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AN INDUSTRY REPORT 2017

DIRECTIONS IN AUSTRALIA'S AUTOMOTIVE INDUSTRY

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DIRECTIONS IN AUSTRALIA'S AUTOMOTIVE INDUSTRY

CONTEXT, PURPOSE AND AUDIENCE

Historically, the identity and representation of Australia's automotive industry has been associated with local car and component manufacturing. This identity has been forged over almost a century and has helped shape government policy and community perceptions towards the industry.

For many, the structural shift away from passenger vehicle manufacturing from October 2017 therefore poses a quandary. What will this mean for the automotive industry and the economy? How will the industry survive and what will comprise its representation? The answer to these and many other questions lie in gaining a better understanding of the automotive industry itself.

This report aims to inform government and industry stakeholders on many fronts. This includes the size, scope, economic contribution, key trends and challenges that are shaping the direction of Australia's automotive industry over the next few years. This will help generate a greater understanding and awareness of the industry beyond the era of passenger car manufacturing, including the broader impacts on the economy and society.

This report has been produced by the Victorian Automobile Chamber of Commerce Research Unit, and has been supported with contributions from:

- Motor Trades Association of Australia
- Tasmanian Automobile Chamber of Commerce
- Motor Traders' Association of New South Wales
- Motor Trades Association of Queensland
- Motor Trade Association of South Australia
- Motor Trade Association of Western Australia
- Motor Trades Association of Northern Territory

EXECUTIVE SUMMARY

This year marks a historic occasion for the automotive industry. It marks the final chapter in Australian passenger car, and to some degree, automotive component manufacturing. From October 2017, the automotive industry will enter a new phase, as a new entity and with a new direction.

What is certain however, is that the automotive industry will remain a vital contributor to Australia's economy, employing more than 360,000 people well beyond the closure of manufacturing operations and contributing around 2.1 per cent of Australia's GDP.

The automotive industry will continue to face challenges both in the immediate future and over the longer term. Skill shortages within the automotive industry are at their highest proportions ever recorded, with a current national shortage of 27,377 skilled positions that is forecast to rise to over 35,000 positions in 2017/18. These skill shortages are affecting almost half of the automotive industry, constraining business productivity, planning, investment and growth.

Despite its economic significance, the automotive industry continues to struggle for appropriate recognition amongst government, and this is particularly important in view of the transition that is expected to envelop the automotive industry and society more broadly in the next decade. Over this time, the wider uptake of electric, connected and autonomous vehicles is anticipated to disrupt the structure and business models of the automotive industry to a degree never witnessed before.

As electric, autonomous and connected vehicle technologies become more prevalent, this will require significant upskilling within the industry and the development of new automotive qualifications that incorporate the updating of software, coding and programming, as well as other specialised functions that will be inherent with these vehicles. This will necessitate a greater level of resources and government support for automotive trade based training and qualifications development within the vocational education and training system.

As the automotive industry moves through this transition period, it is critical that government provides better clarity of its policy intentions for the future. A signal from government about its proposed actions or intentions may help instigate a smoother transition process for the automotive business community.

To this extent, the findings and recommendations contained in the Senate Economics Reference Committee report - *The Future of Australia's Automotive Industry, 1 December 2015* – are very pertinent. Recommendations 6 and 7 in the Senate report outline the case for economic recognition of the automotive industry and the establishment of an automotive industry taskforce with representatives from industry, unions and government to facilitate a national automotive policy framework encompassing all sectors of the industry. The development of an industry blueprint remains a necessary and key objective that will assist automotive businesses in their planning and development through this transition period.

SECTION 1

WHAT REPRESENTS THE AUTOMOTIVE INDUSTRY?

Key Findings

- The automotive industry embodies a wide variety of sectors including Marine; Bicycles; Agricultural and Mining Machinery and Outdoor Power Equipment.
- The automotive industry will have a new profile after the closure of passenger car manufacturing in October 2017. Automotive Repair and Maintenance will account for the largest share of the industry (54%), followed by Motor Vehicle Retailing (8.3%), Motor Vehicle and Parts Wholesaling (7.6%) and then a host of other sectors with smaller shares.
- The majority of automotive businesses (96.5%) are small and family owned enterprises operating across the industry spectrum.
- There were 18.4 million registered vehicles on Australia's roads as at January 2016. The vehicle fleet grew by 2.1 per cent annually or 380,000 vehicles in the past 12 months. The average age of vehicle fleet is 10.1 years and around 800,000 vehicles are scrapped annually.
- Around 5 million vehicles were sold in Australia in 2016, consisting of 1.18 million new vehicles and 3.88 million used vehicles. There are 69 vehicle marques operating in Australia, placing it as one of the most competitive new vehicle markets in the world.
- 67.1 per cent of new vehicles sold in 2016 were petrol vehicles, 31.7 per cent were diesel vehicles; 1.1 per cent hybrid electric; 0.1 per cent LPG and 0.01 per cent battery electric vehicles. Diesel vehicles are the fastest growing vehicle segment.

INDUSTRY SCOPE

Unbeknown to many, the automotive industry embodies a wide array of sectors and business activities beyond that of manufacturing of motor vehicles and associated componentry. Whilst some activities are inherently recognisable and interconnected, others remain less obvious.

A key factor unifying most automotive sectors is their reliance upon a workforce invested with nationally accredited automotive qualifications and skills training, thus drawing seemingly diverse sectors such as Marine, Bicycles, Agricultural Machinery Retailing and Repairs and Outdoor Power Equipment within the scope of the automotive industry.

Whilst these aforementioned sectors are included within the scope of the industry, a profound problem is the lack of reliable statistical data in relation to these sectors. Official industry and occupational statistical classifications such as ANZSIC and ANZSCO as provided by the Australian Bureau of Statistics (ABS), work poorly for the automotive industry as they fail to adequately categorise and enumerate sectors such as Marine, Bicycles, Agricultural Machinery Retailing and Repairs, Outdoor Power Equipment, Towing and many others considered integral to the automotive industry.

These issues mean that stakeholders must rely on extensive modelling of automotive industry data, often using alternative sources of information, to present a meaningful picture of the economic and social footprint of the automotive industry.

Taking these matters into consideration, and looking towards the future, a key question in regards to the automotive industry is - *'what will the industry look like after the closure of manufacturing operations this year?'*

Table 1 provides an insight into the new profile of the Australian automotive industry beyond October 2017. By a considerable margin, Automotive Repair and Maintenance will account for the largest share of the automotive industry, representing more than half of the industry business population (54%). This is followed by Motor Vehicle Retailing and Motor Vehicle and Parts Wholesaling (8.3% and 7.6% of businesses respectively), and then a host of sectors with smaller shares that make up the remaining fabric of the automotive industry. Some manufacturing activity will still be in place after October, however this will be on a much smaller scale and largely comprised of specialist vehicles, bus, truck, trailer and associated component manufacturing and representing an estimated 4.4 per cent of the industry.

Given the future profile of the automotive industry, it is pertinent to suggest that the trends and challenges facing the Automotive Repair and Maintenance and Motor Vehicle Retailing sectors, both now and over the near future, will be at the forefront of the automotive industry and its overall direction.

Table 1: Australian Automotive Industry Profile, post October 2017

Automotive sector	Major activities	Per cent of industry business population
Automotive Repair and Maintenance	Light and heavy vehicle mechanical service and repair; vehicle body, paint and interior repair; automotive electrical services; mining machinery service and repair; mobile plant and equipment service and repairs.	54.0%
Motor Vehicle Retailing	New and used car, motorcycle, truck, trailer and other motor vehicle retail sales.	8.3%
Motor Vehicle and Parts Wholesaling	Car, commercial vehicle, trailer and other motor vehicle wholesale sales; motor vehicle dismantling, recycling and used part wholesaling.	7.6%
Motor Vehicle Parts and Tyre Retailing	Original equipment and aftermarket retail sales of vehicle parts and tyres.	6.2%
Fuel Retailing	Retailing of petrol, LPG & CNG, oils and service station operation.	6.0%
Motor Vehicle and Parts Manufacturing	Specialist vehicles; bus and truck manufacturing; vehicle body and trailer manufacturing; automotive electrical components and other vehicle parts manufacturing.	4.4%
Towing Services	Accident, trade, heavy vehicle and other towing services	3.6%
Passenger Car Rental and Hiring	Hiring, leasing or renting of passenger cars without drivers.	2.3%
Agricultural Machinery Retailing and Repair	Retail sales, service and repair of agricultural machinery and equipment	2.0%
Outdoor Power Equipment	Sales, service and repairs of outdoor power equipment.	1.9%
Bicycles	Retail sales, service and repair of bicycles	1.4%
Marine	Sales, service and repair of marine engines	1.2%
Other specialised machinery and equipment manufacturing	Manufacturing of bicycles, motorcycles, mining and construction equipment, lifting & materials handling equipment, agricultural machinery & equipment	1.2%

Source: ABS and modelled industry data

BUSINESS POPULATION

In terms of the actual business population of the automotive industry, the latest ABS data shows that there were an estimated 69,365 businesses operating within the industry nationally as at June 2016.[1]

This aggregate figure refers to businesses that are actively trading, i.e. businesses that are registered both with an Australian Business Number (ABN) and for Goods and Services Tax (GST) purposes, and are regularly submitting a Business Activity Statement (BAS).

By their own admission however, ABS recognises that their business counts data understates the total population of businesses operating within any industry or the Australian economy. This is due to the fact that:

- Many businesses are often registered under a single ABN, but may conduct their operations from more than one location and in more than one state or territory. Because the ABN is the key metric, ABS statistics would count such businesses only once, thus resulting in only partial business coverage in any jurisdiction
- There are many businesses that have not registered for an ABN, either because they do not have any obligations under the GST legislation, or are under the threshold for registration and have chosen not to register and hence are also omitted from ABS estimates
- There may be businesses that appear to have ceased trading by not remitting GST, but are still likely to be active. Consequently, they would also be omitted from official statistics
- Often businesses that are in the start-up phase may show minimal or no activity, whilst others may become dormant during undertaking a change in activity. Such businesses may also avoid capture by ABS.

Given that these issues contribute towards a considerable undercount in the actual number of businesses operating within the economy, it is likely that the true population of automotive businesses operating within the Australian economy, as confirmed through industry intelligence, is between 80,000 to 100,000 businesses nationally. As there is uncertainty however as to the real final number, for the purposes of this report, ABS estimates will be utilised whilst recognising the limitations of the business counts data.

Business Structure and Profitability

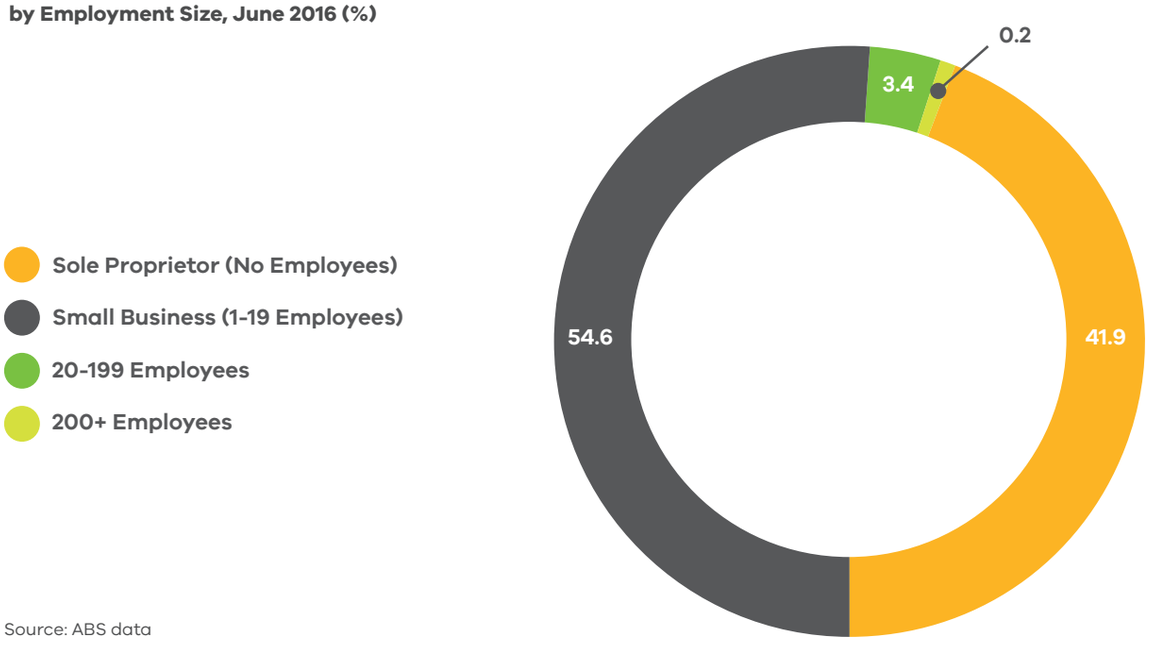
It is a fact that the overwhelming majority of the automotive industry (96.5%), is comprised of small and family-owned enterprises operating across the automotive spectrum.

Chart 1 shows that small businesses with between 1 -19 employees account for the largest share of automotive businesses (54.6%), followed by sole proprietors with no employees (41.9%). Furthermore, it is estimated that approximately three quarters of all businesses are independently owned and operated, with one quarter operating under a franchise agreement.

Most enterprises (45.3%) have a reported annual turnover of between $200,000 to less than $2 million, with 13.2 per cent reporting an annual turnover of $2 million or more. A considerable proportion of businesses, (12.8%) have a reported annual turnover of less than $50,000 (Chart 2).

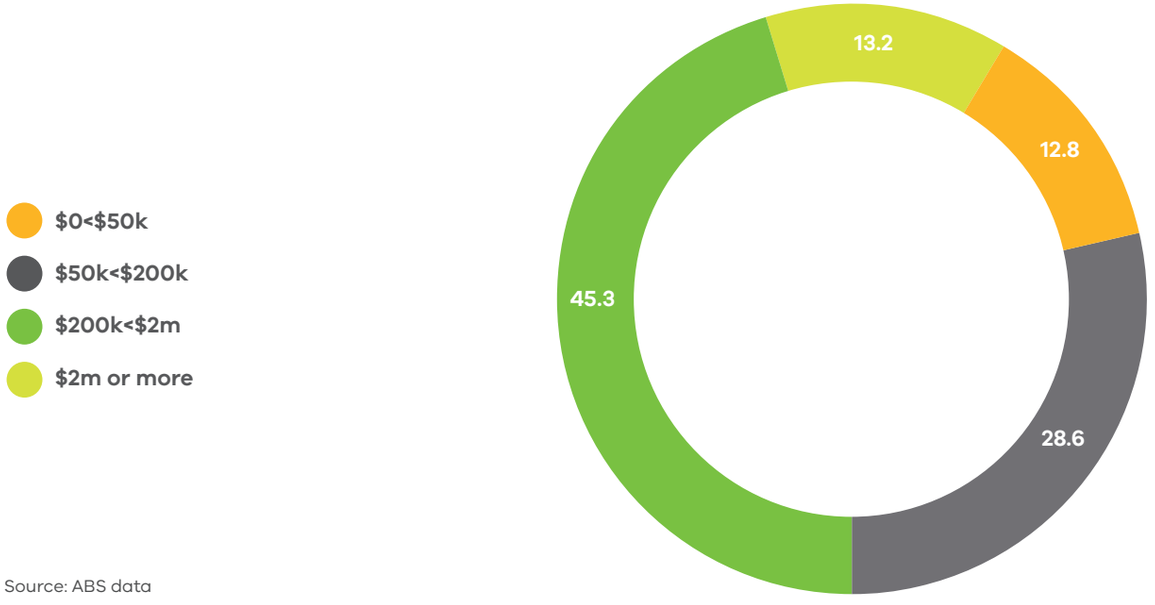
[1] ABS Counts of Australian Businesses, including Entries and Exits, (Cat. No. 8165.0)

Chart 1: Business Share of Automotive Industry by Employment Size, June 2016 (%)



Source: ABS data

Chart 2: Business Share of Automotive Industry by Annual Turnover, June 2016 (%)



Source: ABS data

In terms of business profitability, Chart 3 displays the proportion of automotive businesses that recorded a loss within key sectors of the industry. Over the past three years, the Motor Vehicle and Motor Vehicle Parts Wholesaling sector consistently recorded the highest proportion of businesses making a loss, with 37.2 per cent of businesses within the sector recording a loss in 2015/16. By contrast, the Repair and Maintenance sector recorded the lowest proportion of businesses making a loss in recent years, with 11.6 per cent of businesses recording a loss in 2015/16. On average, approximately 26 per cent of all automotive businesses made a loss in 2015/16, slightly down from 27 per cent in years 2013/14 and 2014/15.

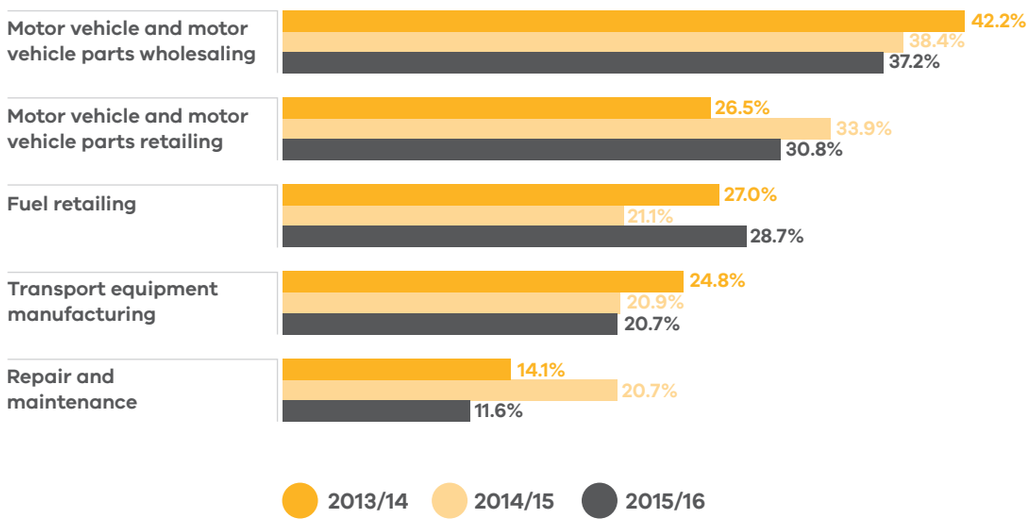
In terms of actual profit margins, Chart 4 shows that profit margins are low and declining across many sectors of the industry. The Repair and Maintenance sector recorded the highest profit margin in 2015/16 (12.2%), with Transport Equipment Manufacturing recording the lowest margin (1.1%). Over the past three years, the Motor Vehicle and Motor Vehicle Parts Retailing sector has witnessed a continual decline in profit margins, down from 3.5 per cent in 2013/14 to 2.6 per cent in 2015/16. The average profit margin across all industry sectors was 4.5 per cent in 2015/16, down from 5 per cent in 2013/14.

NATIONAL VEHICLE FLEET – KEY FACTS

Composition

As at 31 January 2016 there were approximately 18.4 million registered vehicles on Australia's roads.[2] The national vehicle fleet grew by 380,000 vehicles or 2.1 per cent since 2015, and over the past decade vehicle growth has averaged 2.4 per cent per annum. Passenger vehicles comprise just over 75 per cent of the national fleet, followed by light commercial vehicles (16.2%), motorcycles (4.5%), heavy rigid trucks (1.8%), light rigid trucks (0.8%) and other vehicle types (1.5%). Chart 5 displays the number of registered vehicles within each jurisdiction. Unregistered vehicles including tractors, farm machinery, mining, construction equipment, hobby/custom vehicles and recreational vehicles are not included in these estimates.

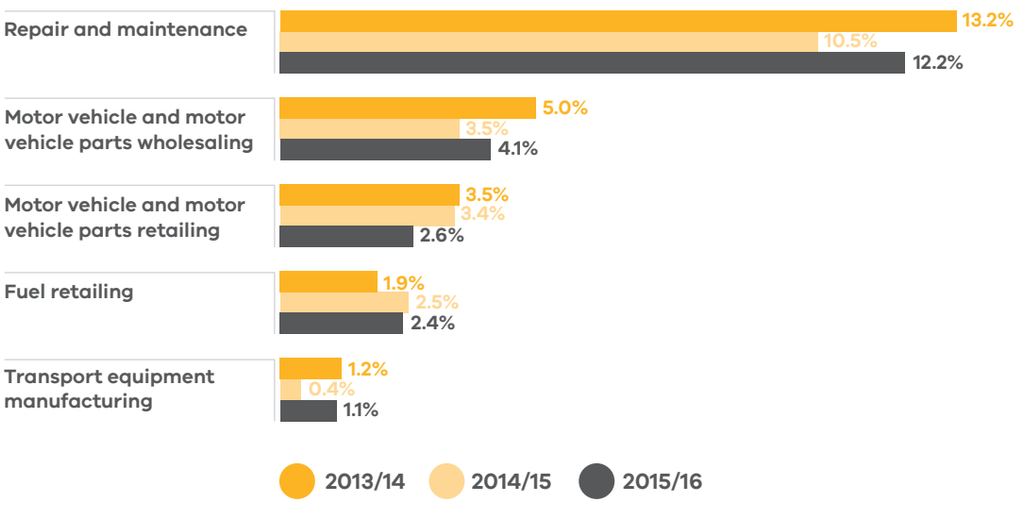
Chart 3: Percentage of Automotive Businesses that made a Loss, by Sector and Year



Source: ABS data

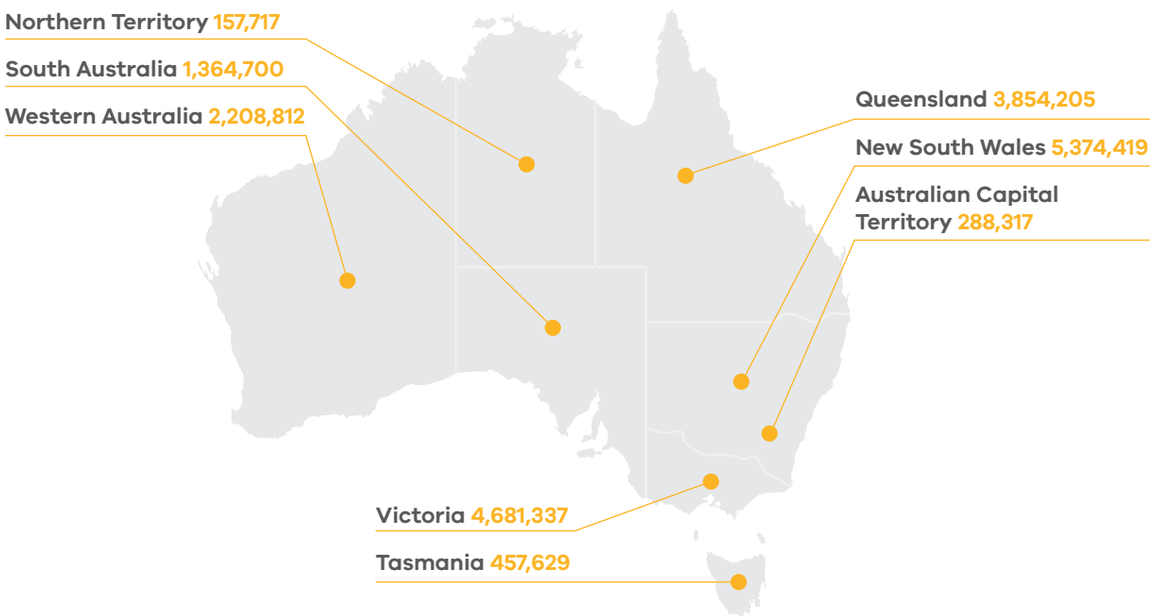
[2] ABS Motor Vehicle Census, Australia Jan 2017 (Cat. No. 9309.0).

Chart 4: Profit Margins by Automotive Sector and Year



Source: ABS data

Chart 5: Number of Registered Vehicles by Jurisdiction, January 2016



Source: ABS data

Age

The average age of Australia's vehicle fleet is 10.1 years, with passenger vehicles representing the youngest vehicles on road (9.8 years' average age) and campervans and heavy rigid trucks the oldest (17.4 and 15.7 years respectively). Vehicles up to five years of age account for the largest proportion of the national fleet (30.5%), followed by vehicles aged 6-10 years (27.2%), 11-15 years (21.2%) and 16 years and over (21.0%). The average age of the vehicle fleet has not fundamentally changed since 2006.

Scrappage Rate

Approximately 800,000 registered motor vehicles (excluding motorcycles) were scrapped between 2015 and 2016 or 4.4 percent of the national vehicle fleet[3]. The vehicle scrappage rate has remained relatively consistent over the past five years.

New Vehicle Market

New vehicle sales statistics as collected by the Federal Chamber of Automotive Industries (FCAI) indicate that there were 1,178,133 new vehicles sold in Australia in 2016, through 69 individual vehicle marques[4]. This represents an increase of 22,725 new vehicles or 2 per cent over 2015. Whilst the Australian new vehicle market is small by international standards, the presence of a high number of vehicle marques places Australia as one of the most highly contested and competitive new vehicle markets in the world. Passenger vehicles and sports utility vehicles (SUVs) combined accounted for the bulk of new vehicle sales in 2016 (78.7%), followed by light commercial vehicles (18.5%) and heavy commercial vehicles (2.8%). Annual new vehicle sales have consistently surpassed one million units since 2009.

Just under half of all new vehicles sold in 2016 (48.5%) were private vehicle sales, with sales to businesses, government and the rental market accounting for 42.9, 3.5 and 5.1 per cent respectively.

Over two-thirds of new vehicles sold in 2016 were petrol vehicles (67.1%), followed by diesel vehicles (31.7%), hybrid electric vehicles (1.1%), LPG vehicles (0.1%) and battery electric vehicles (0.01%). Diesel vehicles (particularly light commercial) represent the fastest growing vehicle segment, growing at more than twice the rate of petrol vehicles and up by almost 60 per cent since 2011.

Used Vehicle Market

Unlike new vehicle sales statistics which are collected by the FCAI, there is no central authority responsible for the comprehensive collection of used vehicle sales data.

Proxy estimates for used vehicle sales nationally can be obtained through transfer of vehicle registration data, which is available from state and territory vehicle registration authorities. Whilst there are some issues with the classification and quality of vehicle transfer data in each jurisdiction, the data in aggregate provides a reasonably good indication of the size of the used vehicle market.

Vehicle transfer data collected from each jurisdiction indicates that nationally, there were approximately 3.88 million used vehicles sold in 2016. This places the used vehicle market at 3.3 times the size of the new vehicle market in Australia, with annual combined new and used vehicle sales of approximately five million.

KEY INDUSTRY BODIES AND REPRESENTATION

Given the diversity of the automotive industry as displayed through its various sectors in Table 1, there exists a wide range of automotive industry bodies, associations, organisations and other stakeholders that represent various sectoral interests of the automotive industry. Traditionally however, it has been the local car manufacturing sector that has assumed the role of industry figurehead, both in its relationship with government and in the public persona.

With the closure of passenger car manufacturing, there is some uncertainty as to the future leadership of the automotive industry. Whilst in some ways the industry is still coming to terms with its new identity, it is useful to examine many of the key industry stakeholders that will represent the automotive industry moving forward.

[3] Ibid.
[4] VFACTS, unpublished data.

Motor Trades Association of Australia (MTAA)

MTAA is a federation of state and territory Motor Trades Associations and Automobile Chambers of Commerce. It is the largest automotive industry body, encompassing automotive businesses across all automotive sectors and particularly, the Retail, Service and Repair sectors, which account for more than 80 per cent of Australia's automotive industry.

Each state and territory Motor Trade Association and Automobile Chamber of Commerce contains its own core membership of automotive businesses derived from its respective jurisdiction and advocates on their behalf to both state and federal governments. On issues at a federal level, advocacy is normally undertaken via the MTAA.

