
Appendix two – The Safe Systems framework and NSW road safety strategies and plans

1. Safe Systems

The Safe Systems framework was developed in Scandinavia and the Netherlands in the late 1990s and has been taken up in many other countries worldwide since then. TfNSW has noted that the Sweden and Norway are two of the best performing countries in the world for road safety.

Traditionally, the responsibility for staying safe on our roads was placed on the individual. Under the Safe System approach businesses and organisations, road and vehicle designers, regulators and road users share this responsibility.

This fundamental shift away from a 'blame the road user' focus, to an approach that compels system providers or designers to provide an intrinsically safe traffic environment, is recognised as the key to achieving ambitious road safety outcomes.

The Safe Systems framework views road safety as a system of interactions between four different elements, as illustrated in Exhibit 25 below.

Exhibit 25: Safe Systems framework



Source: NSW Government: Towards Zero.

These four elements are:

- **Safe roads:** initiatives and infrastructure treatments to address road design, traffic management, the roadway and its adjoining surroundings.
- **Safe speed:** initiatives to set speed limits that are appropriate to the type of road and use of speed cameras including those that measure average speed cameras (in place since 2010).
- **Safe vehicles:** initiatives to investigate improvements to the safety standards for new vehicles, including those used by the freight industry and work with industry and the Australian Government to increase availability to the NSW market.
- **Safe people:** initiatives to address behaviours that create crash risks and focus on at-risk road users including children, pedestrians, bicyclists, motor cyclists and older drivers.

This approach is underpinned by the understanding that:

- People are human and sometimes make mistakes – a simple mistake should not cost anyone their life.
- Roads, roadsides, and vehicles need to be designed to minimise crashes or reduce forces if a crash happens.
- Road safety is a shared responsibility – everyone needs to make safe decisions on and around the road to prioritise safety.

In the NSW Road Safety Strategy 2012–2021, TfNSW expanded the Safe Systems framework to include two more elements which are:

- Safer heavy vehicle operation – heavy trucks are often involved in serious road trauma in New South Wales, in part because the mass of a heavy truck involved in a crash increases the severity of the crash. The NSW Road Safety Strategy 2012–2021 reported that heavy vehicles represented just 2.2% of registered motor vehicles at that time but were involved in 17% of fatalities on NSW roads between 2008 and 2010.
 - Initiatives to tackle this issue include improved compliance for speeding and fatigue with average speed cameras targeting only heavy vehicles since 2010.
- Road safety for Aboriginal communities – the NSW Road Safety Strategy 2012–2021 reported that, nationally, Aboriginal people are involved in road deaths at three times the rate of non-Aboriginal people. This is attributed to a variety of reasons including the tendency to live in remote or rural areas where risk factors are generally higher than in built up areas, the need to travel long distances to support extended families and using older, less safe vehicles.
 - Initiatives to tackle this issue include increased driver licensing opportunities, culturally appropriate education materials, partnerships with local communities, other agencies and councils to reduce levels of unauthorised driving, and improved use of data and reporting on the extent of road safety challenges facing Aboriginal communities.

TfNSW advised the audit that these two elements are still included in their Safe Systems framework although these additional elements are not mentioned in any of the material on the Towards Zero website.

2. NSW Road safety strategies and plans

NSW Road Safety Strategy 2012–2021

In December 2012, TfNSW released the NSW Road Safety Strategy 2012–2021 which was the first long-term road safety plan in New South Wales.

The NSW Road Safety Strategy 2012–2021 introduced 'Vision Zero', which had the end goal of no 'death or serious injury occurring on the road transport network' by 2050. As part of Vision Zero, TfNSW also adopted the Safe Systems framework, detailed above.

The NSW Road Safety Strategy 2012–2021 also included state-wide targets to reduce:

- fatalities and serious injuries by at least 30% by 2021 (although this was without a baseline against which to measure)
- the fatality rate to 4.3 per 100,000 population by 2016 which was first set in the NSW 2021 State Plan, the ten-year plan developed in 2011.

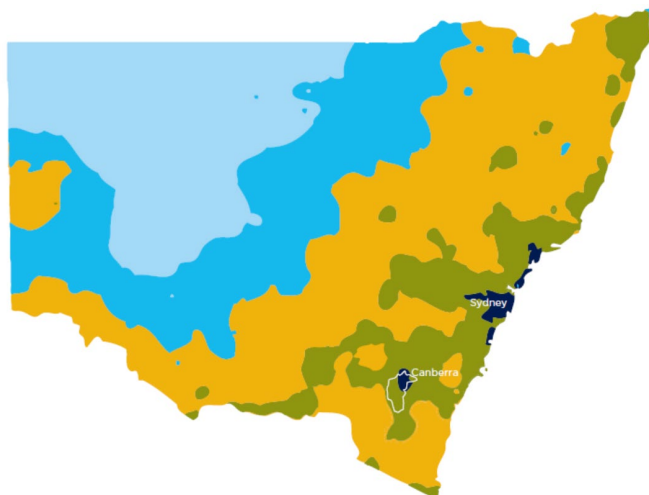
The NSW Road Safety Strategy 2012–2021 also included an action to ensure that road safety was considered throughout the design, construction, maintenance, operation and audit of the road network, and a commitment to report road safety efforts to Parliament each year. The first annual report to Parliament was in 2012.

