



# Helping Families Get Home Safely.

With 3M's nearly 80-year history of contributing to safer roads, we know that it takes all stakeholders working together to address issues surrounding transportation and mobility, and to drive real and lasting improvement. Together, with the combined and collaborative efforts of government agencies, safety associations and advocacy groups around the world, we strive to reduce traffic fatalities globally and help save lives.

By working with leading global organizations, including the United Nations, Fédération Internationale de l'Automobile, and the International Road Federation, 3M hopes to improve road safety and realize zero fatalities through the deployment of advanced technologies. In addition, 3M is working today on the connected roads of tomorrow. Many of the automated technologies found in cars today use the same infrastructure drivers have relied on for years to help them safely navigate. 3M's goal is to continue to help improve safety through enhanced infrastructure for both human drivers and automated vehicles.

Like you, we aspire to a world free of roadway fatalities and serious injuries. Its why we have partnered with the U.N internationally and are a national partner of The Safer Australian Roads and Highways Group (SARAH) and Australasian Collage of Road Safety. In partnership with ACRS, we have created the premier road safety award recognizing exemplary innovation and effectiveness to save lives and injuries on our roads. Now in its 10th year the 3M-ACRS Diamond Road Safety Award is open to any road safety practitioner who works within the public and private sector. The individual team leader of the winning project receive a trip to the ATSSA annual convention in the USA and also visit 3M head office in Minnesota. Along with this award, 3M are a sponsor of the Safety360 truck, that provides a custom-built road safety exhibition that educates young road users how to share the road safely with trucks in an exciting and engaging way through immersive virtual reality.

3M has also pledged support as a founding donor to a newly established United Nations Road Safety Trust Fund and has committed \$250,000 to the UN Road Safety Trust Fund which aims to accelerate progress in improving global road safety by bridging the gaps in the mobilization of resources for effective action at all levels. According to the World Health Organization, about 1.3 million people die globally each year as a result of road traffic crashes, and another 50 million people are injured on the world's roads. A disproportionate 93% of all road fatalities occur in low and middle-income countries, which have only slightly more than half of the world's vehicles. As the world's population grows, particularly in emerging economies, challenges like road safety and mobility must be addressed to ensure people across the globe can lead safe, healthy, and prosperous lives. 3M has a long history of using science to improve lives. Its Transportation Safety Division is a global leader in developing products, systems and services for the traffic safety and vehicle registration segments, with the mission to help bring families home safely. 3M technologies are used to produce high performance reflective materials for traffic signs, road markings, work zone applications and more.

**3M** Science.  
Applied to Life.™



**Saving Australian lives.  
Improving truck safety.**





## Contents

|  |          |
|--|----------|
| <b>Australia’s Status and Challenges</b>     | <b>2</b> |
| <b>Global Best Practice for Truck Safety</b> | <b>3</b> |
| <b>Call to Action</b>                        | <b>3</b> |



Every year around the world:



Each State, each city and each municipality is seeking significant long term sustainable improvements to the safety of their road transport system. Austroads, the association of Australasian road transport and traffic agencies, introduced a Road Safety program to prevent death and serious injuries using a Safe System approach.

Australia is not alone. The United Nations in 2011 launched the Decade of Action for Road Safety. This global initiative aims to “...stabilize and then reduce the forecast levels of road traffic fatalities by 50% around the world by increasing activities conducted at the national, regional and global levels”. This goal applies to Australia as well.

## Australia’s Status and Challenges

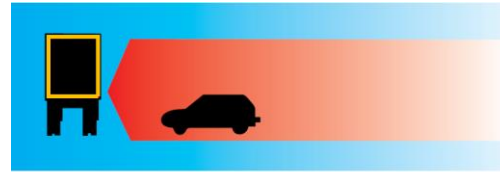
The Australian government is looking to leave a legacy of a productive and modern 1st world, 21st century infrastructure that our country deserves.

A key part of Australian infrastructure revolves around Australian transport systems. Our Government has a long term road safety vision of reducing road crash fatalities by at least 30 percent by 2020. At the end of 2018 this number was at 19.7 percent - more than 10 percent away from that goal<sup>1</sup>.

Road safety can be achieved through focus on safer drivers, safer vehicles and safer road infrastructure. Much of our past road safety efforts in Australia has focused on countering illegal behaviours. In Australia we have long imposed vehicle safety standards. To achieve greater gains in the future, much greater emphasis needs to be placed on initiatives that improve road infrastructure.