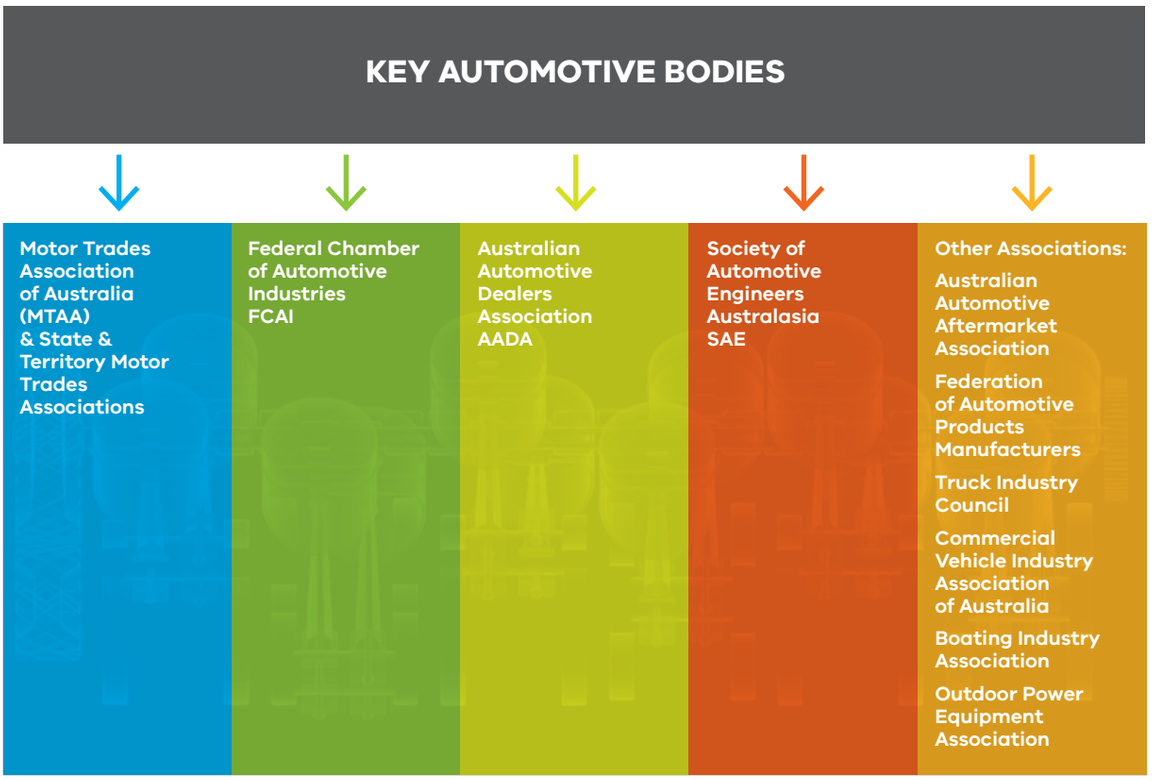
Other Bodies

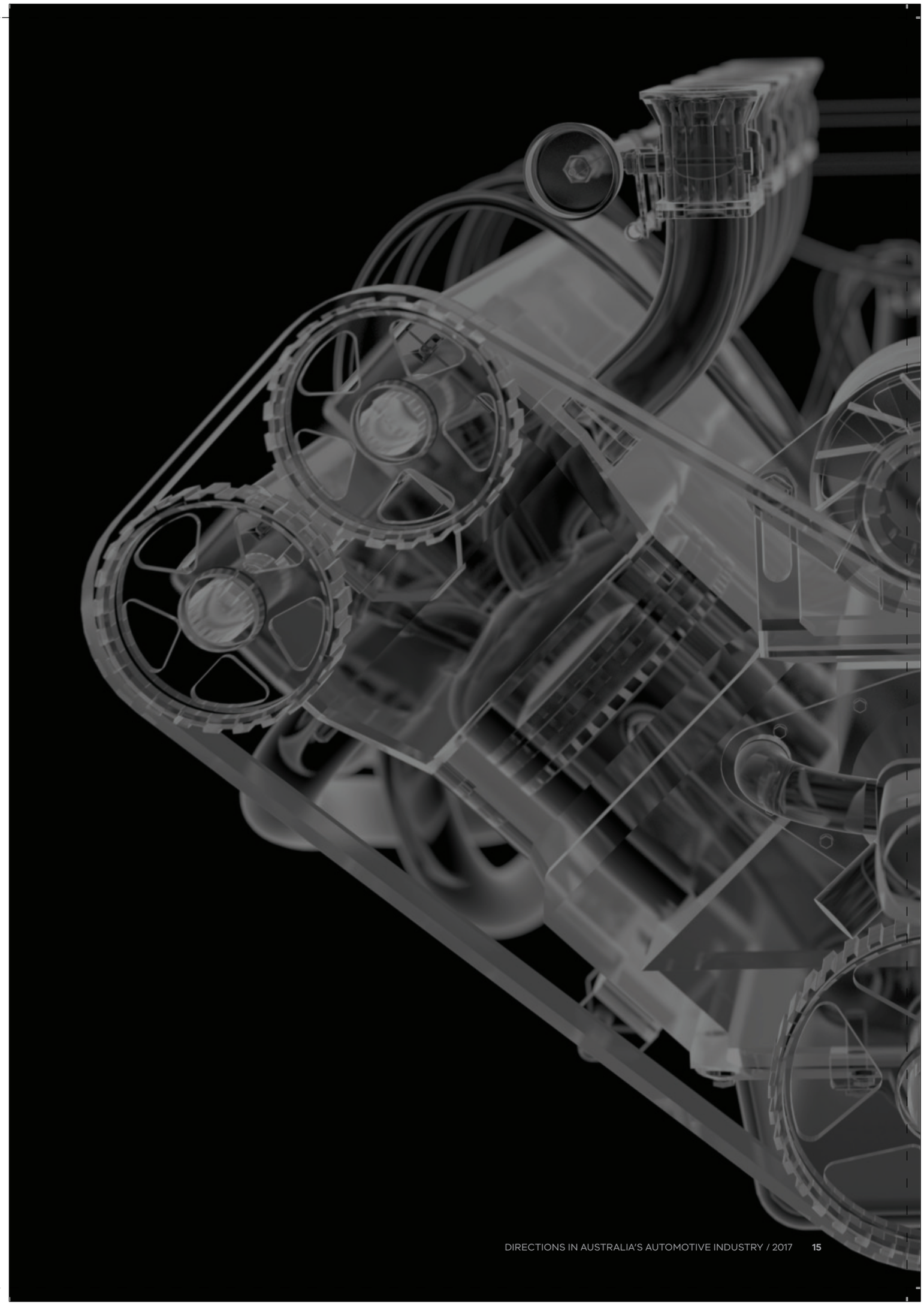
In addition to the MTAA, there are other bodies and associations that represent various sectoral interests of the industry. These include, but are not limited to:

- Federal Chamber of Automotive Industries (FCAI) – the peak industry organisation representing the manufacturers and importers of passenger vehicles, light commercial vehicles and motorcycles
- Australian Automotive Dealers Association (AADA) – represents franchised new car dealers in all States and Territories
- Society of Automotive Engineers Australasia (SAE) – A not-for-profit organisation representing automotive engineering training & research needs
- Other associations (Australian Automotive Aftermarket Association, Federation of Automotive Products Manufacturers, Truck Industry Council, Commercial Vehicle Industry Association of Australia, Boating Industry Association, Outdoor Power Equipment Association)

Chart 6 presents a graphical display of the main representative bodies of Australia's automotive industry. There are also many other smaller industry bodies that exists either as partner, splinter or independent organisations from these main bodies. Automotive businesses can also be members of more than one representative body. Organisations such as the Royal Automotive Club of Victoria (RACV) or the National Roads and Motorists Association (NRMA) are more consumer focussed in their membership and representation and therefore are not included in Chart 6.

Chart 6: Key Automotive Bodies





SECTION 2

HOW IMPORTANT IS THE AUTOMOTIVE INDUSTRY?

Key Findings

- There were 379,365 people employed nationally within the automotive industry in 2015/16 across 69,365 businesses.
- The automotive industry contributed $37.1 billion or 2.2 per cent of Australia's GDP in 2015/16. After the closure of car and component manufacturing, the industry contribution will decrease to around $35.1 billion or 2.1 per cent of GDP.
- The Automotive Repair and Maintenance sector accounts for the largest share of industry economic activity (employs 142,632 people within 37,406 businesses)
- Automotive exports of motor vehicles, parts and accessories were $2.95 billion in 2016 and automotive imports were $34.42 billion.
- Over 91 per cent of all Australian industries utilise the goods and services of the automotive industry as intermediate inputs towards the value of their own production. The Road Transport industry is amongst the largest industry users of automotive goods and services ($6.8 billion worth).
- Motor vehicles continue to be the preferred form of transport with 71 per cent of people travelling to work or study by passenger vehicle and 88 per cent using vehicles to get to places other than work.
- Motor vehicles continue to influence the development of suburbia and the accommodation of growing populations in urban and regional areas through the expansion of roads and land use.
- Automotive trade training is amongst the most populous within the Vocational Education and Training (VET) system, with 41,457 students enrolled in automotive qualifications in 2015 and around 11,000 new students commencing automotive trade training each year.
- The apprenticeship system remains the preferred model of skills formation and development by automotive employers.

ECONOMIC CONTRIBUTION

The automotive industry has always played a vital role in Australia's economy, contributing significantly towards employment, consumer spending, skills development and economic growth. Whilst all automotive sectors add value to the economy, it is the Automotive Repair and Maintenance and Motor Vehicle Retailing sectors that dominate the contribution to economic growth by order of their sheer size.

Table 2 displays both the sectoral and aggregate contribution of the automotive industry towards the Australian economy. ABS labour force estimates indicate that there were approximately 379,365 people employed nationally within the automotive industry during 2015/16, and across 69,365 registered businesses.

Industry value added (IVA) is a measure of the contribution by businesses in each industry sector to Gross Domestic Product (GDP). Summing the IVA for each automotive sector, the aggregate contribution of the automotive industry towards Australia's GDP is estimated to be approximately $37.1 billion or 2.2 per cent of the Australian economy in 2015/16. Significantly, this places the contribution to GDP from the automotive industry to be above that of many other industries including Agriculture ($26.2 billion); Education and Training - private ($28 billion); Arts and Recreation Services ($12.6 billion) and Public Administration and Safety – private ($5.5 billion)[6].

Inevitably, the closure of local car and component manufacturing will reduce the contribution of the automotive industry towards the Australian economy. It is estimated that this decrease will be in the order of $2 billion in IVA in 2017/18, thereby reducing the overall contribution of the automotive industry from 2.2 per cent to 2.1 per cent of GDP.

[6] ABS Australian industry 2014-15 Cat. No. 8155.0

Table 2 shows that the Automotive Repair and Maintenance sector contains the largest automotive workforce and business population (142,632 and 37,406 respectively) and delivers the single biggest contribution to GDP ($9.5 billion). Beyond October 2017, Automotive Repair and Maintenance, along with Motor Vehicle and Parts Retailing and Motor Vehicle and Parts Wholesaling, will comprise approximately 76 per cent of the business population and more than two-thirds of industry employment and IVA, thus representing the economic mainstay of the automotive industry.

INDIRECT EMPLOYMENT IMPACTS

In the lead-up to the closure of local car and component manufacturing, considerable debate has arisen in regards to the indirect economic impacts, particularly in terms of the broader effects on national employment.

In this respect, many analysts and commentators have drawn on what are known as employment multipliers, e.g. *'for every job in automotive there are up to six jobs created elsewhere in the economy'*. Whilst there are indirect employment linkages between automotive and other industries or sectors, the reality is that these associated impacts are unable to be quantified with any real degree of certainty or reliability. The ABS itself advocates against the use of employment multipliers, claiming that they tend to be *'biased estimators that significantly overstate economic impacts, and are inappropriate for economic impact analysis'*[7]. ABS has discontinued the production and use of such measures since 2001.

Given the many shortcomings attached with such measures, this report will not consider broader indirect linkages or the use of multiplier analysis in regards to the automotive industry.

Table 2: Automotive Industry, Economic Summary 2015/16

ANZSIC CODE	INDUSTRY SECTOR	EMPLOYMENT (No.)	BUSINESSES (No.)	INDUSTRY VALUE ADDED ($m)
941	Automotive Repair and Maintenance	142,632	37,406	9,452.7
391	Motor Vehicle Retailing	66,002	5,752	7,707.1
2311,2312, 2313, 2319	Motor Vehicle & Parts Manufacturing	43,627	3,054	3,826.1
400	Fuel Retailing	34,728	4,136	2,851
392	Motor Vehicle Parts & Tyre Retailing	28,295	4,288	2,211.9
350	Motor Vehicle & Parts Wholesaling	22,081	5,282	5,871
2399, 2462, 2491, 2461	Other Specialised Machinery and Equipment Manufacturing	11,500	849	1,900
6611	Passenger Car Rental & Hiring	7,997	1,624	1,705
4231, 9429	Outdoor Power Equipment	4,670	1,290	250
4245, 9429	Marine Equipment Retailing	3,365	829	219
4241	Bicycle Retailing	4,500	987	950
4610	Towing Services	3,052	2,465	203.8
9429	Agricultural Machinery Retailing and Repair	6,916	1,403	N/A
	TOTAL	**379,365**	**69,365**	**37,148**

Source: ABS and IBIS World data

[7] ABS Australian National Accounts: Limitation of Input Output Multipliers for Economic Impact Analysis

VALUE OF AUTOMOTIVE TRADE

Automotive exports have exhibited considerable volatility over the past few years, often in accordance with fluctuations in the Australian dollar. In 2016, the total value of industry exports was $2.95 billion, a decrease of 11.8 per cent over 2015. This decrease was primarily driven by a $282 million reduction in exports of passenger vehicles to the United States, Canada, New Zealand and the European Union, along with decreases in exports of goods transport vehicles and parts and accessories ($71 million and $38 million respectively). By contrast, exports of motorcycles, bicycles and other cycles have exhibited consistent growth over the past three years (Table 3).

Table 4 that shows the value of automotive imports has grown consistently over the past three years. In 2016, automotive imports reached $34.42 billion, an increase of $1.79 billion or 5.5 per cent over 2015. Passenger motor vehicles account for the bulk of industry imports (62.2%) and grew by over $1 billion in 2016, along with goods transport vehicles (21.9% of imports and $802 million in annual growth). Record low interest rates, greater affordability of new motor vehicles and reductions in demand for locally produced vehicles are key reasons for increased motor vehicle imports over the period.

Table 3: Automotive Exports, 2014 - 2016

Export Category	2014 ($m)	2015 ($m)	2016 ($m)
Passenger motor vehicles	1,778	2,111	1,829
Motor vehicles (for the transport of goods)	222	252	181
Other road motor vehicles	63	58	54
Motor vehicle parts and accessories	760	761	723
Motorcycles, bicycles and other cycles	78	86	91
Trailers and semi-trailers	91	76	71
Total exports	**2,992**	**3,344**	**2,949**

Source: ABS data

Table 4: Automotive Imports, 2014- 2016

Import Category	2014 ($m)	2015 ($m)	2016 ($m)
Passenger motor vehicles	17,556	20,366	21,406
Motor vehicles (for the transport of goods)	6,009	6,734	7,536
Other road motor vehicles	266	408	503
Motor vehicle parts and accessories	2,739	3,047	3,028
Motorcycles and cycles	1,095	1,221	1,176
Trailers and semi-trailers	858	853	767
Total imports	**28,523**	**32,629**	**34,416**

Source: ABS data

USE OF AUTOMOTIVE PRODUCTS AND SERVICES ACROSS THE ECONOMY

A further insight into the economic contribution of the automotive industry is obtained by examining the supply and use of products and services of the automotive industry within the economy. This includes the intermediate or inter-industry usage of automotive goods and services, i.e. the purchase of automotive goods and services by other industries as inputs towards their own goods and services, as well as final purchases made by households.

Intermediate Industry Usage

Detailed information on the supply and use of products in the Australian economy and the structure of and inter-relationships between Australian industries, are available from ABS Input-Output (I-O) tables, which are compiled as part of the Australian National Accounts. Whilst I-O tables use many data sources that can vary in terms of quality and timeliness, they nevertheless present a coherent picture of the economy and the significant relationships within it at a point in time.

The most recent (I-O) data available is for 2013/14, which identifies a total of 114 industries that contribute towards Australia's GDP. Of these 114 industries, 104 industries are recorded as purchasing automotive goods and services for intermediate usage towards the value of their own production.

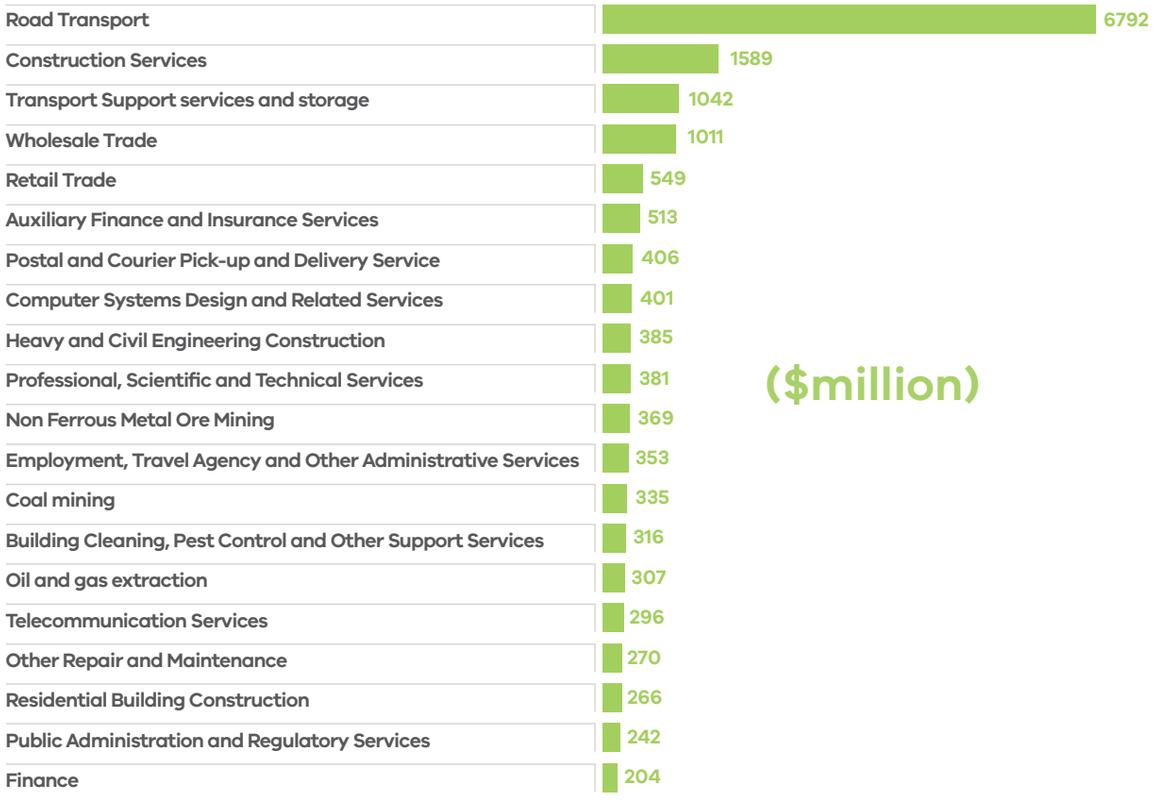
The fact that over 91 per cent of all industries utilise the goods and services supplied by the automotive industry, is highly significant. Generally, the wider the intermediate industry usage of an industry's outputs within the economy, the more significant the economic value chain, including the potential for economic disruption through shocks to that industry. The I-O data therefore supports the assertion that the automotive industry is a critical participant and enabler within the Australian economy[8].

Chart 7 displays the top twenty industries purchasing automotive goods and services for intermediate use (excluding the automotive industry's own purchases) as recorded by I-O data. Chart 7 shows that the Road Transport industry is by far the largest industry purchaser of automotive products and services for intermediate use ($6.8 billion), followed by the Construction Services industry ($1.6 billion). The values in Chart 7 are expressed at purchaser's prices that are inclusive of taxes, subsidies and margins.

Household Purchases

In terms of final demand for automotive goods and services from the Household sector, the I-O data shows that household final consumption expenditure was approximately $37.8 billion in 2013/14. Chart 8 provides the detailed product breakdown of automotive related consumption expenditure by households.

Chart 7: Top 20 Industries Intermediate Usage of Automotive Goods and Services, 2013/14



Source: ABS Input-Output data

[8] The economic importance of the automotive industry is also recognised in Recommendation 1 of the Senate Economics Reference Committee inquiry report - The Future of Australia's Automotive Industry, 1 December 2015.

Chart 8: Household Sector – Purchases of Automotive Products and Services, 2013/14

Source: ABS Input-Output data

SOCIAL CONTRIBUTION

Urban Planning and Growth

It is undeniable that the contribution of the automotive industry towards national employment and economic growth is significant. A lesser known but equally important contribution is the fact that over the past hundred years, the advancement of the automobile has helped shape all aspects of Australian society, and continues to influence the development of new communities today.

Australia is essentially a 'car nation' where driving remains the preferred form of mobility for the majority of the population. ABS data shows that 71 per cent of Australians travel to work or study by passenger vehicle as a passenger or a driver. Only 16 per cent of Australians utilise public transport, whilst 4 per cent walk and 2 per cent cycle. Furthermore, the majority (88%) of Australians also use a passenger vehicle to get to places other than work, such as to go shopping or visiting family and friends[9].

This dominance of the motor vehicle as the preferred method of transport continues to shape the development of suburbia today, influencing the expansion of road and land use in both urban and regional areas to accommodate growing populations and commerce. For most people, the social independence, comfort and convenience in mobility afforded by motor vehicles will continue to influence their daily lives well into the foreseeable future.

Skills Formation and Vocational Education and Training

A further social dimension that involves the automotive industry is the system of apprenticeship induction and on-the job-training, which remains the preferred model of skills formation and development by automotive employers.

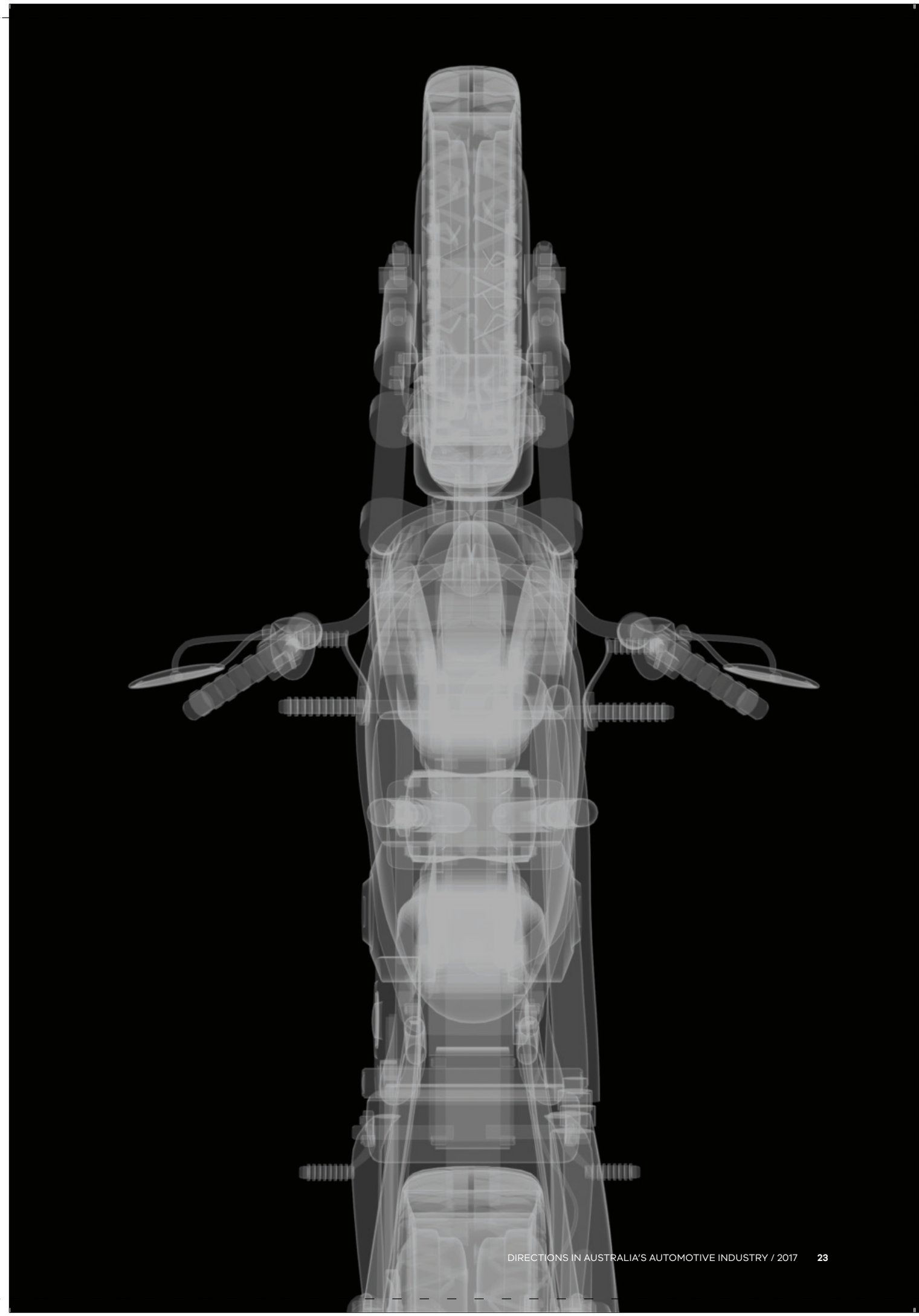
Automotive trade training is amongst the most populous within the Vocational Education and Training (VET) system, with 41,457 students enrolled in automotive training package qualifications in 2015, and around 11,000 new students commencing in automotive based training every year. Automotive apprentices are also amongst the most successful and sought after graduates within the VET system, with a high match between training and expected skills and employment outcomes. Data from the National Centre for Vocational Education Research (NCVER) shows that 88.1 per cent of automotive graduates within the *Automotive Retail, Service and Repair Training Package,* remain employed after the completion of their training[10].

From a social context, these successes are particularly important. Apart from the opportunity to acquire underpinning knowledge and technical trade-level skills, automotive apprenticeships are a critical enabler of the automotive labour market and offer structured employment pathways and support for young people making the transition from school to work, and from adolescence to adulthood. Group Training is a key element in this process. Group Training is an arrangement where Group Training Organisations (GTOs) employ apprentices and trainees and place them with host employers. Group Training therefore delivers a degree of 'pastoral care' for apprentices by matching apprentices with appropriate host employers and also by establishing training plans and helping with the redeployment of apprentices as circumstances require.

The Federal Government has devoted considerable resources in past years towards the support of apprenticeship development through apprentice mentoring programs and in recognition of their success, has extended this assistance through the allocation of $60 million in the 2017/18 Federal Budget towards specialist mentoring services to complement the work of the Australian Apprenticeship Support Network. Whilst not all automotive businesses employ apprentices, the evidence shows that amongst those businesses that directly employ apprentices, they remain integral to their business models, thus cementing the need for on-going apprentice mentoring support programs.

The VET system also plays a critical role in the educational, economic and social infrastructure of regional Australia. TAFE Institutes and colleges are often the only provider of post compulsory and vocational education and training in a region and thus enable young people to undertake training locally, rather than relocating to metropolitan areas and undertaking further education without the benefits of a family support network. This is essential in developing workforce skills to support the needs of local businesses and ensuring that a source of skilled automotive employees is available for employers in regional areas.

[9] ABS Australian Social Trends 2013
[10] NCVER Student Outcomes Survey 2016



SECTION 3

WHAT TRENDS ARE IMPACTING ON THE AUTOMOTIVE INDUSTRY?

Key Findings

- Most automotive businesses are currently experiencing variable to positive business conditions. Western Australia has the highest proportion of businesses experiencing below average to poor business conditions
- High performing automotive businesses are observed to employ strategies that sustain the growth and overall momentum of the business compared to underperforming businesses
- The industry is forecast to be on a declining employment and business trajectory to 2018/19, due to the closure of car and component manufacturing and declines within the Motor Vehicle Retailing and Repair and Maintenance sectors
- Skill shortages are at their highest levels ever recorded, with a total shortage of 27,377 skilled personnel. This shortage is forecast to grow to 35,083 during 2017/18, before moderating to 31,202 in 2018/19
- Key reasons for skill shortages include: declining levels of new entrants into automotive trades, the poor quality of available labour, and problems with attraction and retention of labour
- New vehicle sales are sensitive to changes in housing wealth and are forecast to grow linearly with growth in house prices
- The automotive industry will undergo a process of transitional change greater than it has ever experienced in the next decade
- The industry will face considerable disruption through the introduction of electric, autonomous and connected vehicles along with changing patterns of car ownership and use

Over the coming decade, it is anticipated by many that the automotive industry will undergo a process of transitional change that is greater than anything it has ever experienced before. This change is expected to alter the structure, product and service delivery of the automotive industry, with few other industries forecast to encounter this level of disruption.

Whilst the focus of this Section is devoted towards examining trends and industry projections over the short to medium term i.e. the next 2 to 3 years, an overview of longer term trends and potential developments will also be examined.

ABS and government statistics in general rarely capture the details and impacts associated with processes of change occurring within any industry. In this respect, a unique and critical insight into industry trends, issues and their impacts, is gained through grass roots evidence and intelligence obtained from automotive businesses themselves.

In November 2016, the Victorian Automobile Chamber of Commerce (VACC) in conjunction with the state and territory Motor Trades Associations of Australia, conducted a national survey of over 1,000 automotive business members. The survey (2016/17 Automotive Industry National Survey), sampled all sectors of the automotive industry and collected detailed information concerning the business environment, labour market, skill shortages and other key issues affecting automotive businesses. The survey data, in conjunction with other data sources, formed a key input in the modelling of trends and projections for the automotive industry over the next three years. The survey has a margin of error of 3.1 per cent.

BUSINESS CONDITIONS

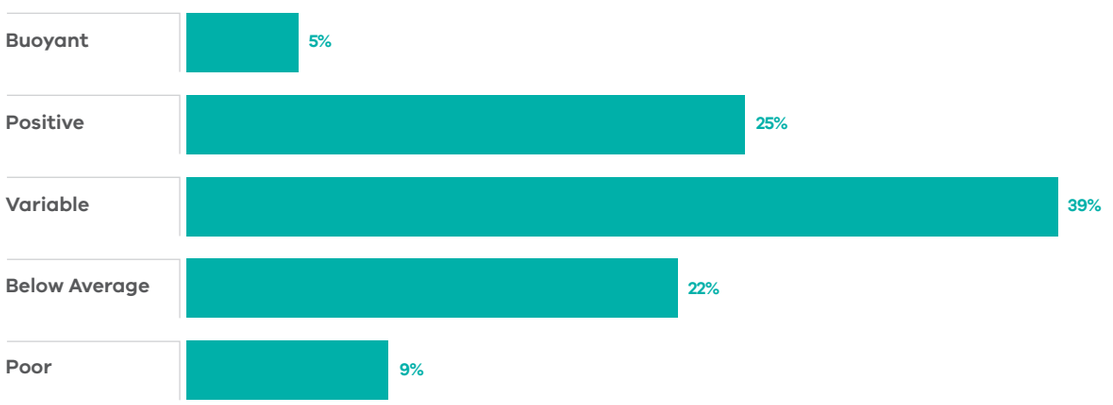
Results obtained from the Automotive Industry National Survey, indicate that most automotive businesses (39%) experienced variable business conditions during 2016 (Chart 9). On either side of this response were almost equal proportions of businesses reporting positive and below average business conditions (25% and 22% of respondents respectively).

These responses were prevalent across most automotive sectors and jurisdictions, except for Western Australia, where respondent ratings were equally highest for variable and below average business conditions. Western Australia also displayed the highest proportion of respondents encountering poor business conditions (13%) as shown in results by jurisdiction (Chart 10). Business conditions were recorded as being strongest in the Northern Territory and ACT. Responses by automotive sector are presented in Chart 12.

Additionally, in what is a sign of cautious optimism, overall industry expectations are predominantly for mild growth over the next two years (Chart 11) and this sentiment was displayed across all jurisdictions and most automotive sectors.