In the NSW Road Safety Strategy 2012–2021, TfNSW classified the state into five regions reflecting population density, and access to services. These regional classifications were:

- Major cities (Sydney, Newcastle, Wollongong)
- Inner regional (Bathurst, Coffs Harbour, Albury)
- Outer regional (Coonabarabran, Glen Innes, Narrandera)
- Remote (Cobar, Walgett, Menindee)
- Very remote (Wilcannia, Lightning Ridge, Lord Howe Island).

These regions can be seen in Exhibit 26, below:

Exhibit 26: TfNSW regional classifications in 2012



Key

- Major cities – dark blue
- Inner regional – green
- Outer regional – yellow
- Remote – mid blue
- Very remote – light blue

Source: TfNSW NSW Road Safety Strategy (2012–2021).

The NSW Road Safety Strategy 2012–2021 reported marked differences across these five regions in the levels of:

- fatalities
- serious injuries
- run-off road serious casualties
- head-on serious casualties
- young driver and pedestrian serious casualties.

Further, the NSW Road Safety Strategy 2012–2021 also noted that, whilst only one third of the NSW population resides in regional areas, two-thirds of all road fatalities occur there. When considered per 100,000 of the population, regional residents had a fatality rate more than four times that of metropolitan residents.

NSW Road Safety Plan 2021

In February 2018, the NSW Government published the NSW Road Safety Plan 2021 to 'deliver targeted initiatives to help us reduce the daily trauma' on NSW roads.

This plan identified six priority areas, which were:

- Saving lives on country roads – which focused on improving road safety infrastructure, including targeting high-risk roads and behaviours
- Safe urban places – which focused on addressing crashes in busy local areas, including pedestrian trauma
- Using the roads safely – which focused on preventing risky road behaviour, such as drink and drug driving
- Building a safer community culture – which focused on building a safety culture
- New and proven vehicle technology – which focused on leveraging advances in technology to prevent crashes and minimise the impact of human error
- Building a safe future – which focused on ensuring safe was included in the development, design, operation and maintenance of NSW roads.

In this plan, Vision Zero was replaced with Towards Zero which contained the four elements in Exhibit 25, above.

Further, the NSW Road Safety Plan 2021 contained two state-wide targets:

- reduce road fatalities by at least 30% from 2008–2010 levels by 2021 (also a State Priority Target)
- zero fatalities and serious injuries on our roads by 2056 (an aspirational target).

In this policy 'refresh', the target for fatalities is the same as in the 2012–21 Strategy but it was refined to include a baseline of the average number of fatalities recorded between 2008–2010. However, the target for serious injuries was removed.

This plan also noted that two-thirds of all fatalities in New South Wales take place on regional roads and reported that more than 70% of people who die on regional roads are also resident in regional areas. The plan reports that, in 2017, the number of fatalities per 100,000 of the population was 2.3 in metropolitan areas and 10.3 in regional NSW.

In 2018–19, when the NSW Road Safety Plan 2021 was published, \$1.9 billion of funding, over five years, was committed to the Safer Roads program. This program was focused on safety infrastructure on roads to reduce the likelihood of a fatality or serious injury arising from a crash. This included:

- road upgrades and hazard removal
- improved road design
- new road signs, surfaces, markings and safety barriers
- median separation treatments such as wide centrelines and median strip barriers
- risk safety reviews on long stretches of major roads.

NSW Road Safety Action Plan 2022–2026

In 2021, TfNSW undertook a case-by-case investigation of all fatal crashes from 2018 including modelling the potential impact of future safety measures and system improvements. This investigation informed the development of the NSW Road Safety Action Plan 2022–2026.

In April 2022, the NSW Government replaced the 2021 Road Safety Plan with the NSW Road Safety Action Plan 2022–2026.

The NSW Road Safety Action Plan 2022–2026 included new state-wide targets of a:

- 50% reduction in fatalities (from a 2018–2020 average) by 2030
- 30% reduction in serious injuries by 2030 (from a 2018–2020 average).

The NSW Road Safety Action Plan 2022–2026 has five priority areas which are:

- creating safer country roads and urban places
- enhancing road safety in local communities
- increasing the safety of light vehicles, heavy vehicles and protective equipment
- making safer choices on our roads
- ensuring the safety of vulnerable and other at-risk road users.

The Governance Structure for the NSW Road Safety Action Plan 2022–2026 lists 12 Priority Actions which are:

1. Expand the MPDC Program to enforce seatbelts.
2. Deliver the NSW Automated Enforcement Strategy.
3. Deliver Towards Zero Safer Roads Program.
4. Deliver a new Drug and Alcohol Advisory Group.
5. Optimise drug and alcohol enforcement and post-crash testing.
6. Deliver enhanced drink and drug drive education programs.
7. Review and expand Local Government Road Safety Program.
8. Develop an online Towards Zero Collaboration Hub for councils.
9. Support the NSW Road Trauma Support Group.
10. Deliver the online Learner Education and Testing Platform.
11. Deliver a new online NSW Road Safety Education Centre.
12. Extend best-practice vehicle fleet and safe road use policies.

