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*FCAI Response to  
Regulation Impact Statement for  
Improved Protection of Vehicle  
Occupants in Side Impact Crashes*

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Federal Chamber of Automotive Industries  
Level 1, 59 Wentworth Avenue  
KINGSTON ACT 2604  
Phone: +61 2 6229 8217  
Facsimile: +61 2 6248 7673

Contact: Mr James Hurnall

(31 July 2015)

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## EXECUTIVE SUMMARY

The Federal Chamber of Automotive Industries (FCAI) is the peak industry organisation representing vehicle manufacturers and importers of light passenger vehicles, light commercial vehicles and motorcycles in Australia.

The FCAI welcomes the opportunity to provide a response to the Australian Government's Regulation Impact Statement (RIS) for Improved Protection of Vehicle Occupants in Side Impact Crashes. The RIS proposes to mandate "the fitment of enhanced side impact safety measures" (i.e. head protecting side airbags) in all light passenger vehicles (passenger cars and sport utility vehicles (SUVs)) and light commercial vehicles (LCVs) through mandating United Nations Regulation 135 (UN R135).

The FCAI supports the fitting of important safety features such as head protecting side airbags. FCAI members have taken a pro-active approach with fitting head protecting side airbags in the absence of regulation as new or upgraded models are released to the Australian market.

In 2010, FCAI members introduced a voluntary Code of Practice that requires 100% fitting of head protecting side airbags into all new light passenger cars and SUVs for new vehicles built from 1 January 2016. However, the RIS does not acknowledge this pro-active stance taken by the industry.

As such the FCAI does not see a need to regulate and mandate 'enhanced side impact safety measures' via adopting of UN R135 as an ADR.

While the FCAI does not see the need to mandate UN R135 (as the market has responded), if the government wishes to undertake this action the FCAI considers the regulation needs to:

- Provide an appropriate lead time for both industry and government to undertake the necessary administration processes required for the government's certification process.
- Be harmonised with the international UN Regulations, i.e. UN R135.

The industry considers the implementation timetable of an ADR should be:

- 1 January 2018 for new model LPVs (MA, MB and MC category vehicles).
- 1 January 2019 for new model LCVs (NA category vehicles).
- 1 January 2023 for all LPVs (MA, MB and MC category vehicles) vehicles.
- 1 January 2025 for all LCVs (NA category vehicles) vehicles.

The implementation timing is necessary to provide sufficient lead-time for both government and industry and is not detrimental to safety as the industry is already supplying vehicles fitted with head protecting side airbags and the fitting rate will continue to increase with the introduction of new models.

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## 1.0 INTRODUCTION

The Federal Chamber of Automotive Industries (FCAI) is the peak industry organisation representing vehicle manufacturers and importers of light passenger vehicles, light commercial vehicles and motorcycles in Australia.

The FCAI welcomes the opportunity to provide a response to the Australian Government's Regulation Impact Statement (RIS) for Improved Occupant Protection of Vehicle Occupants in Side Impact Crashes.<sup>1</sup>

The RIS acknowledges the role played by the Australian Government in developing the international regulatory standard dealing with pole side impacts, and head injuries in side impacts more generally, i.e. Global Technical Regulation (GTR) 14 and United Nations Regulation 135 (UN R135).

The RIS recommends the fitting of enhanced side impact safety measures through mandating UN R135 for all light vehicles (passenger cars, passenger vans, SUVs and LCVs) in the following timeframes<sup>2</sup>;

- light passenger vehicles (LPVs; ADR categories MA, MB and MC vehicles);
  - 1 January 2017 for new models
  - 1 January 2019 for all models
- light commercial vehicles (LCVs; ADR category NA vehicles);
  - 1 January 2018 for new models
  - 1 January 2020 for all models

The FCAI supports the fitting of important safety features such as head protecting side airbags. FCAI members have taken a pro-active approach with fitting head protecting side airbags in the absence of regulation as new or upgraded models are released to the Australian market. Currently approximately 95% of all new LPVs supplied to the market are fitted with head protecting side airbags and FCAI members are on track to have 100% fitting rates for all LPVs built from 1 January 2016 (as per the industry agreement).

The FCAI does not agree there is a need to mandate UN R135 as the market has responded by fitting head protecting side airbags without a regulation due to;

- FCAI Code of Practice for Fitting Head Protecting Side Airbags (i.e. an Industry Agreement) and
- Consumer demand (e.g. fleet purchasing policies).

However, recognising that the government's preferred approach is to mandate UN R135, this response will propose appropriate introduction timings.

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<sup>1</sup> Australian Government, Department of Infrastructure and Regional Development (DRID), Regulation Impact Statement for Improved Occupant Protection of Vehicle Occupants in Side Impact Crashes, June 2015.

<sup>2</sup> The RIS provides an "indicative implementation timetable for consultative purposes".