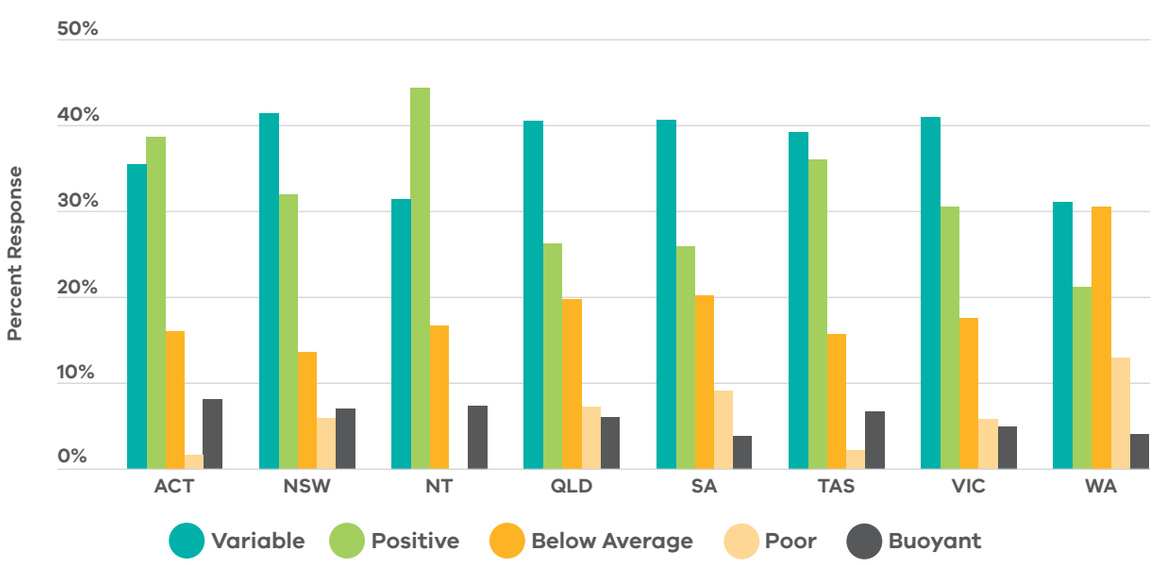
Within all industries, it is usually observed that there is a small proportion of businesses that are performing at opposite ends of the spectrum, i.e. a small percentage are performing either exceptionally well or rather poorly. When analysing industry trends, it is often necessary to look beyond these extremes and focus on results surrounding the majority within an industry. To this extent, the survey data indicates a challenging to positive business environment for most automotive businesses operators, with an overall sense of optimism over the short to medium term.

Chart 9: Automotive Business Conditions - National, 2016



Source: Automotive Industry National Survey 2016/17

Chart 10: Automotive Business Conditions, by Jurisdiction, 2016



Source: Automotive Industry National Survey 2016/17

Variable Performing Businesses

As illustrated, most survey respondents (39%) encountered a variable business environment during 2016. Respondents within this cohort described weekly workflows as inconsistent or irregular, with periods of sustained work, sales or enquiries being followed by periods of little to no work at all. This trend was observed to be consistent across all automotive sectors and states, and within urban and regional areas.

Many explanations were offered by respondents to account for these conditions. Foremost was a sense of increased caution and deferred expenditures on the part of consumers, especially in New South Wales and Victoria, due to high debt levels that contribute towards a propensity by consumers to delay vehicle servicing and repairs. Differences in the relative economic growth of each state and territory were also highlighted, as well as the impact of severe weather events (droughts and floods) particularly in regional areas in Queensland. For Western Australian respondents, the deterioration in the local economy from the decline in activity within the mining and resources sectors featured prominently in their reasons for inconsistent workflows.

Respondents also raised many sector specific issues explaining the variability in workflows. These included:

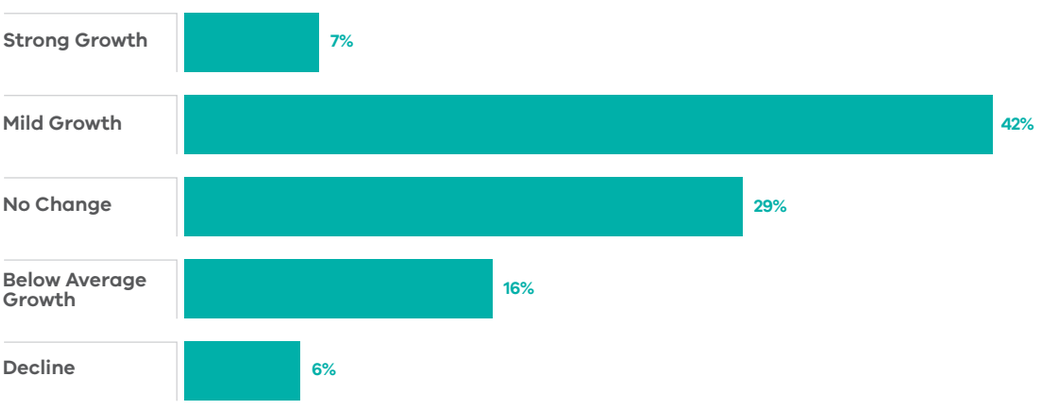
- In the Vehicle Body Repair sub-sector, a redistribution of vehicle body repair work amongst preferred vehicle repairers by insurance companies
- Diminishing revenues for vehicle recyclers from reduced scrap metal prices
- Aggressive discounting and competition within the Fuel Retailing sector
- Competition from parallel imports within the Tyre and Parts Retailing sectors
- Competition from unregulated and possibly illegal mobile operators within the Light and Heavy Vehicle Mechanical Repair sub-sectors.

The fact that workflows may be irregular is not necessarily an indication that affected businesses are experiencing financial distress or are about to close. The automotive industry, as with most other industries, is naturally subject to fluctuations in the economic cycle of expansion and contraction as determined by changes in GDP growth, employment and consumer spending. Regional factors can also play a key role in influencing the performance of businesses at various stages of the economic cycle.

In a fluctuating economic environment, the management of business cashflows takes on an even greater importance. This includes the ability to collect revenue, manage debtors and creditors and meet other obligations such as the payment of wages and servicing of loans. Responses from the survey indicate that most automotive businesses are meeting these respective obligations, however business uncertainty is very high. This lack of certainty impacts upon businesses' ability to conduct forward planning, particularly in regards to decisions concerning whether to invest in stock or capital equipment, or whether to hire or divest labour.

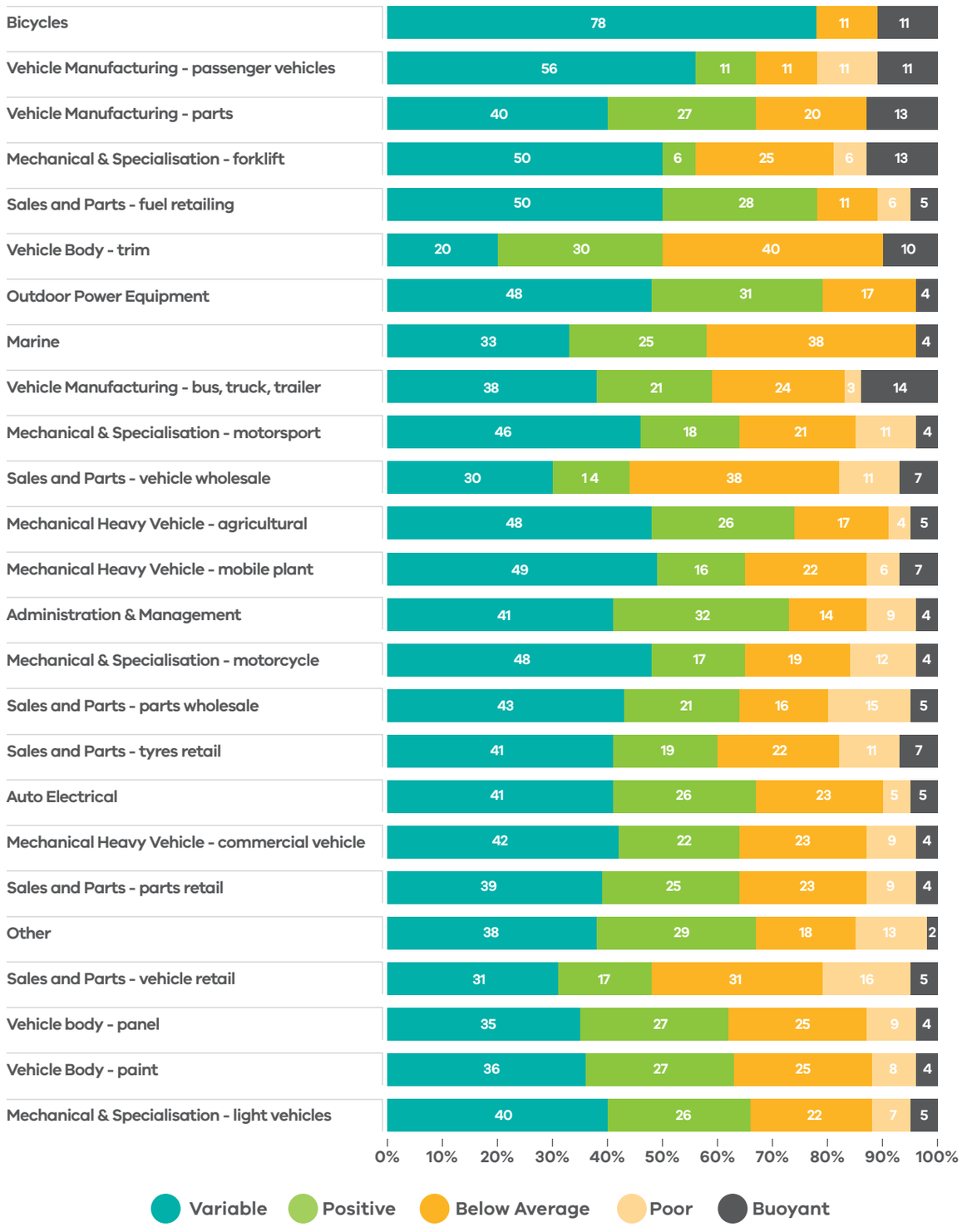
Where workflows are seasonally dependent, successful businesses often employ different strategies such as actively seeking other sources of revenue that are not as cyclical, to help sustain the momentum of the business. It is also the case however, that non-economic factors such as discriminatory, anti-competitive and unregulated business practices as described by survey respondents, can distort the business environment in undesirable ways and impact negatively on many businesses.

Chart 11: Automotive Business Expectations – Next 12 to 24 Months



Source: Automotive Industry National Survey 2016/17

Chart 12: Automotive Business Conditions, by Sector, 2016 (%)



Source: Automotive Industry National Survey 2016/17

Positively Performing Businesses

One quarter of survey respondents reported positive business conditions during 2016, and this trend was displayed across all automotive sectors, except Bicycles. The trend was also distributed equally across metropolitan and regional areas and in all jurisdictions.

The survey responses revealed several insights into the practices and characteristics of this business cohort that appear to distinguish these businesses apart from those experiencing variable and below average business conditions. It is important to account for these practices as they indicate a key link between proactive decision-making and business growth that can serve as a potential influence for the rest of the industry. Many of these initiatives are presented below for key sub-sectors of the industry.

Light Vehicle Mechanical Repair

Respondents reporting positive conditions in this sub-sector were consistently booked out for at least one week ahead or more during 2016. Strong customer focus and service was a key focal point for these businesses along with many other practices including:

- Keeping staff abreast of vehicle technology trends through regular training to deliver a real alternative to dealership servicing and repairs
- Following up with customers after the completion of work to make sure they are satisfied
- Developing a strong repeat customer base and generating new business referrals through aggressive advertising, marketing and word of mouth recommendations
- The development of business plans, goals and strategies to improve business profitability
- Conducting business management training for business owners and/or hiring of appropriately qualified managers to facilitate a transition of the business to a higher performing status
- Diversification beyond vehicle mechanical repairs into other sectors or industries such as motorsport, automotive electrical services and tourism
- Specialisation in European branded vehicles and technologies
- The relocation and expansion of businesses from 'stale' or 'saturated' business environments to new areas with extensive housing developments and growing populations.

Vehicle Body Repair

Approximately 27 per cent of respondents in the Vehicle Body Repair sub-sector reported positive business conditions, which is slightly higher than the national response across all sectors (25%).

The key success factor for these businesses was that they possessed contracts with insurance companies and some were also able to secure new contracts thereby resulting in an abundance of work. Businesses within this cohort also engaged in selective advertising and marketing and received positive referrals through word of mouth recommendations and from insurance companies due to their professional service. It was also reported that with the closure of many vehicle body repair shops over recent years, there was more work available for remaining businesses within the sub-sector.

Other businesses however, were not as fortunate, having suffered a considerable loss of work during 2016 by losing both their contracts and preferred repairer status with insurance companies.

Manufacturing

Positive business conditions were also recorded in the Motor Vehicle Parts Manufacturing and Bus, Truck and Trailer Manufacturing sub-sectors (27% and 21% of sub-sector responses respectively). These results are somewhat surprising given the negativity associated with the demise of passenger car and component manufacturing in Australia.

Activity in both these sub-sectors is reported to be trending high as a result of state government expenditures on rail replacement buses and trams, particularly in Victoria and Queensland, and new requirements for fire suppression systems due to a high number of cases of fires on buses, trams and trucks. This has drawn new public transport component manufacturers from overseas into the Australian marketplace and boosted demand for local suppliers, thereby maintaining relatively steady levels of employment within the manufacturing sector to date.

Demand however is expected to stabilise over the next three years with the biggest issue affecting bus, truck, and vehicle parts manufacturers being the attraction and retention of skilled workers to meet current demand.

Motor Vehicle Parts - Wholesaling and Retailing

Positively performing enterprises in these sub-sectors reported utilising many successful strategies to help grow their businesses including:

- Moving to larger premises on main road locations which increased revenues significantly for some operators
- Specialising in Japanese aftermarket parts
- Investing in staff training and establishing user friendly on-line purchasing sites
- Many parts and machinery wholesalers and retailers in the Agricultural, Heavy Vehicle and Motorcycle sub-sectors benefited through favourable rainfall and crop yields in many regions, along with higher beef and sheep prices that supported income and spending by farming communities.

Motor Vehicle Retailing

Within the Motor Vehicle Retailing sector, 17 per cent of survey respondents reported experiencing positive business conditions, and this was below the national average for all sectors. Whilst the volumes of new and used vehicle sales were reported as buoyant, intense competition and pressure from manufacturers to achieve sales targets was reported to have driven down margins for many new car dealers. These claims are supported by ABS data as shown in Chart 4 where profit margins have consistently fallen over the last three years within the sector and are now amongst the lowest within the industry.

Below Average and Poor Performing Businesses

Approximately 22 per cent of survey respondents rated business conditions as below average, with a further 9 per cent describing them as poor. Western Australia recorded results significantly above the national average in both these categories, with 31 per cent of respondents rating business conditions as below average and 13 per cent rating them as poor.

Responses in this category were spread consistently across all sub-sectors, with local economic conditions being attributed as a key factor affecting business performance. Some insights into the perspectives of affected businesses in key sub-sectors are provided below.

Light Vehicle Mechanical Repair

There was a strong regional trend for negative business reports within the light vehicle mechanical repair sub-sector. This trend was prominent in Western Australia but was also displayed within other states, with consistent themes being recorded that include:

- Reduced turnover and gross profits due to weak local economic conditions, e.g. the downturn in the mining and resources sectors in WA; drought conditions in the Bowen Basin in NSW; lack of new growth industries in the Latrobe Valley region in VIC and population decline within Townsville in QLD. These are reported to have had a ripple effect on consumer spending, with consumers less inclined to spend money on car maintenance in these regions
- A decline in work for independent mechanical repairers, due to fixed price service agreements offered by franchise vehicle dealerships to customers purchasing new vehicles. There was also the suggestion that there is a belief amongst most consumers that they would lose their vehicle warranty if they did not service their vehicle through a franchise dealership
- A view that higher household debt levels and higher costs of living have impacted adversely on vehicle maintenance and repair expenditures by households
- A view that trends towards longer vehicle service intervals have promulgated the belief amongst the public that vehicles do not require servicing as often.

Vehicle Body Repair

Around one quarter of survey respondents reported below average conditions within the Vehicle Body Repair sub-sector. Key factors reported by respondents attesting to these conditions include:

- A redistribution of vehicle body repair work by insurance companies away from small enterprises to larger enterprises and preferred repairers that can handle greater volumes and meet lower average repair costs
- The vertical integration of vehicle body repairs into insurance company business models
- Greater levels of acquisitions and consolidation of businesses within the sub-sector
- Difficulties in sourcing skilled labour due to low hourly labour rates created through insurance company pressures
- A natural decline in the availability of work due to more vehicles possessing crash avoidance technologies, such as autonomous emergency braking, adaptive cruise control, lane departure warning and other associated technologies.

Motor Vehicle and Part Sales

Reports of below average to poor business conditions within Motor Vehicle and Parts Wholesaling and Retailing sectors also displayed a strong regional bias. Weak economic conditions and associated consumer spending are cited as key factors by respondents along with:

- Increased purchases of cheap vehicle parts over the internet by consumers
- Lack of growth in vehicle fleet purchases by state governments
- Reductions in new heavy vehicles sales, particularly in Western Australia due to a lack of new local infrastructure developments and major changes by ISUZU to their distribution network
- Falling house prices, high unemployment and a lack of stimulation of the economy by government to support consumer confidence and sales in WA
- Regional population decline across many states
- Manufacturer pressures for dealers to move stock resulting in lower dealer margins and profitability. Also, claims that there are too many vehicle brands and models vying for a share of a small market, hence resulting in greater vehicle discounting by dealers and lower profits.

Conclusions - High versus Underperforming Businesses

Inevitably, local economic conditions play a key role in affecting the performance of individual businesses. A decade ago, Western Australia and other mining and resource states were outstripping those on the eastern seaboard in what was termed a 'two-speed economy'. This situation has now reversed, with eastern states being buoyed by a booming housing market and infrastructure works, and previously buoyant mining states are suffering economically.

However, despite differences in prevailing economic conditions across states and regions, the survey results indicate a distinct disparity in the performance of individual businesses that suggest that some business owners are better equipped than others to run their business.

Successful automotive businesses in all locations are observed to be proactive in numerous ways, whether it be investing in technology, staff training, finding alternative sources of revenue through diversification, or in general commercial and business acumen. Business growth is a deliberate and planned strategy amongst this cohort. By contrast, businesses that are struggling tend to attribute their predicament on economic and other circumstances that are considered beyond their control. Adaptation to an ever-changing business environment in a timely and efficient manner is critically important for the future of all businesses in the automotive industry.

Encouragingly, the survey results also reveal that many business operators that are presently struggling, are considering measures to improve their performance. These include intentions to commit greater resources towards marketing, as well as diversifying and restructuring their businesses. For many, it is these intended actions that instill a sense of optimism for the future and characterise their expectations of mild growth over the next two years.

INDUSTRY DIRECTIONS

There is a great level of uncertainty and speculation concerning future directions and outcomes facing the automotive industry over the next few years. Whilst the closure of passenger car and component manufacturing has been associated by many with the demise of the automotive industry, realistically this is not the case, as manufacturing represents only a small percentage of automotive industry operations, as shown in Tables 1 and 2.

Inevitably, there will be some industry contraction associated with the closure of manufacturing operations, however a wider examination of trends facing all sectors of the automotive industry is necessary to derive meaningful conclusions regarding the future direction of the industry.

VACC in conjunction with the national, state and territory Motor Trades Associations of Australia, conducted recent modelling of employment and business projections across the whole of the automotive industry. The modelling utilised trends in ABS labour force and business counts data, along with industry intelligence and survey information from the 2016/17 Automotive Industry National Survey, to forecast the employment and business trajectory of the industry to 2018/19.

Employment Trends

Chart 13 displays actual aggregate industry employment along with trend employment forecasts derived from VACC modelling. The data shows that the automotive industry has been on a declining employment trajectory since 2014/15, and this decline is projected to continue out to the end of the forecast period (2018/19).

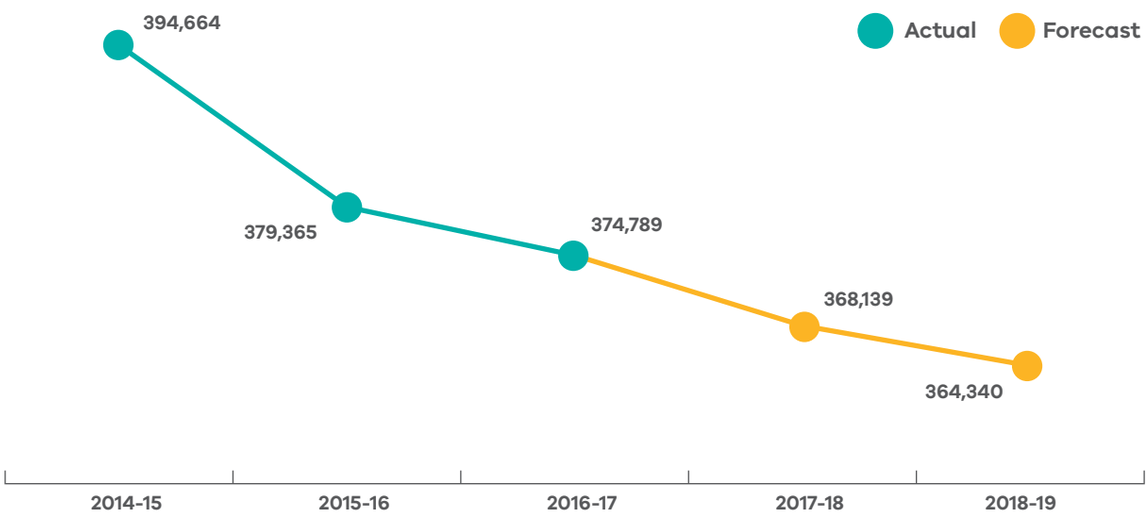
Between 2015/16 and 2018/19, industry employment is forecast to decrease from 379,365 to 364,340 - a decrease of 15,025 people or 4 per cent. This is comprised of a projected 1.2 per cent fall in employment in 2016/17, a 1.8 per cent fall in 2017/18, and a further 1 per cent reduction in 2018/19.

The modelling shows that 88.2 per cent of the projected reduction in employment beyond 2015/16, is a direct result of the closure of local automotive manufacturing operations, with the remaining 11.8 per cent linked to a forecast decline in employment within Motor Vehicle Retailing and the Automotive Repair and Maintenance sectors of the industry.

More specifically, the projected decrease in industry employment of 15,025 between 2015/16 and 2018/19 is shown to comprise of:

- A net decrease of 7,165 in employment in the Motor Vehicle Manufacturing sector – primarily due to the exit of Holden and Toyota from local passenger car manufacturing
- A net decrease of 6,085 in employment in the Motor Vehicle Parts Manufacturing sector – primarily due to reductions in Tier 1 and Tier 2 component supplier companies to local passenger car manufacturers Holden and Toyota
- A net decrease in employment of 1,000 in Motor Vehicle Retailing sector
- A net decrease in employment of 775 persons in the Automotive Repair and Maintenance sector.

Chart 13: Automotive Industry Employment Projections (Number employed)



Source: Modelled ABS and industry data

Employment levels across all remaining automotive industry sectors are projected to remain relatively stable over the forecast period. The results show that apart from the impacts associated with the closure of local car and component manufacturing, there is only a marginal decline expected across the rest of the automotive industry and this is largely confined to a combined employment decrease of 1,775 within the Motor Vehicle Retailing and Automotive Repair and Maintenance sectors. This is primarily due to an expected rise in the retirement of small business owners within these sectors.

As outlined in Section 2, the decline in the automotive manufacturing operations is expected to result in a decrease of approximately $2 billion in IVA for the automotive industry, thus reducing the overall contribution of the automotive industry from 2.2 per cent to 2.1 per cent of GDP.

Business Trends

Whilst the automotive industry has shown a declining trend in aggregate employment since 2014/15, the same cannot be said for the total number of businesses operating within the automotive industry. Since 2013/14, the automotive industry has exhibited annual business growth. This growth reached a peak during 2015/16, where the automotive industry grew by 785 businesses or 1.1 per cent, representing the strongest industry growth in almost a decade. The business growth recorded in 2015/16, as well as in previous years, has predominantly been concentrated amongst small automotive businesses, and to a lesser degree large businesses. The number of medium size automotive businesses however, has fallen over the past three years.

In terms of the spike of 785 businesses observed in 2015/16, sole traders with no employees accounted for more than 80 per cent of this growth, and this was largely confined to the vehicle mechanical repair and vehicle body repair sub-sectors (Table 5). This trend was most prominent in Queensland, Victoria and New South Wales, but was also present across all other states and territories.

Industry intelligence suggests that the growth in the population of sole traders and small business more generally, particularly within the vehicle mechanical repair and vehicle body repair sub-sectors, has been influenced by many factors, including:

- The outflow of many skilled automotive technicians or master technicians from light and heavy vehicle dealerships or workshops. It is reported that many experienced technicians with specialist diagnostic skills and intricate knowledge of vehicle makes and technologies, have parted with their employers and established low cost, start-up businesses, some as mobile vehicle diagnosticians and repairers. This has been a source of unwelcome competition and frustration for many established automotive businesses
- It is also likely that recent Federal Government tax initiatives such as the $20,000 instant asset write-off for small businesses and the ability for new start-up businesses to immediately deduct professional expenses upon commencement, may have helped facilitate an increase in new small automotive start-up businesses.

Declining Sectors

Table 5 also indicates that many sub-sectors of the automotive industry experienced marginal declines during 2015/16, the largest of these being Motor Vehicle Body and Trailer Manufacturing and Motor Cycle Retailing (losses of 69 and 65 businesses respectively).

Business decline within Motor Vehicle Body and Trailer Manufacturing has emanated over the past few years from reduced demand for domestically produced vehicles. In Motor Cycle Retailing, industry intelligence suggests many businesses are facing declining levels of profitability, primarily because of increased pressure by manufacturers on affiliated dealerships to meet greater sales volumes. This has led to increased levels of product discounting and competition between motorcycle dealers, consequently reducing overall business viability for many operators. Difficulties in attracting and retaining skilled employees, particularly for regionally based motorcycle dealers have also compounded these problems.

Table 5 also indicates a trend towards business consolidation, especially in relation to Car Retailing and Car Wholesaling. In Car Retailing, the data shows a loss of 63 small businesses, and a gain of 17 medium size and 16 large businesses respectively during 2015/16. Industry intelligence confirms that there has been a focus on acquisitions with the Car Retailing sub-sector by larger industry players in recent periods. This is part of an overall strategy to increase market share and achieve greater economies of scale, thereby enabling the sale of vehicles at lower prices. This trend of acquisitions of small businesses by large and medium size players is expected to continue, thereby reducing overall business numbers within the Car Retailing and Wholesaling sub-sectors over time.

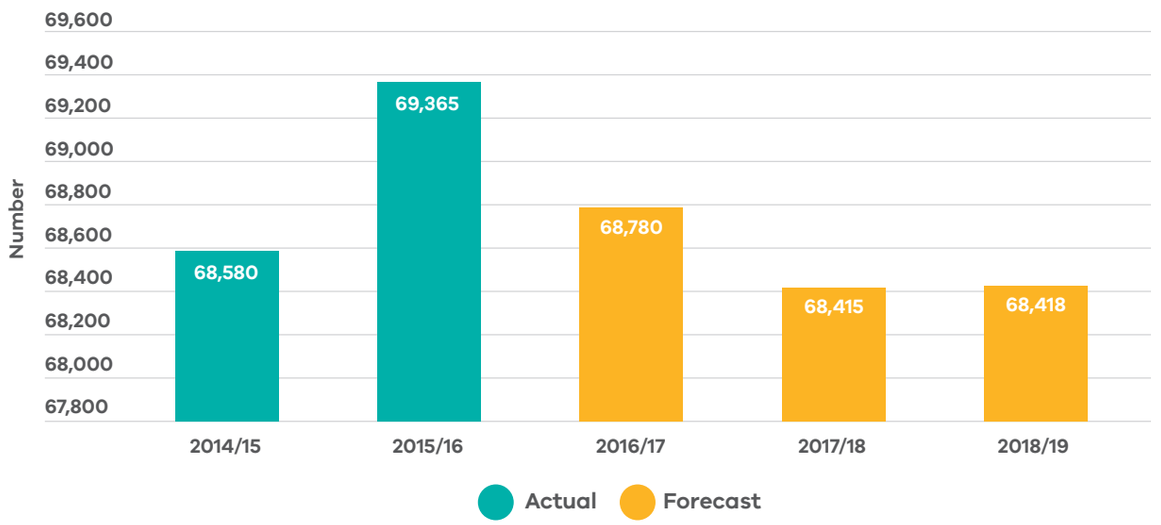
Business Projections

In terms of where the aggregate businesses population of the automotive industry is headed, VACC industry modelling shows a projected decrease in the number of automotive businesses from 69,365 in 2015/16 to new equilibrium levels of around 68,418 by 2018/19 (Chart 14).

This represents a net decline of around 947 automotive businesses or 1.4 per cent over the period. These projections incorporate the net effects of the exit of car and component manufacturers, along with trend business entries and exits across all automotive sectors, as well as business owner retirements due to age and health related reasons as identified through the Automotive Industry National Survey.

Overall, given the strength in trend growth within the small and large business sector, the exit of manufacturing companies is anticipated to have only a marginal impact on the total business population of the automotive industry over the next few years.