Key initiatives under the NSW Road Safety Action Plan 2022–2026 include:

- continuing to upgrade roads and essential infrastructure across New South Wales, through the Safer Roads Program and Saving Lives on Country Roads Initiative
- conducting speed zone reviews of high risk, default speed zones on low-quality, high speed country roads, as well as delivering safer speeds in towns
- supporting the Road Trauma Support Group, to deliver services to families impacted by road trauma
- supporting local councils with resources, training, collaboration and networking opportunities to develop road safety knowledge and skills through a new online Towards Zero Collaboration Hub and safe systems training
- establishing a new digital Road Safety Education Centre to make education resources more readily available and current for delivery of road safety education by agencies, business, local government and community organisations
- working in partnership with the freight and heavy vehicle industry, to deliver a new Heavy Vehicle Safety Strategy
- revitalising the strategy for drug and alcohol testing of drivers.

A key action in the NSW Road Safety Action Plan 2022–2026 was the implementation of the Automated Enforcement Strategy in November 2022. This program is intended to provide a framework for the management of automated enforcement programs in New South Wales, to assist innovation in this space, and to help reduce road trauma.

This strategy follows on from the NSW Auditor-General's 2011 audit on speed cameras in New South Wales, the Speed Camera Strategy (2012) and the Mobile Phone Detection Camera program (2020) and has outcomes including:

- fewer deaths and injuries on NSW roads
- overall reduction of the risk of trauma related crashes
- greater compliance and behaviour change among the community due to enhanced understanding and support of automated enforcement
- more innovative, flexible and sustainable technology solutions that further complement on road policing.

A key element of the Automated Enforcement Strategy is the use of cameras. Currently the cameras in use in New South Wales are:

- Speed and red-light cameras. There are four types of speed cameras currently used in New South Wales. These are:
 - Fixed speed cameras – detect speeding at specific, high-risk locations
 - Red-light speed cameras – detect speeding and red-light running at specific signalised intersections
 - Mobile speed cameras – detect speeding across the road network by moving around various locations at various times, at a scale and network spread to support the perception of 'anywhere, anytime' enforcement
 - Average speed cameras – detect heavy vehicle speeding between two points on specific high volume and/or high-risk routes.
- Mobile Phone and Seatbelt Detection Cameras, both fixed and transportable cameras are used to detect drivers using a mobile phone when driving. The same cameras will also be used to detect seatbelt non-use in drivers and front passengers.
- Safe-T-Cam. A network of cameras that monitor the movement of heavy vehicles, and focuses on:
 - fatigue-regulated heavy vehicles which are bound by maximum work and minimum rest time
 - vehicles that are unregistered and/or uninsured
 - attempts to avoid detection at camera sites
 - failure to enter inspection stations.

The NSW Road Safety Action Plan 2022–2026 also includes ongoing commitment to established and proven safety measures implemented across regional NSW. These include road safety advertising campaigns and information for all road user groups, mandatory road safety education from early childhood through schooling, the Enhanced Enforcement Program with the NSW Police Force, as well as vehicle and equipment safety testing and research.

National Road Safety Strategy 2021–2030

The National Road Safety Strategy 2021–2030 (the national strategy) is a ten-year plan for reducing road trauma on Australia's roads and is implemented by the Commonwealth Office of Road Safety.

The national target is a reduction in annual fatalities of at least 50% by 2030 and a reduction in annual national serious injuries by at least 30% by 2030 nationally. The priorities of the national plan are:

- that governments will focus on designing a Safe System that is future focused
- that governments at all levels will plan and implement network-wide safety improvements
- better transport options and assistance
- to pursue technological improvements and uptake of safer vehicles
- to support safe movement of freight and passengers and reduce harm to all road users
- to enable safety culture in organisations to take responsibility for vehicles and roads as a workplace
- to address the over representation of Aboriginal and Torres Strait Islander people in road trauma
- to provide safe access for all road users
- to increase community understanding of risky road use and address through education and enforcement.

The national strategy is focused on Towards Zero and uses the Safe System approach. This includes investigations for all fatal crashes and at least ten per cent of serious injury crashes.

The national and state plans are aligned in the following ways:

- a long-term vision for zero fatalities and serious injuries
- targets to reduce fatalities by 50% and serious injuries by 30% by 2030
- use of the Safe Systems framework
- a focus on specific high-risk factors such as infrastructure, vehicle standards, behaviour, heavy vehicle impacts, regional roads and Aboriginal people.

The Australian Government provides matched funding for road infrastructure improvements and can mandate other improvements such as vehicle standards and new technology. National road safety reporting uses data provided by all states and territories.