Introduction of Intelligent Speed Assistance in Australia

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RA QLD Group 6

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Contents

Executive summary

Despite significant investments and ongoing efforts, Australia has seen no material improvement in road fatalities over the past decade, with the annual number of deaths remaining stubbornly high. Approximately 1,300 people are killed on Australians road each year and this number has been steadily increasing each year from about 1,100 deaths in 2021 to over 1,300 deaths during the most recent 12-month period to August 2025, as shown in Figure 1.

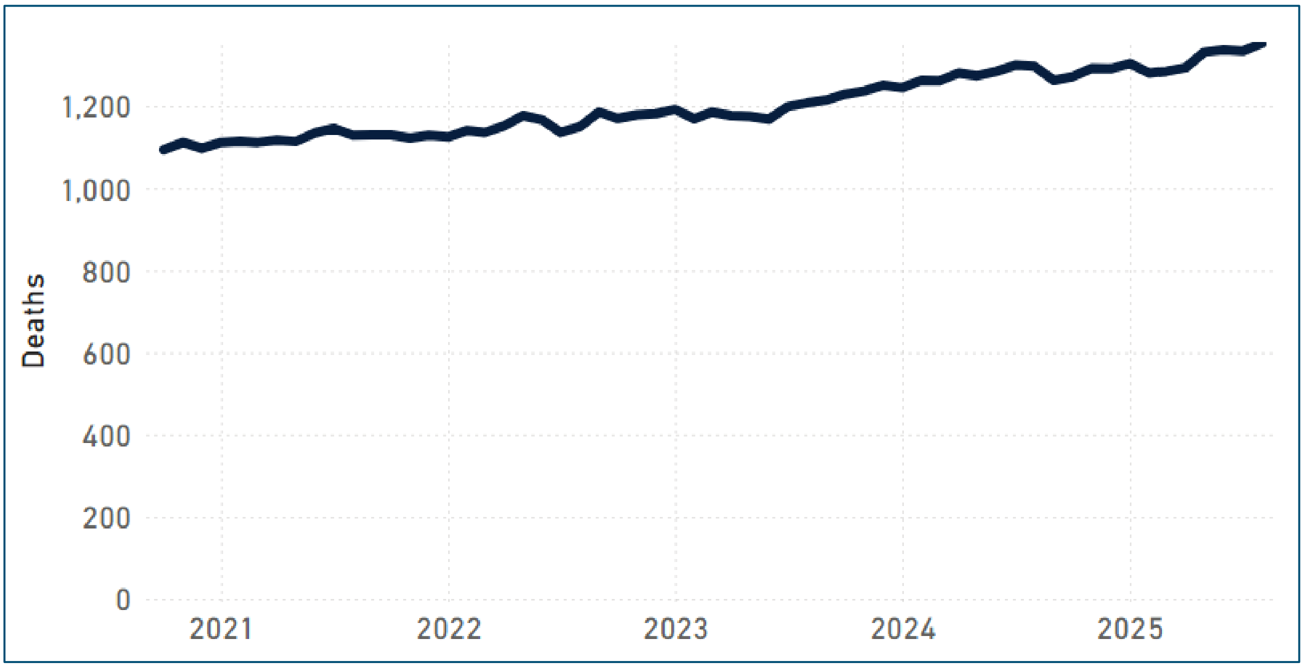


Figure 1 Number of deaths per year (BITRE, 2025)

Speeding continues to be a leading contributor to road trauma events, accounting for a substantial proportion of both fatal and serious injury crashes nationwide. Speeding is identified as one of the 'Fatal Five' high risk behaviours that contribute to fatal crashes, in addition to driver distraction, driving under the influence of alcohol or drugs, fatigue and non-use of seat belts and helmets. The Safe System Approach also identifies the important correlation between speed and safety and identifies safer speeds as one of the four core interrelated pillars along with safer roads, safer vehicles and safer road users. The National Road Safety Strategy 2021–30 also acknowledges the importance of speed management as a cross-cutting pillar embedded within its three key themes of safe roads, safe vehicles and safe road use, as shown in Figure 2.

Figure 2 National Road Safety Strategy 2021-30 – Key themes and targets (National Road Safety Strategy, 2021)

In contrast, Intelligent Speed Assistance (ISA)—a technology already mandated and widely implemented in the European Union (EU)—has demonstrated a clear capacity to reduce speeding and is associated with measurable reductions in road trauma events. Australian research has recognised the potential benefits of ISA for over 20 years, and its value is now formally acknowledged in the National Road Safety Action Plan (NRSAP). However, despite this recognition, there remains a lack of concrete action or a defined roadmap to achieving widespread ISA adoption across Australia. This gap highlights the urgent need for coordinated advocacy and engagement to drive progress.

This paper outlines the role that Roads Australia (RA) can play in fostering both a social license and the political will necessary for ISA implementation. The project team's approach was twofold:

1. Engaging with key stakeholders, industry representatives, and government bodies to identify the practical steps, policy requirements, and barriers to ISA adoption
2. Conducting community sounding through a public survey to gauge perceptions, acceptance, and concerns regarding the introduction of this technology.

Based on these insights, this paper offers clear recommendations for RA's next steps in advocating for ISA implementation in Australia. These include strategies for building broader community support, addressing stakeholder concerns, and working with policymakers to develop a robust, actionable roadmap for ISA implementation. By championing these efforts, RA can play a pivotal role in accelerating the adoption of ISA and ultimately achieving meaningful reductions in road trauma across Australia.

1 Introduction

Despite ongoing efforts to address road safety, Australia has seen little progress in reducing road fatalities over the past decade, with speeding remaining a major contributor to serious road trauma events. Intelligent Speed Assistance (ISA), a technology already proven effective in the European Union (EU), has demonstrated its potential to significantly reduce speeding and related injuries.

Although extensive Australian research has highlighted ISA's benefits for more than 20 years and its effectiveness is demonstrated by its inclusion in the National Road Safety Action Plan (NRSAP), concrete steps toward its widespread adoption are still lacking. This paper explores how Roads Australia (RA) can foster both social acceptance and political will to implement ISA, through membership engagement and stakeholder consultation. Recommendations are provided to guide RA in advocating for this transformative road safety technology.

2 Background | Problem statement

Speeding has a major impact on road trauma in Australia and is referred to as one of the "Fatal Five" behaviours that has a significant contribution to crash injuries and fatalities (in addition to driver distraction, driving under the influence of alcohol or drugs, fatigue and non-use of seat belts and helmets). Research indicates that that speeding contributes to 18% of fatal and serious crashes (Centre for Automotive Safety Research (CASR), 2021) and 30% of road fatalities in Australia (BITRE, 2022). Further, Transport and Main Roads Queensland Road Safety Crash data (2024) shows in the tables below that speeding is involved in a growing number of crashes annually.

Table 1 Fatalities involving speeding

2018	2019	2020	2021	2022	2023	Variation in 2023 from the 2018 – 2022 average
51	51	70	78	88	89	+31.7%

Table 2 Hospitalisations involving speeding

2018	2019	2020	2021	2022	2023	Variation in 2023 from the 2018 – 2022 average
380	338	391	451	487	429	+5%

Vehicle speeds of just over 5 km/h above the speed limit in urban areas, and 10 km/h above the speed limit in rural areas, are sufficient to double the risk of a crash — equivalent to the increase in risk associated with a blood alcohol concentration of 0.05 (CARRS Speeding fact sheet, 2015). Speeding increases the likelihood and severity of being involved in a serious injury crash, with even small increases in vehicle speeds resulting in a significant increase in driver's reaction time to identify a hazard and perform evasive manoeuvres (e.g. braking). Speeding also significantly increases vehicle stopping distances and vehicle impact speed/energy leading to more serious victim outcomes. Without better intervention, speeding will continue to be a primary cause of serious crashes.

3 Intelligent speed assistance

ISA is an advanced vehicle safety feature that helps drivers adhere to speed limits. It uses a combination of global position system (GPS), speed sign recognition technology, advanced cameras, mapping technology and a speed limit database within the vehicle to determine whether the vehicle is exceeding the speed limit, as illustrated in Figure 3.

ISA technology can comprise either passive systems that warn drivers when they exceed the speed limit, for example with an audible beep or a light-up dash icon; or active systems that prevent speeding through automatic braking or limiting engine power to prevent the vehicle from exceeding the speed limit. The technology can be overridden (i.e. turned off) by the driver but prompts safe driver behaviour.

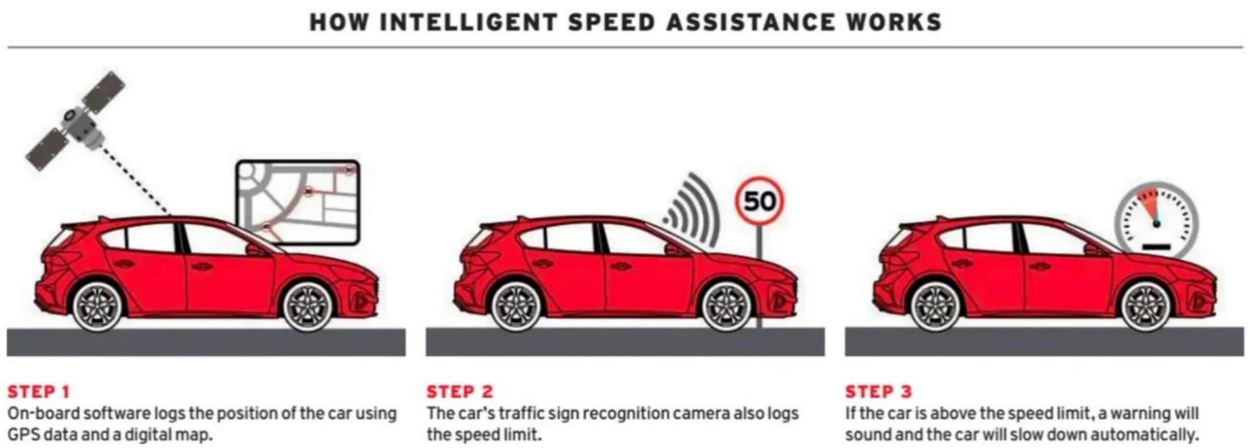


Figure 3 How ISA works (IAME, 2024)

3.1 Why ISA?

3.1.1 Alignment with National Road Safety Strategy and Action Plan

The pursuit of vehicle safety technology improvements and the uptake of safer vehicles is a priority listed in the National Road Safety Action Plan 2023 to 2025 with an action for legislation subject to regulatory impact statement outcomes of new ADRs for (amongst other features):

Intelligent Speed Assistance for both light and heavy vehicles (subject to international developments)

However, no firm dates for implementation are set within the action plan and from review of the communiques from the Infrastructure and Transport Ministers Meetings (ITMM) the topic of ISA's has not been raised at the ITMM over the past four years. Additionally, an annual progress report is published to provide transparency and oversight on the path to achieving the Road Safety Action Plan, the 2023 report (note that the 2024 report has not been published) fails to make mention of ISA within the 102-page report.

The annual progress report lists the new ADR 99/00 for Lanes Departure Warning Systems being mandated in Dec 2023, with Lane Keep Assist and Acoustic Vehicle Alert System for electric vehicles being progressed.