Chart 14: Automotive Industry Business Projections



Source: Modelled ABS and industry data

Table 5: Automotive Industry Annual Business Growth by Size and Sector, 2015/16[12]

Sector	Sole Traders (No employees)	Small Businesses (1-19 employees)	Medium Businesses (20-199 employees)	Large Businesses (200+ employees)	Annual Growth
Automotive Mechanical Repair and Maintenance	337	130	5	3	479
Automotive Body, Paint and Interior Repair	104	108	2	0	206
Motor Vehicle Dismantling and Used Parts Wholesaling	72	14	-1	0	78
Passenger Car Rental and Hiring	73	3	-7	2	68
Fuel Retailing	18	31	7	0	63
Tyre Retailing	37	39	1	0	62
Other Motor Vehicle Parts Manufacturing	17	-15	8	3	33
Towing Services	20	3	0	0	24
Agricultural Machinery Retail and Repair	29	-6	0	2	22
Automotive Electrical Component Manufacturing	31	-1	3	0	21
Motor Vehicle Parts Retailing	-4	42	-28	0	16
Automotive Electrical Services	37	-19	1	0	15
Commercial Vehicle Wholesaling	12	-7	1	3	4
Outdoor Power Equipment	0	0	0	0	0
Motor Vehicle Manufacturing	-5	-12	-2	-1	-4
Motor Vehicle New Parts Wholesaling	22	-32	6	-4	-5
Trailer and Other Motor Vehicle Retailing	-17	-22	-3	0	-12
Car Retailing	22	-63	17	16	-13
Trailer and Other Motor Vehicle Wholesaling	-15	13	-2	0	-14
Agricultural Machinery and Equipment Manufacturing	-15	2	-6	0	-15
Car Wholesaling	-15	-25	-11	3	-27
Marine Equipment Retailing	-11	-27	3	0	-36
Bicycle Retailing	-2	-40	-4	0	-46
Motor Cycle Retailing	-17	-46	1	0	-65
Motor Vehicle Body and Trailer Manufacturing	-68	-14	-2	0	-69
Net Growth	**662**	**56**	**-11**	**27**	**785**
% Annual Growth	**0.97%**	**0.08%**	**-0.02%**	**0.04%**	**1.1%**

Source: ABS

[12] Business data is subject to random perturbation in which small adjustments are made to sub-totals by the ABS to protect the confidentiality of individuals/businesses. Hence the sum of changes in business counts may not equal total annual growth.

SKILL SHORTAGES

Shortages of skilled labour have been an enduring constraint on the Australian automotive industry for more than a decade. Responses received through the 2016/17 Automotive Industry National Survey indicate that 45.7 per cent of automotive businesses are currently experiencing skill shortages, which is the highest proportion recorded over recent years. In non-metropolitan areas, the proportion is slightly higher (47.8%).

Numerical estimates of skill shortages by occupation were derived for the automotive industry, both nationally and by jurisdiction, through industry modelling of skills shortage data from the 2016/17 Automotive Industry National Survey.

The results show that for 2016/17, there is an estimated total shortage of 27,377 skilled personnel across the automotive industry. This shortage is forecast to grow to 35,083 during 2017/18, before moderating slightly to 31,202 in 2018/19 (Table 6). These estimates are based on businesses current skill shortages as reported for 2016/17, and business demand and labour supply forecasts over the next two years as recorded within the survey. Table 6 shows that skill shortages are widespread across the automotive industry, however occupations within the Automotive Repair and Maintenance sector are in highest demand. Shortages of light vehicle mechanics are critically high, with a national shortage of 12,943 in 2016/17, rising to 16,656 positions in 2017/18, before declining to 14,799 in 2018/19. Other key skill shortages include vehicle spray painters and panel beaters (2,320 and 2,304 respectively), motor vehicle salespersons (2,243), heavy vehicle mechanics (1,973) and automotive electricians (1,530).

Considering the severity of these skill shortages, a particularly perplexing decision is the recent announcement by the Federal Government to remove vehicle painters from the occupation list that underpins the new Temporary Skill Shortage Visa (replacing the previous 457 Visa program for skilled migrants). Given that industry shortages of vehicle painters (2,320) are estimated to be slightly higher than those of panel beaters (2,304), it is not clear as to why vehicle painters are omitted, whereas panel beaters are included, in the list of occupations that underpin the new Temporary Skill Shortage Visa.

Skill Shortages by Jurisdiction

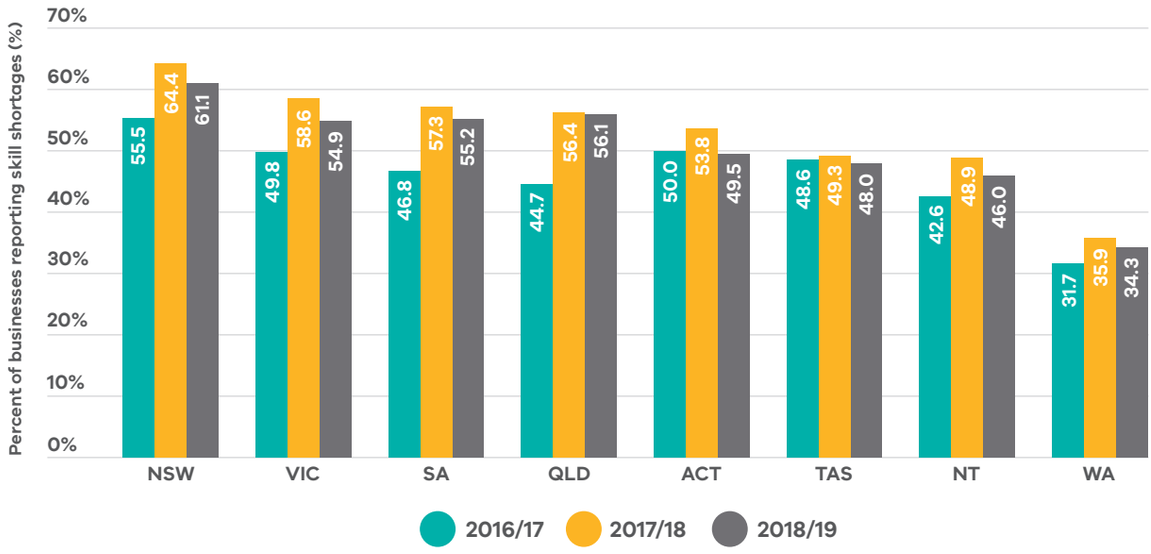
Whilst the data shows skill shortages as being prevalent in all states and territories, there is some variation in shortage levels reported across jurisdictions. Chart 15 shows that the proportion of automotive businesses reporting skill shortages is highest in New South Wales, ACT and Victoria (55.5%, 50% and 49.8% respectively in 2016/17), and lowest within Western Australia (31.7%). Lower demand for skilled labour amongst automotive businesses in Western Australia, is associated with the decline in economic activity observed within the state in recent years.

Table 6: National Skill Shortages by Occupation, 2016/17 – 2018/19

SECTOR	Occupation	2016/17 Shortage (No.)	Projected 2017/18 Shortage (No.)	Projected 2018/19 Shortage (No.)
Automotive Repair and Maintenance	Light Vehicle Mechanic	12,943	16,656	14,799
	Vehicle Spray Painter	2,320	2,985	2,653
	Panel Beater	2,304	2,965	2,634
	Heavy Vehicle Mechanic	1,973	2,539	2,256
	Automotive Electrician	1,530	1,969	1,749
	Vehicle Detailer	295	380	337
	Motorcycle Mechanic	234	301	268
	Mobile Plant Mechanic	167	215	191
	Mechanic-Farm Machinery	145	172	186
	Vehicle Trimmer	126	162	144
	Engine Re-conditioner	101	130	115
	Automotive glazier	91	117	104
Motor Vehicle Retailing	Motor Vehicle Salesperson	2,243	2,886	2,565
Motor Vehicle Parts and Tyre Retailing	Motor Vehicle Parts and Accessories Salesperson	785	1,010	897
	Tyre Fitter	718	924	821
	Spare Parts Interpreter	625	804	715
Outdoor Power Equipment	Mechanic- Outdoor Power Equipment	381	491	436
Vehicle Manufacturing -Bus, Truck & Trailer	Vehicle Body Builder	149	110	70
Marine	Marine Mechanic	98	126	112
Bicycles	Bicycle Mechanic	24	31	50
Other	Miscellaneous	125	110	100
Total Shortage		**27,377**	**35,083**	**31,202**

Source: 2016/17 Automotive Industry National Survey; ABS data; modelled estimates.

Chart 15: Automotive Skill Shortages by Jurisdiction, 2016/17 - 2018/19



Source: 2016/17 Automotive Industry National Survey

Impacts of Skill Shortages

Unreservedly, respondents report both an economic and social cost that is borne by their businesses, due to a lack of sufficient skilled workers within the labour market. For most businesses plagued by skill shortages, the effects are reported to include large losses in profit; the need for operators to work longer hours; increased labour costs and the fact that business owners are constrained from expanding their businesses.

For most businesses, the ability to source appropriately skilled workers translates into greater productivity which enables the completion of work within shorter time frames, hence leading to improved levels of customer satisfaction and repeat business. Furthermore, it is also claimed that the ability to secure the right skills may lead to less overtime being paid, as more day staff on the workshop floor would be paid at ordinary hours, thus increasing business profit margins. Payments for completed work would also be received quicker, thereby easing the pressure on businesses to manage cashflows.

Even businesses that are not reporting a skill shortage are suffering indirectly from those that are, in that they are often forced to pay very high hourly wage rates for senior mechanics in order to retain them, and not lose them to other businesses offering work elsewhere. The impact of skill shortages is even more pronounced for regionally based automotive businesses that have an even smaller pool of available skilled labour from which to draw on and are often forced to utilise sub-standard labour to complete jobs.

KEY REASONS FOR SKILL SHORTAGES

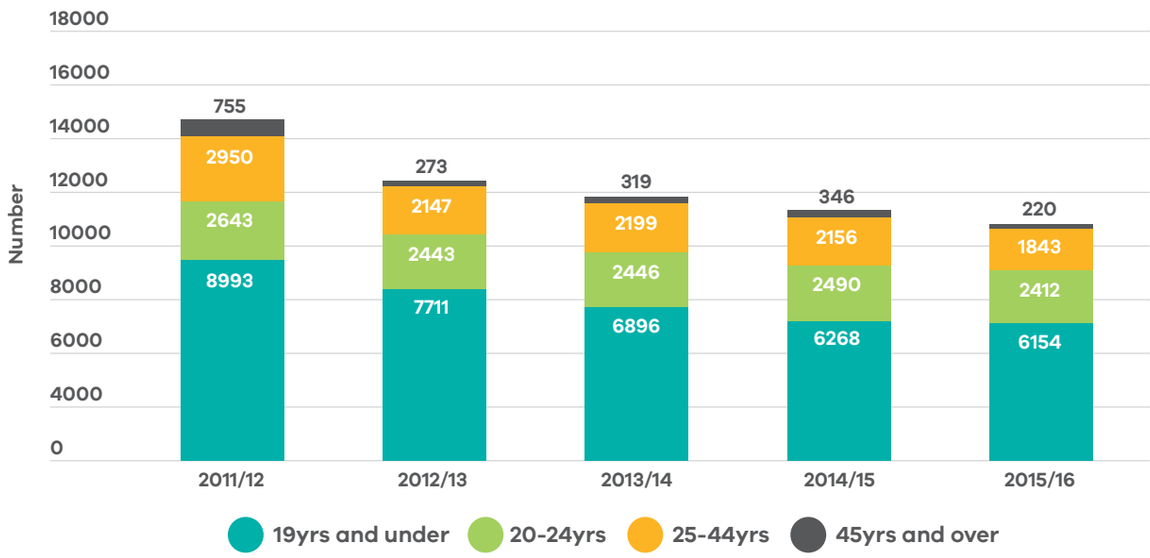
The evidence for skill shortages is very compelling within the automotive industry, and shows that skill shortages have exacerbated as of late and are forecast to intensify over the short to medium term. Automotive employers attribute a range of factors that are contributing towards these conditions within the labour market. These include:

1. Declining levels of new entrants into automotive trades

It is the case that since 2011/12, annual commencements of apprentices and trainees within automotive trades have been steadily diminishing. It is estimated that the automotive industry requires approximately 14,000 new entrants annually to balance natural attrition levels with business demand within the automotive labour market every year. NCVER data (Chart 16) shows annual apprentice and trainee commencements within the Automotive Industry Retail, Service and Repair (AUR) Training Package are currently at 10,629 which is well below industry requirements, and this training deficit has persisted since 2011/12. Whilst the trend decline in commencements is evident across all age groups, Chart 16 shows that it is strongest amongst young entrants (up to 19 years of age).

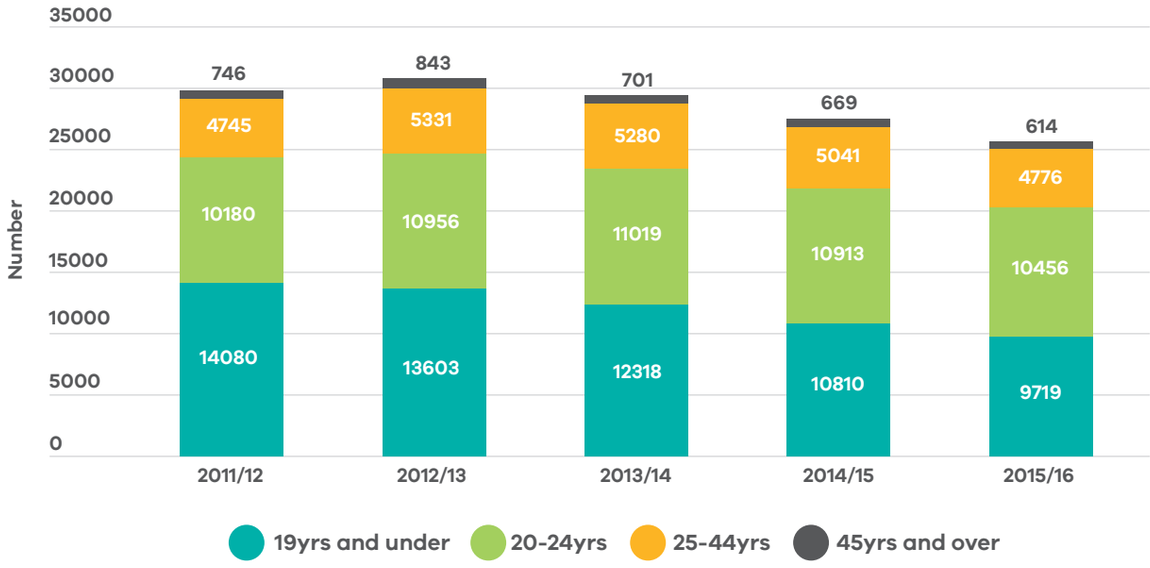
The total pool of Automotive Retail, Service and Repair (AUR) apprentices and trainees in-training has also declined by 16.8 per cent since 2012/13, or from 30,733 in 2012/13 to 25,565 in 2015/16 (Chart 17). The decline over time in the number of young apprentices has meant that the 20 to 24-year age cohort has now become the single largest category for apprentices and trainees in-training.

Chart 16: Automotive Apprentice & Trainee Commencements, by Age Group - AUR Training Package



Source: NCVER data

Chart 17: Automotive Apprentice & Trainee In-training, by Age Group - AUR Training Package



Source: NCVER data

2. The poor quality of available candidates

Many automotive employers are reportedly disenchanted with the current offerings available within the labour market. In particular, a lack of appropriate technical skills and abilities as well as commitment and work ethic are observed amongst apprentices and even qualified personnel, thus contributing to a general reluctance to hire available labour on the part of many employers. These matters are complex in that they encompass many underlying issues including the quality of school based and vocational education and training, current automotive training assessment and delivery models, the suitability of many applicants towards automotive trade careers, and the overall expectations of both employers and workers. Regrettably, there are no quick or easy solutions towards many of these issues, however they cannot be ignored as the evidence shows that they contribute towards an underutilisation of labour within the automotive industry, thus exacerbating overall skill shortages. There is an underlying argument that perhaps such matters require a unique and separate investigation.

3. Problems with attraction and retention of labour

The automotive industry has struggled to attract and retain new workers over the past decade or more. In this respect, negative perceptions about the industry and the type of work involved have played a key role and continue to influence alternative career choices for students today. Research shows that such negative perceptions are often misguided and are largely promulgated through advice received from parents, peers and even school career advisors. The automotive industry also lost many skilled employees during the height of the mining and resources boom and continues to compete for a diminishing pool of available apprentices against other industries such as Building and Construction that have witnessed increasing enrolments of students over the past few years, primarily due to the boom in housing and construction activity.

Automotive employers have also witnessed a mismatch between their skill needs and the calibre of students being channelled towards automotive careers through schools and the VET system. Given the rapid pace of technological change within motor vehicles, including electrification, vehicle safety and connectivity and the development of autonomous vehicle technologies, automotive employers are in need of higher performing students with sound STEM skills (science, technology, engineering and maths skills) in to order to understand, program and repair these technologies. There is still a perception however amongst school career advisors, that automotive trades are for the less academically inclined, therefore such students, including many with learning difficulties, are steered towards automotive trades, whilst higher achieving students are encouraged to undertake tertiary studies. This mismatch of skills demand and supply is an on-going source of frustration for both automotive employers and students, resulting in both high attrition rates for employees and contributing towards ever increasing skill shortages for automotive businesses.

Apprentice Hiring Intentions

The results of the Automotive Industry National Survey also confirm that most business respondents (51.6%) did not employ any apprentices during 2016. Furthermore, only one quarter of all respondents reported any intention of hiring apprentices over the next two years, and of these, 72.8 per cent indicated that they intended to hire only one apprentice. For a large proportion of respondents (40%), a lack of appropriate financial incentives and government support was cited as a critical barrier towards employing an apprentice, and this represents an area of government policy that perhaps needs review.

TREND FORECASTS IN NEW VEHICLE SALES

New motor vehicle sales represent more than simply the state of the new vehicle market. They impact the entire automotive supply chain and are a leading indicator of consumer and business spending and confidence within the economy, as most consumers undertake loans to finance new car or truck purchases. New vehicle sales estimates are released early every month by the Federal Chamber of Automotive Industries and are thus eagerly anticipated by many commentators and analysts.

Apart from observing month to month variations, a key issue that is often a source of debate is whether the new vehicle market will surpass record sales levels achieved every year over the past few years. To this extent, many analysts have relied upon historical trends to forecast both monthly and annual new vehicle sales.

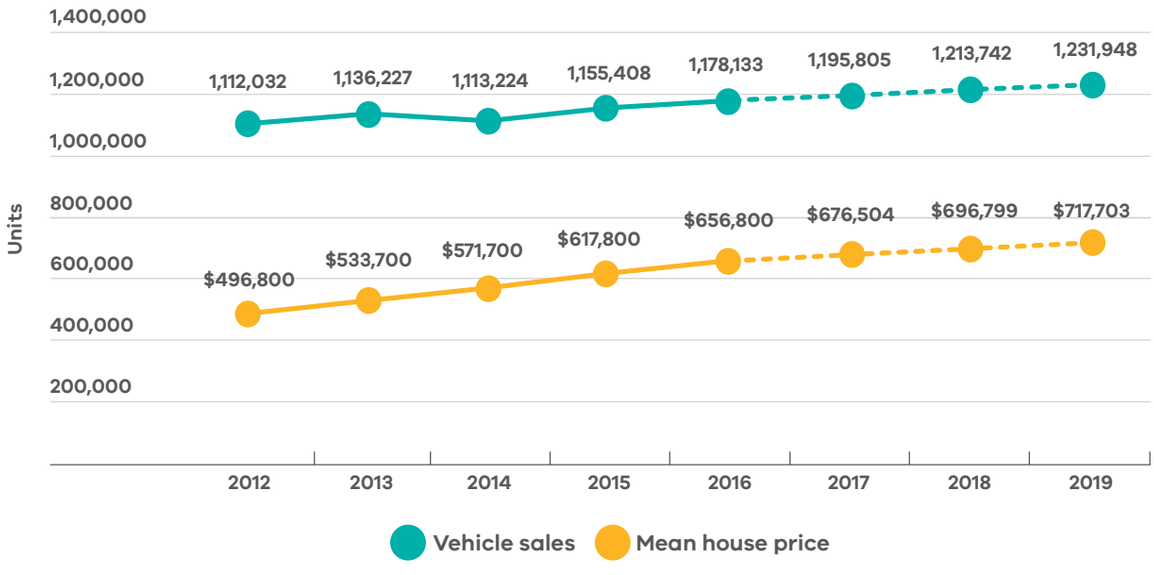
Recent analysis conducted by the Reserve Bank of Australia (RBA), demonstrates that there is a unique relationship between growth in house prices and consumer spending. In particular, using new vehicle registrations as a proxy for consumer spending, a strong correlation was found between rising house prices and new motor vehicle registrations[13]. Whilst the scope of the RBA analysis was confined to the Sydney, Melbourne and Brisbane real estate markets between 2006 and 2011, it was estimated with a high degree of precision, that a one per cent increase in mean house prices was associated with a 0.4 to 0.5 per cent increase in new passenger vehicle registrations in these markets during the period. Furthermore, the strength of this relationship was found to be sustained over the longer run.

Utilising the findings of the RBA research, VACC undertook a study to forecast annual new vehicle sales at a national level by modelling house price growth out to 2019. Whilst the RBA developed its own measure of mean house price growth based on individual property sales data by postcode in Sydney, Melbourne and Brisbane, VACC utilised the quarterly ABS mean residential dwelling price series for Australia, to forecast annual new vehicle sales nationally. The results of this analysis are shown in Chart 18.

Apart from the year 2014, where new vehicle sales fell by two per cent despite a rise in mean house prices, the VACC research findings support that of the RBA, in that there is a constant and fixed relationship observed between house price growth and new vehicle sales. Between 2012 and 2016, the VACC results indicate that a one per cent rise in the house price nationally is associated with between a 0.3 to 0.5 per cent rise in new vehicle sales. This correlates strongly with the results of the RBA study conducted for Sydney, Brisbane and Melbourne.

Carrying this relationship forward, the VACC modelling shows varying projections for annual new vehicle sales depending on the level of mean house price growth that is inputted. Chart 18 shows the results based on conservative assumptions of 3 per cent annual mean house price growth in the years 2017 through to 2019. Based on this scenario, new vehicle sales are forecast to fall just short of 1.2 million units by the end of 2017, whilst surpassing 1.2 million unit sales in 2018 and growing to over 1.23 million in 2019. Sustained levels of growth in house prices are therefore anticipated to have positive flow on effects for the new vehicle market and the automotive supply chain.

Chart 18: Annual New Vehicle Sales Forecasts - Based on 3% Mean House Price Growth



Source: VACC modelled estimates based on ABS, FCAI and VACC data

[13] Housing Wealth Effects: Cross-sectional Evidence from New Vehicle Registrations, RBA Research Discussion Paper https://www.rba.gov.au/publications/rdp/2015/pdf/rdp2015-08.pdf.

Both the RBA and VACC analysis confirms that new vehicle sales are particularly sensitive to changes in housing wealth. The RBA findings also indicate that this relationship between vehicle sales and house prices does not apply to renters. It only applies to households owning their own home outright and to those with a mortgage. This wealth effect is observed to be stronger amongst low-income households, which have a higher propensity to purchase a new vehicle following a rise in housing wealth, than high income households. This implies that the distribution of changes in house prices is critical in understanding the impacts on household expenditures and vehicle sales.

Similar studies conducted in the United States also support the fact that for credit-constrained households, increases in house prices may facilitate greater household expenditures on new vehicles through the relaxing of collateral constraints[14].

AUTOMOTIVE TECHNOLOGY, BUSINESS TRENDS AND DISRUPTION

Today's motor vehicles represent perhaps the most sophisticated technology owned by most consumers. Despite this, it is claimed that automotive technology is on the cusp of greater change that could revolutionise not only transport, but urban planning, government policy, work and society in general. Many stakeholders believe that the next decade will see the creation of innovations that will impact the automotive industry more than over the previous century. In particular, trends and innovations relating to electric, autonomous and connected vehicles could potentially create a tipping point of disruption for the automotive industry, and these matters will be examined more broadly in this section.

Mobility Trends

The automotive industry has a long-established business model that is centred on the supply chain and its associated sectors, from manufacturing, distribution and retailing through to servicing and repair and other ancillary services.

Whilst this business model has evolved over generations, there are pressures mounting globally on traditional automotive supply chains as a result of:

- Changing patterns in car ownership and use
- New innovative automotive business models, and
- The application of technology combined with new business models

The effect of these trends is being witnessed through the emergence of a new model of mobility and service delivery that is impacting upon traditional automotive supply chains around the world.

[14] House Prices, Consumption, and Monetary Policy: A Financial Accelerator Approach, Journal of Financial Intermediation, Aoki K, J Proudman and G Vlieghe (2004); Housing Wealth and Consumption: A Micro Panel Study, The Economic Journal, 123(568), Browning M, M Gørtz and S Leth-Petersen (2013).

Car Ownership and Use

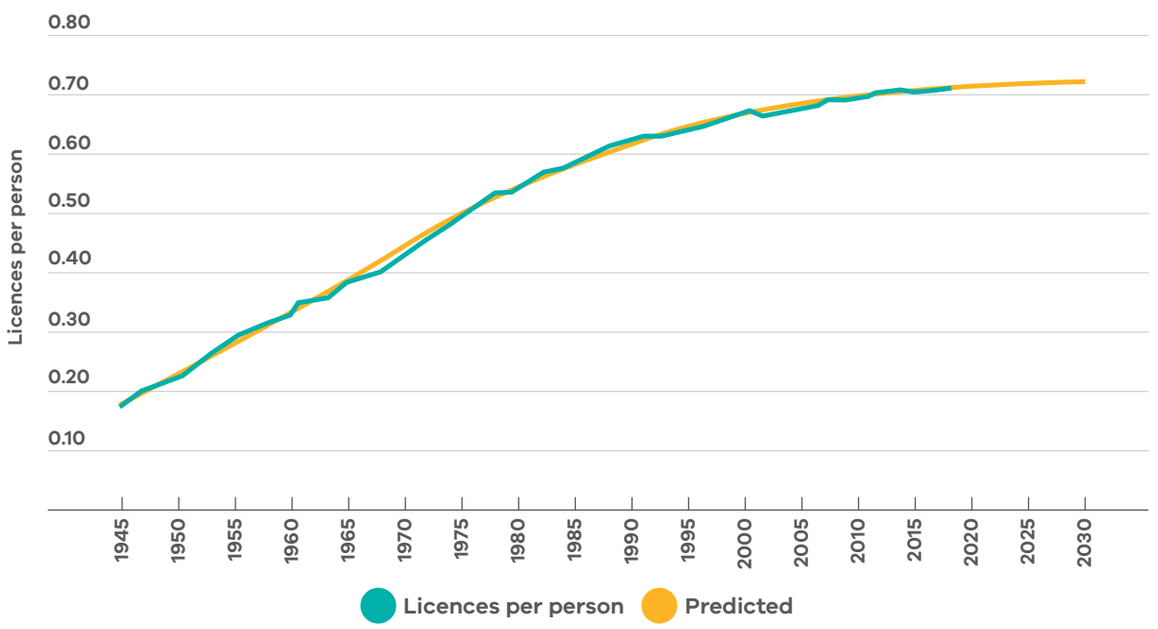
Car ownership has been a primary aspiration for most people, often being at the centre of people's lives and embodying elements such as self-worth and affluence. There is emerging evidence however of a transition away from car ownership and towards car access. This trend is evident particularly amongst millennial consumers, many of whom are struggling to find full-time employment and have developed a sharing mentality in regards to services. Many see little separation between car sharing, rental, leasing and ownership, with cars being increasingly viewed as only one of the means that can move them around, rather than defining who they are. The emergence and growth of companies providing mobility services such as Uber, GoGet, GoCatch, Flexicar and many others, stand as testament to the strength of these societal changes and to the enterprising companies that have managed to capitalise on these trends.

Drivers Licences

There is also evidence both internationally and locally, that fewer people are obtaining driver's licences, especially young people. Chart 19 shows the growth in licences per person in Australia from the end of the Second World War to 2016, along with the expected future path of licences per person. The data shows that drivers licences appear to have reached saturation at 0.735 licences per person.

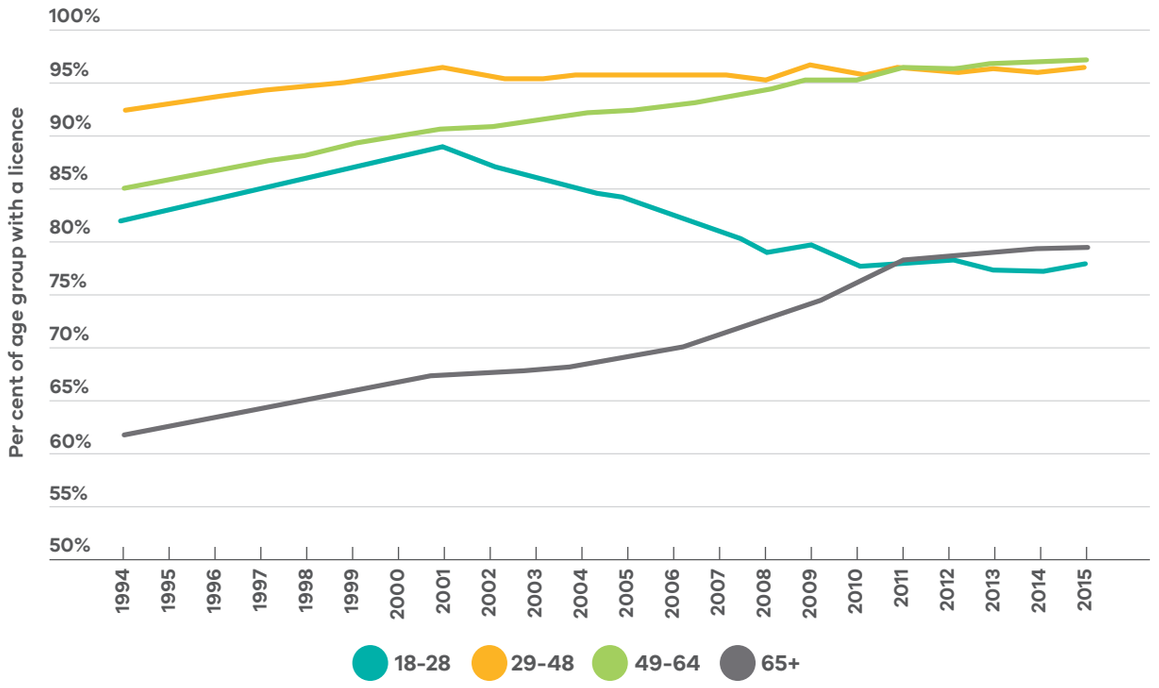
Data on trends in motor vehicle licence holdings by age group is only readily available for Victoria, and these are displayed in Chart 20. The data shows that licence-holdings by the youngest age group (18-28) declined substantially from 2001 to 2010, although it has since stabilised. At the same time, licence-holding by older Victorians (49 years and over) has continued to increase over the period from 1994.

