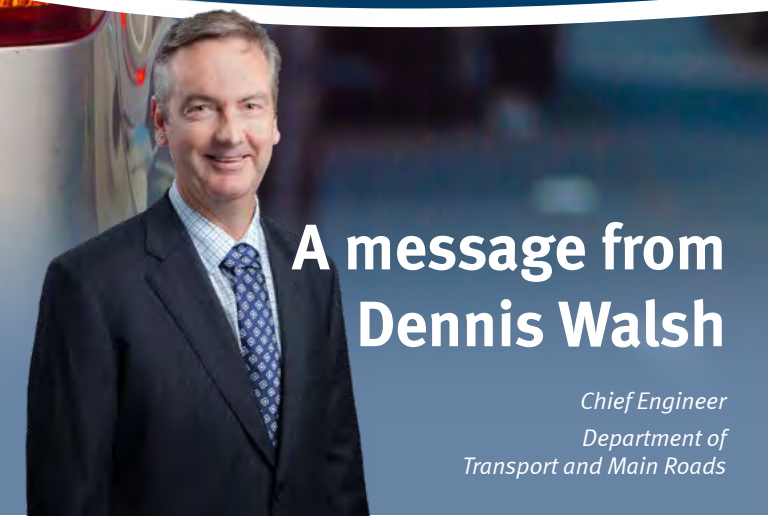
Traffic Management Newsletter

June 2019



A message from Dennis Walsh

Chief Engineer
Department of Transport and Main Roads

Welcome to the June 2019 edition of the Traffic Management newsletter.

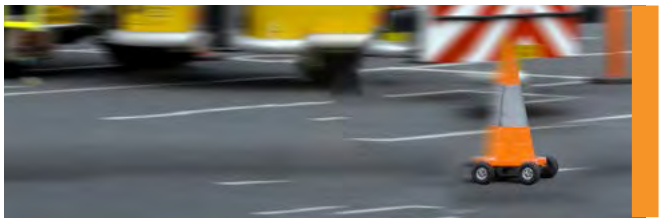
We all know there is substantial change and development happening in the traffic management sector at the moment.

The Department of Transport and Main Roads (TMR) is continuing our traffic management improvement journey by working with our Austroads colleagues to achieve harmonisation of temporary traffic management practice and training.

A roadmap outlining the harmonisation outcomes and some key priorities for TMR and Queensland has been developed. As we progress further with delivering on this roadmap, we will keep you up-to-date via this newsletter.

The stories in this edition showcase some of the interesting projects and initiatives happening across the traffic management sector at the moment.

I was particularly interested to hear about TransUrban's upcoming robocone and smart rumble strip trial in Victoria. I am very keen to see how this trial goes and how this smart technology could be applied across the industry to help improve safety for roadworkers.



Also of great interest is zipper merging. While zipper merging has been in our traffic management toolbox for many years, it is relatively misunderstood by drivers and under-used in Queensland. Feedback from the Toowoomba Second Range project where it was recently used is very encouraging and shows the impact this merging strategy can make towards facilitating smoother traffic flows through road worksites.

TMR has also looked into the use of professional disclaimers. While they are an important element of protecting our professional reputations and managing risk, we need to ensure that we are using them appropriately. I encourage you to follow the link in the article and review this communique and ensure your organisation is using professional disclaimers in the most effective way.

As always, I am keen to hear your feedback on this edition, so if you have any comments or suggestion for future topics you would like to see covered, please contact the team at: trafficengineering.support@tmr.qld.gov.au.

What's in this edition:

Queensland Government

Victoria's CityLink tunnel

Safety innovation

Victorian trial of robocones and smart rumble strips

Robotic self-wheeling traffic cones and smart rumble strips will be trialled in Victoria's CityLink tunnel to help boost safety for people working in live traffic, in a new initiative developed by Transurban and Telstra.

Remote-controlled robotic traffic cones will be tested and if successful would remove the need for road workers to manually place or move cones when setting up or taking down road works or emergency zones in live traffic.