While the 2026 to 2030 National Road Safety Action Plan is yet to be finalised, NSW have published their 2026 Road Safety Action Plan with commitments to the delivery of safer infrastructure (line marking and speed zone signs) to enable the operation of ISA, support and advocacy for the mandatory adoption of ISA in all new light and heavy vehicles. The action plan survey conducted shows strong and consistent support of 81% for the incorporation of ISA in new vehicles.

Currently alignment within the NRSAP is identified through the following action points contained within the plan:

a. Prioritise and adopt proven technological improvements for all vehicle types through new ADRs as quickly as possible
b. Conduct research into the effectiveness of new technologies to address the most significant areas of road trauma and the most effective way to reduce the age of the vehicle fleet so an increasing proportion of road users have the advantage of modern vehicle safety features
c. Encourage and promote the voluntary uptake of vehicle safety technologies ahead of regulation, including through ongoing support of ANCAP and through fleet purchasing policies to ensure vehicles are the safest available
d. Prepare the road network for connected and automated vehicle developments, including supporting infrastructure and technologies to enable advanced safety service
e. Prepare the road network for connected and automated vehicle developments, including supporting infrastructure and technologies to enable advanced safety service

Given the availability of the technology and identification as a key priority in the NRSAP, action is required by RA to advocate to the Intergovernmental Steering Committee for stronger commitments towards the adoption of ISA in the ADRs in the 2026-2030 NRSAP as an agreed national policy priority.

3.1.2 Cost effective and impactful based on the research

Speeding is one of the leading contributors to road trauma and contributes to around 30% of road fatalities in Australia, particularly in rural and regional areas (BITRE, 2022). Fatality rates in regional Australia are more than four times higher than in metropolitan areas. Despite ongoing efforts across all levels of government to enforce speeding and encourage safe driver behaviour, speeding continues to be leading contributor, and the impact of fatal and serious crashes continues to take its toll on the Australian community and economy.

A 2024 survey by the Traffic Management Association of Australia's (TMAA) 's 2024 National Traffic Controller Safety Survey highlighted the growing dangers faced by traffic controllers and road workers across Australia. The survey found that 49% of traffic controllers reported near-misses with distracted drivers, while 44% cited speeding vehicles as a significant hazard.

Despite these factors, speed enforcement is uneven, with a lack of consistent policing or speed enforcement cameras due to cost and logistical constraints. The introduction of ISA provides a cost-effective opportunity to improve road safety, particularly in school zones, roadworks zones and urban areas.

The recommendation to mandate ISA in all new vehicles is due to the strong and growing base of evidence that supports ISA's impact on driver behaviour, particularly reducing speeding and as such major road trauma. Using the EU as an example, research on both passive and active ISA technology shows a positive return on investment compared with other road safety initiatives. Table 3 provides a summary of the effectiveness of ISA over other road safety treatments based on international trials.

Table 3 Summary of ISA effectiveness over other road safety measures

Measure	Effectiveness	Barriers	European Union implementation	Australian feasibility
ISA	Very high	Moderate (industry coordination, regulation)	Mandatory for new vehicle models/types introduced from July 2022, and mandatory for all new cars sold from July 2024	Possible via reform of the Australian Design Rules (ADR) Recent 2024 survey indicated that approx. 70% respondents in Australia believe ISA is valuable and 51% believe the federal government should make ISA mandatory in all new vehicles (HERE, 2024)
Safe road infrastructure	Very high	Expensive, long-term	EU-wide TEN-T safety upgrades	Costly for rural Australia
Lower speed limits	High	High public resistance, enforcement required	Increase in 30km/h speed zones introduced in urban areas	Politically challenging
Vehicle safety tech (e.g. AEB)	High	Already in new cars, but not all	Mandatory by 2024	Some included in ANCAP assessment criteria

Measure	Effectiveness	Barriers	European Union implementation	Australian feasibility
Better enforcement	Medium	Resource-intensive	Cross-border enforcement	Harder in remote areas
Driver education campaigns	Low	Passive consumption Reduced visibility via free-to-air TV due to Streaming services		Multiple communication channels would be required to increase visibility

Kloeden, McLean & Glonek (2002) determined that if speeding were eliminated on metropolitan roads in Adelaide, Australia, injury crashes would be reduced by 20.8%. Mandating ISA in all new vehicles in Australia provides a significant opportunity to improve road safety by at least engineering out the risk of speeding through the use of passive ISA, if not potentially eliminating this risk through the use of active ISA in alignment with the hierarchy of risk controls (refer to Figure 4).

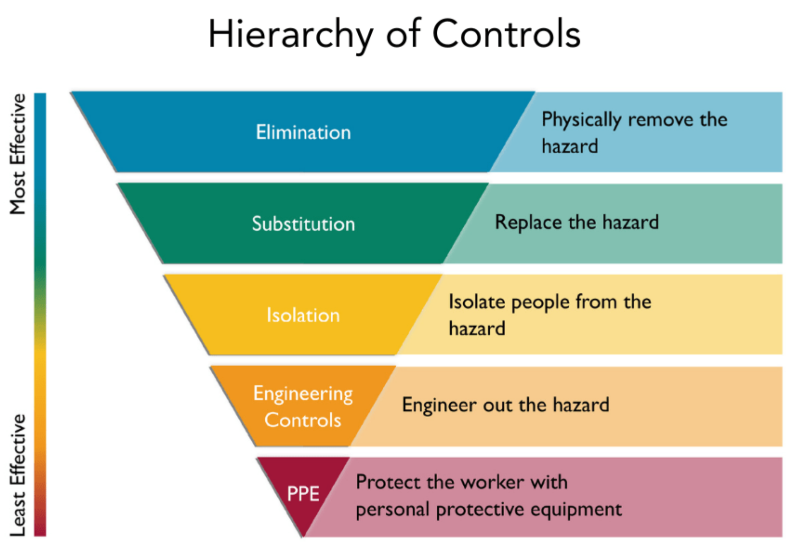


Figure 4 Hierarchy of controls

3.2 ISA research and findings

The evidence base for ISA is strong and growing, with multiple trials across the EU, the United Kingdon (UK) and Australia demonstrating clear benefits in reducing speeding, improving driver compliance with speed limits, and ultimately preventing fatal and serious crashes.

The following sections provide a comparison of ISA implementation and effectiveness internationally.

3.2.1 United Kingdom

Context: Transport for London (TfL) and the Transport Research Laboratory (TRL) tested ISA systems in a range of fleet and public vehicles (TFL & TRL ISA Trials – 2010–2015).

Findings (TfL ISA Trials Report, TRL, 2015):

a. Speed limit compliance increased from 57% to over 90% when ISA was active.
b. Mean speeds dropped by 1.5–3.0 km/h, even when drivers could override the system (Advisory ISA).
c. Hard braking and fuel consumption were reduced.
d. Drivers found the system generally acceptable after an initial adjustment period.

3.2.2 Netherlands

Context: National and EU-funded studies tested advisory and voluntary ISA in passenger and commercial vehicles. (TNO Research & EU PROSPER Project)

Findings (TNO Automotive Safety Reports; EU PROSPER Final Report, 2006):

a. ISA led to 20–30% reduction in speeding incidents.
b. Estimated 20% reduction in fatal crashes, and 10% reduction in crashes resulting in injuries with broad deployment.
c. ISA was particularly effective in urban areas with 30 km/h and 50 km/h speed zones.

3.2.3 Sweden

Context: One of the earliest European ISA pilots, with a focus on mandatory and advisory ISA configurations. (Vlassenroot, 2011)

Findings (Vlassenroot, 2011):

a. Vehicles using mandatory ISA had 95% compliance with speed limits.
b. Crash frequency for ISA-equipped vehicles reduced by 22%.
c. Public acceptability was higher than anticipated, especially after use.

3.2.4 European Union

Context: The EU has made ISA mandatory for all new vehicle models from July 2022, and all new cars sold from July 2024. Active safety technologies such as lane assist have been introduced under EU

Regulation (EU) 2019/2144 — part of the General Safety Regulation suite of vehicle technologies, with ISA to follow. (European Road Safety Charter, ISA set to become mandatory)

Findings (ETSC, 2019):

a. EU-wide adoption of ISA could prevent 25,000 deaths over 15 years.
b. Societal cost savings estimated at €130 billion.
c. ISA was ranked as the most cost-effective vehicle safety intervention, even ahead of autonomous emergency braking (AEB).

3.3 Australian ISA trial evidence

3.3.1 New South Wales

System: Advisory ISA linked to speed zone data from HERE Maps and vehicle GPS. Participants included 100 light fleet vehicles from private and public sectors.

Findings (National Road Safety Partnership Program (NRSPP) ISA Final Report, TfNSW, 2020):

a. 87% reduction in over-speeding duration.
b. Speed limit compliance improved significantly across 50 km/h and 100 km/h zones.
c. Fleet managers reported increased driver awareness and interest in permanent installation.
d. ISA was particularly valuable in school zones and high pedestrian areas.

3.3.2 South Australia

System: Trial of both mandatory and advisory ISA in 21 government fleet vehicles.

Findings (Trial (2011–2013) – Department of Planning, Transport and Infrastructure (DPTI), SA):

a. Vehicles fitted with ISA had a 42% lower proportion of speeding kilometres compared to baseline.
b. Mandatory ISA (non-overridable) resulted in highest compliance, but advisory systems were also effective.
c. Users reported increased situational awareness.

3.3.3 ARRB & iMove ISA Study (2021)

System: Technology pilot using retrofitted ISA in commercial vehicles.

Findings (iMOVE Cooperative Research Centre Report, 2021):

a. Real-time ISA mapping remains a challenge, particularly in rural areas.
b. User trust improved over time; however, clear signage and reliable mapping were crucial.
c. Supports phased adoption beginning with urban and fleet vehicles.

3.4 Why the European Union chose ISA as a priority

When advocating for mandatory ISA in all new vehicles in Australia, it is worthwhile understanding the factors that contributed to the EU's decision to make this technology a priority in new vehicles.

In the EU, 25–30% of fatal crashes involve speeding. ISA can cut speed-related crashes by up to 30% and fatalities by up to 20%, according to the European Transport Safety Council (ETSC, 2019). ISA supports the Safe System principle of reducing kinetic energy to survivable levels. This reduces dependence on enforcement by engineering safe behaviour into vehicles. Speed is a key risk factor for vulnerable road users such as pedestrians and cyclists. ISA increases safety for these users in urban areas. Collectively, these benefits of ISA contributed to the EU's decision to implement ISA in all new vehicles.

3.5 Summary of findings

ISA trials in both Europe and Australia consistently show that ISA:

a. Improves speed compliance
b. Reduces road trauma associated with road injuries and fatalities
c. Aligns with the Safe System approach
d. Is cost-effective, particularly for vehicle fleet deployment and in urban areas.