Chart 19: Australian driver's licences per person



Source: Department of Infrastructure and Regional Development

Chart 20: Age-related Trends in Drivers Licences - Victoria



Source: Department of Infrastructure and Regional Development

In recognition of these trends, city planning is also now being based around multimodal transportation options that incorporate changing car ownership and use models. This is seen as a potential solution to issues of increasing population growth, urbanisation, traffic congestion and air pollution that are growing problems across many cities.

Connected, Electric and Autonomous vehicles

Many industry stakeholders believe that perhaps the biggest disruption to the automotive supply chain could arise from the combination of connected, electric and autonomous vehicles, especially if they are arranged as part of transportation networks. These vehicles are highly configurable and can be updated with new features and capabilities that can be introduced on a continuous basis through software and other upgrades, rather than on a new model-by-year basis.

As of next year, manufacturers will start releasing vehicles with connected features that allow the collection of data and the digital exchange of information with other vehicles sharing the same roads, including the ability to communicate with the road network, surrounding infrastructure and other applications.

Whilst such technology has many benefits, including enhancing overall driver awareness and improving road safety through fewer collisions, connected vehicles coupled with trends towards greater ride sharing and less vehicle ownership may have considerable implications for the automotive industry. Potentially this could mean that:

- For manufacturers, greater revenues could arise from the commercial usage of driver and consumer data captured through connected vehicles, rather than through the direct sale of vehicles
- Vehicle servicing arrangements in future may lean towards direct contracts with large fleet providers rather than small operators
- For those still wishing to purchase vehicles outright in future, the whole sales process may be provided on-line, from vehicle selection, customisation, payment as well as the management of test drives. There are already elements of this nature emerging on both manufacturer and dealer websites
- It is possible that large and expensive vehicle showrooms may become superseded by small and sophisticated retail presences in shopping centres and other main locations in the future. This trend has already been tested amongst luxury vehicle makes such as Tesla and Infiniti.

Electric Vehicles

Battery electric vehicles (BEVs) have improved significantly in recent years, particularly in terms of battery capacity, range and cost. Tesla Inc has been a major driver and innovator of electric vehicle and battery technology, and the release of the Tesla Model 3 sedan on world markets later this year is anticipated by many to be a 'game changer' towards the mass uptake of electric vehicles. The Model 3 will have a range of almost 400 kilometres and is expected to retail in Australia for between $60,000 and $70,000, thereby placing it on a competitive footing with conventionally powered vehicles such as the BMW's 3 Series, Audi A4 and Mercedes C-Class.

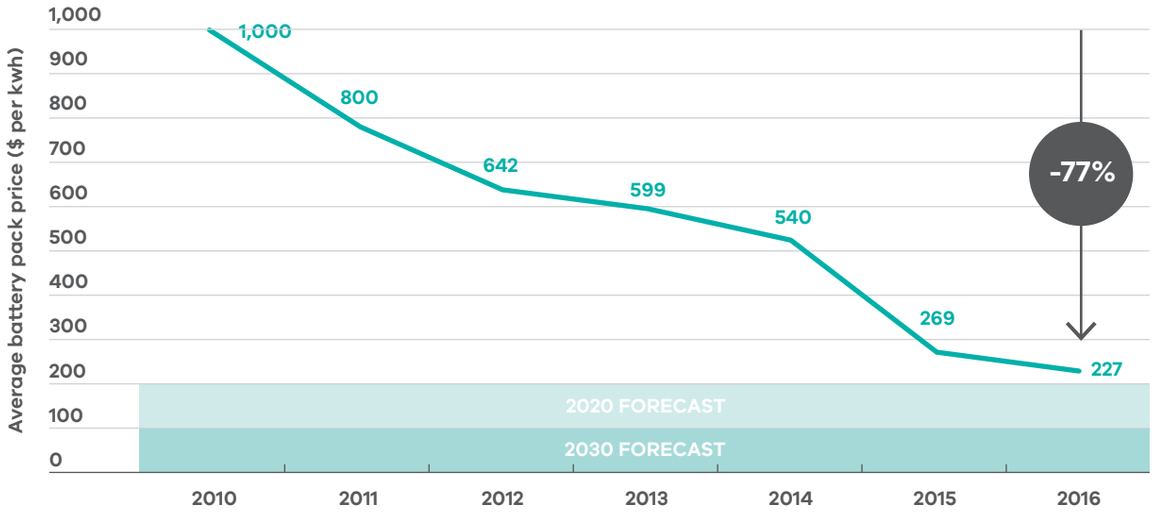
Whilst the Model 3 is not expected to be available in Australia until mid-2018, battery costs are on a rapidly declining trajectory and predicted to reach $100 US dollars a kilowatt hour by 2020 (Diagram 1). The achievement of such a milestone would effectively place electric vehicles on a price parity with petrol vehicles and facilitate their wider adoption with the mass market, along with a growing electric charging infrastructure network.

The disruptive capacity attached to BEVs stems from the fact they lack an internal combustion engine, transmission, cooling system, exhaust system, and many other components typically requiring maintenance. This may reduce the need for many traditional mechanical service and repair skills. Automotive apprentices and technicians will also require new and specialist training tailored towards electric vehicles. What is not clear is whether current automotive technicians will transition into BEV technician roles, or whether new job roles for specialist BEV technicians will be established.

Based on current purchasing trends however, and assuming a modest uptake in BEVs over the next three years, petrol and diesel vehicles will still comprise the majority (at least 95 per cent or more) of the Australian vehicle fleet in 2020. Even if BEVs were to achieve price parity or were cheaper than petrol vehicles now, given the average age of the Australian vehicle fleet (10.1 years) it would take the best part of a decade for such vehicles to establish a considerable share of the vehicle fleet on road.

This sentiment is supported by industry views captured within the 2016/17 Automotive Industry National Survey, where most automotive business do not deem electric vehicles to be a disruptive force over the short and medium term. Rather, they are perceived as a longer-term proposition for industry disruption, in ten years or more. Interestingly, government revenue projections in the 2017/18 Federal Budget incorporate rising fuel excise revenues over the Budget forward estimates, thereby suggesting that electric vehicles are not expected to make a major impact on Australian roads or on government revenues any time soon.

Diagram 1: Reduction in Average Electric Vehicle Battery Pack Prices, 2010-16



Source: https://electrek.co/2017/01/30/electric-vehicle-battery-cost-dropped-80-6-years-227kwh-tesla-190kwh/

Autonomous Vehicles

Motor vehicle manufacturers are embedding more autonomous driving controls in the current generation of vehicles produced, as well as progressing towards the development of fully autonomous vehicles that can undertake journeys without any driver intervention. Fully autonomous vehicles are expected to be commonly available within a few years.

In Australia, research undertaken by the Australian Driverless Vehicle Initiative (ADVI) - a consortium of government, industry and academic partners developing policy, legislation and procedures to facilitate the introduction of driverless vehicles on Australian roads – suggests a take up rate for autonomous vehicles of between 2 and 5 per cent of new vehicle sales from 2021 to 2026, rising to 100 per cent from 2055 onwards, as shown in Table 7.

Nevertheless, trials of driverless vehicles are currently in operation in most states, with South Australia taking a leading role in becoming the first state to legalise driverless car trials on public roads in 2016. The South Australian Government is also progressing investment in autonomous and connected vehicles through the Future Mobility Lab Fund – a $10 million program for the development, testing and demonstration of autonomous technology.

Projects sponsored by the Fund include:

- A collaboration between Flinders University and the Royal Automobile Association of South Australia on a $4million driverless shuttle project
- A trial of three electric driverless shuttles at Adelaide Airport, and
- A driverless cargo pod trial through the RDM Group.

Other government and private sector initiatives involving autonomous vehicles trials and development around Australia include:

- In Western Australia, trials of a fully driverless and fully electric shuttle bus in South Perth has been on-going for some time with considerable success. Main Roads WA is also currently partnering with industry to launch a trial of freight movement using autonomous heavy vehicle platooning technology
- The Northern Territory government has announced a six-month trial this year of an EasyMile driverless shuttle bus at the Darwin waterfront
- In Queensland, the Cooperative and Automated Vehicle Initiative (CAVI) currently incorporates two pilot studies of automated vehicles on selected roads
- In both Victoria and New South Wales, trials of autonomous and connected vehicles are also being undertaken in various applications across multiple transport modes including heavy vehicles.

Table 7: Australian Autonomous Vehicle, Take Up Rates - % of New Vehicle Sales

Years	Scenario One Minimum %	Scenario Two Maximum %
2016 - 2020	0	0
2021 - 2026	2	5
2026 - 2036	15	30
2036 - 2045	30	60
2045 - 2055	60	90
2055 - 2065	100	100

Source: ADVI Position Paper, Economic Impacts of Automated Vehicles on Jobs and Investment Summary

The potential benefits of autonomous vehicles for both industry and government are deemed to be highly significant. Autonomous vehicles use roads more efficiently and require less road capacity. This can translate into billions of dollars in traffic infrastructure expenditure that is saved by governments. In the Heavy Vehicle sector, a recent study by the US Energy Information Administration (EIA) found that autonomous heavy trucks equipped with platooning technology could provide fuel savings of 4.5 per cent, with the level of savings increasing over time[15].

There are also potentially large productivity gains in terms of work and time savings associated with autonomous and connected vehicles. Analysts have estimated that these savings could be in the order of $6.5 billion annually in Australia[16]. This is without even considering the costs savings associated with lower vehicle accident rates and other social benefits.

Despite on-going trials and initiatives however, key problems remain in regards to the widespread introduction of autonomous vehicles. Recent findings released by the National Transport Commission Australia (NTC) in the discussion paper *Regulatory Options for Automated Vehicles*[17], identified a total of 716 potential legislative barriers to the introduction of driverless vehicles on Australian roads. Even globally, there are few common standards and platforms to regulate the technology. Public concerns about safety, reliability and system failures also remain an on-going challenge, which may see fully autonomous or driverless vehicles initially confined to limited applications, such as bus routes and specific lanes on motorways.

In the longer term, the potential for disruption is high within sectors such as Body Repairs and Vehicle Towing, as far fewer vehicle collisions are likely to be witnessed in future. This could greatly reduce the number of Body Repair businesses in operation and displace many skilled workers within the sector. It could also radically alter the underwriting and business models for vehicle and injury related insurance. Insurance companies may switch from selling policies to individuals to vehicle manufacturers, with the cost of insurance perhaps bundled into the vehicle purchase or lease.

Other industries such as transport, freight and logistics could also be affected with autonomous trucks being able to operate 24 hours a day thereby lessening the need for a large driver workforce.

Overall, the industry and wider societal impact of autonomous vehicles are yet to be fully understood and will become more apparent over time through evolvement of the technology and regulatory policy.

Blockchain

A further innovation that has emerged within the automotive industry is Blockchain. Blockchain is a peer to peer network that sits alongside the internet and records transactions between two parties in an efficient, verifiable and permanent way without the need for a central authority. The virtual currency system Bitcoin was the first application of Blockchain technology.

A Blockchain consortium has recently emerged within automotive financing involving Toyota Financial Services and Daimler AG – the parent company of Mercedes Benz. In simple transactions, such as the transfer of a vehicle title or lease or the handling of a payment, several intermediaries can be involved. Blockchain eliminates the need for intermediaries as these transactions can be performed directly between the parties and recorded in a public digital ledger that can be shared amongst a distributed network of participants without the need for a central authority. This has the potential to save vast sums of money and generate greater efficiencies.

Beyond financial services, Blockchain technology has the potential to be applied across the whole automotive supply chain. Blockchain could electronically document a product's journey across the supply chain, ensuring full transparency from its origin and all subsequent touch points. This could improve inventory management and assist to avoid fraud in the spare parts aftermarket. All users from dealers, customers, workshops, manufacturers and suppliers could communicate via the Blockchain and authenticate a part through the local public ledger without approval from a central database. Car dealers would also be able to establish a record of car ownership history through Blockchain, thus improving transparency for sellers and buyers of used cars and pinpointing 'high fault' vehicles. Whilst Blockchain is still in its infancy, usage of the technology is expected to accentuate over the next five years and has the potential to impact many industries and transform the way business processes are handled in the future.

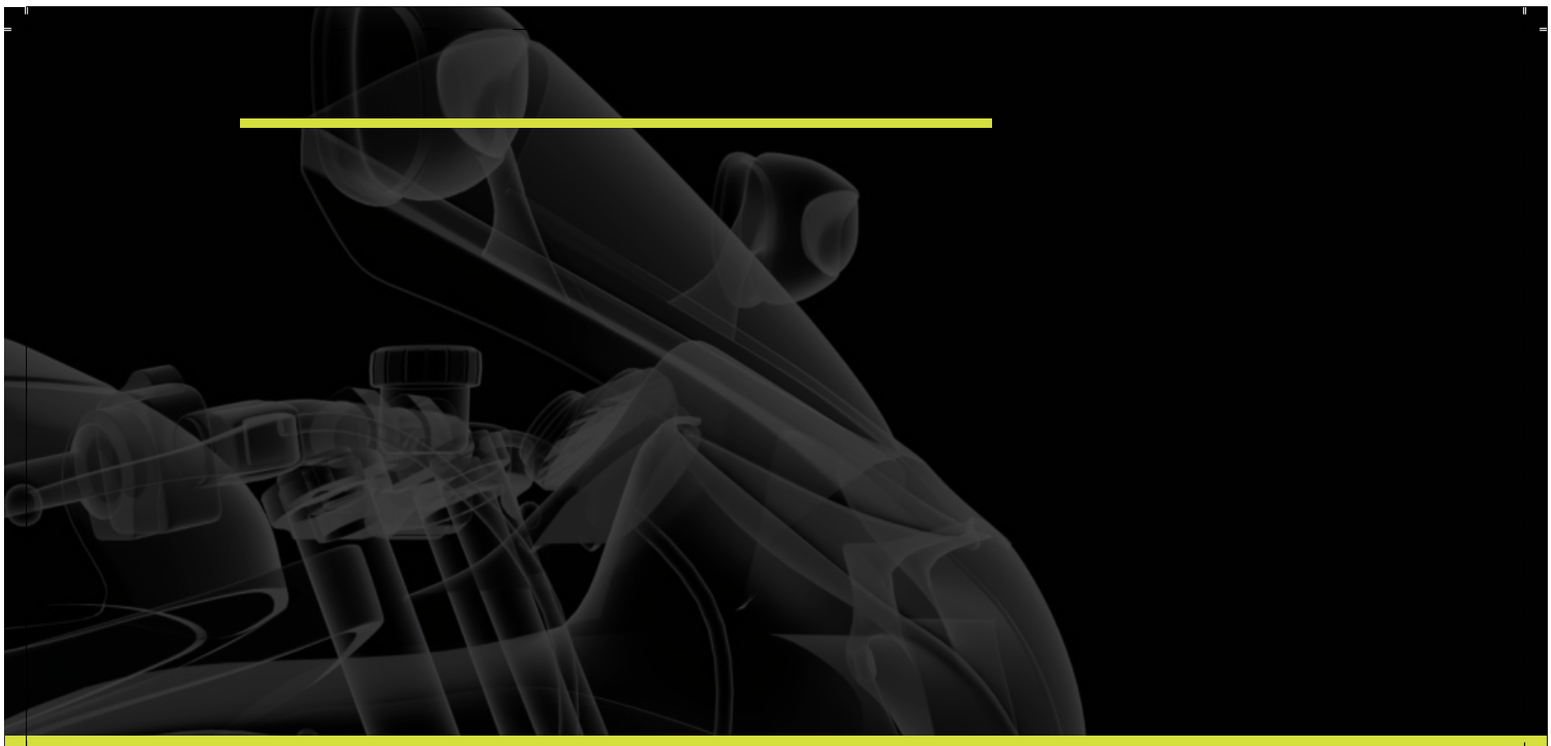
[15] Study of the Potential Energy Consumption Impacts of Connected and Automated Vehicles, US Energy Information Administration, March 2017 https://www.eia.gov/analysis/studies/transportation/automated/pdf/automated_vehicles.pdf.
[16] ACA Research Top 3 Business Benefits of Autonomous Vehicles For Commercial Fleets, Dec 2015.
[17] NTC Discussion Paper - Regulatory options for automated vehicles - May 2016 https://www.ntc.gov.au/Media/Reports/(049B1ED1-5761-44D5-9E3C-814A9195285D).pdf

SECTION 4

INDUSTRY CHALLENGES

Key Findings

- The industry is facing many challenges beyond the transition from car and component manufacturing
- Growing skill shortages, the emergence of electric and autonomous vehicles, education and training issues, access to OEM technical repair information, insurance company power, parallel imports, and the Franchise Code of Conduct are key areas that require policy attention
- Many of the recommendations as contained in the Senate Economics Reference Committee inquiry report - *The Future of Australia's Automotive Industry, 1 December 2015* remain pertinent and require appropriate consideration



The trends and industry projections described in Section 3 have wide implications for the future of the automotive industry. Whilst the evidence points towards a leaner automotive industry in the future, it also raises many questions and challenges that the industry must overcome or progress beyond. The role of government will be an integral part in this process in supporting and facilitating this transition and through the application of coherent transport and infrastructure policy.

The intent of this report is not to address every challenge facing every sector of the automotive industry; instead the focus will be to examine key matters impinging on the industry currently and the implications for the future.

MACRO INDUSTRY CHALLENGES

Industry Recognition and Future Planning

The closure of manufacturing operations in October 2017 represents only one facet of the imminent transformation and challenges facing the automotive industry. Attention must now be directed towards the new emerging environment for the automotive industry and its stakeholders, with appropriate recognition and support from government. This includes the facilitation of measures from government to assist with the transition process. This can only be achieved with strong co-operation between the major participants in the industry and government, in order to achieve a functional plan moving forward.

This finding in effect, supports the recommendations of the Senate Economics Reference Committee inquiry in their report - *The Future of Australia's Automotive Industry, 1 December 2015*. Recommendation 6 of the report states that, *'Government must recognise that the automotive industry will endure. Given this recognition, the committee recommends that the government devote the necessary resources across a range of government departments to ensure the process of transformation continues. This includes a redefinition of the automotive industry to recognise and support the role of all sectors...'*

Furthermore, Recommendation 7 of the Senate report states that, *'The committee recommends that the Australian Government support the establishment of an Automotive Industry Taskforce—with representatives from industry, unions and governments—to facilitate a collaborative and coordinated approach to developing and implementing a national automotive policy framework which encompasses all sectors of the industry.'*

It is essential that action is taken to pursue these recommendations for the benefit of the automotive industry and its stakeholders, including government.

Business Resources

This report has found a disparity in management skills amongst business owners and this can be seen through differences in the relative economic performance of businesses operating within the same geographical location and region. Whilst local economic and seasonal factors can play a role, there is also evidence to suggest that some business owners are better equipped than others in the day to day management of their business.

The daily management of a business goes beyond the technical prowess of each business operator, with the evidence compiled in this report indicating resources and relevant training would be of benefit in the long-term economic performance of the business. This could potentially lead to better employment outcomes for the wider community. This could be facilitated with training targeted to those business owners that are particularly lacking in this area.

Skill Shortages

The analysis presented in this report confirms that skill shortages are particularly severe within the automotive industry and are forecast to intensify over the next two years. The lack of supply of suitably skilled labour is impacting upon almost half of all automotive businesses, holding back both business investment and growth.

In this respect, the recent decision by the Federal Government to remove vehicle painters from the occupation list that underpins the new Temporary Skill Shortage Visa, is both perplexing and disappointing. In arriving at such a decision, greater transparency and consultation is necessary with industry by government, particularly when there is little substantiation offered for such action.

Overall, given the severity of skill shortages, a coordinated, whole of industry strategy is required to improve the flow of skilled labour towards the automotive industry. In this respect, an industry symposium on skill shortages may be a useful initiative.

The challenge for the industry more broadly is to attract and retain a better calibre of entrant, which is ever more difficult in a competitive labour market and with a diminishing pool of skilled labour to select from. In this respect, targeted marketing and promotion of the whole of the automotive industry to appropriate candidates is critical in helping achieve these aims. In view of the emerging technological juggernaut of connected, electric and autonomous vehicles that is set to envelop the automotive industry over the next decade, there are considerable benefits and attractions for new entrants with engineering, IT and problem solving skills in participating within the automotive industry. It is possible that candidates with these higher order skills may be interested in joining the automotive industry, and to this extent the targeting of careers advisors to promote automotive as a viable and vibrant industry amongst this cohort is an essential part of such a strategy.

Electric, Connected and Autonomous Vehicles

It appears that Australia is in the midst of a policy vacuum in regards to electric, connected and autonomous vehicles. The uptake of electric vehicles in Australia lags well behind that of other OECD countries, and a key factor in this regard is the lack of incentives towards the purchase of electric vehicles in Australia. Generous tax credits, subsidies, rebates and other measures are widely utilised in many countries around the world as policy objectives to incentivise the uptake of electric vehicles to reduce emissions and pollution.

Inherently, the challenge for vehicle manufacturers and proponents of these technologies in Australia is to encourage government to provide better clarity of policy intentions for the future. Whilst there is still sufficient time, it is advantageous for automotive businesses to start preparing for a transition to these technologies and the disruption they may cause to existing business models. A signal from government about its proposed actions or intentions may help instigate a smoother transition process for the automotive business community.[18]

Vocational Education and Training

The evidence compiled in this report indicates that just under half of all automotive businesses (48.4%) engage in the VET system through the hiring of apprentices. Responses received from these businesses indicate good to average experiences for most users across a range of measures including the teaching of theory and basics; technology training; course content; assessment processes and the reporting of apprentice progress.

Whilst such positive user experiences are generally encouraging, what cannot be ignored is that more than half of all automotive businesses are currently not hiring apprentices, primarily due to having encountered negative experiences in the past, and this is a significant challenge for the industry to overcome. Many of these negative experiences relate to the model of competency-based training itself, where training outcomes have not effectively identified the capability of an apprentice. It has also been suggested that the link between the funding model of TAFEs and apprentice assessment or sign-off, has resulted in an output focussed mentality of training delivery that contrasts with the outcomes and desires needed by many employers in the workplace.

[18] Also highlighted in Recommendation 20 of the Senate Economics Reference Committee inquiry report - The Future of Australia's Automotive Industry, 1 December 2015.

Fault diagnosis, the mechanical/electrical repair of modern vehicle systems and the practical exposure of apprentices to semi-automatic driving technologies such as park assist, lane departure warning and autonomous emergency braking, are key examples of training outcomes expected by many employers in the workplace.

In the near future, a greater challenge emerges as electric, autonomous and connected vehicle technologies become commonplace. This may require significant upskilling and the development of new or additional qualifications that incorporate the updating of software, coding and programming, as well as other specialised functions that will be inherent with these vehicles. This will necessitate a greater level of resources and government support for automotive trade based training and qualifications development within the VET system. This was also recognised by the Senate Economics Reference Committee inquiry report in Recommendation 13, which states:

'The committee recommends that the government recognise the vital role of training in this sector and support a comprehensive, industry-wide approach to assist the automotive sector to redesign and implement training courses that reflect the needs of employers and give workers the skills they require.'

MICRO INDUSTRY CHALLENGES

Access to Technical Repair Information

Access to OEM vehicle repair information ranks as one of the biggest challenges facing independent automotive repairers. It is claimed that there is a general reluctance on the part of vehicle manufacturers and their affiliated dealerships to make available technical repair information to independent repairers. This limits the ability of independent repairers to conduct or complete servicing and repair works, particularly to late model vehicles.[19]

Vehicle reprogramming is becoming a critical part of automotive servicing, and in order to diagnose and repair common problems such as check engine light, diagnostic fault codes, rough idle, emissions quality, anti-lock braking systems and more, automotive technicians require access to vehicle software and updates, OEM wiring diagrams, diagnostic tooling and pass-thru programming. Such access is typically denied to independent repairers, often forcing them to send customer vehicles back to dealerships and potentially incurring extra charges to complete the repairs.

This remains a difficult and sensitive area for the industry as protection of intellectual property, avoiding damage to brand reputation and vehicle security are equally legitimate and key arguments for manufacturers and dealerships in retaining control of such information. Current disclosure arrangements in the Australian Consumer Law do not address matters concerning access to vehicle service and repair information, nor the wider distribution of such information. The Australian Competition and Consumer Commission (ACCC) however, has recently conducted a review into the new car retailing sector, and is expected to make draft recommendations in regards to these matters in mid-2017.

Insurance Company Power

The Vehicle Body Repair sub-sector has endured considerable challenges in recent years, and continues to be affected by processes that are seemingly beyond the control of many business operators. These have included the vertical integration of vehicle body repair work into the business models of insurance companies; on-going acquisitions and consolidation of body repair businesses within the sub-sector; conflicts with insurers in negotiations over vehicle assessments, labour and parts rates; difficulties in attraction and retention of skilled labour, and a natural decline in the availability of work due to the proliferation of collision avoidance technologies in modern vehicles.

More recently, there is also evidence of a major redistribution of vehicle body repair work by insurance companies. This includes the removal of contracts from small enterprises to larger enterprises and preferred repairers that can handle greater volumes and meet lower average repair costs.

This report outlined the experiences of many vehicle body repairers that are reported to have lost both contracts as well as their preferred vehicle repairer status amongst insurance companies. Often little explanation or recourse is available for businesses impacted by such decisions. The reality is that these actions impact on the profitability and viability of businesses operators, and unfortunately for some, resulting in the removal of their capacity to earn a livelihood.

Ultimately, there is a need for greater transparency in the way preferred vehicle repairer status is tendered for and subsequently awarded by insurance companies. It may be also advantageous for body repairers to engage a third party to negotiate contracts on their behalf in their dealings with insurance companies. This may assist towards achieving better outcomes for affected businesses.

[19] Also discussed in Recommendation 11 of the Senate Economics Reference Committee inquiry report - The Future of Australia's Automotive Industry, 1 December 2015..

Parallel Imports

Parallel importing, also known as grey or direct importing, occurs when business and/or individuals sell products directly to consumers or businesses in Australia outside of the formal manufacturer distribution channels. Parallel imports of motor vehicles, parts and accessories represent a major challenge for all sectors of the automotive industry, disrupting commercial relationships between established businesses and impacting negatively on business profits and employment.[20]

Automotive businesses have reported large increases in parallel imports of cheap, poor quality and often counterfeit parts sourced from Asian and other countries that are potentially unsafe as they do not comply with Australian standards. Many vehicle components purchased on-line are also supplied without essential features and require alteration or modification for fitment. These critical safety modifications are often performed by backyard operators, posing serious threats to consumers and exposing the flawed framework for safety standards that currently underpins parallel imports.

Franchise Code of Conduct

The evidence compiled in this report also indicates that there are significant challenges for many automotive businesses operating under franchise agreements, and particularly for motorcycle and farm machinery retailers. These businesses are required to operate under the Franchising Code of Conduct, introduced to the industry in 1998 and designed to regulate the conduct of participants in franchising. The code itself is administered and enforced by the ACCC.

Motorcycle and farm machinery retailers (franchisees) have reported that their respective franchise agreements are very distorted and one-sided, being heavily dominated by the interests of the manufacturer (franchisor). Key examples include non-negotiable terms contained in franchise agreements that limit the return on investment and create an unsustainable business model for franchisees; requirements for high cost business investment even for short term franchise agreements and the lack of franchisee protection often leading to the loss of a long-term franchise.

There are industry suggestions that the Franchise Code of Conduct is unsuitable for the automotive industry and that a better and fairer code that balances the power relationships between manufacturers and dealers is required for the automotive industry[21]. Practically, such an initiative could be achievable in the medium to longer term, with strong levels of industry support.

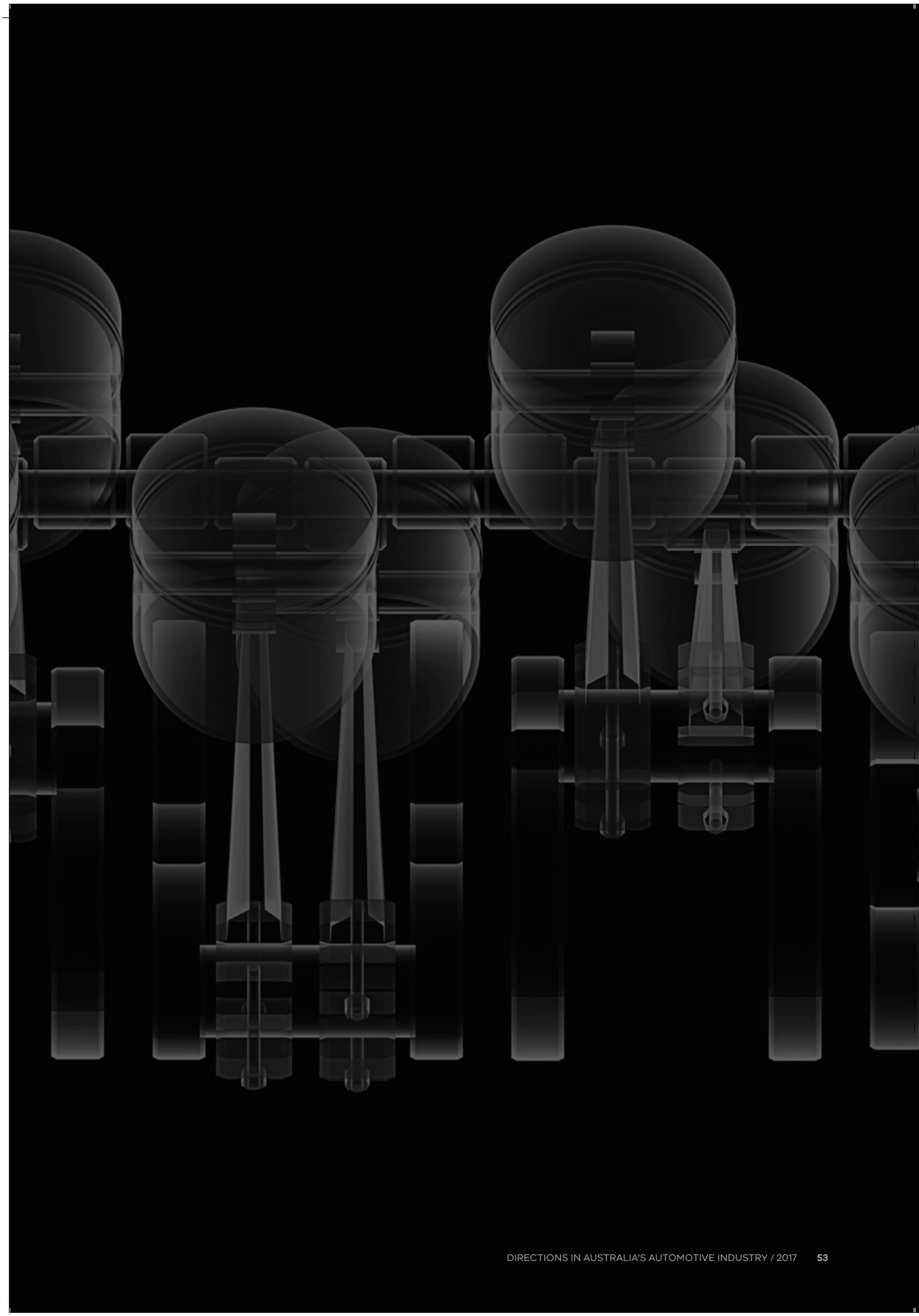
Growth of Mobile Mechanical Services

A trend that is of concern within the Automotive Repair and Maintenance sector is the growth of mobile mechanics operating essentially from a van or utility and conducting vehicle servicing and repairs at customers' homes, workplaces and other locations. This trend has been particularly evident amongst migrant as well as local mechanics.