## 2.0 CURRENT FITTING RATES OF HPSA

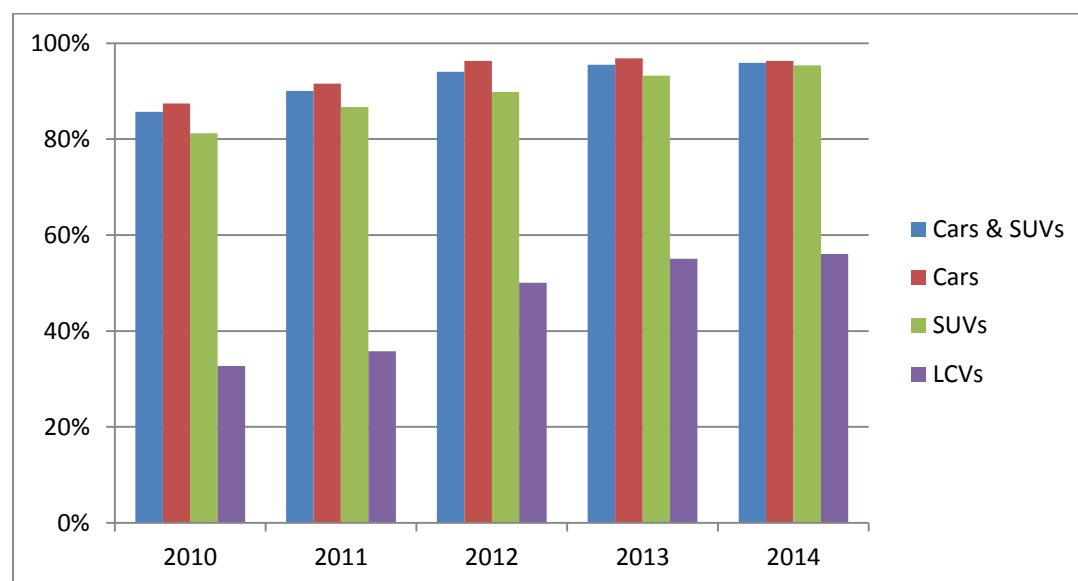
The FCAI considers “the fitment of enhanced side impact safety measures” (i.e. head protecting side airbags) in all LPVs and LCVs through mandating UN R135 is not justified as the market has responded by provided vehicles fitted with head protecting side airbags (HPSA) without a regulation due to;

- FCAI Code of Practice for Fitting Head Protecting Side Airbags (i.e. an Industry Agreement) and
- Consumer demand (e.g. fleet purchasing policies).

It should also be noted that HPSA has been required to achieve a 5 star ANCAP rating since 1 January 2003.

The RIS does not acknowledge the high fitting rate of 96% for LPVs (MA, MB and MC category vehicles) and 56% for LCVs (NA category vehicles) at the end of 2014. Figure 1 and (below) provide a summary of the fitting rates since 2010.

**Figure 2.1 – Fitting rates of HPSA<sup>3</sup>**



It must be recognised that the fitting rates of HPSA in LCVs, and the apparent lag when compared to fitting of HPSA to passenger cars and SUVs is dependent on a number of factors including:

- Priority of fitting HPSA to passenger vehicles (category MA, MB and MC).
- Longer model cycle of LCVs compared with passenger vehicles.
- Timing of development programs for new models.

<sup>3</sup> Fitting rate data provided by IHS Polk. Data table contained in Appendix B.

- The product development, testing and verification programs required for each model is more than 7 years prior to introduction into the market. This is further expanded in Section 4.0 below.

With the recent introduction of new models and/or the scheduled replacement of models of the volume selling light commercial vehicles (i.e. Ford Ranger, Holden Colorado, Mazda BT-50, Mitsubishi Triton, Nissan Navara and Toyota Hi-Lux and VW Amarok) the FCAI would estimate that the rate of fitting HPSA in light commercial vehicles will exceed 75% by the end of 2015.<sup>4</sup>

The significant increase in rate of fitting HPSA to LCVs between 2014 (56%) and end of 2015 (more than 75%) demonstrates the cyclic nature of development and implementation schedules of new models. Such model cycle development times need to be taken into consideration with the implementation of new regulatory standards.

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<sup>4</sup> Estimate based on June 2015 YTD sales

### 3.0 VOLUNTARY CODE OF PRACTICE

The FCAI introduced a Voluntary Code of Practice for Fitting Head Protecting Side Airbags in June 2010<sup>5</sup>. A copy of the code is included in Appendix C for ease of reference.

Under the Code of Practice all FCAI member companies committed to supply passenger cars, passenger vans and passenger SUVs (MA, MB and MC category vehicles) fitted with HPSA to the Australian market in accordance with the following timeframe;

- 80% of sales; vehicles with a built date from of 1 January 2012 or later
- 90% of sales; vehicles with a built date of 1 January 2014 or later
- 100% of sales; vehicles with a built date of 1 January 2016.

The commitment applied to all front row outboard seating positions.

The technical requirements to be met included (one of the following);

- HIC 36 performance of 1000 or less for a SID-H3, ES2 and ES2RE dummy in the drivers' seating position in a FMVSS 201/Euro NCAP/ANCAP pole impact test.
- HIC 15 performance of 779 or less (with no direct head contact with the barrier) for a SID-IIIs crash dummy in the drivers' seating position in the IIHS side impact crash test.
- HIC performance of 1000 or less for an ES2RE dummy in the drivers' seating position in a FMVSS 214 oblique pole impact test.

The data presented in Section 2.0 above, showed the voluntary Code is successful and that FCAI members are meeting their commitments;

- 2012 fitting rate of 94% compared with a target of 80%
- 2014 fitting rate of 96% compared with a target of 90%

FCAI member companies are FCAI members are on track to have 100% fitting rates for all LPVs built from 1 January 2016.

Even though one of the options considered in the RIS was "Option 4: Codes of Practice" the results of the FCAI's Code of Practice for Voluntary Fitting of Head Protecting Side Airbags are not acknowledged. The only mention of the FCAI's Codes is in the discussion on a "Voluntary Code of Practice" (p. 31);

*"In 2010 the FCAI did produce such a code and was able to report increased fitment of these systems from that time."*

The RIS dismissed further consideration of a Voluntary Code of Practice as compliance and detecting breaches of the Code was considered to be *"difficult to control by either manufacturers' associations or by the Australian Government."* (p. 31)

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<sup>5</sup> FCAI Code of Practice, Head Protecting Side Airbags, [www.fcai.com.au](http://www.fcai.com.au) [accessed 13 July 2015]

This does not recognise the current fitting rates of HPSA and that all light passenger vehicles (MA, MB and MC category vehicles) will have HPSA from 1 January 2016.

The draft RIS needs to be reviewed in terms of the success of the FCAI Code and consideration of how the code could be updated to achieve the same outcomes as mandating UN R135. For example, the Code could be updated to include recognition of the pole side impact in UN R135 (or GTR 14 or Euro NCAP Oblique Pole Side Impact Testing Protocol, Ver 7.0.1 Apr 2015 (or later)).