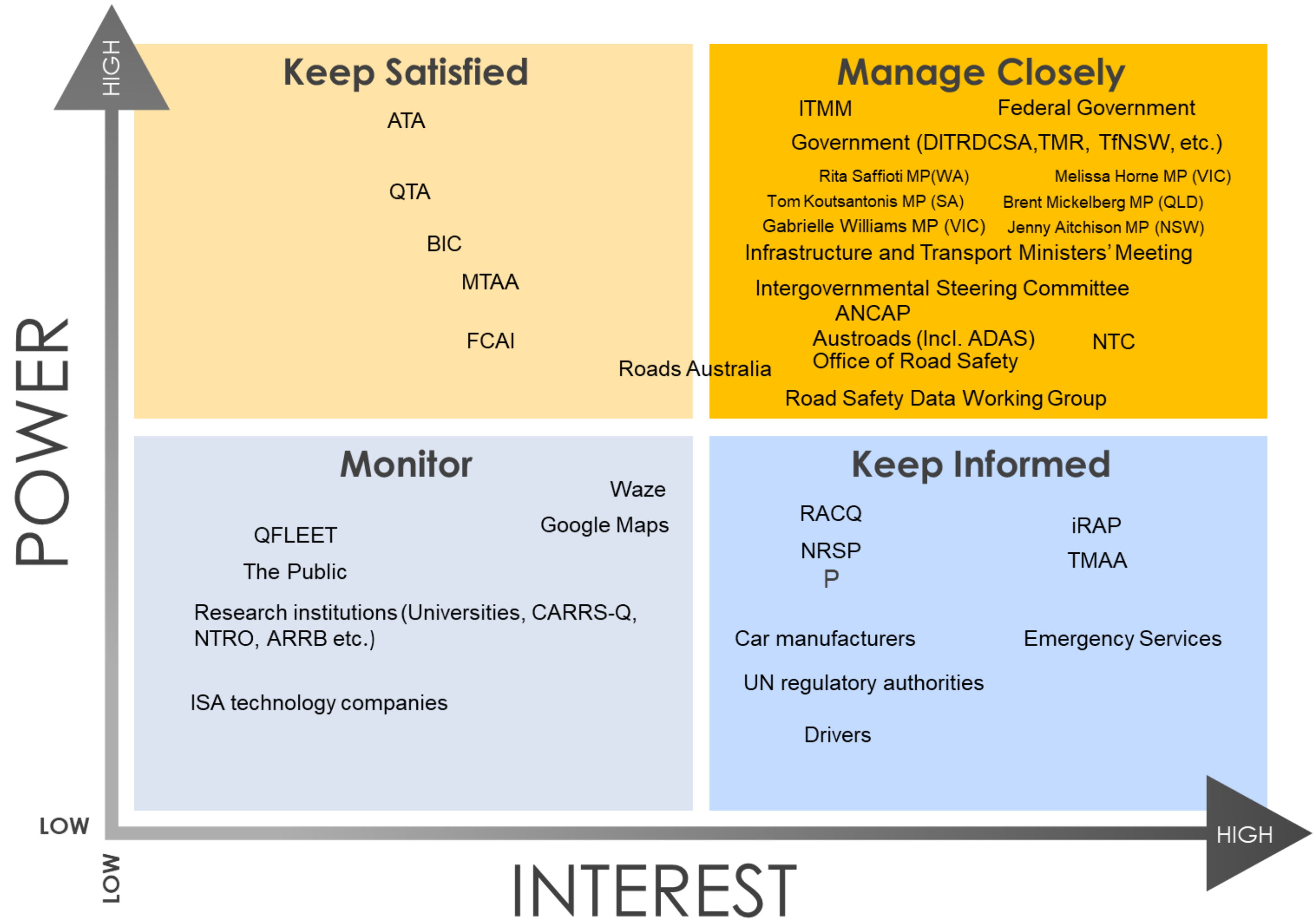
Research and trials both internationally and domestically have proven the effectiveness of ISA with common benefits summarised in Table 4.

Table 4 Common outcomes across all trials

Indicator	Outcome with ISA
Speed compliance	↑ Increased by 20–90%
Crash frequency	↓ Reduced by 10–25%
Fatalities (modelled)	↓ Reduced by 20%+
Fuel use and emissions	↓ Reduced by 5–10%
Driver acceptability	↑ Moderate to high after use
Cost-benefit ratio	✓ Very high (especially when bundled with Autonomous Emergency Braking (AEB))

4 Stakeholder engagement

In progressing mandating ISA in all new vehicles, there are many stakeholders with varying degrees of interest and power/influence. A stakeholder analysis (refer to Figure 5) was undertaken to map key stakeholders against their anticipated level of interest and power/influence and identify how stakeholders should be managed based on four quadrants: Monitor, Actively Engaged, Keep Informed, and Keep Satisfied.



Legend:
ADAS – Advanced Driver Assistance System
ANCAP – Australasian New Car Assessment Program
ARRB – The Australian Roads and Research Board
ATA – Australian trucking Association
BIC – Bus Industry Confederation
CARRS-Q – Centre for Accident Research and Road Safety - Queensland
DITRDCSA – Department of Infrastructure, Transport, Regional Development, Communications, Sports and the Arts
FCAI – Federal Chamber of Automotive Industries
ITMM - Infrastructure and Transport Ministers' Meetings
MTAA – Motor Trades Association of Australia
NRSPP – National Road Safety Partnership Program
NTRO – National Transport Research Organisation
NTC - National Transport Commission
QTA – Queensland Trucking Association
RACQ – Royal Automobile Club of Queensland
TMAA – Traffic Management Association of Australia
TfNSW – Transport for New South Wales
TMR – Transport and Main Roads

Figure 5 Stakeholder map

The project team undertook a series of interviews and meetings with key stakeholders across the transport and road safety industry to assist with identifying the key barriers and constraints for implementation of ISA in Australia. Summaries of these interviews are included in Appendix A and are referenced throughout the paper.

5 Barriers and constraints

Following stakeholder consultation and research, several barriers and constraints have been identified that have the potential to hinder mandating ISA in all new vehicles in Australia.

5.1 Transport data mapping accuracy

Several stakeholders referenced data accuracy and mapping technology as a key barrier that hinders the effectiveness of ISA in Australian vehicles. In particular, roads with dynamic or temporary speed limit changes (such as variable speed limit zones, school zones and roadwork zones) can have poor accuracy of real-time speed limit data, especially in regional/remote areas of Australia.

Matthew Bereni, CEO of Traffic Management Association of Australia (TMAA) confirmed that TMAA have been petitioning Google Maps, Apple Maps and Waze to assist with improving the safety around temporary traffic managed roadworks zones. To date, the engagement from these applications providers has been limited. TMAA is also investigating industry-led initiatives to use geo-fencing technology in these areas to automatically engage with these applications and utilise in-vehicle ISA technology to improve the timeliness and accuracy of variable speed limits.

This concept was seconded by representatives from the Department Transport and Main Roads Queensland (TMR) (Miranda Blogg, Miranda Blogg, Director (Safer Roads); and Nicholas Brook, Principal Engineer) who advised that, Google, Waze, Tom Tom and HERE are the primary suppliers of in-vehicle base map data in Australia. TMR highlighted that reliable road base maps with real-time, accurate database of speed limits are critical for ISA implementation as in-vehicle technologies rely on this information to determine the correct speed limit of the road it is on. Obtaining real-time speed information is difficult due to the limited availability of real-time speed data, number of jurisdictions responsible for setting speed limits across Australia and lack of consistency in speed limit signs across jurisdictions (particularly for variable speed limit zones, school zones and roadworks zones).

While TMR are actively working towards a harmonised access point (HAP) project (led by Austroads) that will facilitate real-time transport data exchange of safety data to drivers and vehicles, progress influencing these application providers relies on Australia having a point of difference above and beyond the current capabilities of these providers. Specifically, real-time, reliable, accurate data (especially in areas with variable or temporary speed limit zones) would be one such point of difference. Without this kind of robust data, there will continue to be issues with poor accuracy and reliability of ISA due to inaccurate speed detection / warnings. This leads to loss of trust in the system, drivers turning the system off and poor acceptance of this technology by road users and manufacturers alike.

Figure 6 provides an infographic of the needs of the Australian market to improve transport data to optimise ISA technology.

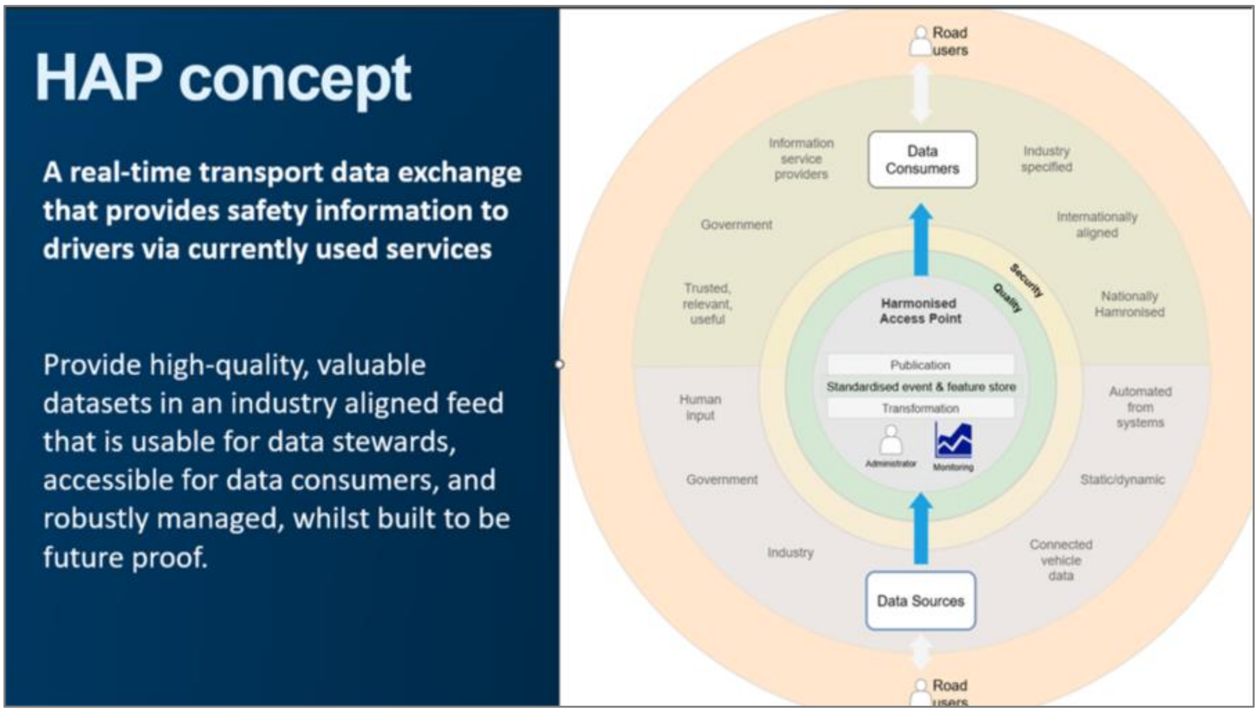


Figure 6   Harmonised Access Point (HAP) concept infographic

5.2   Mix of vehicles in Australia

Australia has a significantly diverse and older vehicle fleet (average vehicle age is 11 years), which presents further challenges for ISA implementation. According to the 2024 Automotive Insights Report (AIR) by the Australian Automotive Dealer Association (AADA) 2,324,805 used cars were sold in 2024. The Federal Chamber of Automotive Industries (FCAI) VFACTS data confirms that there were 1,220,607 new cars sold in 2024, representing 34% of the car sales market and that 62.5% of these new car sales were to fleet purchasers during the period (refer to Figure 7).