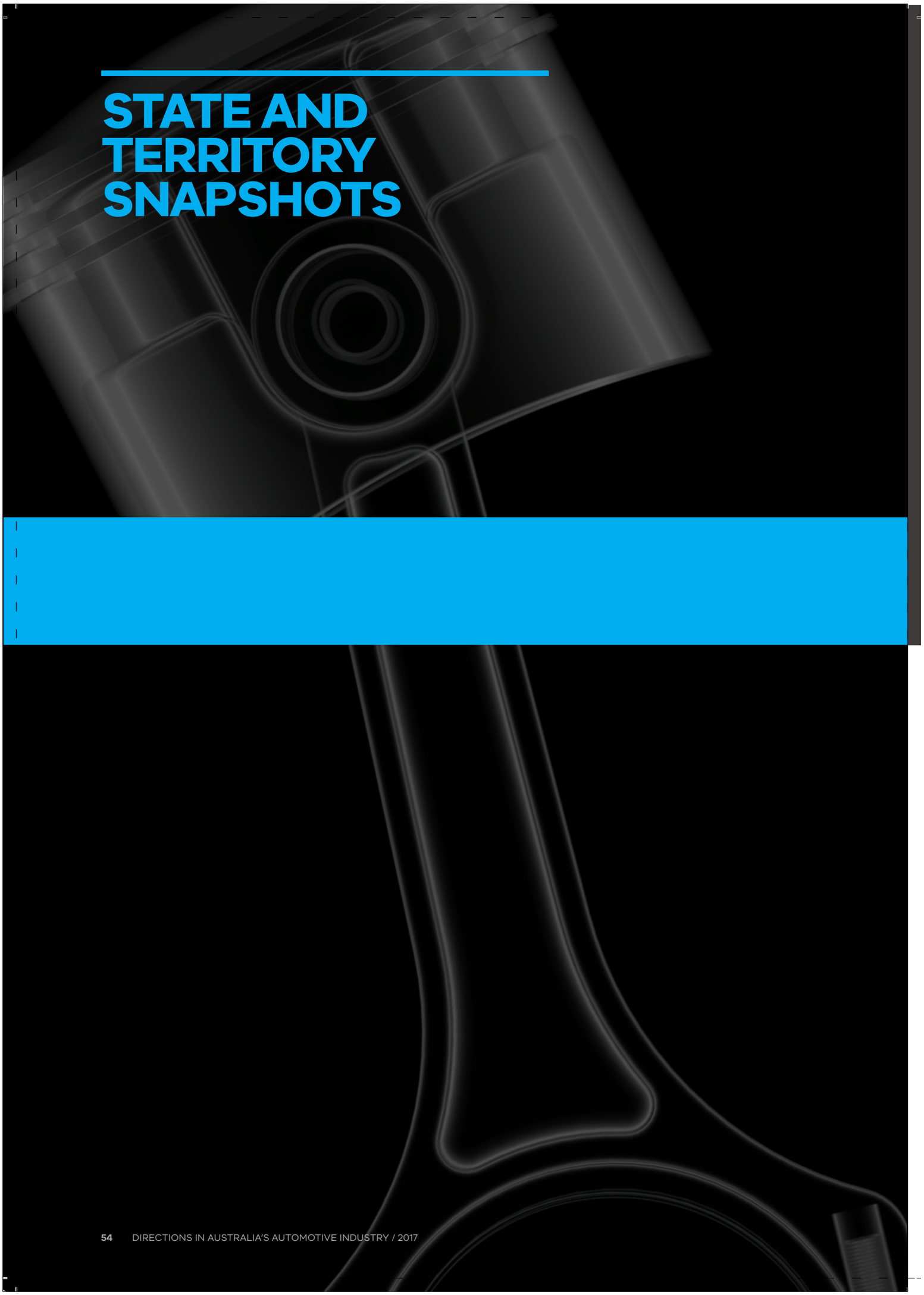
The danger with these practices is that unlike a registered workshop that must legally comply with workplace safety, emergency and environmental requirements, there is no such compliance for mobile operators. This raises concerns around actual personal safety, accountability and disposal of environmentally hazardous wastes. It is argued by many that comparable legal requirements for a business premise should be enforced on mobile operators.

Whilst such compliance may or may not be viable, the broader issue for all industry participants is that of adaptation to a changing business environment. Without adaptation in a timely and efficient manner, the survival of any business is not guaranteed in future.

[20] See also Recommendation 10 of the Senate Economics Reference Committee inquiry report - The Future of Australia's Automotive Industry, 1 December 2015.
[21] Also acknowledged in Recommendation 9 of the Senate inquiry report



STATE AND TERRITORY SNAPSHOTS



New South Wales and ACT

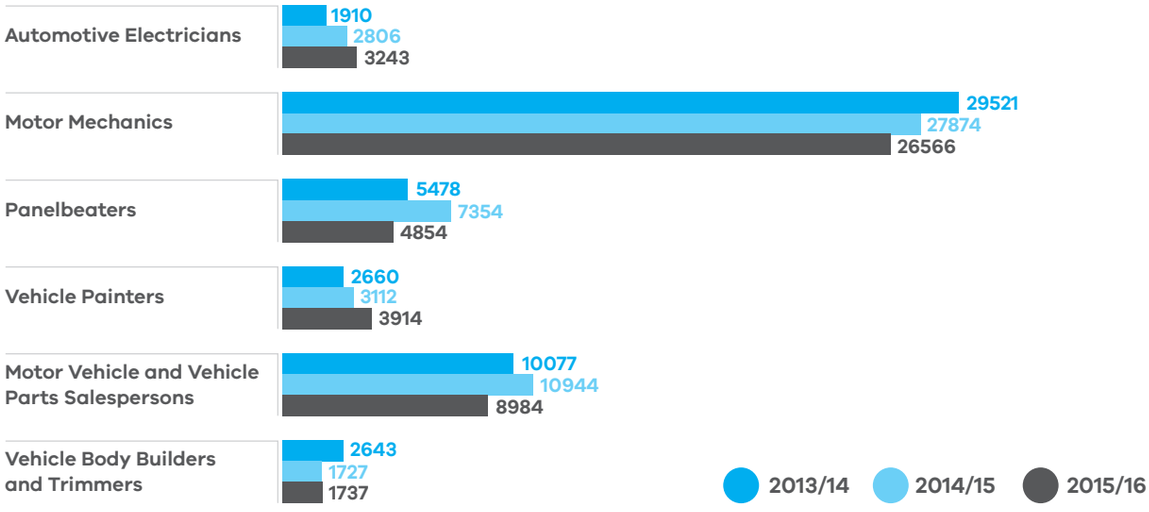
NSW recorded an aggregate employment of 95,257 people within the automotive industry in 2015/16 (Table 9). This represent a decrease in industry employment of 9,519 people or 9.1 per cent over the previous year. The decline in employment incorporated most sectors of the industry, except for Fuel Retailing which experienced a 27 per cent increase in full-time employment over the period. Year to date industry employment data (February 2017) however shows a stable trend in industry employment.

Table 8: SUMMARY SNAPSHOT – NSW & ACT

Employment	97,944 people
Motor vehicle fleet, - Jan 2016	5,662,736 vehicles
Average age of motor vehicle fleet	9.5 years
Number of automotive businesses	21,257

Source: ABS data

Chart 21: Number employed in key occupations, NSW



Source: ABS data

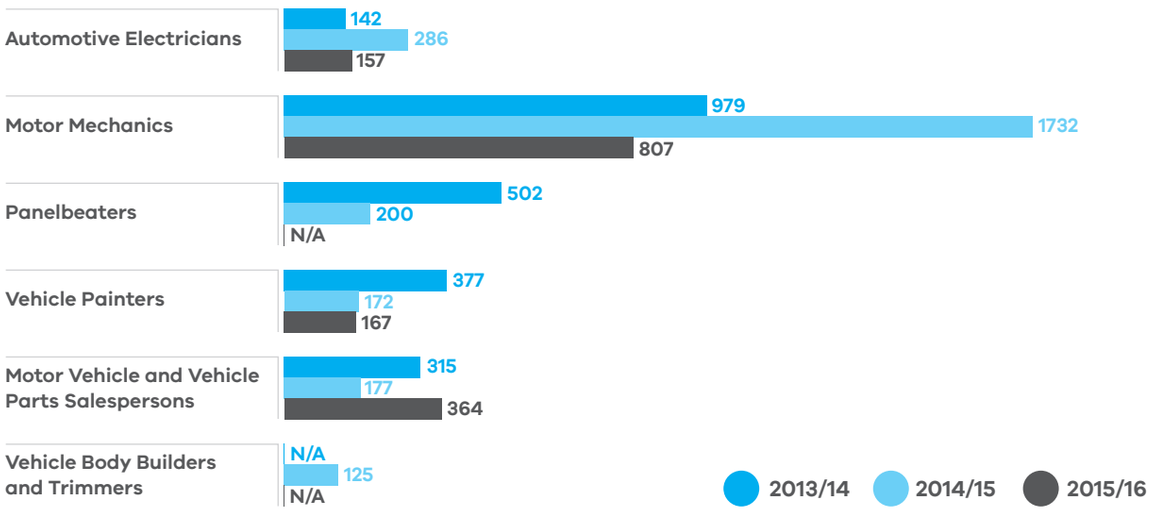
The ACT recorded aggregate industry employment of 2,687 people in 2015/16, a decline of 453 people or 14.4 per cent over 2014/15, with year to date employment data displaying a continuing downward trend in industry employment.

Data on employment by occupation (Charts 21 and 22) shows a declining trend in employment of motor mechanics in both NSW and ACT. Increasing employment of automotive electricians and vehicle painters were also key trends observed in NSW.

In terms of the population of automotive businesses, Table 9 shows that in 2015/16, NSW experienced a net increase of 240 automotive businesses compared to the previous year. This increase was largely driven by growth in sole traders and small businesses within the Automotive Repair and Maintenance sector. The ACT experienced a small net increase of 24 businesses over the period, and this also was mainly due to increases in sole traders and small businesses within the Automotive Repair and Maintenance sector.

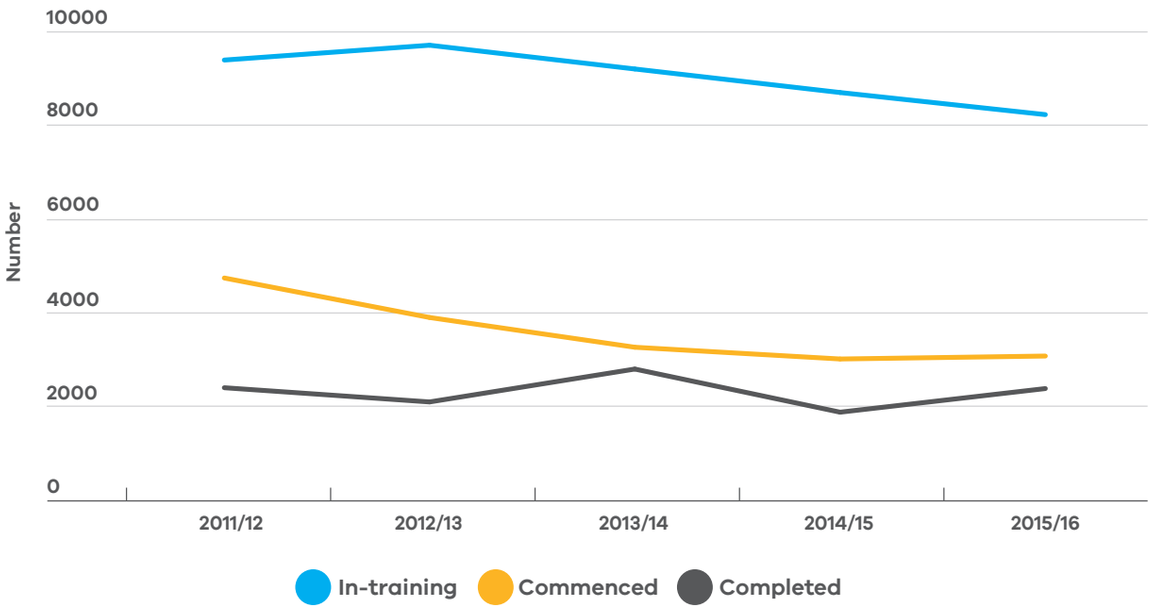
With respect to apprentices and trainees, a pronounced decline is observed in both NSW and ACT from 2012/13, in the number of students in-training within the Automotive Retail, Service and Repair (AUR) Training Package (Charts 23 and 25). By contrast, the number of apprentices and trainees in-training within the Automotive Manufacturing (AUM) Training Package, has been relatively steady over the past three years (Chart 24).

Chart 22: Number employed in key occupations, ACT



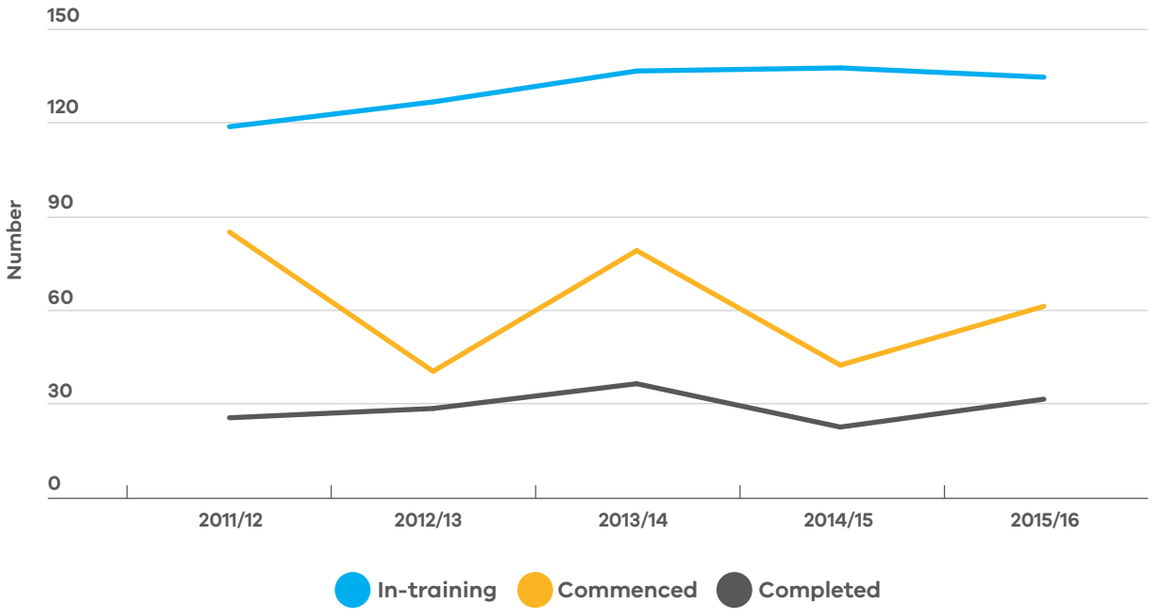
Source: ABS data

Chart 23: Apprentices and trainees, AUR Training Package, NSW



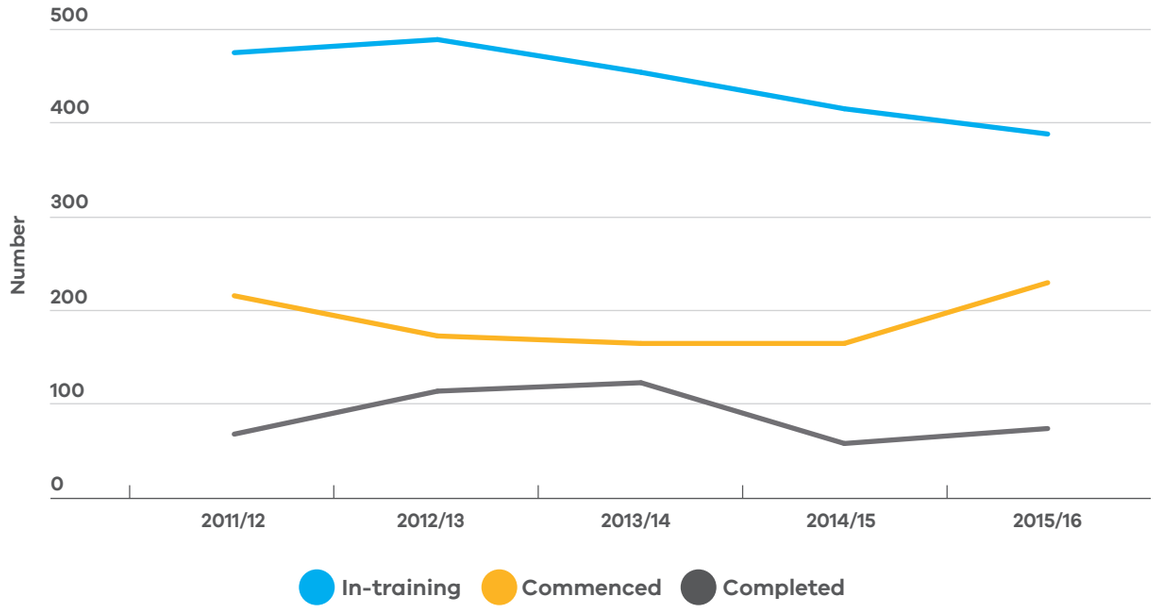
Source: NCVER data

Chart 24: Apprentices and trainees, AUM Training Package, NSW



Source: NCVER data

Chart 25: Apprentices and trainees, AUR Training Package, ACT



Source: NCVER data

Table 9: Sector profile, Automotive Industry, NSW

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	5,647	953	+1
Motor Vehicle and Parts Wholesaling	5,272	1,659	+6
Motor Vehicle Retailing	15,904	1,696	-21
Motor Vehicle Parts and Tyre Retailing	5,791	1,255	+17
Fuel Retailing	10,588	1,520	+25
Automotive Repair and Maintenance	43,412	11,111	+176
Passenger Car Rental and Hiring	2,359	479	+35
Bicycle Retailing	1,091	239	-11
Marine Equipment Retailing	994	245	-10
Outdoor Power Equipment Retailing*	1,260	348	0
Towing Services*	952	769	+8
Agricultural Machinery Retail and Repair*	1,987	403	+14
Total	**95,257**	**20,677**	**+240**

Source: ABS data

Table 10: Sector profile, Automotive Industry, ACT

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	59	9	0
Motor Vehicle and Parts Wholesaling	259	25	+2
Motor Vehicle Retailing	631	55	+2
Motor Vehicle Parts and Tyre Retailing	337	37	0
Fuel Retailing	54	23	+7
Automotive Repair and Maintenance	1,117	357	+18
Passenger Car Rental and Hiring	44	9	-2
Bicycle Retailing	90	20	-1
Marine Equipment Retailing	0	0	-5
Outdoor Power Equipment Retailing*	47	13	0
Towing Services*	37	30	+1
Agricultural Machinery Retail and Repair*	12	2	+2
Total	**2,687**	**580**	**+24**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 11 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for NSW and ACT combined. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skill Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards the current skill shortages in New South Wales and ACT. The most frequent responses included:

- Not enough people entering automotive trades
- The poor quality of available candidates
- Poor perceptions of the industry amongst students and the broader community.

The survey data showed 55.5 per cent of businesses in New South Wales and 50 per cent of businesses in the ACT reported experiencing skilled labour shortages. Furthermore, a significant proportion of businesses in NSW (64.4%) anticipate that skill shortages will intensify over the next 12 months.

BUSINESS CONDITIONS

Most NSW survey respondents (41.5%) described business conditions as being variable, with inconsistent weekly work flows. Businesses reporting these conditions were mostly small light vehicle mechanical workshops. The ability of insurance companies to dictate work flows amongst vehicle body repairers was also identified as a key factor contributing to uneven business conditions within the Body Repair sub-sector.

Thirty-nine per cent of respondents reported experiencing positive to buoyant business conditions in NSW, mostly due to strong growth in sales and turnover during 2016. This was particularly the case for businesses operating within the light vehicle mechanical repair sub-sector.

A significant portion of ACT respondents described business conditions as positive to buoyant (46.8%). This response was prevalent amongst medium-size enterprises. A further 35.5 per cent described conditions as variable due to inconsistent work volumes.

Table 11: Priority skills shortages – NSW & ACT

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	4,712
	Panel Beater	1,121
	Vehicle Spray Painter	986
	Automotive Electrician	569
	Heavy Vehicle Mechanic	562
	Vehicle Detailer	98
	Motorcycle Mechanic	86
	Mobile Plant Mechanic	82
	Mechanic – Farm Machinery	37
	Engine Re-conditioner	31
	Automotive Glazier	28
	Vehicle Trimmer	20
Motor Vehicle Retailing	Motor Vehicle Salesperson	680
Motor Vehicle Parts and Tyre Retailing	Tyre Fitter	270
	Motor Vehicle Parts and Accessories Salespersons	232
	Spare Parts Interpreter	179
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	136
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	30
Marine Equipment Retailing	Marine Mechanic	25
		Total: 9,884

Source: Modelled industry and ABS data

In terms of future expectations, 48.1 per cent of NSW respondents expect mild growth for their business over the next 12 to 24 months, with 6.1 per cent expecting buoyant growth. These expectations are based on the implementation of new business strategies for the year ahead. A further 29.2 per cent of NSW respondents expected no change from variable business witnessed during 2016 due to a perceived reduction in consumer confidence.

In contrast, a much higher proportion of ACT respondents (62.7%) expect mild growth for their business over the next 12 months with a smaller percentage expecting strong growth (5.1%).

KEY BUSINESS ISSUES

New South Wales and ACT survey respondents identified the following issues as being particularly significant for their business. In order of importance, these include:

- Maintaining profitability
- Economic conditions
- Government policy/regulations
- Technological change.

Respondents also identified key disruptive influences to their businesses. These included:

NSW

- Access to vehicle repair information for independent repairers
- Anti-competitive behaviour by insurance companies
- Growth of parallel and private vehicle imports.

ACT

- Parallel/private vehicle imports
- Access to vehicle repair information for independent repairers
- Anti-competitive behaviour by insurance companies

Victoria

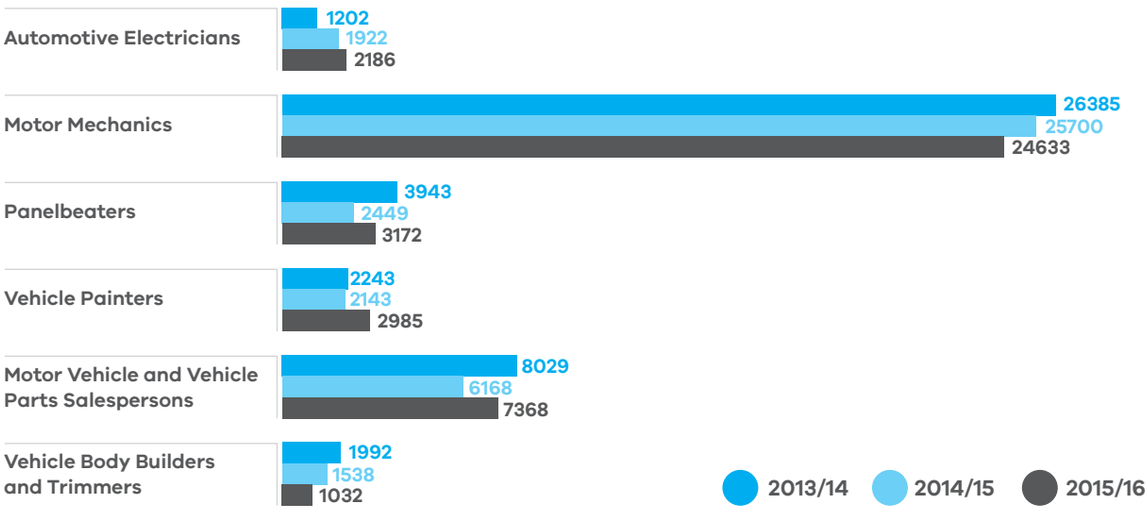
Victoria recorded an aggregate employment of 102,810 people within the automotive industry in 2015/16, a decline of 1,170 or 1.1 per cent from 2014/15 (103,980). Most of this decrease in employment occurred within the Motor Vehicle and Motor Vehicle Parts Wholesale and Retail sectors, and to a lesser extent within the Motor Vehicle and Parts Manufacturing sector.

Table 12: SUMMARY SNAPSHOT - Victoria

Employment	102,810 people
Motor vehicle fleet - Jan 2016	4,681,337 vehicles
Average age of motor vehicle fleet	10.1 years
Number of automotive businesses	17,961

Source: ABS data

Chart 26: Number employed in key occupations, VIC



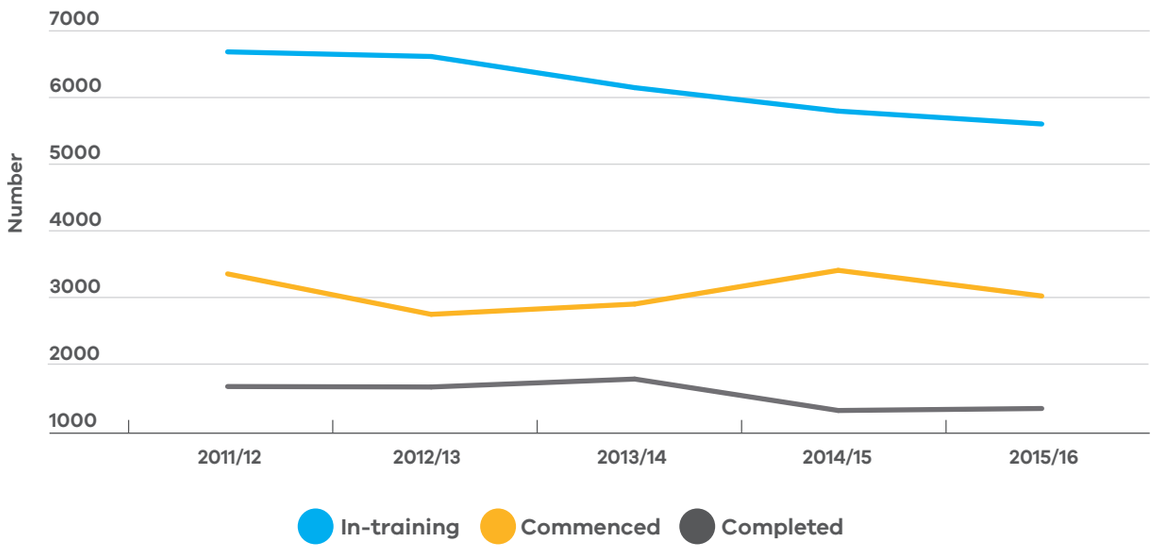
Source: ABS data

Data on employment by occupation (Chart 26) shows a declining trend in employment of motor mechanics and vehicle body builders and trimmers over the past three years. By contrast, a trend of increasing employment is observed amongst automotive electricians and vehicle painters over the same period.

Chart 27 shows that there has been a steady decline in the number of automotive apprentices and trainees in-training within the Automotive Retail, Service and Repair (AUR) Training Package in Victoria, particularly since 2012/13. Proportionally, a much steeper reduction in apprentices and trainees in-training is observed within the Automotive Manufacturing (AUM) Training Package over the same period (Chart 28).