Among the many infrastructure challenges that exist to reduce the number of crashes and fatalities, special emphasis can be given to heavy vehicles. Heavy trucks and buses make up only 3.7% of the vehicle fleet. Yet they are involved in 16% of all road fatalities. Approximately 39% of fatal incidents occur at night<sup>1</sup>.

1. BITRE Road Trauma Australia 2018 statistical summary



↓ **37%**

Side outline visibility markings can reduce side collisions by up to 37%

### Global Best Practice for Truck Safety

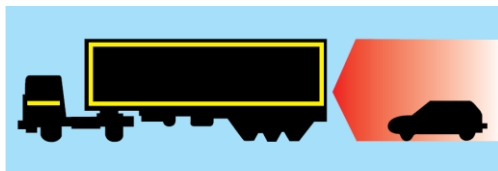
Road safety is a shared responsibility. Support from Government, industry and safety solution providers is needed to help Australia reduce death and serious injury on our roads.

There are simple interventions that can have a significant impact on road safety. For instance, studies have concluded that the usage of retroreflective tapes on trucks has been effective. Significant reductions could be achieved in side and rear truck impacts. Visibility of these trucks are especially exacerbated in night and poor conditions including rain and fog, dusk and dawn, where lighting is poor. The use of retroreflective tape under such conditions reduced overall rear collisions by 41% and 37% for side collisions<sup>2</sup>.

3M has worked with government agencies globally for the past 80 years ever since the inception of its reflective signage technology. This has helped many governments realise their long-term road safety visions. 3M has developed a range of high-performance reflective tapes that allows vehicles to be seen earlier on the road, leaving more time for the driver to respond and therefore enhancing safety. Fluorescent yellow tapes provide yet additional day time visibility, when most accidents happen.

Safety of trucks on Australian roads can be improved substantially for a modest investment. It is estimated that application of high visibility tape to a 13m trailer would cost approximately \$500AUD. This tape will have life expectancy of 7 years, for an annual cost of about \$71.

Retroreflective markings substantially add to the visibility of heavy vehicles and their trailers from all angles at a relatively low cost. At such a modest investment road safety will be substantially enhanced.



↓ **41%**

Rear outline visibility markings can reduce rear end collisions by up to 41%

*Truck visibility costs \$71 annually*

2. Contour Markings of Vehicles Final Report FO76/00. Schmidt-Clausen, 2000 Darmstadt University of Technology



The application cost of retroreflective markings is low, while the safety improvements can be significant. Today, Standards for retroreflective truck visibility are specified but not mandated in Australia. To ensure a larger uptake of retroreflective markings, 3M along with the support of the Australian Trucking Association, call for the mandatory adoption of this cost-effective technology.

### Call to Action

Australia’s road safety strategy is firmly based on Safe System principles. It is framed by the guiding long term vision that no person should be killed or seriously injured on Australia's roads. As a step towards this vision the legislated use of retroreflective technology on heavy vehicles presents a quantifiable opportunity. Australian Design Rule 13/00 for Vehicle Standards specifies the use of Conspicuity Markings on Heavy Vehicles as optional based on EU Regulations ECE 104 and ECE 48. This can be found on page 5 of the ADR 13/00.

#### 6. REQUIREMENTS

- 6.1. Vehicles listed in clause 2.2 must comply with this standard by satisfying one of the following clauses (4.1.1-4.1.2)
  - 6.1.1. Appendix A as varied by Part 5 Exemptions and Alternative Procedures and, including Part 6 Supplementary General Requirements, Part 7 Individual Requirements and Part 8 Variations to the Requirements for Lamps in Appendix A.
  - 6.1.2. One of the alternative standards in Clause 9.
- 6.2. Where the fitment of a lamp is indicated as **optional**, this means that it is not mandatory to fit the lamp, but if fitted, the lamp(s) are required to comply with this standard.

The Regulations have been in force (mandatory) in Europe since 2011, with Italy enforcing it as early as 2005; various independent studies show the tangible benefits in saved lives, reduced incidents and recovery costs since the change.

This solution helps reduce the annual numbers of both fatalities and serious injuries on our roads contributing to the reduction targets set by the government.

We encourage the Committee for Road Safety to join Europe, APAC and other countries around the world (Korea, Indonesia, Thailand, Colombia, et al.) and adopt retroreflective markings for heavy vehicles markings as mandatory.

There is undisputed evidence for its value, implementation costs are modest and positive impact to society is significant. Road safety is a shared responsibility and your leadership is essential to create a safer Australia.



3M Sponsorship of ATA Safety Truck 2020