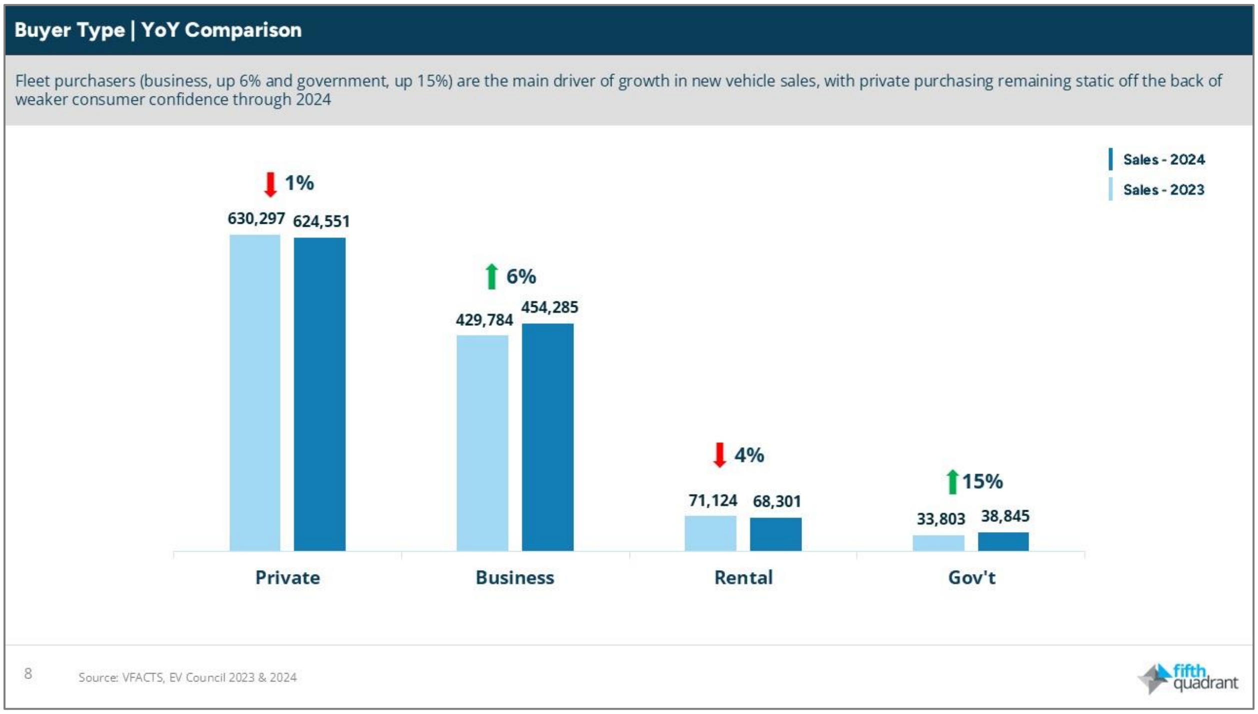


Figure 7 Graph of Australian vehicle buyer types (VFACTS, EV Council 2023 & 2024)

During the consultation process, Miranda Blogg described that there is little to no limit to the variety of manufacturers importing vehicles to Australia, unlike the EU and other geographies. This means that any change process, such as mandating ISA, requires influencing a large variety of manufacturers. For example, VFACTS data states that there are seven different manufacturers representing Australia's top ten selling vehicles. Of the top ten vehicle models sold in Australia in 2024, the manufacturers confirm that all ten models already include advanced driver assist systems (ADAS) technology such as autonomous emergency braking and lane keep assist as standard. Of the top ten, at least four models have some form of ISA or adaptive cruise control as standard. Of the remaining top sellers, ISA features are not standard, available in only some, higher-trim versions of the models sold (refer to Figure 8).

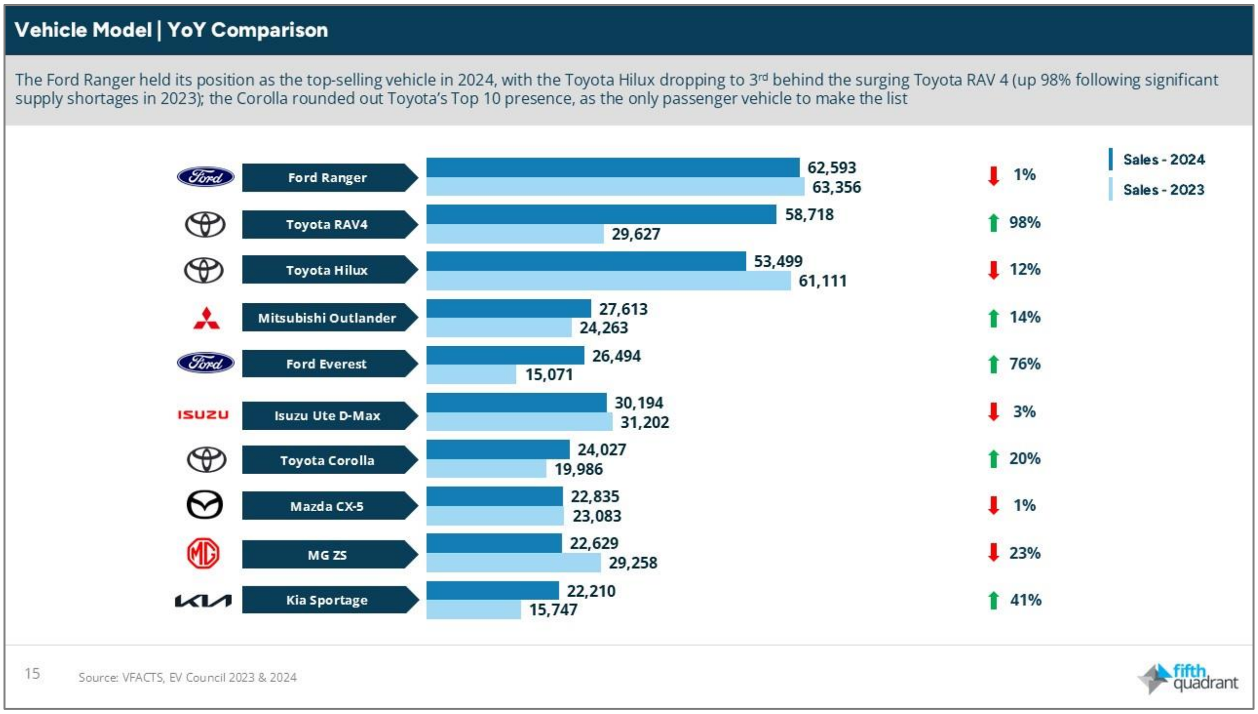


Figure 8 Graph of most popular vehicles purchased in Australia (VFACTS, EV Council 2023 & 2024)

With new car sales representing only a third of car sales annually, and manufacturers not currently prioritising including ISA as standard in Australia's top selling vehicles, it would take a protracted period to simply wait for ISA to become part of the standard offering and reach critical mass of vehicles in Australia.

5.3 Industry regulation lag

ISA is not currently mandated in the Australian Design Rules (ADRs) and several stakeholders raised the protracted timeframes are required to draft, review and pass legislation like what is required to mandate ISA. In speaking with John Ryan, Director of Policy at the Australasian New Car Assessment Program (ANCAP), it was identified that ANCAP's role is to provide consumers with vehicle safety information to help inform their purchasing decisions. As such, ANCAP designs testing protocols to meet evolving technology and in doing so determines the mix of vehicle specifications that might warrant a higher or lower star rating – ANCAP has discretion, where legislation is necessarily prescriptive. The discussion also referenced other vehicle safety technology including Autonomous Emergency Braking (AEB) that ANCAP included in testing protocols for several years before the ADRs were updated to include AEB.

Michael Nieuwesteeg, Program Manager – Road Safety and Design at Austroads confirmed that Austroads undertakes research into evolving road safety technologies, and like ANCAP, makes their findings available to State and Federal governments, however Austroads does not specifically advocate for one strategy or another. Michael referred to the "Review of literature and trials of intelligent speed adaptation devices for light and heavy vehicle" publication from 2003, which made clear, "The potential benefits of ISA for heavy vehicles and for all vehicles are high. The greatest benefits are likely to accrue from reductions in fuel consumption. Crash reductions comprise the second largest benefit, followed by reduced vehicle emissions."

Unfortunately, in the successive two decades, ISA technology in Australia continues to lag significantly behind the EU.

5.4 Lack of community education and acceptance

In discussion with John Ryan, he described that ANCAP receive complaints from the public regarding the inconvenience or intrusiveness of ISA on a frequent enough basis to bear mention. The ISA Technology Survey conducted as part of this project revealed that 52% of respondents either had never heard of ISA, or had heard of ISA, but didn't know how it worked (refer to the summary of survey results included in Appendix B). Subsequently, only 19% of respondents had no concerns about the potential of ISA being mandatory in all new vehicles. Misinterpretation of speed limits was the most common concern (57%), followed by reduced control over driving (38%) and increased driver frustration (29%). This lack of awareness and understanding about ISA technology will remain a barrier to implementing mandatory ISA in all new vehicles until the public is more confident about the impact of their choices.

Optimistically, despite this lack of awareness, 64% of survey respondents said that if ANCAP awarded a 5-star safety rating to a vehicle (highest ANCAP rating is 5 out of 5 stars), that they would trust the vehicle's ISA technology to accurately interpret speed limits. Further, 58% of respondents agreed that despite ISA technology being potentially intrusive or annoying, it would be worthwhile using ISA to improve driving safety and 75% agreed it is logical that ISA has been proven to reduce speeding-related crashes in countries where it has been mandated. These sentiments demonstrate that there is a significant opportunity to reduce this barrier through public education and awareness campaigns.

5.5 Lack of unified advocacy for ISA

Following consultation with stakeholders from ANCAP, Austroads, the National Transport Commission (NTC), the TMAA, the Federal Chamber of Automotive Industries (FCAI), Roads Australia representatives and TMR, a consistent message was that these stakeholders had interests in improving the uptake of ISA in Australia and had varying degrees of work already complete or underway in alignment with mandating ISA in Australia. However, progress resulting from this work has been painstakingly slow and there is currently no unifying point of advocacy for this change.

Dimi Riggs, Executive Leader, Strategy and Government Relations from NTC suggested that to influence the Commonwealth to update the ADRs to reflect mandatory ISA in new vehicles, it would take a coalition of consumer and road safety advocates to create pressure and build opportunities of influence. Some stakeholders consulted as part of this project overtly stated that their role was **not** to advocate, only to inform. Other member-based stakeholder groups felt that their membership group was too specific to be able to impact a sufficiently broad group of stakeholders to make meaningful progress. For this reason, a lack of unified advocacy for ISA is a barrier to its wide-spread implementation in Australia.

6 Roadmap for implementation

With the EU's recent ISA mandates applying from July 2022 for new models/types of vehicles introduced on the market, and from July 2024 becoming mandatory for all new car sales and registrations, RA can work towards accelerating this objective in Australia through a phased roadmap towards implementation. The roadmap has been designed with the following principles and goals in mind:

Phase 1 Short Term (next ~18 months)	• Advocacy: promote the benefits of driver assisted safety technology (including ISA) leveraging RA's relationships with key stakeholders • Education campaigns to increase public awareness and community acceptance
Phase 2 Medium Term (~1-3 years)	• Standardise school zone and road works speed limit signage across Australia • Promote Austroads Harmonised Access Point (HAP) project with road authorities across Australia to facilitate real-time transport data exchange and support efforts to develop an accurate, real-time database of speed limits across Australia
Phase 3 Long term (~3+ yrs)	• Introduce phased regulatory and legislative changes to gradually mandate implementation of ISA in Australian vehicles. • Use government mandates and incentives for government and large private fleets to buy ISA-equipped vehicles early.