Also, the scope of the FCAI code could be expanded to include NA category vehicles. If the government wishes to further consider Option 4: Codes of Practice, the FCAI and member companies would be willing to work with the government to achieve a satisfactory outcome.



## 4.0 MANDATE UN R135

### 4.1 Overview of FCAI Position

The RIS proposes to mandate “the fitment of enhanced side impact safety measures” in all LPVs and LCVs through mandating UN R135 as there is a net benefit to Australia. If the government wishes to mandate UN R135, the FCAI considers the resulting ADR needs to:

- Provide an appropriate lead time for both industry and government to undertake the necessary administration processes required for the government’s certification process.
- Be harmonised with the international UN Regulations, i.e. UN R135.

### 4.2 Implementation Timing

FCAI members are unable to meet the timeline outlined in the RIS for consultation. The FCAI position is that the timing and scope of mandating UN R135 should be aligned with the EU (expected to be 1 September 2018 for new model M1 category), or at least Japan (expected to be 1 June 2018 for new model M1 category).

If this timing/scope is not acceptable, the FCAI and member brands consider the implementation timetable of an ADR should be

- 1 January 2018 for new model LPVs (MA, MB and MC category vehicles).
- 1 January 2019 for new model LCVs (NA category vehicles).
- 1 January 2023 for all LPVs (MA, MB and MC category vehicles) vehicles.
- 1 January 2025 for all LCVs (NA category vehicles) vehicles.

The implementation dates are based on the provisos that the:

- Technical content of the new ADR is acceptable, and
- The new ADR will be registered on FRLI by 1 January 2016, i.e. at least 2 years prior to 1 January 2018.
- All necessary certification documentation will also be completed and published prior to 1 January 2016.

### 4.3 Mandating for “New Model” MA, MB & MC Category Only

The FCAI preference is that the ADR should only be applicable to “New Model” LPVs (i.e. same as Japan and possibly in Europe). However, if the Government is determined that the ADR must be applicable to “All Models” LPVs and LCVs, the implementation timetable of the ADR must allow for the expected model life of current LPV and LCV models.

If the government proceeds with the proposed implementation dates (or even the FCAI alternative proposal) for new model MA category vehicles Australia will be the first country that is a signatory to the 1958 Agreement to introduce UN R135.

It is likely that Japan will introduce a “new models” date that is 3 years after the “Date of entry into force” (15.06.2015) of UN-R 135, i.e. Jun 2018. It also appears that Japan will only apply UN R135 to “new model” light passenger vehicles (i.e. MA, MB and MC category).

The EU has not even started the rulemaking process. The EU WVTA will need to be amended to mandate UN R135. Industry expects that the earliest possible introduction date for “new model” M1 (i.e. ADR MA, MB & MC category) vehicles is September 2018. The FCAI understands that the EU is considering applying UN R135 to ‘new models’ only.

#### **4.4 Mandating for “New Model” NA Category Vehicles**

It does not appear that either Japan or the EU will apply UN R135 to light commercial vehicles (i.e. NA category).

If the government proceeds with the proposal to mandate UN R135 for NA category vehicles, in either the timing proposed in the RIS or with the FCAI alternative timetable (i.e. as proposed in this response), Australia will be the first country that is a signatory to the 1958 Agreement to introduce UN R135.

#### **4.5 Mandating for “All Vehicles” of MA, MB, MC and NA Category**

The industry’s preference is that an “all vehicles” date is not introduced. The industry expects that neither Japan nor (possibly) Europe will introduce an “all vehicles” date.

If Australia introduces an “all vehicles” date, it will need to allow for expected model life of current models and light passenger vehicle models scheduled for release up until the end of 2017 (MA, MB & MC category vehicles) or the end of 2018 for light commercial vehicles (NA category).

An “all vehicles” date of 1 Jan 2023 for MA, MB and MC category vehicles assumes that the proposed ADR will be published (i.e. registered on FRLI) before the end of 2015 (by 1 Jan 2016 at latest), allowing 84 months from the date of registration on FRLI to the effective date for “all MA, MB, and MC vehicles”. This would be the same lead time that was provided for “all MA vehicles” in ADR 72/00; Dynamic Side Impact Occupant Protection. Appendix D contains a summary of the introduction timing of the major crash test ADRs, i.e. ADR 69/00, 72/00 and 73/00.

The proposed ADR based on UN R135 is intended to complement ADR 72/00. It should be noted that a lead time of 84 months for “all MA models” was allowed for ADR 72/00 even though, when ADR 72/00 was published, there was already an essentially identical regulation (96/27/EC) in Europe. In the current situation, where Australia intends to mandate UN R135 before it has been mandated in Europe, it could be argued that, based on the ADR 72/00 implementation timetable, more than 84 months “all models” lead time is needed for the proposed ADR based on UN R135.

The FCAI does not agree that the usual lead time is 18 months for new models and 24 months for all other models as noted in the RIS (p. 56);

*“As noted earlier, the usual lead time for an ADR change that results in an increase in stringency is 18 months for new models and 24 months for all other models. The indicative implementation timetable would meet this typical lead time.”*

Furthermore, the FCAI considers that lead time is the time from registering on FRLI to the ADR effective dates.

An “All Models” date for MA, MB & MC category vehicles of (not before) 1 January 2023 is also strongly supported by the RIS which states (Refer “Executive Summary”, pp. 6 and 7):

*“Under a business as usual scenario, it was estimated that by 2017 around 30 per cent of light passenger vehicles (LPVs) and 20 per cent of light commercial vehicles (LCVs) supplied to the Australian market would meet the performance requirements of the GTR/UN regulation. Given recently announced moves by NCAPs, including ANCAP, to move to an oblique vehicle-to-pole side impact test based on the test used in GTR 14/UN R[135], this is expected to steadily increase to around 70 per cent for all light vehicles (LPVs and LCVs combined by sales volume) by 2023. However, without Australian Government action, it is not expected to increase any further beyond this.”*

If the Government intends to introduce an “all vehicles” date the FCAI requests that the dates be (not before);

- 1 Jan 2023 for MA, MB and MC category vehicles.
- 1 Jan 2025 for NA category vehicles.

