Boylan Traffic Solutions (hire) to Coates in 2011; the Boylan Group have focused their energies on providing the Australian market with cutting-edge, proven, Road Safety infrastructure, concept and material initiatives. As an extension of the philosophy and drive of founder, Peter Boylan, our primary goal is to save lives on our roads; to be an accessible resource to design and construction and to ensure that

Australia is at the forefront, and benefits from, road safety initiatives.

As Peter Boylan says, “if we are not taking every opportunity to save lives, we are costing lives!” There is a wealth of experience, technologies and concepts/trends out there, and lessons to be learned from the failures and successes of others. We at the Boylan Group pride ourselves on sharing the information we glean from around the world with design and industry, and making these proven technologies available for use in Australia. At present this can prove difficult, for although a solution may be in use in other countries or jurisdictions, already proven to be saving lives; accreditation for Australian use can take several years and significant investment of resource!

Hailing from a background of motor racing with good mates Sir Jack, Peter Brock and Allan Moffat, Peter’s first inclination towards road safety was unsurprisingly from the drivers’ perspective. However, this view was to undergo rapid transformation and expansion, on analysis of the fatality and injury statistics pertaining to workzones.



For myself, I have been a campaigner for road safety for over a decade, and having had the honor of representing the Coalition at both a House of Reps and Senate election campaigns, have used these opportunities to promote road safety issues. Travelling 40,000kms in my 66 GT Mustang on a road safety platform and as Patron of the Australian Confederation of Motor Clubs, I have benefitted from community feedback, industry and government concerns. It is therefore fair to say that

although new to the industry; I am not new to the subject matter. Being a ‘newbie’ however, I would beg

your indulgence, as my observations are not intended to offend but rather to encourage discourse or seek clarification.

The rate of fatalities in road crashes per 100,000 population in NSW has declined dramatically over the last four decades, from 28.9 in 1970 to 4.6 in 2013. The most recent figures represent the lowest rates since records began in the early years of last century, despite a considerable increase in the number of registered motor vehicles on the roads compared to that time. We are heading in the right direction, but the sad fact remains that approximately 350 people still lost their lives over the preceding 12 months with,



what is often forgotten, the economic & social cost of crashes to the community. The NRMA utilising the analysis conducted by The Bureau of Infrastructure, Transport and Regional Economics (BITRE, 2009) deaths & injuries cost:- \$2.8bn per annum.

In 2013, 191 workers were fatally injured at work across Australia, which is 16% lower than the 228 deaths recorded in 2012. Over the recording series of 11 years, two thirds involved a vehicle and in 2013, 40% of these occurred on a public road. Allowing for the fact that these may not have all involved a workzone, the statistics are still cause for concern and redress. The message however is clear, "Workzone incidents destroy lives!"

As previously outlined, I am relatively new to our industry, but through the excellent work of Roads Australia and the environment of discourse and networking they provide, I am of the firm belief that we are equal to the task of improving workzone and road safety outcomes. If I may suggest however, that we must put road safety solutions at the forefront of the design process, we must consider 'whole of life' costing as an integral component of tendering, we must revise our tendering process to ensure competition and innovation and active participation of smaller operations and of course we must reduce the cost and timescale for the accreditation of proven technologies to months rather than years.

From my 'newbie' observations, we must also play a more active role in policing our industries road safety activities. On commencement with the Boylan Group as Director Strategic Analysis I have made every effort to familiarise myself with the protocols, practices and standards of specification and deployment; but my understanding is regularly challenged whilst driving around NSW. In just one morning I took the following photographs which caused me to ask "What The!"

Observations of a 'Newbie'

As Patron of the Australian Confederation of Motor Clubs I am often approached with concerns towards temporary concrete barriers by enthusiasts, their perceived unforgiving nature, and in many cases their condition. The matter has been raised with me several times by the President of the APMC and at their annual conference sighting an incident on the M4 where a truck went straight through a concrete barrier

and a crash test where the opposing side of a barrier explodes sending fragments of concrete, like a shot-blast, presumably into a fictitious workzone.

My past career in design and construction engenders a very favorable attitude towards concrete, "it's the stuff that Nations are built of", that said however, I am just not convinced that the qualities of the material are best suited towards mobility and multiple deployment, It's the damage you can't see that worries me, a concern raised by the Europeans as they transition to steel. I understand that tests have recently been undertaken on type F concrete barriers, but were they conducted with 'used' barriers as deployed on numerous works? Concrete has served us well, but as talk of innovation in safety grows, and if we are to take every opportunity to save lives on our roads, should we not be embracing the latest proven barrier technologies! Technologies that enhance deployment and maintenance efficiencies, are more forgiving to motorists, have a longer lifespan and afford greater levels of workforce protection.



Disregarding my personal views towards temporary concrete barriers, the following slide displays a concrete barrier with signs of surface spalling and the other, painted concrete barriers. I may have been misinformed but I understood that painting was not permitted so that issues such as spalling or patching could be clearly identified?



Four strand, steel rope barriers have proved very effective (although our Motorcycle Council of NSW have voiced their concerns) when deployed with sufficient run-off, due to the deflection properties of the barrier.

Temporary concrete once again; I understand that logos are not permitted, I have even witnessed barriers graphitized 'do not use'. I have also been assured that the condition of each barrier is carefully analysed prior to deployment. Not protecting much, but these barriers must have been damaged in transit.