Based on the EU's phased approach to mandating ISA, it is proposed that a similar phased approach is adopted for ISA implementation in Australia. It is anticipated that RA's role would require more involvement during the early (short-medium term) phases, with the responsibility for the later phases resting with the federal government and subsequent policy makers. During Phase 1, it is recommended that RA focus primarily on advocacy and education campaigns to influence government policies, legislation, regulations and increase public awareness and community acceptance of ISA technology.

The focus of Phase 2 would be to address the key technical barriers for implementation by working to resolve issues with vehicle manufacturers obtaining accurate, real-time database/s of speed limits across Australia (including in school zones and road work zones) and standardising speed limit signs across all jurisdictions to facilitate vehicle-camera recognition of dynamic speed limit signs.

Phase 3 involves phased implementation of regulatory and legislative changes to gradually mandate ISA uptake in the Australian vehicle market and encourage/incentivise large government and private organisations to buy ISA-equipped vehicles in their fleet. This approach is based on the EU's staged implementation where ISA was progressively introduced over a two-year period from July 2022 to July 2024.

Finally, after implementation, ongoing monitoring, map/data updates, aftermarket guidance, retrofit pathways (for older vehicles) and further safety upgrades (such as improvements to in vehicle technology) would be recommended.

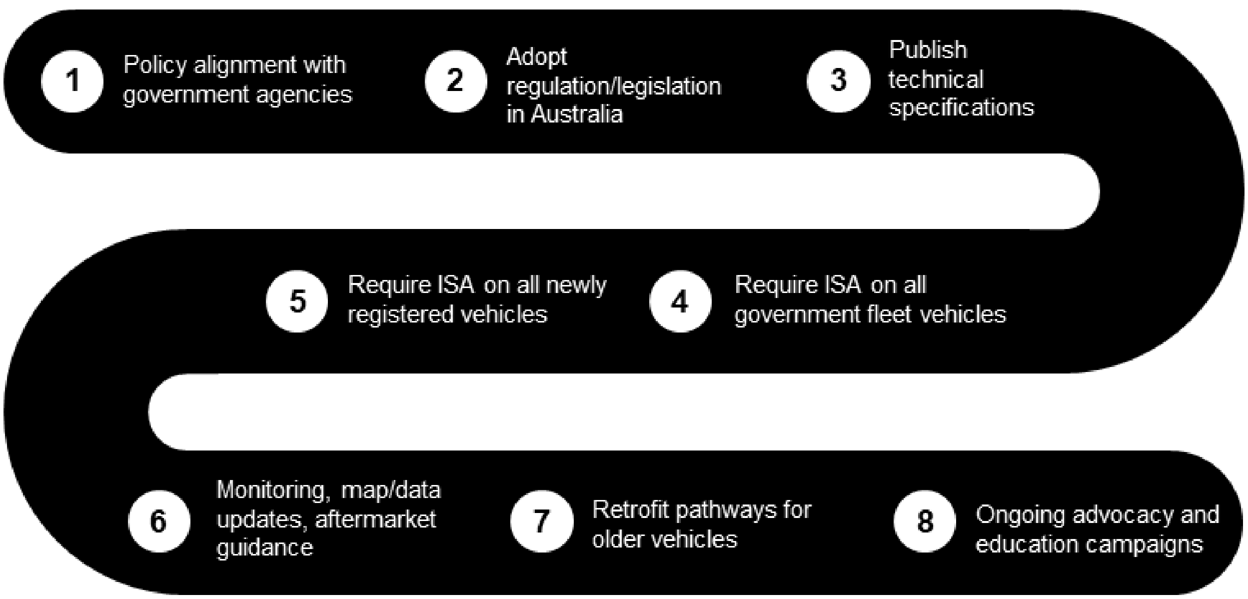


Figure 9 Long term ISA implementation in Australia

It has been identified that RA can use its position as a peak body to act as a central convener bridging government and industry during the initial advocacy and education phase. The following section discusses short term (Phase 1) advocacy and education campaign initiatives that RA can progress in the short term, as a stepping stone towards implementation of RA. A draft medium-long term implementation plan for Phases 2-3 is presented in Appendix C.

6.1 Phase 1: Short-term actions

The objective of this phase is for RA to utilise advocacy and education campaigns to:

a. Position RA as the central body to bring government and industry together to promote the benefits of driver-assisted technology for promoting road safety to key stakeholders with high interest and influence
b. Work towards stakeholder alignment on a national ISA implementation framework aligned with global best practice, especially the EU.
c. Build political and public momentum to promote ISA acceptance and facilitate phased implementation in Australia.

Key stakeholders and audiences for targeted advocacy initiatives and education campaigns include but is not limited to:

a. Government and national agencies:
    i. Federal Department of Infrastructure, Transport, Regional Development
    ii. State/Territory road safety and transport departments
    iii. National Transport Commission (NTC)
    iv. Austroads (technical research & standards)
b. Industry and peak bodies:
    i. Federal Chamber of Automotive Industries (FCAI)
    ii. Insurance Council of Australia
    iii. Australian Automobile Association (AAA)
    iv. Trucking and fleet associations
c. Safety and community stakeholders:
    i. Road safety advocates (e.g. Towards Zero partners)
    ii. Local government associations
    iii. Emergency services

6.1.1 Advocacy and education actions for RA

Based on local and international research, the advocacy and education initiatives should focus on the following key messages:

a. ISA is a low-cost, proven, highly effective safety measure, widely adopted overseas to promote road safety
b. Fleets first: adoption of ISA technology in public and corporate fleets accelerates safety benefits to the broader community and builds public familiarity (and acceptance) of this technology.
c. Technology is already in vehicles — the framework is about consistency and standards, not “inventing from scratch”.
d. National leadership is needed: fragmented state rules would delay adoption and dilute benefits.

Leveraging contact with member organisations and RA's influence as a peak body, it is recommended that the following advocacy and education campaign actions be progressed:

a. Awareness and coalition building:
    i. Issue Briefing Paper: Publish RA position paper summarising ISA benefits, EU lessons learnt, and procurement levers for progressive adoption of ISA.
    ii. Roundtable series: Convene three national roundtables (government, fleets, manufacturers). Use Chatham House rules to encourage openness.
    iii. Ministerial briefings: One-on-one engagements with federal and state transport ministers and shadow portfolios.
    iv. Research commissioning: Partner with Austroads and the NTC to scope ISA performance standards for Australia (including vehicle specification requirements to improve accuracy of ISA technology).
b. National framework:
    i. Fleet demonstration projects: Coordinate early ISA adoption pilots with large organisation fleets (e.g. government contractors, utilities, councils). Leverage RA membership to create a commitment to prioritising ISA in RA member fleet procurement strategies.
    ii. Establish a public-private taskforce "National ISA Working Group" co-chaired by RA and a government agency.
    iii. Draft a national framework: Co-develop a discussion paper with NTC and FCAI outlining phased rollout of ISA across the Australian vehicle fleet including for new vehicle type approval, new registrations and fleet mandates.
c. Policy endorsement:
    i. Framework agreement: Secure endorsement of a national framework through Transport Ministers' Meeting (TMM).
    ii. Commitments from industry: Gain public statements from automakers, insurers, and fleet operators committing to the transition.
    iii. Public campaign alignment: Coordinate with government communications teams to prepare joint messaging for the public once a mandate is announced.

6.1.2 Safety campaigns to influence ISA awareness and influence "social licence"

An opportunity exists for RA, through the diversity of its membership, to influence and promote the education and support for ISA adoption. An effective driver safety campaign uses evidence-based, relatable messaging tailored to a specific target audience and focuses on sustainable behavioural change rather than just information. Key elements include strong community involvement, integration with education, enforcement, legislation and the creative use of emotional appeals and peer influence to create a lasting impact.

While speed remains the leading illegal behaviour causing death and serious injury on Australian roads, concerningly 87% of drivers admit to speeding and 51% consider speeding to be okay.

These statistics are supported from the project's survey results which shows that 35% of respondents intentionally speed and a total of 81% find themselves either intentionally or inadvertently speeding on a regular basis.

The National Road Safety Campaign research report (2024), into the need for a National Road Safety Awareness Campaign to tackle underlying attitudes to driver safety and risks identified five strategic insights into driver sentiment, perception of their driving behaviour and response to road safety measures:

e. It is important to present safety messages in a way that acknowledges the role that everyone has and that avoids perceptions of a "typical" government voice
f. Most people believe they are safe drivers, therefore road safety messages can be deemed as for "others" and references to "driving safely" can unintentionally reinforce existing unsafe behaviours
g. Statistics about death or serious injury ("the road toll") are heard but not deeply felt due to a weak link to personal attitudes and behaviours
h. Driving is strongly perceived to be a private or individual activity rather than a community activity with a shared safety agenda and burden of risks
i. How we act as individualistic drivers can conflict with our values, but currently this feeling is very latent

Taking into consideration this position and based on the outcomes of the project's survey results, media campaigns promoting the effectiveness of ISA and direct linkage of ISA to a reduction in speed related road casualty events would be enhanced by including:

a. Even with best intentions, ~50% of drivers find themselves inadvertently speeding on a regular basis
b. Case studies showcasing drivers personal experience with ISA
c. Promoting the reliability and accuracy of the system
d. Benefits in travel time due to free-flowing traffic movements and reduction in incident caused congestion
e. The perspective of a "vulnerable user" when experiencing speeding

The National Road Safety Strategy has taken a new approach to the delivery of the key priorities and is utilising the Social Model approach to leverage influence across all sectors of Australian society to foster a road safety culture.