Earlier “all models” dates, (i.e. 2019 for MA, MB & MC Category and 2020 for NA Category as proposed in the RIS) would result in many models being withdrawn from sale.

#### **4.6 Rationale for Lead Time Required**

If the government decides a regulation is necessary, sufficient lead time needs to be provided to allow industry to undertake the necessary system development to upgrade existing models to meet the new ADR (i.e. UN R135). For example system development upgrades may include;

- Redesigned curtain/side airbags and new sensor system.
- Redesign/development of restraint devices.
- Some vehicles (depending on the model) require a new platform or body structure changes which are not feasible to be implemented on existing models. These body structure changes are in two main areas:
  - “Thinner” B-Pillars to aid the sensor system triggering at earlier timing than those for the current side impact regulations & perpendicular pole crash tests.
  - Re-packaging of the occupant space to provide more space, effectively increasing the interior width of the car.

It must also be recognised that brands already have development programs that are planned many years in advance based on product cycle plans and timings. Also, all existing resources (both people and financial) are fully committed to current development programs.

The introduction timing must allow for certification of around 400 models of light vehicles from more than 50 brands from a range of source countries from Asia, Europe and the US. Appendix 1 provides an overview of the Australian automotive industry.

The actions required to be undertaken by industry, once a vehicle model design has been fixed, are outlined in summary in Table 4.1 below.

**Table 4.1 Actions Required to Introduce a New Model to the Market**

Time to Market	Actions
5 to 7 years	<ul style="list-style-type: none"> <li>• Design of vehicle architecture</li> <li>• Incorporate improved side impact protection in vehicle structure</li> <li>• Work with Tier I suppliers to design and develop sub-system (e.g. head protecting side airbag, inflator and sensors)</li> </ul>
4+ years	<ul style="list-style-type: none"> <li>• Design and development of the major sub-systems that are not part of vehicle structure, e.g. braking system.</li> <li>• Build of prototypes and installation of new systems (head protecting side airbag, inflator and sensors in this case) in model prototype.</li> <li>• Initial calibration and laboratory testing.</li> </ul>
3 years	<ul style="list-style-type: none"> <li>• Undertake on-road calibration.</li> <li>• Undertake initial seasonal variation (i.e. winter/summer) testing.</li> </ul>
2 years	<ul style="list-style-type: none"> <li>• Finalise on-road calibration testing.</li> <li>• Additional seasonal variation testing.</li> </ul>
1 year	<ul style="list-style-type: none"> <li>• Confirm production preparation with system suppliers.</li> <li>• Build certification pre-production vehicles.</li> <li>• Undertake certification testing.</li> <li>• Undertake certification processes and receive certification approval.</li> <li>• Production build and distribution to market. Note: in many companies, production will not begin until certification approval has been received.</li> </ul>

The FCAI also disagrees with the estimated “system development costs” of A\$350,000 per model shown in the RIS (Refer Section 4.1.2, “Costs”, “System Development Costs”, p. 39);

*“Total development costs (over and above business as usual are therefore estimated at A\$350,000 per model.”*

The RIS estimate of A\$350,000 for “new models” is overly simplistic and comprises: A\$300,000 for one additional pre-production vehicle + A\$50,000 to conduct a single test. The estimated “system development costs” shown in the RIS would only cover a fraction of the “system development costs” that would be incurred by “current models”.

“System development costs” for current models will vary from model to model, depending on what changes are required to comply with UN R135. Current models will first have to be tested to the UN R135 test protocol to determine what design changes are required to comply. That in itself would be a very costly and time consuming exercise. Significant, scarce and expensive product development resources (i.e. design, engineering, test and development personnel) would then need to be deployed to design, engineer, test, develop and release the necessary changes that would be needed to make a current model comply with UN R135.

There are approximately 400 models of light vehicles (MA, MB, MC and NA Category) currently available for sale in Australia and many of these have only been launched in the last year or so. None of these current models have been designed to comply with UN R135. In addition, there will be many more “new models” launched in Australia between now and the “new models” date of the new ADR. Very few, if any, of these “soon to be released” “new models” have been designed to comply with UN R135<sup>6</sup>.

While UN R135 was only adopted by WP 29 on 12 November 2014 it must be recognised that the development of models released in Australia during 2014 to 2016 were designed and their structure developed during 2007-2010 period (or even earlier for some NA category vehicles). This was before UN R135 (or even the preceding GTR) was finalised.

The expected model life of a “new model” when it is launched is 7 to 11 years. Details of models affected are supplied, in confidence, in Appendix F.<sup>7</sup>

Detailed “system development costs”<sup>8</sup> information that has been provided puts the range of system development costs in excess of AU\$2.5 million and up to AU\$3.5 million<sup>9</sup> and take at least 3 years<sup>10</sup> to design, engineer, test, develop and release the necessary changes that would be needed to make a current model comply with UN R135.

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<sup>6</sup> One FCAI member has advised that 70% of their models will require redevelopment meet UN R135. If this is similar across all brands, up to 280 models will require some level of redevelopment.

<sup>7</sup> Appendix F is not yet finalised and will be provided directly to DIRD and will not be published.

<sup>8</sup> As recognised in the RIS, “System development costs” does not include the additional variable costs i.e. incremental parts costs per vehicle (e.g. additional parts, enhancements to existing parts, additional sensors etc.).

<sup>9</sup> Estimates from FCAI members include; US\$2.7 million<sup>2</sup> and in excess of ¥200 million.

<sup>10</sup> Design, engineering, test, development and release timing. Introduction of design changes into production would take longer.