Sensors will also be used on traffic cones and rumble strips to test the ability to communicate in real-time with workers via a wearable device such as a vest, which would light up, vibrate and sound an alarm when a vehicle enters the worksite, so they can get out of danger.

Transurban's Group Executive Victoria and Group Strategy, Wes Ballantine, said the trial will commence by the end of the year and will be undertaken during routine maintenance closures of the Burnley and Domain tunnels to manage safety in a controlled environment.

"*Road workers can be vulnerable in live traffic and we currently have 10,000 people working to build new roads and more lanes on our projects across the country who all deserve to get home safely. Robotics and advanced communications technology offer tremendous opportunities to improve safety for road workers in ways that have not been possible before now*", he said.

The initiative aims to tackle incidents of motorists crossing into roadworks zones.

According to the Centre for Accident Research and Road Safety Queensland, it is estimated that at least 50 deaths and 750 injuries occur to workers and member of the public each year as a result of crashes on Australian roadwork sites.

Remote-controlled robotic traffic cones would remove the need for road workers to manually place or move cones.

Zipper merging

A more efficient merging strategy for roadworks sites

As frustrating as it can be to see a vehicle in the left-hand lane zipping past the right-lane traffic queue to push their way in at the front of the queue, it can actually be the most efficient way to deal with merging at roadworks sites.

Called zipper merging, it is a safe and efficient method of merging during medium to heavy traffic. During light traffic, it's easy to merge, and this can be done early without causing delays and increasing traffic queues. However, in heavier traffic, merging early can cause long queues and slow speeds.

Zipper merging is a commonly used merging strategy in New Zealand, NSW and Victoria, but is not well utilised or understood in Queensland.

Zipper merging was recently used on the Toowoomba Second Range project. Anecdotal feedback from the project team indicated that zipper merging led to:

- shorter traffic queues
- less problems with differential speeds between lanes (queue jumpers)
- no lane blocking (to prevent queue jumpers)
- a reduction in tailgating (to prevent queue jumpers getting in)
- more consistent travel times for all motorists rather than some getting through very fast via empty lane and others having an extended wait
- better driver behaviours around the merge.

Zipper merging is not restricted to merging vehicles from left lane to right-lane. It can be used in whatever configuration your project requires.

It is expected that zipper merging would work best on longer term projects, as to implement it properly, some existing line markings need to be removed.

International studies have shown zipper merging can result in:

15%

- a 15% increase in the volume of cars moving through the work zone

50%

- up to 50% decrease in queue lengths
- a safer road environment
- more consistent traffic speed.

It could also work well on projects in more rural or tight-knit areas where there are more regular drivers who can get used to the new approach over a few days, rather than different drivers every day who may not take the time to understand the change and see how it affects their daily travel through the roadworks site.

Further information on zipper merging at lane losses is available in the Manual of Uniform Traffic Control Devices, Part 2, Clause 4.7.2, General treatments at lane reductions (merges).

We'd be keen to hear your feedback if you have used zipper merging on your project and how it worked?

Contact us at:
trafficengineering.support@tmr.qld.gov.au

Traffic Guidance Scheme disclaimers

How useful are they?

Following a recent Coroner's inquest in the Northern Territory and general discussion among Road Authorities and the traffic management industry, a communique has been developed regarding the use of disclaimers on Traffic Management Plans and Traffic Guidance Schemes.

Obligations around Temporary Traffic Management (TTM) planning has always existed. The Department of Transport and Main Roads (TMR) is seeking to remind people about their TTM responsibilities and obligations and provide recommendations for managing professional risk.

TMR has seen an increase in the use of disclaimers on Traffic Guidance Schemes submitted for permit request and contractual requirements. There is also a high degree of misinformation about the scope of the designer's professional obligations.