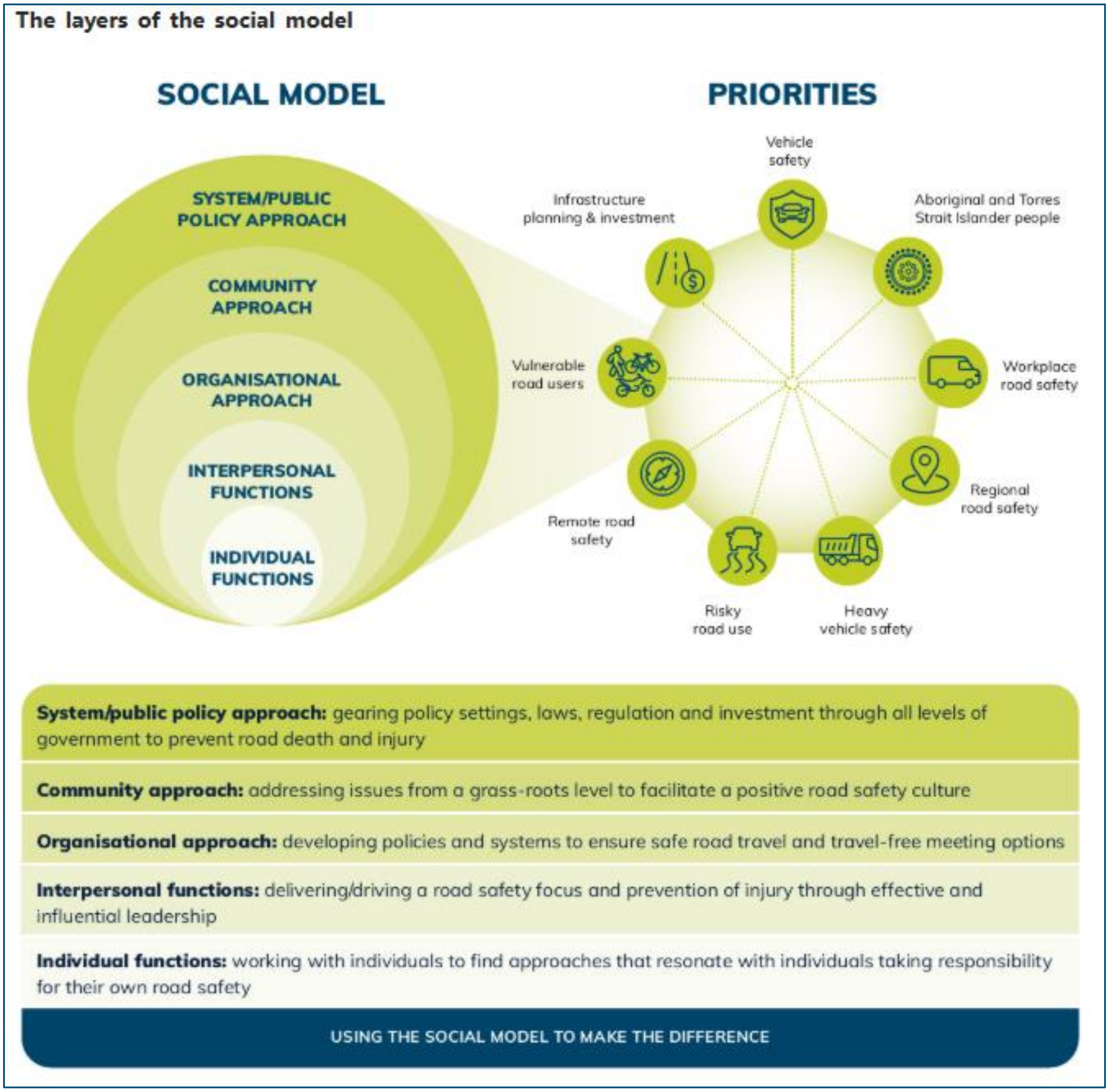


Figure 10 Social Model, National Road Safety Strategy Fact Sheet

The Social Model comprises five layers, with the individual at its heart. It recognises that individuals are influenced beyond their knowledge and skills. What resonates with one individual may not with another, as we all have different starting points based on our background, environment and the culture that surrounds us. It expands the influence and responsibility for an individual's own behaviour to a greater ability to positively influence other individuals, the organisations they are members of, and other organisations they have contact with.

Examples of the road safety education and awareness campaigns, and collaboration platforms that are presently in the public domain include:

Awareness literature and Collaboration Platforms:

a. Austroads vehicle safety fact sheets, ADAS
b. NSW Government Towards Zero Collaboration Hub, Towards Zero
c. Australasian College of Road Safety, ACRS
d. National Road Safety Partnership Program, NRSPP
e. Centre for Accident Research and Road Safety, CARRS-Q

Road Safety Marketing Campaigns

a. Australian Government Road Safety Campaign, DITRDCSA
b. WA Road safety commission library of campaigns, WA Road Safety
c. NSW Government Towards Zero Road Safety Campaigns, TfNSW Campaigns
d. Qld Transport and Main Roads, Street Smarts
e. Traffic Management Association of Australia slow down for road safety petition, TMAA Petition
f. National Road Safety Week, National Road Safety Week
g. Victoria Health Victoria Walks, Victoria Walks

NFP Road Safety Advocates

a. Australian Road Safety Foundation, ARSF
b. Saver Australian Roads and Highways, Sarah Group

Through the diversity of its membership, an opportunity exists for RA to influence and promote education campaigns and support for ISA adoption through advocacy to like-minded member organisations and collaboration with the above listed groups to develop a social license for change.

These actions position RA as the trusted convener that brokers agreement across government and industry, and ensures that ISA implementation is not stalled in a fragmented debate between policy and decision makers.

7 Conclusion

In conclusion, this paper has examined the critical need for the implementation of ISA technology in Australia, highlighting the considerable road safety benefits evidenced in domestic and international contexts and the alignment with recent advancements in the EU. A comprehensive risk analysis has identified potential barriers to ISA uptake, including manufacturer resistance, fleet cost concerns, and political volatility. The mitigation strategies outlined—such as early engagement with industry bodies, leveraging RA member partnerships, and building bipartisan political support—are designed to foster collaboration and ensure that the implementation process remains evidence-based and apolitical. The proposed draft framework for phased ISA implementation, tailored to the Australian context, ensures that lessons from global best practice are adapted to local requirements. This positions RA as a central, trusted convener capable of harmonising interests across government and industry, thereby reducing fragmentation and accelerating progress.

Given the significant potential of ISA to reduce road trauma and support Australia's broader road safety objectives, it is imperative that RA support key stakeholders to maintain momentum and commitment to ongoing engagement. Policymakers, industry leaders, and advocacy groups must be called upon to prioritise ISA implementation, support the outlined phased approach, and champion evidence-led reforms that will deliver measurable improvements in road safety outcomes across the nation.

References

1. Bureau of Infrastructure and Transport Research Economics (BITRE), 2025. *Monthly road deaths*, *Release date: 15 Sep 2025*. The Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts acknowledges the Traditional Custodians of Country throughout Australia.
2. National Road Safety Strategy, 2021. *National Road Safety Strategy 2021–30*. Commonwealth of Australia
3. BITRE, 2022
4. Institute of Automotive Mechanical Engineers (IAME), 2024. *How intelligent speed assistance works*.
5. ETSC, 2020. *5th Road Safety Action Programme 2020–2030: ETSC Position*. Brussels: European Transport Safety Council.
6. Australian Government, 2024. *Annual Implementation Report 2024*. [Accessed 30 Sep. 2025].
7. Austroads, 2023. *AP-R237-03: Road Safety Performance Indicators*. Sydney: Austroads.
8. ESCWA, n.d. *Information Note on AIRSO*. United Nations Economic and Social Commission for Western Asia.
9. African Road Safety Observatory, 2023. *Improving road safety knowledge in Africa through crowdsourcing*. [Accessed 30 Sep. 2025].
10. Mazzucato, M., 2020. Mission-oriented innovation policy: the case of the Swedish Vision Zero approach to traffic safety. *Industrial and Corporate Change*, 29(5), pp.1237–1254.
11. Australian Government, 2023. *National Road Safety Action Plan 2023–2025*. Canberra: Department of Infrastructure, Transport, Regional Development and Communications.
12. Australian Government, 2021. *National Road Safety Strategy 2021–2030*. Canberra: Office of Road Safety.
13. NTRO, 2024. *Road Worker Safety Guideline 2024*. Melbourne: National Transport Research Organisation.
14. Queensland Government, 2022. *Queensland Road Safety Strategy 2022–2031*. Brisbane: Department of Transport and Main Roads.
15. Queensland Government, 2022. *Queensland Road Safety Action Plan 2022–2024*. Brisbane: Department of Transport and Main Roads.
16. WHO, 2020. *Stockholm Declaration on Road Safety*. Geneva: World Health Organization.
17. Swedish Government, 2022. *Sweden Road Safety Action Plan 2022–2025*. Stockholm: Ministry of Infrastructure.
18. Transport Accident Commission, n.d. *Road Safety Leadership: Insights from Victoria, Australia*. Melbourne: TAC.

19. United Nations General Assembly, 2022. *Resolution on Improving Global Road Safety*. New York: United Nations.
20. European Commission, 2023. *Intelligent Speed Assist – Passive*. Brussels: Directorate-General for Mobility and Transport.
21. European Commission, 2023. *Intelligent Speed Assist – Active*. Brussels: Directorate-General for Mobility and Transport.
22. Vlassenroot, Sven. (2011). The acceptability of in-vehicle intelligent speed assistance (ISA) systems: from trial support to public support. VI, 164.
23. Austroads 2020, *Road Safety Progress Report 2020*, Austroads Ltd, Sydney.
24. Austroads 2022, *Road Trauma Australia 2022 Statistical Summary*, Austroads Ltd, Sydney.
25. Austroads 2024, *National Traffic Controller Safety Survey 2024 Report*, Austroads Ltd, Sydney.
26. Bureau of Infrastructure and Transport Research Economics (BITRE) 2019, *Annual Road Safety Statistical Report 2019*, Department of Infrastructure, Transport, Regional Development and Communications, Canberra.
27. Department for Transport 2021, *Intelligent Speed Assistance on London Buses*, UK Government, London.
28. European Transport Safety Council (ETSC) 2020, *ISA Myths: Separating Fact from Fiction*, ETSC, Brussels.
29. Transport for NSW 2020, *IVCP Summary: Subjective Evaluation*, NSW Government, Sydney.
30. Transport Accident Commission (TAC) 2014, *Speed Risk: Research Report 3*, TAC, Melbourne.
31. National Highway Traffic Safety Administration (NHTSA) 2020, *Speeding Fact Sheet*, U.S. Department of Transportation, Washington, D.C.
32. Road Safety Authority (RSA) 2021, *Behavioural Factors in Road Safety*, RSA, Dublin.
33. Supreme Court of Victoria 2020, *Best Practices in Road Safety Enforcement*, Supreme Court of Victoria, Melbourne.
34. Civil Aviation Safety Authority (CASA) 2020, *CASR Part 189 Final Report*, CASA, Canberra.
35. Austroads 2014, *Report 140: Speed Management Strategies*, Austroads Ltd, Sydney.

Appendix A | Summary of stakeholder interviews

Key Contact	Summary of Stakeholder meetings key findings
Austroads, Michael Nieuwesteeg	• Austroads is a collaborative research/advisory body for transport agencies (8 states and territories, local government, NZ transport agency, and DITRDCSA, they and **do not advocate for policy change**. • Its mandate is to conduct research, serve on task forces, and issue advisory positions for member agencies. • Consensus from the meeting: for ISA to be adopted broadly, it must proceed via **Commonwealth regulation.** • A key technical barrier is the **national speed zone database** — issues with data accuracy, real-time updates, and consistency in speed signage and vehicle camera recognition. • Although Austroads first issued a position on ISA in 2003, the pathway to adoption has remained slow. Waiting for 100% reliability of system should not block progress; tolerable data errors must be accommodated with education and promotion. • The role of Roads Australia is to **facilitate industry position and approach to government,** influence member agencies toward supporting ISA adoption; promoting fleet uptake may lower resistance. • The ISA concept is referenced in the **National Road Safety Action Plan (NRSAP)**, though without a fixed implementation date; it's also linked to government procurement policy as a possible lever. • Research focus to date has leaned toward fully integrated automated technologies (e.g. C-ITS, CAVS), but ISA is viewed as a more feasible **short to midterm goal**.
National Transport Commission (NTC), Dimi Riggs & Anthony Pepi	• The NTC's role is primarily in harmonising "in service" vehicle compliance across states, whereas ADRs influence the requirements for new/imported vehicles at time of registration. • If ADRs were updated to mandate ISA in new vehicles, the NTC would revise its in-service safety standards to require ISA from a specified future date — though existing vehicles might be exempt. • The **Commonwealth government** is solely empowered to change ADRs; NTC does not have that authority. • Even when stakeholder pressure exists (for example via safety bodies like ANCAP), ADR changes can be slow and states' influence complicates the process. • The NTC advocates for **legislative harmonisation** across jurisdictions, trying to steer states to reference common national legislation rather than create divergent rules. • For this ISA project, identifying **who has influence and when** is critical. NTC recommended producing a stakeholder map to guide RA in knowing who to influence and when with targeted engagement.