## 5.0 CONCLUSION

The FCAI supports the fitting of important safety features such HPSA and FCAI member companies have taken a pro-active approach with fitting HPSA in the absence of regulation due to;

- FCAI Code of Practice for Fitting Head Protecting Side Airbags (i.e. an Industry Agreement) and
- Consumer demand (e.g. fleet purchasing policies).

In 2010, FCAI members introduced a voluntary Code of Practice that requires 100% fitting of head protecting side airbags into all new light passenger cars and SUVs for new vehicles built from 1 January 2016. However, the RIS does not acknowledge this pro-active stance taken by the industry.

As such the FCAI does not see a need to regulate and mandate 'enhanced side impact safety measures' via adopting of UN R135 as an ADR.

While the FCAI does not see the need to mandate UN R135 (as the market has responded), if the government wishes to undertake this action the FCAI considers the regulation needs to:

- Provide an appropriate lead time for both industry and government to undertake the necessary administration processes required for the government's certification process.
- Be harmonised with the international UN Regulations, i.e. UN R135.

The FCAI considers the implementation timetable of an ADR should be:

- 1 January 2018 for new model LPVs (MA, MB and MC category vehicles).
- 1 January 2019 for new model LCVs (NA category vehicles).
- 1 January 2023 for all LPVs (MA, MB and MC category vehicles) vehicles.
- 1 January 2025 for all LCVs (NA category vehicles) vehicles.

The FCAI is the peak industry organisation representing vehicle manufacturers and importers of passenger cars, light commercial vehicles and motor cycles in Australia.

The automotive industry is a major contributor to Australia's lifestyle, economy and community and is Australia's largest manufacturing industry. The industry is wide-ranging and incorporates importers, manufacturers, component manufacture and distribution, retailers, servicing, logistics and transport, including activity through Australian ports and transport hubs.

There are over 67 brands in the Australian market, with just over 1.1 million new vehicle sales per year. That is a lot of brands to service a market of our size equating to only around 16,000 new vehicles sold per brand. The following table provides a comparison of the competitiveness of global markets with double the number of new vehicles sold per brand in Canada, almost three times as many in the UK and more the 255,000 new vehicles sold per brand in the USA.

**Table A.1 Competitiveness of Global Vehicle Markets<sup>11</sup>**

	Australia	Canada	UK	USA
<b>No. of brands in market</b>	67	49	53	51
<b>Sales</b>	1,112,032	1,620,221	2,249,483	13,040,632
<b>Market size per brand</b>	<b>16,597</b>	<b>33,066</b>	<b>42,443</b>	<b>255,699</b>

The motor vehicle is increasingly a global product and one of the most comprehensively regulated products. In considering regulations, the government's role is to balance social and economic benefits with safety and environmental performance.

As economies of scale are critical in the automotive industry all manufacturers have tended to limit the number of locations any one model is produced and that model is then cross-shipped to markets where there is demand. This approach initially benefits the manufacturer through reducing costs and ultimately benefits the consumer by improving affordability and increasing product choice.

Australia is a small player with less than 1.5 per cent of the global build sold in this market. Consequently, Australia's ability to influence global design and investment is limited and as individual states are even a smaller proportion of the market their ability to influence multi-national companies is correspondingly very limited.

In 2014, only 9 per cent of new vehicles sold were manufactured locally with the remaining 91 per cent of new vehicles imported from many countries and regions of the world

<sup>11</sup> Australian government, Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, March 2013 Automotive Update.

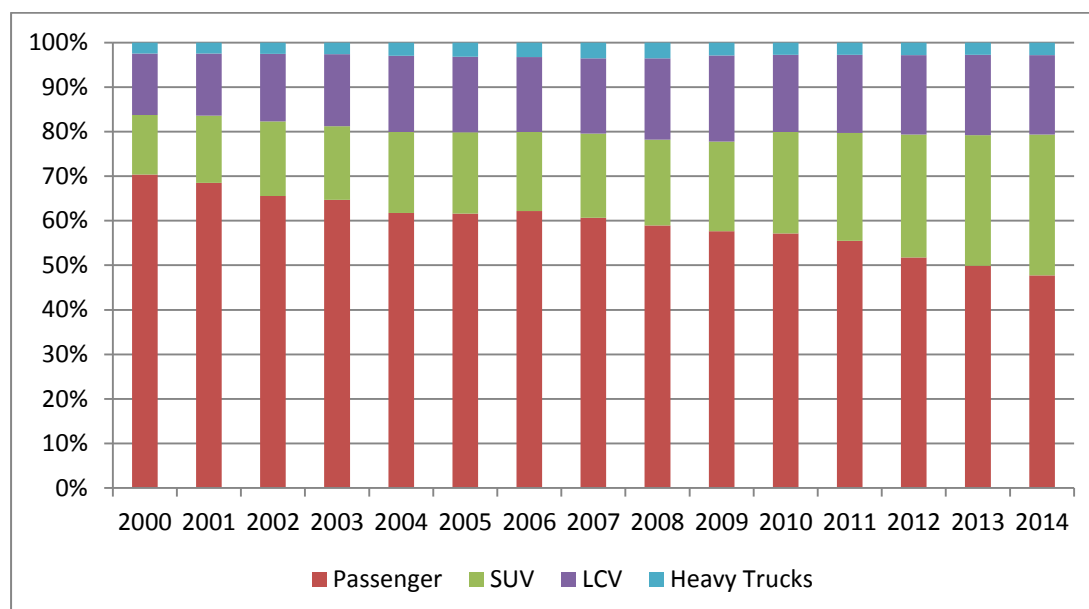
including Asia (65 per cent), Europe (17 per cent), North and South America (6 per cent) and other countries including South Africa (3 per cent) (see Table A.2).