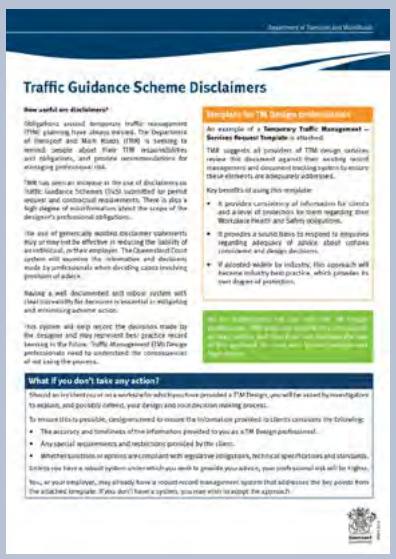
The use of generically worded disclaimer statements may or may not be effective in reducing the liability of an individual, or their employer. The Queensland Court system will examine the information and decisions made by professionals when deciding cases involving provision of advice.

Having a well-documented and robust system with clear traceability for decisions is essential in mitigating and minimising adverse action. This system will help record the decisions made by the designer and may represent best practice record keeping in the future. Traffic Management Design professionals need to understand the consequences of not using the process.

Alongside this communique, a template has been developed. TMR suggests all providers of TTM design services review this document against their existing record management and document tracking system to ensure these elements are adequately addressed.

Key benefits:

- Provides consistency of information for clients and a level of protection for them regarding their Workplace Health and Safety obligations.
- Provides a sound basis to respond to enquiries regarding adequacy of advice about options considered and design decisions.
- If adopted widely by industry, this approach will become industry best practice, which provides its own degree of protection.


Traffic Guidance Scheme Disclaimers

Download a copy of this *communique and template*.

(Look under the fact sheet heading).

Roadworks safety research

CARRS-Q

The Centre for Accident Research and Road Safety – Queensland (CARRS-Q) is a Brisbane based research body that works to address the enormous human, economic and social costs resulting from road crashes by conducting high-quality research, education and advocacy.

The 'Roadworks safety' fact sheet on their website highlights some sobering facts such as:

- at least 50 deaths and 750 injuries occur to workers and the public in road worksite crashes, with a cost of more than $400 million
- almost all vehicles (76-98%) speed when approaching worksites, with a high proportion (66-89%) speeding inside work areas
- drivers will travel about 20% slower if they see workers than if they do not.

The CARRS-Q website is an invaluable resource for all organisations working in the traffic management and roadworks industry. It has a suite of fact sheets and other evidence-based resources providing information on issues such as work-related safety, roadworks and what speeds drivers choose, as well as driver distraction and fatigue.

It is estimated that each year in Australia at least

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and

750 injuries

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Roadworks safety

- Accurate data on roadwork crashes in Australia are lacking, but it is estimated that each year at least 50 deaths and 750 injuries occur to workers and the public in road worksite crashes with a cost of more than $400 million.[1]
- Speeding in road worksites is a significant road safety issue.[2]
- Crash rates increase during roadworks compared to the pre-work period.[3]

CARRS-Q

STOP HERE ON RED SIGNAL

State of the Road A Fact Sheet of the Centre for Accident Research & Road Safety - Queensland (CARRS-Q)

THE FACTS

- Road construction and repair is essential for maintaining and improving the mobility and safety of all road users, however, the process of building safer roads and roadsides needs to be managed to minimise risks to both motorists and roadworkers.
- There is a lack of detailed and accurate safety records on incidents in Australian worksites which prevents a thorough understanding of the relevant risks and hazards, and presents challenges to identifying appropriate safety treatments.[4]
- Studies show that crash rates increase during roadworks compared with pre-work periods.[3]
- Worksite crashes are reported to be more severe than other crashes.[5]
- Roadworks can be a cause of driver frustration, resulting from frequent stops, a perceived lack of work activity, perceived inappropriateness of reduced speed limits, and associated increased travel times. This may influence driver behaviour and compliance with worksite traffic controls.[6]

The key safety issues[4]

1. The approach area of a wo te is the most dangerous section.
2. Non-compliance with sr mits is a major issue.
3. Driver speed is influ other vehicles within worksites.
4. Improved driver nd awareness of worksite haz ed.