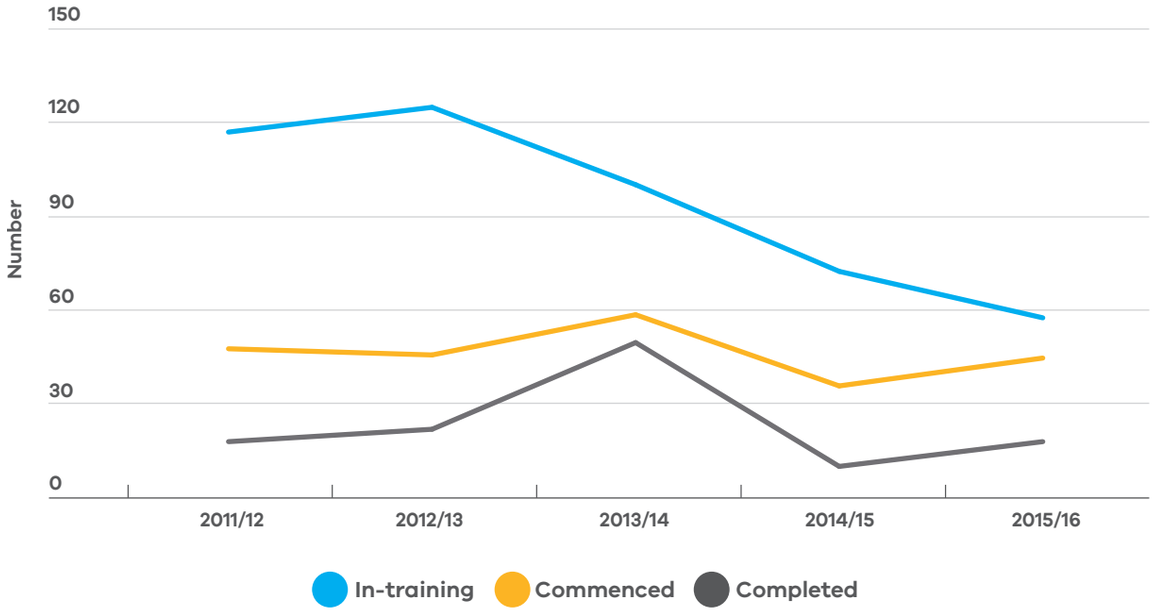
In terms of the population of automotive businesses, Table 13 shows that there was a net increase of 225 automotive businesses in Victoria in 2015/16, and this was largely driven by an increase in the number of small businesses within the Automotive Repair and Maintenance sector (increase of 142 businesses). Other sectors that recorded notable increases were Fuel Retailing and Motor Vehicle and Parts Wholesaling (increases of 39 and 28 businesses respectively).

Chart 27: Apprentices and trainees, AUR Training Package, VIC



Source: NCVER data

Chart 28: Apprentices and trainees, AUM Training Package, VIC



Source: NCVER data

Table 13: Sector profile, Automotive Industry, VIC

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	24,618	1,210	-13
Motor Vehicle and Parts Wholesaling	7,054	1,537	+28
Motor Vehicle Retailing	18,331	1,471	-16
Motor Vehicle Parts and Tyre Retailing	6,167	974	+17
Fuel Retailing	6,925	1,036	+39
Automotive Repair and Maintenance	31,971	9,576	+142
Passenger Car Rental and Hiring	2,152	437	+27
Bicycle Retailing	1,280	281	-13
Marine Equipment Retailing	560	138	+3
Outdoor Power Equipment Retailing*	1,169	323	0
Towing Services*	751	606	+6
Agricultural Machinery Retail and Repair*	1,832	372	+5
Total	**102,810**	**17,961**	**+225**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 14 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for Victoria. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in Victoria.

The most frequent responses included:

- Not enough people entering automotive trades
- The poor quality of available candidates
- Poor perceptions of the industry amongst students and the broader community.

In the survey, 49.8 per cent of Victorian automotive businesses reported experiencing acute difficulties in sourcing appropriately skilled labour, with a further 58.5 per cent expecting skill shortages to intensify over the next 12 months.

Table 14: Priority skills shortages – VIC

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	3,181
	Vehicle Spray Painter	632
	Heavy Vehicle Mechanic	627
	Automotive Electrician	292
	Panel Beater	278
	Vehicle Trimmer	93
	Vehicle Detailer	85
	Motorcycle Mechanic	37
	Mechanic – Farm Machinery	34
	Mobile Plant Mechanic	33
	Engine Re-conditioner	26
	Automotive Glazier	24
Motor Vehicle Retailing	Motor Vehicle Salesperson	850
Motor Vehicle Parts and Tyre Retailing	Motor Vehicle Parts and Accessories Salesperson	226
	Spare Parts Interpreter	166
	Tyre Fitter	141
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	86
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	43
Marine Equipment Retailing	Marine Mechanic	14
Bicycle Retailing	Bicycle Mechanic	9
		Total: 6,877

Source: Modelled industry and ABS data

BUSINESS CONDITIONS

Most Victorian survey respondents (41%) reported business conditions as being variable and characterised by:

- Fluctuating and unpredictable sales
- Decreased consumer spending on vehicle repairs
- A redistribution of vehicle body repair work by insurance companies amongst body repairers
- Seasonal and regional factors.

Most respondents (48%) anticipate mild growth for their businesses in 2017/18 and this is a result of planned interventions they have initiated to improve the performance of their businesses. These interventions include investment in new premises and workshops, keeping up with technology through targeted training and improved marketing strategies and customer service.

KEY BUSINESS ISSUES

Victorian survey respondents identified the following issues as being particularly significant for their business. In order of importance, these include:

- Maintaining profitability
- Economic conditions
- Government policy/regulation.

In terms of government policy, key issues that were reported include the banning of 'flex commissions' in vehicle finance by the Australian Securities and Investments Commission (ASIC); the lack of appropriate support to independent repairers regarding access to vehicle repair information; changes to the 457 Visa system and on-going red tape with high compliance costs for businesses.

Respondents also identified major disruptive influences to their businesses. The top three disruptive influences reported were:

- Access to vehicle repair information for independent vehicle repairers
- Anti-competitive behaviour by insurance companies in the body repair sub-sector
- Growth of parallel and private vehicle imports.

Queensland

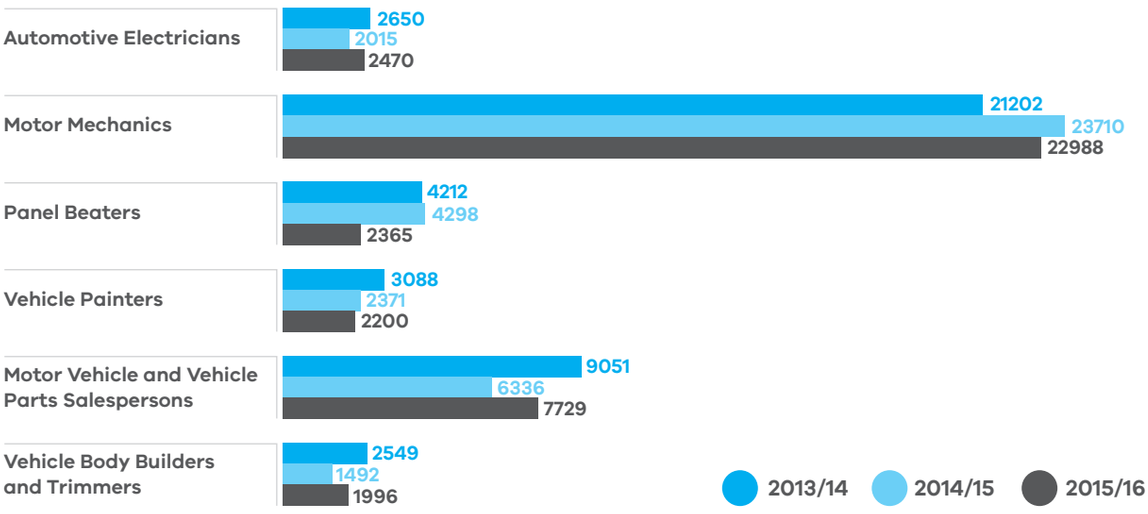
Queensland recorded an aggregate employment of 88,181 people within the automotive industry, an increase of 5,053 or 6.1 per cent from 2014/15 (83,128). Most of this increase in employment was associated with increases in full-time jobs within Motor Vehicle Parts and Tyre Retailing, Fuel Retailing and the Motor Vehicle Retailing (employment growth of 31%, 19% and 17% respectively).

Table 15: STATE SUMMARY - QLD

Employment	88,181 people
Motor vehicle fleet - Jan 2016	3,854,205 vehicles
Average age of motor vehicle fleet	9.7 years
Number of automotive businesses	15,606

Source: ABS data

Chart 29: Number employed in key occupations, QLD



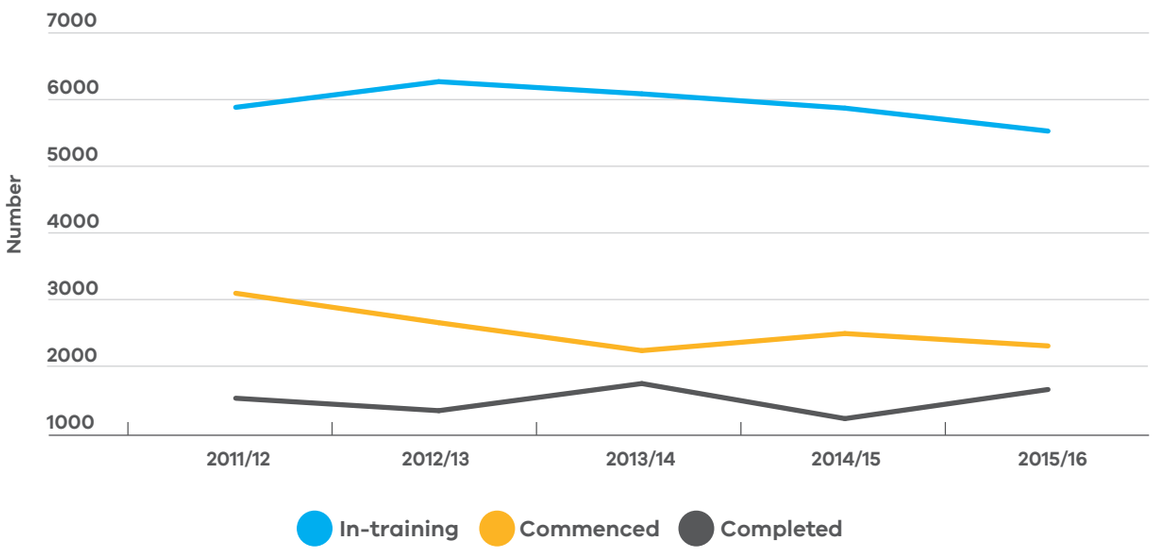
Source: ABS data

Data on employment by occupation (Chart 29) shows fluctuating and volatile employment levels across most occupations over the past three years. This volatility is particularly pronounced for occupations within the Body Repair sub-sector i.e. panel beaters and vehicle painters.

Chart 30 shows that there has been a steady decline in the number of automotive apprentices and trainees in-training within the Automotive Retail, Service and Repair (AUR) Training Package in Queensland since 2012/13. Proportionally, a much steeper reduction in apprentices and trainees in-training is observed within the Automotive Manufacturing (AUM) Training Package over the same period (Chart 31).

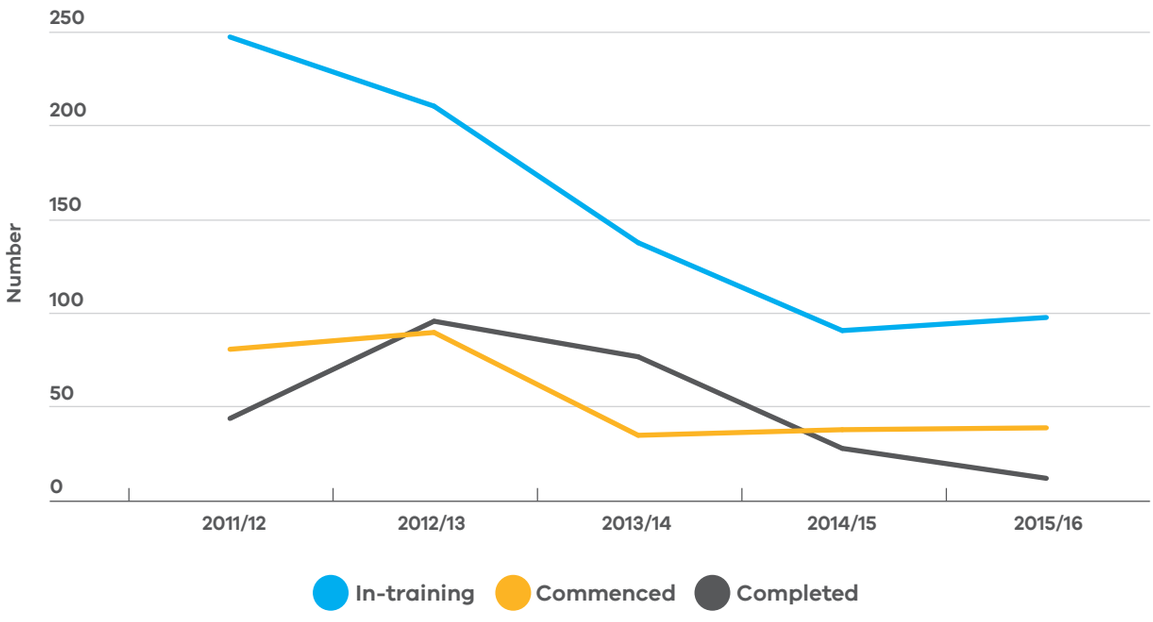
In terms of the population of automotive businesses, Table 16 shows that there was a net increase of 244 automotive businesses in Queensland in 2015/16, and this was largely driven by an increase in the number of mostly sole proprietors and to a lesser extent small businesses with up to 19 employees within the Automotive Repair and Maintenance sector (increase of 220 businesses).

Chart 30: Apprentices and trainees, AUR Training Package, QLD



Source: NCVER data

Chart 31: Apprentices and trainees, AUM Training Package, QLD



Source: NCVER data

Table 16: Sector profile, Automotive Industry, QLD

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	6,079	933	-11
Motor Vehicle and Parts Wholesaling	5,718	1,143	+14
Motor Vehicle Retailing	17,644	1,340	+6
Motor Vehicle Parts and Tyre Retailing	8,254	1,033	+46
Fuel Retailing	9,633	775	-12
Automotive Repair and Maintenance	33,924	8,450	+220
Passenger Car Rental and Hiring	1,871	380	+12
Bicycle Retailing	802	176	-8
Marine Equipment Retailing	1,019	251	-32
Outdoor Power Equipment Retailing*	1,075	297	0
Towing Services*	644	520	+5
Agricultural Machinery Retail and Repair*	1,518	308	+4
Total	**88,181**	**15,606**	**+244**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 17 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for Queensland. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in Queensland.
The most frequent responses included:

- The poor quality of available candidates
- Not enough people entering automotive trades
- Attraction of labour towards other industries.

In the survey, 44.7 per cent of automotive businesses in Queensland reported experiencing difficulties in sourcing appropriately skilled labour, with a further 56.4 per cent expecting skill shortages to intensify over the next 12 months.

BUSINESS CONDITIONS

Most Queensland survey respondents (40.6%) reported business conditions as being variable and characterised by:

- Inconsistent workflows from week to week
- Seasonal and regional factors

A further 32.3 per cent reported positive to buoyant business conditions, with most attributing this success to an expansion of their businesses and diversification into other markets, as well as a focus on upskilling of their workforce. Approximately 27.1 per cent of Queensland respondents reported experiencing below average to poor business conditions.

Most respondents (49.1%) anticipate mild growth for their businesses in 2017/18 and this is a result of planned interventions they have initiated to improve the performance of their businesses. These interventions include upgrading of facilities, training in modern vehicle technology and diversification.

Table 17: Priority skills shortages – QLD

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	2,964
	Panel Beater	544
	Automotive Electrician	450
	Vehicle Spray Painter	423
	Heavy Vehicle Mechanic	333
	Motorcycle Mechanic	67
	Vehicle Detailer	67
	Mechanic – Farm Machinery	26
	Engine Re-conditioner	23
	Automotive Glazier	20
	Mobile Plant Mechanic	16
	Vehicle Trimmer	6
Motor Vehicle Retailing	Motor Vehicle Salesperson	535
Motor Vehicle Parts and Tyre Retailing	Tyre Fitter	213
	Motor Vehicles Parts and Accessories Salespersons	181
	Spare Parts Interprete	151
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	55
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	46
Marine Equipment Retailing	Marine Mechanic	30
Bicycle Retailing	Bicycle Mechanic	15
		Total: 6,165

Source: Modelled industry and ABS data

KEY BUSINESS ISSUES

Queensland survey respondents identified the following issues as being particularly significant for their business. In order of importance, these include:

- Maintaining profitability
- Economic issues
- Government policy regulation.

Respondents also identified major disruptive influences to their businesses. The top three disruptive influences reported were:

- Anti-competitive behaviour by insurance companies in the body repair sub-sector
- Access to vehicle repair information for independent vehicle repairers
- Growth of parallel and private vehicle imports.

South Australia

South Australia recorded an aggregate employment of 29,026 people within the automotive industry in 2015/16, a decline of 1,667 or 5.4 per cent from 2014/15 (30,693). This reduction was largely confined to the Motor Vehicle and Motor Vehicle Parts Wholesaling, Fuel Retailing, and Automotive Repair and Maintenance sectors.

Table 18: STATE SUMMARY - SA

Employment	29,026 people
Motor vehicle fleet, January 2016	1,364,700 vehicles
Average age of motor vehicle fleet	11.4 years
Number of automotive businesses	4,857

Source: ABS data

The closure of passenger car manufacturing operations by Holden in South Australia on October 20 2017 will result in further reductions to South Australia's automotive workforce, with approximately 1,000 workers involved in production, engineering and support roles set to be impacted, along with more substantial negative flow-on effects to associated businesses within the supply chain.

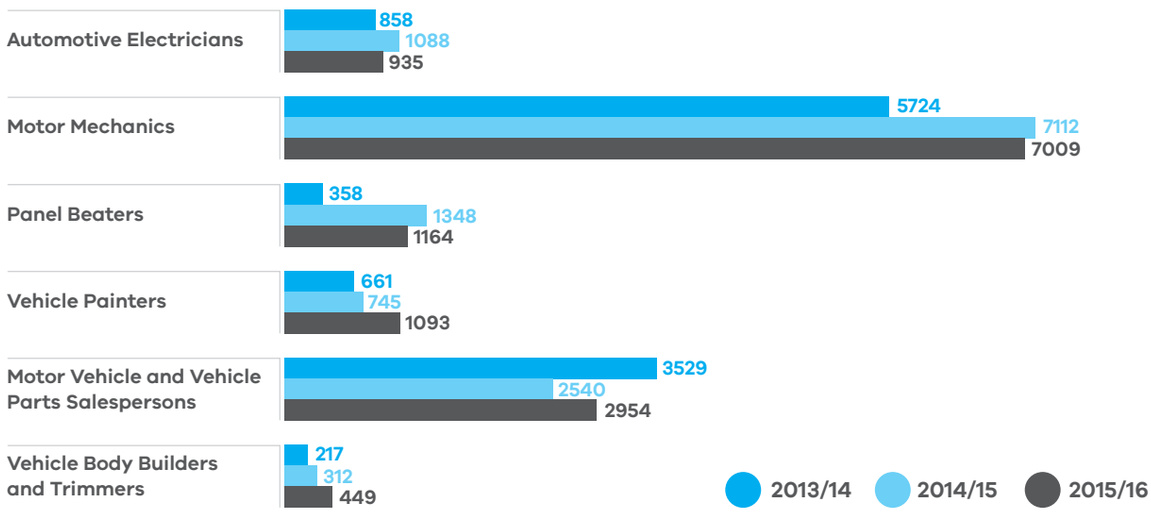
Whilst the State Government is offering support to affected workers through a transition scheme, for many older workers, the prospect of re-entering the job market after a long time can be a daunting experience, particularly as the labour market in South Australia is transitioning from manufacturing to service and other growth-oriented industries. Other government support initiatives, such as the Automotive Supplier Diversification Program, are also assisting supply chain companies to diversify and transition into other markets and business models.

As detailed in Section 3, the South Australia has also taken a leading role in the space of autonomous and electric vehicles through policy initiatives that are facilitating investment in these technologies and enabling South Australia to capitalise on these trends in the future.

Data on employment by occupation (Chart 32) shows fluctuating and volatile employment levels across most automotive occupations over the past three years. Furthermore, Chart 33 shows that there has been a pronounced decline in the number of automotive apprentices and trainees in-training within the Automotive Retail, Service and Repair (AUR) Training Package since 2013/14.

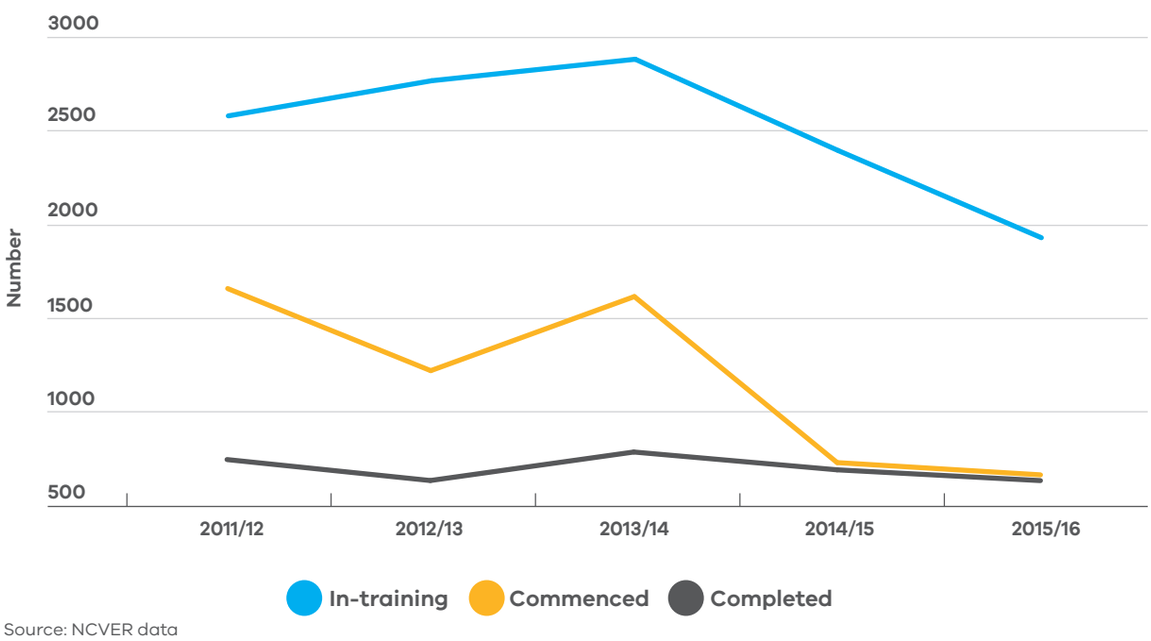
In terms of the population of automotive businesses, Table 19 shows that there was a small reduction of 76 automotive businesses in South Australia in 2015/16, and this was primarily concentrated within the Motor Vehicle Retailing and Motor Vehicle and Parts Manufacturing sectors (loss of 44 and 20 businesses respectively).

Chart 32: Number employed in key occupations, SA



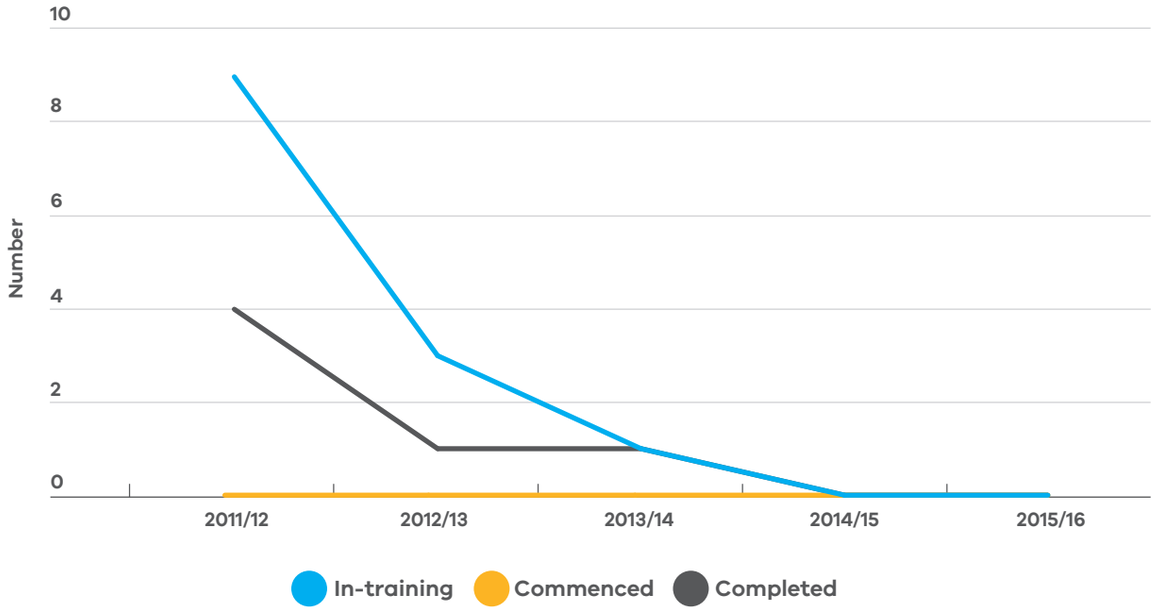
Source: ABS data

Chart 33: Apprentices and trainees, AUR Training Package, SA



Source: NCVER data

Chart 34: Apprentices and trainees, AUM Training Package, SA



Source: NCVER data

Table 19: Sector profile, Automotive Industry, SA

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	5,128	315	-20
Motor Vehicle and Parts Wholesaling	802	350	-5
Motor Vehicle Retailing	5,763	466	-44
Motor Vehicle Parts and Tyre Retailing	2,745	359	-8
Fuel Retailing	2,658	235	-6
Automotive Repair and Maintenance	9,850	2,527	+6
Passenger Car Rental and Hiring	453	92	0
Bicycle Retailing	317	69	-4
Marine Equipment Retailing	191	47	+6
Outdoor Power Equipment Retailing*	326	90	0
Towing Services*	241	195	+2
Agricultural Machinery Retail and Repair*	552	112	-3
Total	**29,026**	**4,857**	**-76**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 20 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for South Australia. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in South Australia.

The most frequent responses included:

- Not enough people entering automotive trades
- The poor quality of available candidates
- Competition for labour from other industries, e.g. mining, building and construction.

In the survey, 46.8 per cent of South Australian automotive businesses reported difficulties in sourcing appropriately skilled labour, with a further 57.3 per cent expecting skill shortages to intensify in the next 12 months.

Table 20: Priority skills shortages – SA

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	712
	Heavy Vehicle Mechanic	208
	Panel Beater	115
	Vehicle Spray Painter	105
	Automotive Electrician	88
	Mechanic – Farm Machinery	24
	Mobile Plant Mechanic	13
	Motorcycle Mechanic	11
	Vehicle Detailer	8
	Engine Re-conditioner	7
	Automotive Glazier	7
Motor Vehicle Retailing	Motor Vehicle Salesperson	85
Motor Vehicle Parts and Tyre Retailing	Tyre Fitter	69
	Motor Vehicle Parts and Accessories Salesperson	63
	Spare Parts Interpreter	56
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	43
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	13
Marine Equipment Retailing	Marine Mechanic	8
		Total: 1,635

Source: Modelled industry and ABS data

BUSINESS CONDITIONS

Most South Australian survey respondents (40.7%) reported business conditions as being variable and characterised by:

- Inconsistent workflows from week to week
- A redistribution of vehicle body repair work by insurance companies amongst body repairers
- Declining consumer confidence due to less disposable income and high living costs

Most respondents (43.6%) anticipate mild growth for their businesses in 2017/18 and this is a result of planned interventions they have initiated to improve the performance of their businesses. These strategies primarily included targeted marketing to capture greater market shares. The ability to diversify and adapt to the changing automotive business environment was also a common theme among respondents that saw future business opportunities. Approximately 29.3 per cent of respondents expected no change in business conditions due to a lacklustre economic environment.

KEY BUSINESS ISSUES

South Australian survey respondents identified the following issues as being particularly significant for their businesses. In order of importance, these include:

- Maintaining profitability
- Economic conditions
- Government policy/regulation.

Comments on government policy and regulation were primarily aimed towards the anti-competitive nature of insurance company behaviour within the vehicle body repair sub-sector, as well as access to vehicle repair information for independent repairers.

Respondents have also identified major disruptive influences to their businesses. The top three disruptive influences reported were:

- Growth of parallel and private vehicle/parts imports
- Anti-competitive behaviour by insurance companies in the body repair sub-sector
- Access to vehicle technical repair information.

Western Australia

Western Australia recorded an aggregate employment of 38,878 people within the automotive industry in 2015/16, a decline of 7,706 or 16.5 per cent from 2014/15 (46,584). Proportionally, this represents the largest decline of all jurisdictions. The reduction in employment was spread across most automotive sectors, except for the Motor Vehicle Parts and Tyre Retailing and Marine Equipment Retailing sectors which grew by 767 and 29 people respectively.

Table 21: STATE SUMMARY - WA

Employment	38,878 people
Motor vehicle fleet, January 2016	2,208,812 vehicles
Average age of motor vehicle fleet	10.5 years
Number of automotive businesses	7,595

Source: ABS data

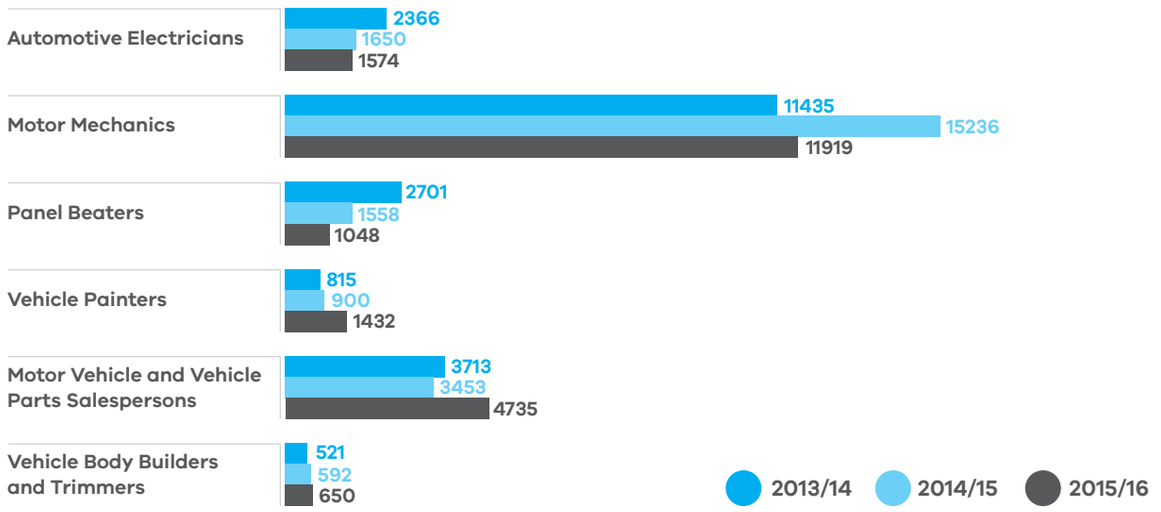
The largest declines in employment were recorded within the Motor Vehicle and Motor Vehicle Part Manufacturing sector (loss of 1,676 people or 49.2%) and the Motor Vehicle and Parts Wholesaling sector (loss of 1,387 people or 37.5%). These decreases were predominantly full-time positions driven by reduced turnover and gross profits from weak local economic conditions, primarily as a result of the downturn in the mining and resources sectors.