**Table A.2 Country/Region of Origin for New Vehicle Sales in 2014<sup>12</sup>**

Country/Region of Origin	% of New Vehicle Sales
Japan	30%
Thailand	20%
Europe	17%
Korea	12%
Australia	9%
Americas	6%
Other Asia (incl China and India)	3%
Other (incl South Africa)	3%

The consumer preferences in the new Australian light vehicle market have changed significantly from 2000 to 2014 (see figure A.1). Over this time the share of passenger cars has decreased from around 70% to less than 50% of the market. The growth in the market has been in the SUV and light commercial vehicle segments. In 2014 SUVs were 31% and light commercial vehicles were (approx.) 18% of the new vehicle market.

**Figure A.1 – Australian New Vehicle Market; 2000-2014<sup>13</sup>**



The expansion of new and global brands and models into the market has led to the introduction of advanced security, safety and environmental features in motor vehicles. The

<sup>12</sup> FCAI, VFACTS National Report, New Vehicle Sales, December 2014.

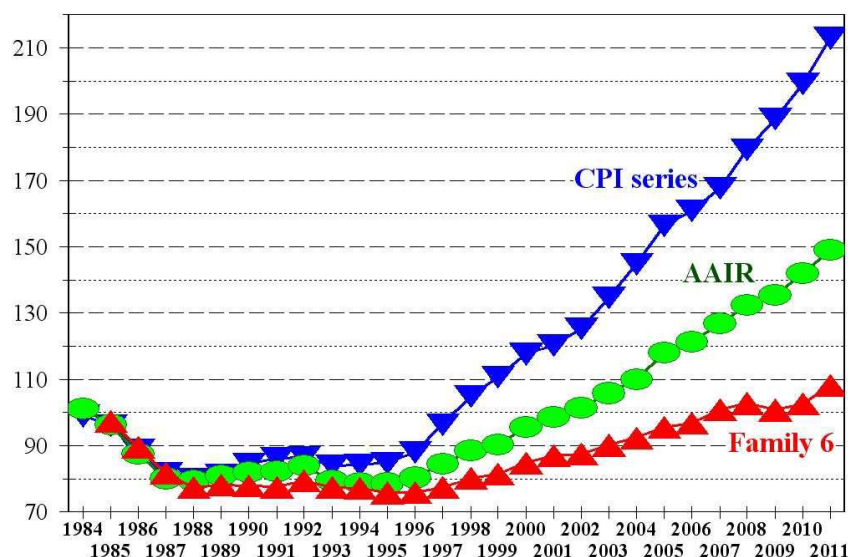
<sup>13</sup> FCAI, VFACTS National Report, New Vehicle Sales, December 2000 to 2014



introduction of these features is in response to increasingly strict environmental regulations and growing demands from consumers for advanced security and safety features.

It has become much easier to afford a new car since the mid-1990s, as earnings growth has exceeded the movements in motor vehicles prices. Figure A.1 shows the affordability of new passenger cars on three separate indices, CPI motor vehicle index, Australian Automotive Intelligence Report index and an index based on a 'Family 6' car.

**Figure A.2 - Car Affordability Indexes<sup>14</sup>**



Motor vehicles are more technologically advanced today than ever before. While the structural changes in the Australian market, in terms of lower tariffs and more brands, has resulted in significant consumer benefits with improved affordability and choice it has also greatly increased the knowledge base required of repairers. The industry has had to change to compete in this global market place and cannot slow the rate of adoption of these technologies, or limit consumer choice.

The expansion of new and global brands and models into the market has led to the introduction of advanced security, safety and environmental features in motor vehicles. The introduction of these features is in response to increasingly strict environmental regulations and growing demands from consumers for advanced security and safety features.

Vehicle brands face a range of de-facto regulations in the form of safety and environmental star ratings and buyer requirements. They face a range of competitive pressures to continually improve environmental performance and safety standards. For example, between 30 to 50 per cent of vehicle sales are to governments and fleets that frequently require a 5 star ANCAP rating and/or 4 star GVG rating.

<sup>14</sup> Johns R, 2012, Australian Automotive intelligence 2012 Yearbook.

Table B.1 - Sales of New Passenger Cars and SUVs fitted with HPSA 2010-2015

	2010	2011	2012	2013	2014	2015 (Qtr 1)
<b>Cars &amp; SUVs</b>	<b>827407</b>	<b>803450</b>	<b>882680</b>	<b>899965</b>	<b>883943</b>	<b>223980</b>
N/A	125786	86645	61223	50256	45712	14362
OPT	131373	85679	59700	20747	13170	3073
STD	577401	637899	770380	838543	834612	208966
<b>Rate (%)</b>	<b>85.66%</b>	<b>90.06%</b>	<b>94.04%</b>	<b>95.48%</b>	<b>95.91%</b>	<b>94.67%</b>
<b>Cars</b>	<b>590469</b>	<b>557787</b>	<b>575140</b>	<b>566224</b>	<b>531481</b>	<b>128759</b>
N/A	74155	47231	21395	18117	19725	6277
OPT	100353	54430	25372	3525	660	105
STD	415961	456126	528373	544582	511096	122377
<b>Rate (%)</b>	<b>87.44%</b>	<b>91.53%</b>	<b>96.28%</b>	<b>96.80%</b>	<b>96.29%</b>	<b>95.13%</b>
<b>SUVs</b>	<b>236938</b>	<b>245663</b>	<b>307540</b>	<b>333741</b>	<b>352462</b>	<b>95221</b>
N/A	51631	39414	39828	32139	25987	8085
OPT	31020	31249	34328	17222	12510	2968
STD	161440	181773	242007	293961	323516	86589
<b>Rate (%)</b>	<b>81.23%</b>	<b>86.71%</b>	<b>89.85%</b>	<b>93.24%</b>	<b>95.34%</b>	<b>94.05%</b>