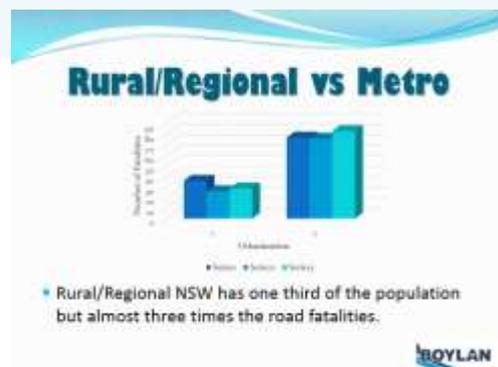
Obviously it is imperative that safety technologies are deployed corresponding to the manufacturers' specifications. As you can see from this particular instance, that is not always the case. You may judge for yourself as to whether these barriers were even filled with water.



There is however a warning to innovators seeking to solve one problem but instead creating another. Similar to the introduction of the cane toad, this invention has proved popular with Hollywood stuntmen but if I may suggest, is not the most suitable end treatment. Thankfully, products such as

NCHRP350 compliant QuadGuard have revolutionized end treatment opportunities.

In all seriousness though, the problem of incorrect deployment of unsuitable technologies, appears to get worse the further we get from the classified road network and populated areas. One could argue that this may be a contributing factor to the unfortunate statistic; that although regional areas have one third the population of metropolitan, they have three times the fatalities.



Road Safety Campaign **BOYLAN GROUP**

87.5% reduction of speeding incidents where "SpeedCheck" was present.



As an integral component of our Boylan Team Safety Road Safety Campaign, The Boylan Group are undertaking a number of real-world tests on popular technologies from around the world.

The following information may be beneficial to Road Safety Officers, Traffic Managers and decision makers who have a stake in saving lives on NSW roads.

Please consider the Boylan Group and report to **ANALYSIS SERVICES**.

Requests:
James Delany 9437 369 306

BoylanTCRadar



Unidirectional Extended Bidirectional Bi-Directional

The following study was undertaken on a 600m road to assess the effect of "Speedcheck" signage on driver behaviour. The test took place between the hours of 11am to 12pm and delivered startling results...

Using Boylan TCRadar to verify the vehicle speed the data demonstrates an 87.5% reduction of speeding incidents where "Speedcheck" was present.

| | |
|--|-----------|
| Number of speeding incidents WITHOUT SpeedCheck Signage- | 95 |
| Number of speeding incidents WITH SpeedCheck Signage- | 11 |

BoylanSpeedcheck

Head Office:
Unit 8, 42 - 44 Peter Brock Drive
Eastern Creek, NSW, 2766
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At the Boylan Group we strive to ensure the correct product for correct application with correct deployment, and as such, have embarked on a 'Boylan Team Safety' informative campaign targeting Local Government (managing 76% of our roads network), politicians and bureaucrats. Our first issue outlined the testing undertaken with Speedcheck signage. By analyzing driver behavior with, and without a Speedcheck signage utilizing the Boylan TCRadar (Bluetooth, multi-lane bidirectional traffic data gathering device, which mitigates the need for 'road-strips' for verification; the results demonstrated a startling 87.5% reduction of speeding incidence.

Speedcheck is not a revenue raising solution but a practical, cost effective innovation that assists in moderating driver behavior. Innovation

has been a much discussed topic throughout industry of late but also within Local Government who have suggested that the current pro-forma RMS and grant spreadsheets have a limiting effect on their ability to option the latest innovations.

Interesting Concepts and Solutions

DIFFERENT STROKES

A major line marking trial in Victoria is improving lane visibility in road-work zones.

BY CYNTHIE TERRELL



A directional line marking trial has recently been undertaken in Victoria for workzones where existing markings have been left in-situ but additional double yellow lines have been applied to give direction. A simple but interesting concept designed to avoid ghost marking through sun glare and presumably the cost of white-line removal and replacement as the yellow lines are degradable.

From the UK comes 'lenticular holographic technology' which simulates the effective pulsating nature of powered equivalents but without the need for a power source.

Although in use in Australia, the Canadians and Americans are having great success with centerline audible line marking. We have all experienced the distraction which interrupts our lane positioning; considered placement of an audible warning may just avoid disaster.





Available in Australia, lightweight steel barriers, such as BarrierGuard 800 which can be transported 144m per load are proving to be the staple in the UK and Europe. The BarrierGuard 800 heralds a new era in road safety technology. This new generation of road safety barrier is Australia's only TL4 rated Temporary Steel Barrier, offering state-of-the-art design features and levels of safety previously thought impossible. It is light weight and quick and easy to install, ensuring a highly-economical package in terms of transport and deployment. The BarrierGuard 800 can be used as a permanent installation, or for short-duration roadworks in distant locations, or where there are roadworks requiring frequent moves.



From the USA hails this integrated trailer workzone. The MBT-1 Integrated truck mobile barrier provides the ultimate in mobility for workzones.



Creating safer workzone environments is "intellicone" from the UK; if one cone is displaced a signal is sent to all other "intellicones" around the zone, with alert siren and flashing beacons.

Projecting a laser depiction of a bicycle on the road 5-6m ahead of the cyclist this Blaze Laserlight is targeted at enhancing driver awareness and mitigating blind-spots. The device also seems to reduce instances of vehicles 'cutting' back in too early after overtaking the cyclist.



Incidents of motorcycle accidents where the rider is not wearing a helmet are just too high. One excuse we have heard for this oversight is a reduction of visibility and a disconnect to your surroundings. This 'Scully' helmet incorporates HUD and a rear-view camera projected onto the visor to enhance awareness.

Coming to the Australian Market Soon!

The Boylan Group R&D department are pleased to announce that they have developed an eminently affordable early warning system that has the potential to revolutionize workzone safety. With the ability to couple with numerous triggers, in its simplest component form, provides a vibration and sound signal to the entire zone workforce, individually and concurrently. The system warns of approaching danger allowing the workforce plenty of time to vacate the danger zone.



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