Common types of worksite incidents

Common types of incidents in worksites perceived by roadworkers include:[7]

- Public vehicle intrusion into work areas;
- Public vehicle hitting traffic controllers;
- Rear end crashes at roadwork approaches; and
- Reversing incidents involving work vehicles and machinery.

Main causes of worksite incidents

Common causes of incidents in worksites perceived by roadworkers include:[7]

- Motorists violating posted speed limits and driving too fast;
- Distracted driving by motorists;
- Motorists ignoring signage and traffic controllers' instructions; and
- Roadworkers misjudging or ignoring reversing beepers and ignoring spotters' instructions.

Slow down and obey posted speed limits in roadworks. There may be hazards you cannot see.

Speeding is a major cause of crashes in road worksites:[2]

- A study of driver speeds in Queensland worksites[8] showed that almost all vehicles (76-98%) speed when approaching worksites, with a high proportion (66-89%) speeding inside work areas. This high rate of non-compliance with roadwork signage poses a significant threat to roadworkers as well as to motorists themselves.
- Research indicates that the main influences on driver speeds in worksites are:
  - Presence of activity: Drivers will travel about 20% slower if they see workers than if they do not.[8,9]
  - Speeds of other vehicles: Motorists are more likely to speed if other vehicles in the traffic stream are[8] and drivers report feeling pressured when being tailgated in the traffic stream.
  - Location in the worksite: Motorists speed more when approaching a worksite and less towards the end of the worksite.[6]
  - Type of vehicles: Light vehicles are more likely to speed than trucks.[6]
  - Gap from front vehicle: Vehicles with large front gaps are more likely to speed than those with small gaps.[6]
  - Time of day: There are higher average speeds during night hours than during the day.[5]
- Interestingly, results from a US study showed that while a visible police presence reduces speeding[8], the threat of higher penalties for speeding in worksites has little impact.[8,9]

Common worksite hazards

Common hazards in worksites perceived by roadworkers include:[10]

- Speeding;
- Working in wet weather (slippery surface, reduced skid resistance, and reduced visibility);
- Driver frustration and aggression towards roadworkers (mostly to traffic controllers);

www.carrsq.qut.edu.au

The CARRS-Q website is an invaluable resource.

Download the suite of *fact sheets and other evidence-based resources*.

Sign of the month

Water over road

Queensland experiences hot summers with heavy rainfall. This can cause flooding and roads can be cut off or washed away.

The WATER OVER ROAD sign indicates that there is water over a road ahead, but the road is still open and can be used by vehicles with care and attention. It is a temporary sign that is a courtesy to ensure motorists aware they will drive through a little water.

If the road has been determined to be inaccessible due to the water on the road, this WATER OVER ROAD sign should not be used. In this instance, when state-controlled roads are closed, a ROAD CLOSED sign is used when the depth of water is 300mm or more. In cases where the water is flowing, roads are closed at a lower depth, depending on the speed of flow. View a list of TMR's flooding signs.

Short term non-compliance at road worksites

During set-up and removal of traffic control devices at road worksites, it is acknowledged that non-compliances with some clauses of the Manual of Uniform Traffic Control Devices (MUTCD) will occur.

This can include, for example, when signs and devices are installed in one direction of travel, and not the other, offset speed zones will be created. While the MUTCD does not permit offset speed zones on two lane two way roads (other than at buffer zones), any such non-conformance during the set-up or removal process is not considered a non-conformance with the requirements of the MUTCD.

TMR encourages traffic control providers to minimise the set-up and removal times as much as possible, and proactively manage risks associated with any non-compliance.

Update your TMD details

Don't forget that **if you have changed your employer or contact details lately,** you need to provide your updated details to TMR for the Traffic Management Design qualified individuals list.

Email TMDesign@tmr.qld.gov.au with your name, employer, phone, email and Traffic Management Design Card number.

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Reminder

Only use registered traffic management suppliers. Before you engage a traffic management supplier, please ensure they are registered with TMR's Traffic Management Registration Scheme.