Table B.2 - Sales of New Light Commercial Vehicles fitted with HPSA 2010-2015

	2010	2011	2012	2013	2014	2015 (Qtr 1)
<b>LCVs</b>	<b>178932</b>	<b>176725</b>	<b>197704</b>	<b>204566</b>	<b>197956</b>	<b>46883</b>
N/A	120453	113497	98694	91986	86971	21983
OPT	30730	24804	7036	6101	5776	1487
STD	27749	38424	91974	106479	105209	23413
<b>Rate (%)</b>	<b>32.68%</b>	<b>35.78%</b>	<b>50.08%</b>	<b>55.03%</b>	<b>56.07%</b>	<b>53.11%</b>

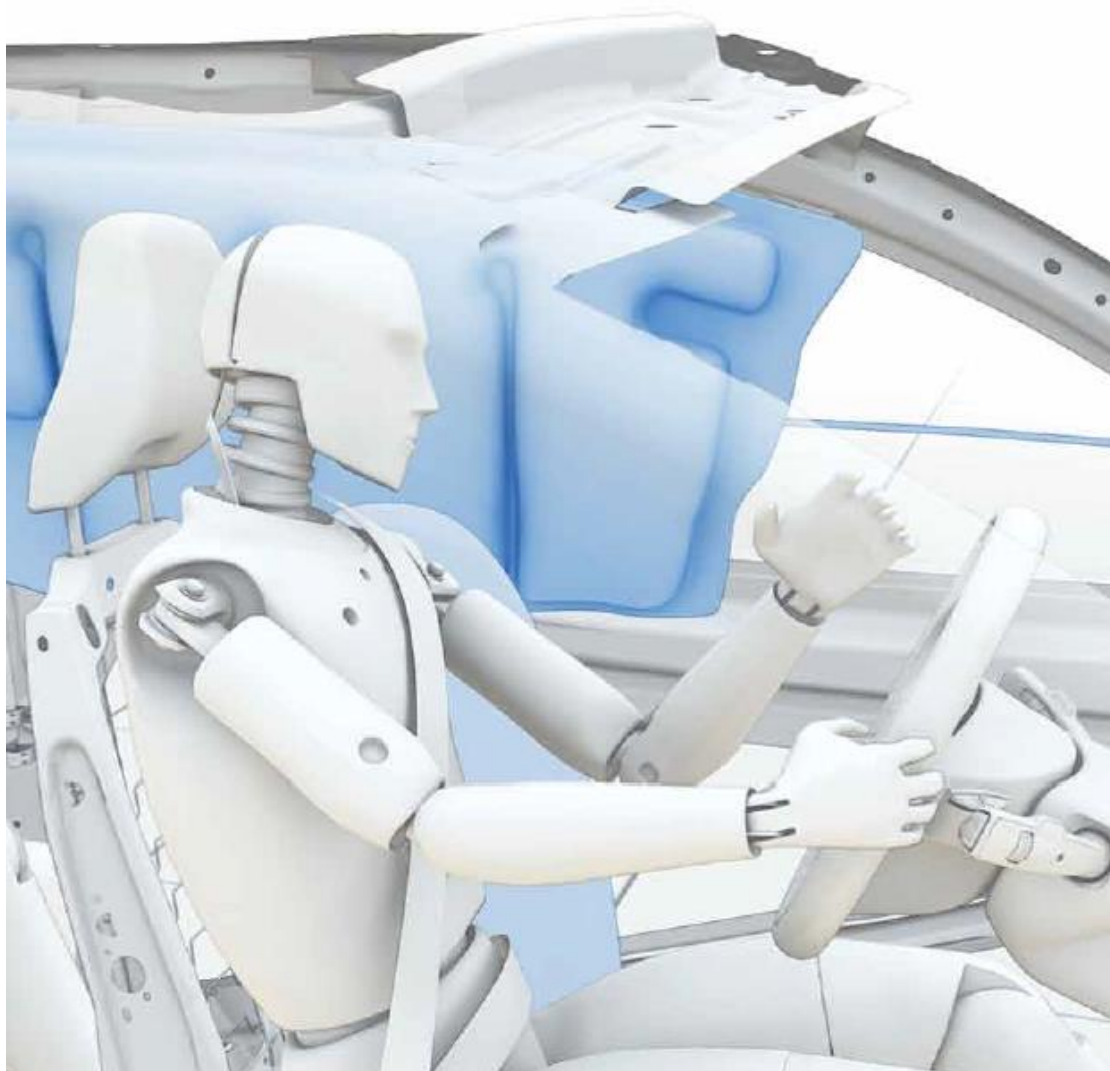
Note: Data supplied by IHS Polk



FEDERAL CHAMBER OF AUTOMOTIVE INDUSTRIES

CODE OF PRACTICE

**HEAD PROTECTING SIDE AIRBAGS**





## A proactive approach to safety

The FCAI member companies<sup>1</sup> recognise the benefits of new safety technology and the role it plays in reducing deaths and serious injuries on Australian roads.

To provide the maximum safety benefits to buyers of new passenger vehicles, the FCAI member companies have agreed to set targets for the fitting of Head Protecting Side Airbags (HPSA) to passenger cars and SUVs.

HPSAs are currently fitted to more than 70 per cent of passenger cars and more than 80 per cent of SUVs sold in Australia.

The FCAI member companies are taking a proactive approach to accelerate the fitting of this technology. They commit to having a 100 per cent fitting rate by 1 January 2016.

This is just one of many safety initiatives developed between the automotive industry, federal government and other stakeholders.

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## The industry's commitment

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The FCAI member companies commit to supply passenger cars, passenger vans and passenger SUVs (MA, MB and MC categories) fitted with HPSA to the Australian market in accordance with the following timeframe<sup>2</sup>:

Fitting Rate	>	Built Date <sup>3</sup>
80% of Sales	>	1 January 2012
90% of Sales	>	1 January 2014
100% of sales	>	1 January 2016

This commitment will apply to front row, outboard seating positions and meet at least one of the following technical requirements:

HIC36 performance of 1000 or less for a SID-H3, ES2 or ES2RE dummy in the driver's seating position in a FMVSS 201/EuroNCAP/ANCAP<sup>4</sup> pole impact test.