	• The **National Road Safety Roadmap** and its ADR review cycles present windows for submitting proposals or feedback to influence ADR changes. • Forming a **coalition of consumer groups, safety advocates, and stakeholders** can amplify pressure on ADR reform, which then leads NTC to follow up with updates to in-service standards. • It is necessary to understand the **mechanisms for influencing ADR change** (such as formal submissions, consultations, or less formal influence channels) and incorporate these into the project plan. • Coordination of timing, advocacy, and technical submission strategy is essential to increasing the likelihood of success in getting ISA mandated via ADRs and mirrored in in-service standards.
ANCAP, John Ryan (Director of Policy)	• ANCAP is a nonprofit vehicle safety body owned by state governments and motoring associations across Australia and NZ. • It conducts crash tests and performance assessments of safety technologies, issuing simple star ratings to help consumers and fleet buyers compare relative vehicle safety. • Over 30 years, ANCAP has rated thousands of new vehicle models, and its ratings strongly influence consumer and fleet purchase decisions. • ISA is included in ANCAP's test protocols, **but it is not mandatory for achieving a 5star rating** — a weaker ISA may be offset by stronger performance in other safety areas. • Its testing regime covers both passive safety (e.g. crash protection, structure) and active safety systems (e.g. ISA, occupant monitoring, AEB, lane assist). • Testing includes destructive crash tests (typically 4 vehicles per model), engineering assessments, and real-world functional checks of systems like ISA and lane keep. • Around 80% of testing is funded/sponsored by manufacturers seeking to advertise high safety ratings. • ANCAP uses "secret shopping" methods to test vehicles in real world purchase conditions to detect safety deficiencies. • A challenge for ISA testing is that inconsistent or overlapping speed signage (e.g. school zones, time-based limits) can confuse vehicle systems. • Although ANCAP does not directly influence ADRs, its published data and ratings provide insight to government and can help push regulatory evolution over time. • ANCAP future protocol 26 incorporates testing for ISA and the requirement was 80% which was viewed as insufficient • Any adoption and deployment of ISA would need to be government led regulation opposed to consumer led due to current consumer sentiment on accuracy • Any change would be towards the mid term (5+years) as things move very slowly and reluctance on government to regulate

	• Cost benefit analysis would be required to influence government perception • Austroads have standards AS1742 and MUTCD however are not consistently adhered to and would be a constraint on the reliability and functionality of ISA • See Roads Australia role as influencing government policy.
FCAI, Ashley Sanders (Technical Director)	• The FCAI represents manufacturers of passenger/light vehicles (≤ 3.5 t); for heavy vehicles/trucks/buses, other bodies like the Bus Industry Confederation or Trucking Council must be engaged. • Australia has ~20 million cars, with ~1.2 million new sales per year; in 2024, about **62.5%** of new cars were sold to fleets, meaning new vehicles are the main target for introducing technology (limited retrofitting potential for older models). • FCAI liaises internationally with brands and counterpart industry bodies (Japan, UK, EU, USA), but often faces challenges obtaining detailed intelligence on emerging tech due to commercial confidentiality. • Australia generally follows UN regulations as standards; FCAI is wary of adopting unique rules or following EU regulations independently unless aligned with UN standards. • Automakers in Australia currently use a mix of base mapping and camera recognition for ISA; in future, as per ANCAP's evolving protocols, such combined approaches will likely become required. • Key barriers to regulating ISA: **signage variability** and lack of high quality, real-time speed zone data; the federal government is reluctant to mandate technology unless accuracy is reliably demonstrable. • Unlike ANCAP's flexible point based testing, regulated standards typically become pass/fail — so regulation must be designed carefully to avoid stifling industry adoption. • The National Road Safety Plan runs until 2031, with states responsible for implementing their own plans. NSW's road safety plan is due for renewal in 2027. • ANCAP's upcoming **Protocol 26** will include ISA testing, but a requirement of **80% accuracy** was deemed too lenient / insufficient. • Any rollout of ISA needs to be **government led and regulated**, rather than driven by consumers, due to public concerns about system accuracy. • The role of your organization (RA) was seen as **influencing government policy and regulation** around ISA. • Any regulatory change is expected to occur in the **mid-term (5+ years)**, reflecting slow government movement and regulatory inertia. • A **cost benefit analysis** will be essential to shape government perceptions and justify regulation. • CITS (Cooperative Intelligent Transport Systems) is viewed as a longer term prospect; ISA is seen as a more **practically viable nearer term** option.

	• Inconsistent road signage implementation is a constraint: although standards like AS 1742 and MUTCD exist, noncompliance undermines ISA reliability and functionality.
TMMA, Thomas Matthew	• They have not been able to gain any direct communication with Google Maps, Apple Maps and Waze representatives, not responding to requests • Their plan if they continue to strike resistance is lodge petition electronically, direct mail, LinkedIn, Social Media, other industry associations, wave of public support for initiative forcing them to engage. • They are not aware of any previous successful lobbying attempts for App upgrades to address these style requests, I asked to see if there was a proven roadmap or plan in order to get these App updates adopted. • They are requesting for “Slow down for road workers.” to be a verbal cue when entering a road work zone • They acknowledge that there may be reluctance due to the length of the prompt, even though • it is only 5 words and user acceptance may be low leading to switching in App providers • Support within their membership has been high, >85%, currently 2,560 signatures • They have engaged with other industry groups RACQ, RA, AfPA, CCF, etc and safety NFP including Sarah • Geofencing is a technology widely used in the US over the past 3-5years for traffic control signs that "talks" to the directional Apps so that they identify where road worker zones are, the Australian Traffic industry is looking to implement this technology, this is an industry led initiative rather than AusRoads requirements • They were both aware of the ISA technology and implementation in Europe • Considered user acceptance and the ability to opt out and switch off as the primary barriers.
TMR, Miranda Blogg & Nicholas Brook	• High quality road mapping / speed limit databases (including dynamic speeds (school zones, VSL, and temporary construction sites) are essential for ISA deployment. • Manufacturers like Audi & BMW require full QA by the manufacturer and will not rely on data from third parties for speed databases. • In Australia, 4–5 vehicle manufacturers already include ISA in their models. • Major basemap and data aggregators include HERE, TomTom, Waze, and Google; some also provide vehicle data (e.g. infotainment stacks). • Harmonising national road base maps is underway (TMR/Austroads), with a unified real-time access point for speed network data as a goal.

	• Adoption of ISA faces barriers: inconsistent signage across states; challenges in real-time data quality; many manufacturers to coordinate; and small market size making ROI low. • Two types of ISA are possible: **active** (automated speed restraint) and **passive** (driver warnings/alerts that can be overridden). • Australia's vehicle market is small, making just one day's worth of sales per manufacturer per year. Many global firms hesitate to prioritise Australia. • Government data sources on speed signs are often unreliable; inconsistent standards and variable compliance (e.g. with AS 1742/MUTCD) reduce effectiveness. • AEB (autonomous emergency braking) took ~10 years to be mandated in Australia—as a precedent for regulatory lag in safety tech adoption. • Roads Australia could focus efforts on lobbying, supporting mapping and roadworks data (TMAA digitising roadworks), leverage QLD big build, and influencing adoption by Euro manufacturers already using TomTom / HERE systems. • Projects like TMR's harmonisation and digitising roadworks (via TMAA) offer openings to integrate dynamic speed data into baseline maps. • Data consistency and telematics (e.g. from fleet vehicles) could be leveraged for speed limit reviews and validating where speed limits work or fail. • In some markets (e.g. Europe), sharing vehicle telematics data is mandatory; Australia might consider similar policies to improve map fidelity and ISA reliability

Appendix B | Summary of ISA Technology Survey results

Rating Questions					
	Question	**Population**	**Favourable**	**Neutral**	**Unfavourable**
Personal Attitudes Towards Intelligent Speed Assistance technology	It makes sense to me that Intelligent Speed Assistance technology has been proven to reduce speeding-related crashes in countries where it has been mandated.	114	75%	20%	5%
	I think using Intelligent Speed Assistance would likely improve my driving safety.	114	52%	28%	20%
	I would find or have found Intelligent Speed Assistance technology intrusive or annoying.	114	46%	33%	21%
	Despite Intelligent Speed Assistance technology being potentially intrusive or annoying, I think it is or would be worthwhile using to improve my driving safety.	114	58%	20%	22%
	Intelligent Speed Assistance technology should be mandatory safety technology built into ALL new vehicles in Australia.	114	46%	25%	29%
	Intelligent Speed Assistance technology should be optional safety technology only built into heavy vehicles and premium or select private vehicles only.	114	29%	22%	49%
	If ANCAP (the Australasian New Car Assessment Program) has awarded a 5-star safety rating to a vehicle (highest ANCAP rating is 5 out of 5 stars), I would trust the vehicle's Intelligent Speed Assistance technology to accurately interpret speed limits.	114	64%	25%	11%

Multiple Choice Questions			
	Option	Response Count	Response %
How would you rate your driving behaviour in relation to speeding?	I am confident I rarely drive over the speed limit	19	17%
	I intentionally speed, even if it's just a little over the limit, on a weekly basis	27	24%
	I intentionally speed, even if it's just a little over the limit, on a monthly basis	12	11%
	I find myself unintentionally speeding, on a weekly basis	29	25%
	I find myself unintentionally speeding, on a monthly basis	27	24%
Would you personally choose to enable Intelligent Speed Assistance technology in your private vehicle if available?	Unsure	8	7%
	Yes, definitely	28	24%
	No, unless required by law	24	21%
	Yes, but with some reservations	46	40%
	No, under no circumstances	9	8%
In buying your next private vehicle, would you prefer to buy a vehicle with Intelligent Speed Assistance technology?	Unsure	18	16%
	Yes, definitely	35	30%
	Yes, but I'm not sure vehicles with this technology are in my price range	28	24%
	No, not unless I had no other option	34	30%
If your employer installed Intelligent Speed Assistance technology in all fleet vehicles, how would you feel about it?	Accepting, but with concerns	31	27%
	Supportive	63	55%
	Opposed	9	8%
	Indifferent	11	10%
What concerns, if any, would you have about Intelligent Speed Assistance technology being used in your organisation's fleet vehicles? (Select all that apply)	Misinterpretation of speed limits	64	57%
	Impact on productivity or trip duration	13	12%
	Reduced control over driving	43	38%
	Increased driver frustration	33	29%
	None	22	19%
	Other	8	7%
	Other	1	1%