Data on employment by occupation (Chart 35) shows fluctuating trends over the past three years, with a rising trend in employment of vehicle painters, motor vehicle and parts salespersons and vehicle body builders and trimmers. By contrast, a declining trend is observed in employment of automotive electricians and panel beaters.

Chart 36 shows a steady decline both in the total number of automotive apprentices and trainees in-training as well as annual commencements within the Automotive Retail, Service and Repair (AUR) Training Package in Western Australia over the past few years. A similar decline is also observed within the Automotive Manufacturing (AUM) Training Package (Chart 37).

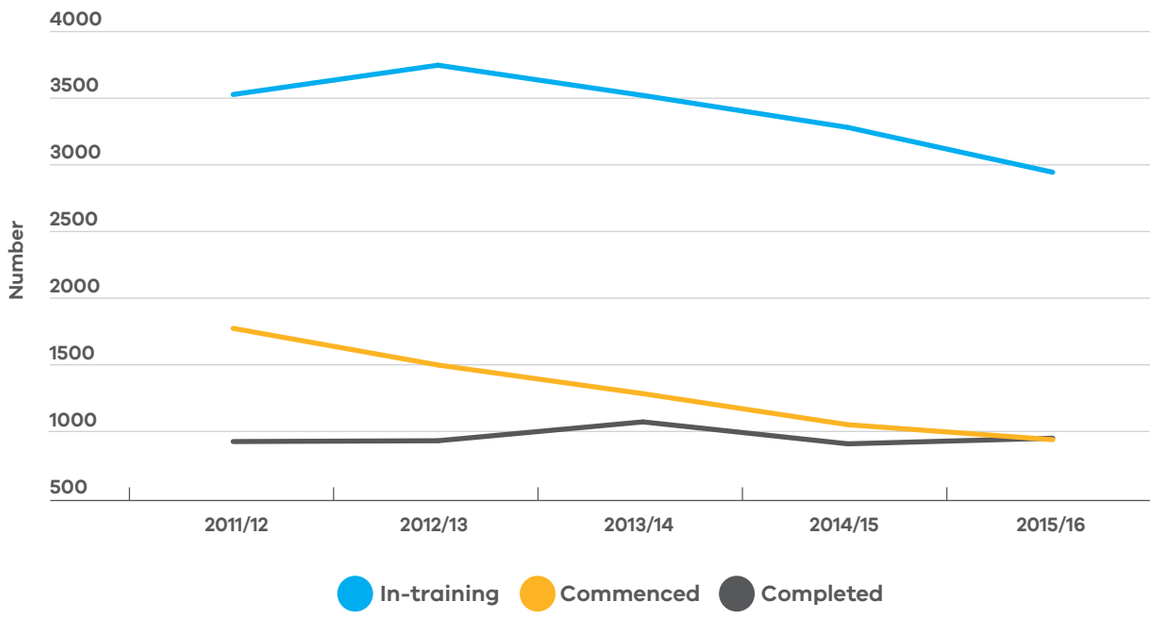
In terms of the population of automotive businesses, Table 22 shows that there was a net increase of 111 automotive businesses in Western Australia in 2015/16, and this was largely driven by an increase in the number of sole proprietor businesses within the Automotive Repair and Maintenance sector (increase of 101 businesses).

Chart 35: Number employed in key occupations, WA



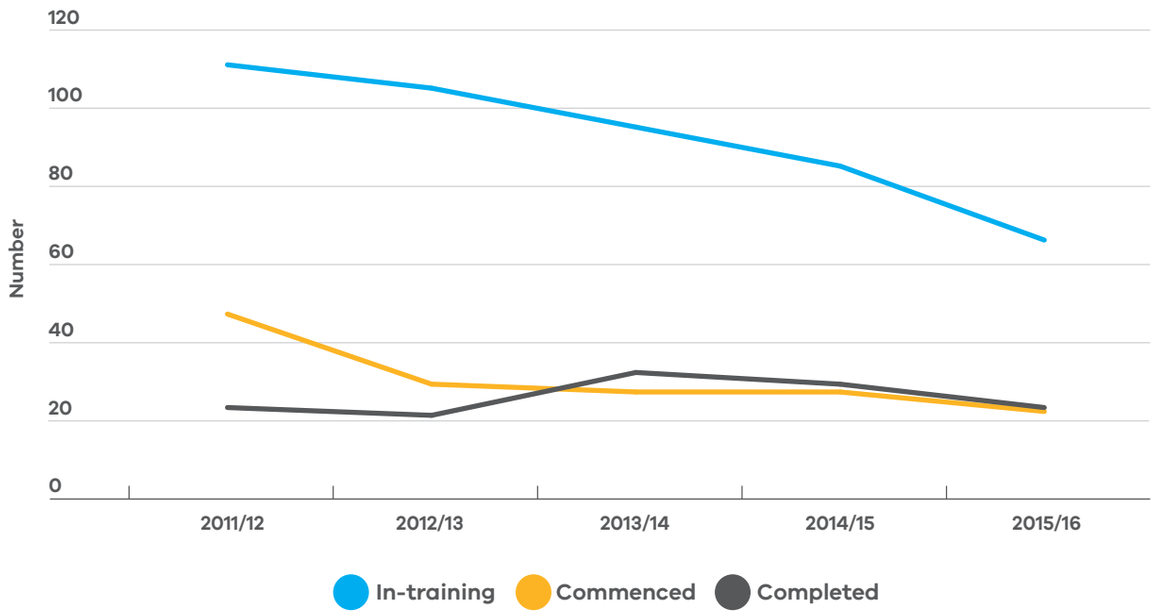
Source: ABS data

Chart 36: Apprentices and trainees, AUR Training Package, WA



Source: NCVER data

Chart 37: Apprentices and trainees, AUM Training Package, WA



Source: NCVER data

Table 22: Sector profile, Automotive Industry, WA

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	1,733	412	+4
Motor Vehicle and Parts Wholesaling	2,311	483	-5
Motor Vehicle Retailing	5,577	559	-7
Motor Vehicle Parts and Tyre Retailing	4,369	532	+11
Fuel Retailing	3,809	350	+12
Automotive Repair and Maintenance	17,626	4,289	+101
Passenger Car Rental and Hiring	901	183	-1
Bicycle Retailing	382	84	-4
Marine Equipment Retailing	520	128	+3
Outdoor Power Equipment Retailing*	561	155	0
Towing Services*	330	266	+2
Agricultural Machinery Retail and Repair*	759	154	-5
Total	**38,878**	**7,595**	**+111**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 23 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for Western Australia. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in Western Australia.

The most frequent responses included:

- The poor quality of available candidates
- Not enough people entering automotive trades
- Attraction of labour towards other industries.

In the survey, 31.7 per cent of businesses in Western Australia reported experiencing skill shortages, and this is the lowest proportion recorded across all jurisdictions. A further 35.9 per cent of expect skill shortages to persist over the next 12 months or more. As indicated, the lower demand for skilled labour amongst automotive businesses in Western Australia is essentially a direct outcome of the decline in economic activity in recent years within the state.

Table 23: Priority skills shortages – WA

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	660
	Panel Beater	219
	Vehicle Spray Painter	154
	Heavy Vehicle Mechanic	110
	Automotive Electrician	95
	Vehicle Detailer	37
	Mobile Plant Mechanic	18
	Motorcycle Mechanic	11
	Engine Re-conditioner	11
	Automotive Glazier	10
	Mechanic – Farm Machinery	9
	Vehicle Trimmer	7
Motor Vehicle Retailing	Motor Vehicle Salesperson	50
Motor Vehicle Parts and Tyre Retailing	Motor Vehicle Parts and Accessories Salesperson	49
	Spare Parts Interpreter	44
	Tyre Fitter	21
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	28
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	13
Marine Equipment Retailing	Marine Mechanic	12
		Total: 1,558

Source: Modelled industry and ABS data

BUSINESS CONDITIONS

Almost equal proportions of Western Australian survey respondents described business conditions as being variable and below average (approximately 31% of responses each) and a further 21.2% described conditions as being positive. A significant proportion (13%) reported conditions as being poor and this was the highest response across all jurisdictions. Weaker incomes coupled with a lack of faith in the local economy are reported to have given rise to lower levels of consumer confidence and spending.

Despite this, a significant proportion of businesses (38.8%) anticipate mild growth for their businesses over the next 12 to 24 months. A key factor in this response are planned interventions on the part of many business owners to improve the performance of their businesses. These include restructuring and diversification, as well as improved focus on marketing and customer service.

KEY BUSINESS ISSUES

Western Australia survey respondents identified the following issues as being particularly significant for their businesses. In order of importance, these include:

- Economic conditions
- Maintaining profitability
- Government policy/regulation.

In terms of government policy and regulation, key issues included anti-competitive behaviour from insurance companies on vehicle body repairers and unfair manufacturer terms and conditions for franchise vehicle dealers.

Respondents also identified major disruptive influences to their businesses. The top three disruptive influences reported were:

- Access to vehicle repair information for independent repairers
- Anti-competitive business behaviour from insurance companies
- Growth of parallel and private vehicle and part imports.

Tasmania

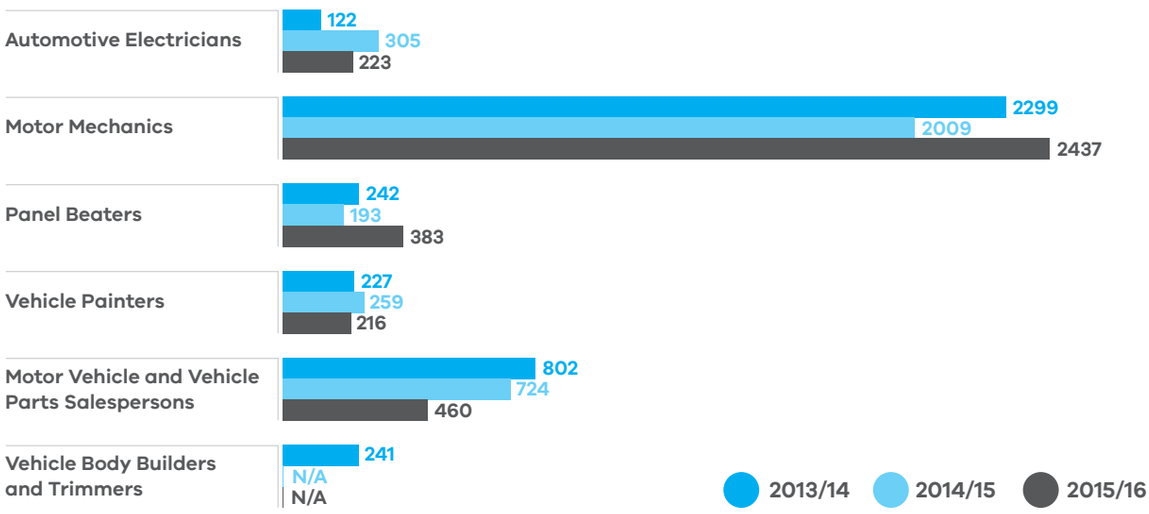
Tasmania recorded an aggregate employment of 7,049 people within the automotive industry in 2015/16, an increase of 333 people or 5 per cent from 2014/15 (6,716). This increase was largely attributed to a rise in full-time employment within the Motor Vehicle Retailing sector.

Table 24: SUMMARY SNAPSHOT - TAS

Employment	7,049 people
Motor vehicle fleet - Jan 2016	457,629 vehicles
Average age of motor vehicle fleet	12.6 years
Number of automotive businesses	1,425

Source: ABS data

Chart 38: Number employed in key occupations, TAS



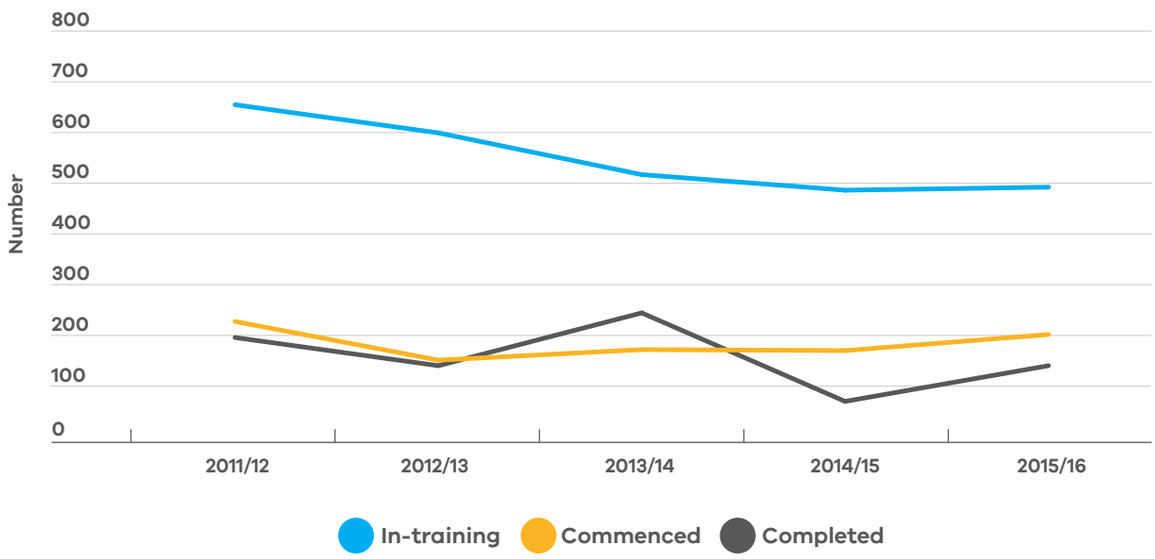
Source: ABS data

Data on employment by occupation (Chart 38) shows a fluctuating trend in employment across most occupations, except for motor vehicle and parts salespersons where a declining trend is observed over the past three years. This trend is driven by declines within motor vehicle and parts wholesaling activities.

Chart 39 shows that there has been a decline over the past few years in the number of apprentices and trainees in-training within the Automotive Retail, Service and Repair (AUR) Training Package in Tasmania. Encouragingly, there are signs that the situation is slowly improving with increases in annual commencements and overall student numbers in-training in 2015/16.

In terms of the population of automotive businesses, Table 25 shows that business numbers have remained relatively stable, with a net increase of 5 automotive businesses recorded in 2015/16.

Chart 39: Apprentices and trainees, AUR Training Package, TAS



Source: NCVER data

Table 25: Sector profile, Automotive Industry, TAS

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	268	53	+1
Motor Vehicle and Parts Wholesaling	404	51	-3
Motor Vehicle Retailing	1,738	121	+2
Motor Vehicle Parts and Tyre Retailing	365	69	-1
Fuel Retailing	555	145	+3
Automotive Repair and Maintenance	2,626	699	+9
Passenger Car Rental and Hiring	138	28	-3
Bicycle Retailing	488	107	-5
Marine Equipment Retailing	61	15	-1
Outdoor Power Equipment Retailing*	138	38	0
Towing Services*	73	59	0
Agricultural Machinery Retail and Repair*	195	40	+3
Total	**7,049**	**1,425**	**+5**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

CURRENT SKILL SHORTAGES

Table 26 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for Tasmania. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in Tasmania.

The most frequent responses included:

- The poor quality of available candidates
- Not enough people entering automotive trades
- Attraction of labour towards other industries.

In the survey, 48.6 per cent of Tasmanian automotive businesses reported experiencing a skilled labour shortage. However, most businesses (50.7%) do not expect skill shortages to persist over the next 12 months or more.

Table 26: Priority skills shortages – TAS

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	312
	Heavy Vehicle Mechanic	70
	Panel Beater	17
	Mechanic – Farm Machinery	15
	Motorcycle Mechanic	14
	Automotive Electrician	11
	Vehicle Spray Painter	11
	Mobile Plant Mechanic	3
	Engine Re-conditioner	2
	Automotive Glazier	1
Motor Vehicle Retailing	Motor Vehicle Salesperson	28
Motor Vehicle Parts and Tyre Retailing	Motor Vehicle Parts and Accessories Salesperson	20
	Spare Parts Interpreter	17
	Tyre Fitter	4
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	8
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	2
Marine Equipment Retailing	Marine Mechanic	6
		Total: 541

Source: Modelled industry and ABS data

BUSINESS CONDITIONS

A significant proportion of Tasmanian survey respondents (36.1%) reported experiencing positive business conditions with a further 6.7 per cent describing conditions as buoyant. These responses were mainly confined to the Motor Vehicle and Motor Vehicle Parts Retailing sector which reported strong income growth and an increase in full-time employment in the 2015/16 income year.

A further 39.3 per cent of respondents described business conditions as variable and this was attributed to inconsistent trading conditions for some sectors. Declining consumer confidence, an uncertain economic and political climate, coupled with new aggressive competition were raised as issues that characterised the variable business conditions.

Most respondents (59.6%) anticipate mild to strong growth over the next 12 to 24 months and this was due to a surge in business optimism from a more positive economic environment as well as the implementation of strategies such as diversification and facility improvements on the part of many operators.

KEY BUSINESS ISSUES

Tasmania survey respondents identified the following issues as being particularly significant for their businesses. In order of importance, these include:

- Maintaining profitability
- Economic conditions
- Technological change.

Respondents also identified major disruptive influences to their businesses. The top three disruptive influences reported were:

- Access to vehicle repair information for independent repairers
- Anti-competitive behaviour by insurers within the Body Repair sub-sector
- Growth in parallel/private vehicle and parts imports.

Northern Territory

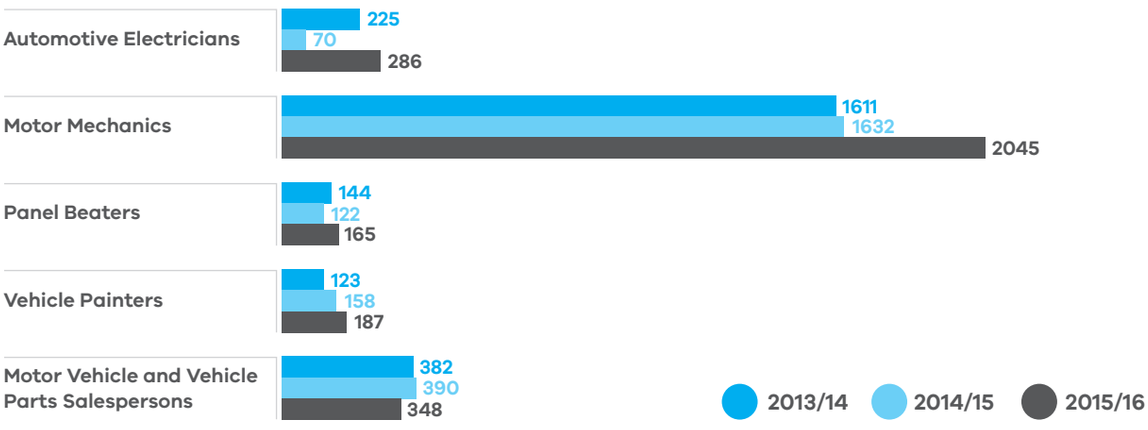
The Northern Territory recorded aggregate employment of 3,971 people within the automotive industry in 2015/16, an increase of 247 or 6.6 per cent from 2014/15 (3,724). This increase was mainly distributed across Fuel Retailing, Motor Vehicle and Parts Wholesaling and the Motor Vehicle parts and Tyre Retailing sector.

Table 27: SUMMARY SNAPSHOT - NT

Employment	3,971 people
Motor vehicle fleet - Jan 2016	157,717 vehicles
Average age of motor vehicle fleet	9.1 years
Number of automotive businesses	650

Source: ABS data

Chart 40: Number employed in key occupations, NT



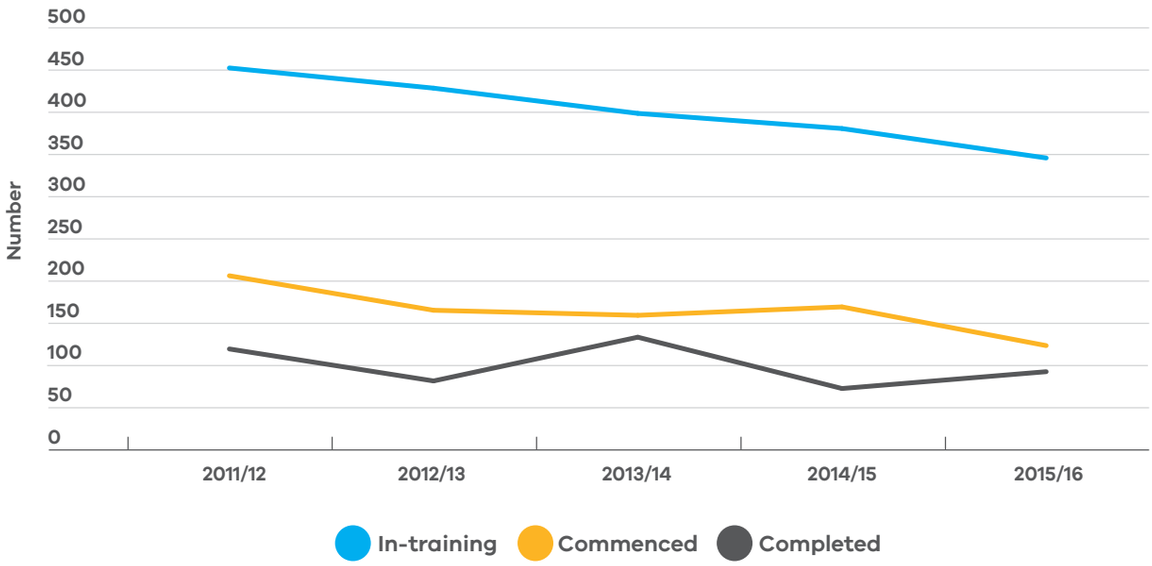
Source: ABS data

Data on employment by occupation (Chart 40) shows an increased trend in employment of motor mechanics and vehicle painters over the past three years, with a fluctuating employment trend observed across other automotive occupations.

Chart 41 shows that there has been steady decline in the number of automotive apprentices and trainees in-training within the Automotive Retail, Service and Repair (AUR) Training Package since 2011/12.

In terms of the population of automotive businesses, Table 28 shows that there was a net increase of seven businesses in 2015/16 within the Northern Territory. The majority of business growth was recorded within the Automotive Repair and Maintenance sector (increase of 22 businesses) and this primarily confined to sole proprietors within the vehicle body repair and light vehicle mechanical repair sub-sectors.

Chart 41: Apprentices and trainees, AUR Training Package, NT



Source: NCVER data

Table 28: Sector profile, Automotive Industry, NT

Sector	Employment Year ending June 2016	Number of businesses as at June 2016	Change in number of businesses from previous year
Motor Vehicle and Parts Manufacturing	96	18	+4
Motor Vehicle and Parts Wholesaling	263	28	+2
Motor Vehicle Retailing	414	44	-12
Motor Vehicle Parts and Tyre Retailing	268	29	-4
Fuel Retailing	507	52	-5
Automotive Repair and Maintenance	2,108	391	+22
Passenger Car Rental and Hiring	79	16	0
Bicycle Retailing	50	11	0
Marine Equipment Retailing	20	5	0
Outdoor Power Equipment Retailing*	94	26	0
Towing Services*	24	20	0
Agricultural Machinery Retail and Repair*	48	10	0
Total	**3,971**	**650**	**+7**

Source: ABS data

*Official estimates for this sector are unavailable. Anecdotal national industry employment estimates are provided and apportioned by state to ABS state population distributions.

Table 29: Priority skills shortages – NT

Sector	Occupation	Estimated Shortage (Number)
Automotive Repair and Maintenance	Light Vehicle Mechanic	402
	Heavy Vehicle Mechanic	63
	Automotive Electrician	25
	Panel Beater	10
	Vehicle Spray Painter	9
	Motorcycle Mechanic	8
	Mobile Plant Mechanic	2
	Engine Re-conditioner	1
	Automotive Glazier	1
Motor Vehicle Retailing	Motor Vehicle Salesperson	15
Motor Vehicle Parts and Tyre Retailing	Motor Vehicle Parts and Accessories Salesperson	14
	Spare Parts Interpreter	12
Outdoor Power Equipment	Mechanic – Outdoor Power Equipment	25
Vehicle Manufacturing – Bus, Truck & Trailer	Vehicle Body Builder	2
Marine Equipment Retailing	Marine Mechanic	3
		Total: 592

Source: Modelled industry and ABS data

CURRENT SKILL SHORTAGES

Table 29 presents numerical estimates of skill shortages by occupation and automotive sector in 2016/17 for the Northern Territory. The estimates were derived from data obtained from the 2016/17 Automotive Industry National Survey.

Reasons for Skills Shortages

The 2016/17 Automotive Industry National Survey identified several factors contributing towards current skill shortages in the Northern Territory. The most frequent responses included:

- Not enough people entering automotive trades
- The poor quality of available candidates
- Poor perceptions of the industry amongst students and the broader community

In the survey, 43.5 per cent of NT automotive businesses reported experiencing difficulties in sourcing skilled labour, with a further 50 per cent expecting skill shortages to intensify over the next 12 months or more.

BUSINESS CONDITIONS

The 2016/17 Automotive Industry National Survey ranked the Northern Territory as the best performing state/territory, with 59.6 per cent of automotive businesses reporting positive business conditions and a further 5.8 per cent recording buoyant trading conditions.

Key characteristics of businesses reporting positive and included developing a more specialist focus and a greater on-line presence. This translated into increased market shares and profits for many operators. Furthermore, the majority of NT respondents (59.6%) expect that positive growth will ensue for their businesses over the next two years, being supported by a favourable economic climate.

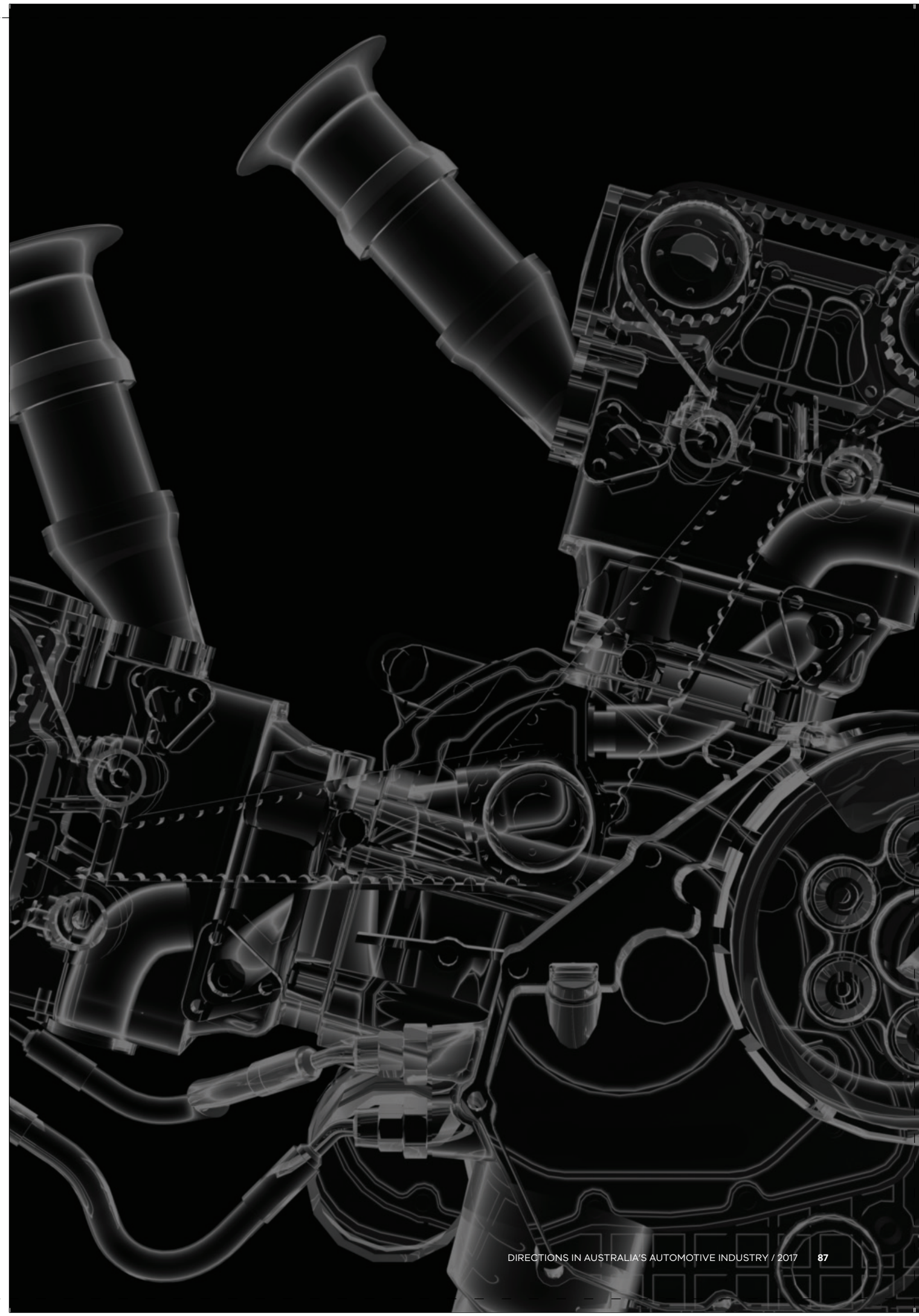
KEY BUSINESS ISSUES

NT survey respondents noted the following key businesses issues in order of importance:

- Technological change
- Maintaining profitability
- Economic conditions.

Respondents also identified the following key disruptors to their business. In order of importance, these were:

- Parallel/private vehicle imports
- Access to repair information for independent repairers
- Anti-competitive behaviour on the part of insurance companies in the Vehicle Body Repair sub-sector.



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