HIC15 performance of 779 or less (with no direct head contact with the barrier) for a SID-H3 crash dummy in the driver's seating position in the IIHS MDB side impact crash test.

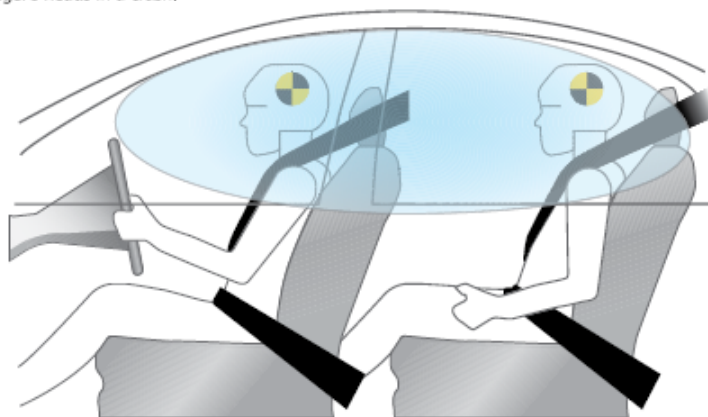
HIC36 performance of 1000 or less for an ES2RE dummy in the driver's seating position in a FMVSS 214 oblique pole impact test.

## What is a head protecting side airbag?

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Most people have heard of driver airbags (or frontal airbags). While these come as standard in most cars, they do not protect you in a side impact crash. A Head Protecting Side Airbag (HPSA) is needed to protect a driver's or passenger's head in a side crash into a pole or tree.

The most commonly fitted type of HPSA is known as a curtain airbag. In a crash, curtain airbags activate instantaneously, deploying from the roof frame above the side window and are designed to protect the driver's and passenger's heads in a crash.





## The case for head protecting side airbags

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Impacts with narrow objects such as poles and trees can cause serious head injuries when the impact is from the side and closely aligned with a vehicle occupant. In Australia, poles and trees are the most commonly hit objects in fatal, single vehicle crashes.

Around 24 per cent of all fatal road crashes and 11 per cent of all serious injury crashes throughout Australia involved hitting a tree or pole.

The risk of death or serious injury could be reduced if the vehicle is fitted with a head protecting side airbag.

The Australian automotive industry and consumers have moved quickly to embrace HPSA with more than 70 per cent of passenger cars and more than 80 per cent of SUVs being sold with the technology. This industry code of practice commits FCAI members to accelerating those fitting rates.

“ The risk of death or serious injury could be reduced if the vehicle is fitted with a head protecting side airbag.”

## Australia – leading the way

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The Australian Government is leading the way in trying to reduce serious injuries and deaths from side impact collisions. At the June 2010 United Nations Working Party on international vehicle regulations, member states agreed to an Australian proposal to develop a global technical regulation (gtr) for a pole/side impact standard.

The FCAI supports the Australian Government’s proposal. This demonstrates the commitment that the Australian automotive industry has in embracing world class safety features.

<sup>1</sup> A list of the FCAI member companies is available on our website [www.fcai.com.au](http://www.fcai.com.au).

<sup>2</sup> This commitment does not include convertibles or vehicles with sales of less than 100 units per annum.

<sup>3</sup> The date of manufacture as defined by the FCAI Code of Practice for Date of Manufacture of New Motor Vehicles.

<sup>4</sup> Using EuroNCAP Pole Test Protocol Version 4.1 or later.

“Implementation timetable” is the difference between the ADR Publication Date (i.e. previously known as the “Gazettal Date” but now referred to as the date registered on FRLI) and the ADR Effective Dates.

The table below shows the “implementation timetable” for the current ADR Crash Regulations.

ADR	ADR Gazettal Date	ADR Effective Dates	Time Difference between Gazettal and Effective Dates
<b>ADR69/00</b>  <b>Full Frontal Occupant Protection</b>	16 Dec. 1992	1 July 1995 on all new model MA vehicles.	> 30 months
		1 January 1996 on all MA vehicles.	> 36 months
	20 Sept. 1996	1 January 1998 on all new model MB and MC vehicles.	> 15 months (>60 months from initial gazettal)
		1 July 1998 for new model NA1 vehicles.	> 21 months
		1 January 2000 on all MB and MC vehicles.	> 39 months
		1 July 2000 on all NA1 vehicles.	> 45 months
<b>ADR 72/00</b>  <b>Dynamic Side Impact Occupant Protection</b>	7 Jan. 1997	1 January 1999 on all new model MA vehicles.	24 months
		1 January 2004 on all MA vehicles.	84 months
	21 Dec. 1998	1 January 2000 on all new	12 months

ADR	ADR Gazettal Date	ADR Effective Dates	Time Difference between Gazettal and Effective Dates
<b>ADR 72/00</b>  (cont.)		model MB and MC vehicles.	(36 months from initial gazettal)
		1 January 2004 on all MB, MC vehicles.	60 months
		1 July 2000 on all new model NA vehicles.	18 months
		1 July 2005 on all NA vehicles.	78 months
<b>ADR 73/00</b>  Offset Frontal Impact Occupant Protection	20 July 1998	1 January 2000 on all new model MA category vehicles with a <i>Gross Vehicle Mass</i> of less than 2.5 tonnes.	18 months
		1 January 2004 on all MA category vehicles with a <i>Gross Vehicle Mass</i> of less than 2.5 tonnes.	56 months



**Confidential Information – not for public release****Note: Information to be supplied separately to Vehicle Safety Standards Branch**

Models currently introduced, or planned to be introduced prior to FCAI proposed timetable for ADR (i.e. 1 Jan 18 for MA, MB or MC category vehicles and 1 Jan 19 for NA category vehicles) and the expected timing of the next (replacement) model.

Make/Model	Category	Introduction date of model	Expected Replacement timing (qtr/year)