Multiple Choice Questions			
What do you think are the most significant barriers to implementing Intelligent Speed Assistance technology in Australia? (Select up to 3)	Lack of intelligent road infrastructure to complement the technology in vehicles	38	34%
	Lack of public awareness about the potential positive impact of the technology	22	19%
	Technology reliability (e.g., speed sign recognition errors)	64	57%
	Legal/regulatory uncertainty	22	19%
	Inconsistency of speed signs (e.g., variable speed limits signs like in school zones)	48	42%
	Resistance from drivers	68	60%
	Cost of technology	33	29%
What would increase your acceptance or trust in Intelligent Speed Assistance technology? (Select all that apply)	Trials in local government or fleet vehicles	41	37%
	Case studies or data from pilot programs	52	47%
	Personal experience with the system	70	63%
	Recommendations from safety authorities (e.g., Austroads, National Road Safety Partnership Program)	56	50%
	Media campaigns	23	21%
	Public education about road safety benefits	38	34%
	Other	4	4%
Which education methods or awareness strategies would you find most effective for increasing Intelligent Speed Assistance technology understanding and acceptance? (Select up to 3)	Information from car dealerships during purchase	34	30%
	Mandatory education as part of licensing or defensive driving courses	51	46%
	Government advertising campaigns	58	52%
	Social media campaigns	38	34%
	Online explainer videos	26	23%
	In-person demonstrations or test drives (e.g., at car shows or other exhibitions)	47	42%
	Roadside signage or QR codes at high-risk locations	22	20%
	Heard of it, but don’t know how it works	30	26%

Multiple Choice Questions			
Prior to this survey, how familiar were you with Intelligent Speed Assistance technology?	Never heard of it	30	26%
	Somewhat familiar	51	44%
	Very familiar	4	3%
How would you rate your current understanding of how Intelligent Speed Assistance technology works?	3	15	13%
	1	31	27%
	4 (Excellent understanding)	3	3%
	2	40	35%
	0 (No understanding of how the technology works)	26	23%

Appendix C | Additional Long Term Roadmap action materials and references

The purpose of this long-term implementation plan is to propose a phased, regulation-led rollout that that:

- Mandates ISA in new vehicle type approvals
- Extends to all newly registered vehicles after a transition
- Uses public and private fleet procurement mandates, incentives and enforcement to accelerate market penetration and real-world benefits (lower speeds, fewer crashes).

This mirrors the EU approach (phased mandate, technical specs and transition window) while adding specific fleet procurement levers and evaluation metrics.

The key principles and goals for this phase are to:

- Continue advocacy initiatives supported (or driven) by RA to continue promoting the benefits of driver assisted safety technology (ISA) and influence decision and policy makers.
- Facilitate phased implementation of ISA across the Australian vehicle fleet by providing industry time for compliance, while preventing indefinite delay in ISA adoption
- Leverage fleet procurement as accelerator through mandates and incentives for government and large private fleets to buy ISA-equipped vehicles early.

An indicative timeline for the Phase 3 actions is shown below, based on the EU framework:

Stage 0 – Policy & specs, infrastructure readiness (0–24 months):

- Policy alignment with government agencies
- Adopt regulation/legislation in Australia
- Publish technical specifications and compliance/approval procedures for ISA.
- Infrastructure readiness: determine requirements for road signage standards for compatibility with ISA

Stage 1 – New vehicle type approvals (24–48 months):

- Require ISA on all new vehicle types/models entering the market that are launched after a specific date

Stage 2 – Full fleet requirement (48–60 months):

- Require ISA on all newly registered vehicles (for example – the EU used new-type date July 2022 and all new vehicles by July 2024 as a precedent).

Ongoing:

- Monitoring, map/data updates, aftermarket guidance, retrofit pathways for older vehicles, further safety upgrades.

The following sections provide further details on key actions for each stage.

Introduce technical and regulatory requirements for ISA adoption

Identify vehicles categories for passenger and light commercial vehicles that mandates will apply for phased rollout of ISA. This should mirror the EU phased rollout approach, as follows:

- **Functional definition**: the ISA system must identify applicable speed limit (camera sign recognition + map/GNSS + regulatory database) and provide feedback and/or intervention. Three functional levels for ISA can be permitted in the ADR regulations:
    - Informative (i.e. visual/audio warnings)
    - Supportive (resists driver attempts to exceed speed — e.g., increased accelerator resistance)
    - Intervening (actively limits vehicle speed to legal limit under normal driving)
- The regulation should permit overridable systems (driver can temporarily override), but design the override UX so default is engaged on start.
- **Minimum performance of ISA technologies**: identify specifications for real-time speed limit detection accuracy, speed limit sign recognition rates, map currency, fallback behaviour in speed zones with unknown limits, response latencies — codify measurable thresholds and test methods.
- **Redundancy and safety**: require at least two data sources for obtaining real-time speed limit information or robust fallback (camera + map).
- **Data and privacy**: limit retention of location/speed data; require transparent user notice; set data minimization rules for map improvements and enforcement usage.
- **Type approval / certification**: set test labs and certification process; require a conformity-of-production regime for manufacturers.

Introduce fleet procurement mandates and instruments for ISA adoption

Introduce mandates and incentives to encourage company fleets to procure vehicles with ISA technology enabled. Procurement mandates and incentives to organisations to influence vehicle purchase decisions is a powerful tool given the high proportion of new vehicles purchased by organisation fleets, which also helps to signal expectations for the automative industry. A summary of key levers to utilise for influencing procurement decisions is provided below:

Mandatory procurement quotas (recommended)

- Public fleets (immediate): require 100% of new light-vehicle purchases by central/federal government, agencies, and municipal fleets to be ISA-equipped from the date Stage 1 starts.

- Large private fleets (phased): require companies with fleets > X vehicles (e.g., >50 light vehicles) to purchase only ISA-equipped new vehicles for a transitional period (e.g., within 12 months of Stage 1) and reach 100% ISA for new purchases by Stage 2.
- Procurement enforcement: tie compliance to fleet licensing/registration benefits, public contracting eligibility, or corporate vehicle tax benefits. An example of a potential procurement clause that could be used is provided below:

  "From [date], all new vehicle purchases for this fleet must be fitted with certified ISA systems conforming to [Regulation/Standard ref]. For leased vehicles, the lease contract must ensure ISA remains active and is not permanently disabled. Procurement officers shall include ISA compliance documentation in the purchase file and provide proof of certification at vehicle delivery."

Financial incentives & disincentives

- Tax credits or accelerated depreciation for businesses that buy ISA-equipped vehicles during the transition (e.g., first 3 years).
- Preferential parking rates / road access benefits for compliant fleets.
- Penalties or higher licensing fees for non-compliant large fleets after Phase 2.
- Equip emergency services, public transport, and school bus fleets early (public safety + visibility). New York City's municipal pilot showed fleet trials produce realistic data and public buy-in — use their trial model for evaluation.

Lead by example

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Implementation actions (operational checklist)

The following implementation actions are proposed to support ISA regulation changes:

1. Draft and adopt regulation (0–6 months) — define scope, timelines, technical annexes, certification body.
2. Infrastructure readiness – determine requirements for road signage standards for compatibility with ISA
3. Education campaigns – Engage with aligned NFP and industry partners to promote public acceptance and generate a demand for change
4. Publish technical standards & test methods — include camera-only, map-based, and combined approaches.
5. Set certification & testing capacity — accredit test labs and approval agencies.

6. Fleet procurement regulation — issue mandatory procurement policy for public fleets and thresholded mandates for large private fleets (text above).
7. Awareness & training — driver education programmes, supplier workshops, and dealer briefings to manage customer expectations (how to override, when it engages).
8. Map & sign database partnerships — contract with map providers and create procedures to update speed limits and temporary speed zones (construction).
9. Pilot programs & trials — municipal fleet pilots, taxi/ride-hail pilots to refine human factors and enforcement parameters. Use NYC example and publish results.
10. Privacy rules — legislate data minimization, retention limits, and oversight for any speed data used for enforcement.
11. Enforcement & marketplace checks — roadside inspections and periodic audits of fleet vehicles to confirm ISA present and functional; type approval audits for manufacturers.
12. Retrofit and used-car policy — offer voluntary retrofit guidance and incentive programmes for high-risk fleet vehicles (municipalities, taxis) and consider future used-car labelling requirements.

Evaluation metrics and guidelines for monitoring success

The following key performance indicators are recommended to be reviewed and measured every three months (or at a minimum, annually) for monitoring the success of the long-term actions:

- Percentage of new vehicles registered that are ISA-equipped (by vehicle class).
- Percentage of public and private fleet purchases that meet ISA procurement rules.
- Change in mean and 85th percentile speeds on targeted roads.
- Number of speed-related crash rate and fatalities (year-on-year).
- Number of certified ISA approvals and failures in type-approval testing.
- Privacy/data incidents and user complaints.
  - Several EU studies estimated ISA could reduce collisions by ~30% and deaths by ~20% — use monitoring to measure local effect).

To support successful implementation, ongoing advocacy and education campaigns/initiatives should be continued to maintain public awareness and acceptance of ISA technology, with a focus on the safety benefits (in terms of reduced injuries/fatalities, safer streets for kids and pedestrians, vulnerable road users etc.). Automative vehicle dealerships can also support these measures by launching dealer/staff education campaigns and/or incentives so customers are briefed at purchase of sale.

A summary of evidence and precedents for successful application of these actions is provided below:

- EU General Vehicle Safety Regulation (Regulation (EU) 2019/2144) — phased ISA mandate for new vehicle types and for all new registrations.

- ETSC summary of EU ISA rollout and expected safety benefits.
- CLEPA / industry note on EU technical specifications for ISA.
- HERE whitepaper on implementation, map requirements and operational details.
- NYC municipal ISA fleet pilot — example of a city using fleet deployment to trial ISA in real world.

Costs, industry impact and support measures

- Manufacturers: expect research and development (R&D) and integration costs; phased approach reduces one-time strain.
- Fleets: procurement mandates may increase upfront costs but reduce crash costs and insurance premiums. Offer temporary tax or grant support to fleets to smooth transition.
- Infrastructure: maps and signage maintenance budgets; include in transport plans.

Enforcement and penalties

- Non-compliant manufacturers: deny type approval or registration of new models.
- Non-compliant fleets: administrative fines, restricted access to public tenders, or higher licensing fees.
- Consumer protections: require clear consumer information on how to use/override ISA; prevent vendor lock-in for map updates.

Sample monitoring timeline (first 5 years)

- Year 0: Regulation adopted; pilots launched; public fleet procurement order issued.
- Year 1–2: New vehicle types require ISA; large fleets transition to ISA purchases; map/data partnerships operative.
- Year 3–4: All new registrations require ISA; enforcement ramps; retrofit incentive programs evaluated.
- Year 5: Full evaluation report — speed and crash metrics; consider next safety features & upgrades.

Risks and mitigations

- False positives/negatives in sign detection → require multi-source redundancy and strict performance tests.
- Driver resistance / override misuse → default-on UX + education + fleet policies that restrict disabling.
- Privacy concerns → strong data rules, transparency and opt-out for non-safety uses.
- Market distortion → use time-limited incentives to avoid long-term subsidy dependency.

Quick wins (low effort, high impact)

- Immediately issue a public-fleet procurement order (100% new purchases ISA-equipped).

- Publish draft technical annexes so suppliers can design to requirements.
- Launch 6-12 month municipal fleet pilots and share results publicly.