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Acknowledgments

The preparation of this report has involved the participation and contributions of many individuals and organisations. While the final form and content of this report remain the responsibility of the Audit Team, we would like to acknowledge the following individuals and organisations who made substantial contributions throughout the Audit process.

Firstly, we wish to thank the many stakeholders in the Victorian automotive industry. Without the interest and contributions of a wide range of industry stakeholders this audit report would not be possible. This includes all the respondents to the issues paper, those people we met face to face and whose plants we visited, and the participants in the Public Forum on 11 September 2000 that provided much useful advice and information.

The Industry Reference Group (individually identified in the Audit Methodology section), in particular, provided us with an essential link to the industry as we were refining the recommendations and compiling this report.

We would also like to express our appreciation to the Chairmen of the Public Forum and the Forum workshops. These workshops were a critical part of the consultation process and we are grateful to these volunteers for helping make the Forum a success.

Many within the Victorian Government have also contributed to the conduct of this Audit. Special thanks is due to the Automotive Group within the Office of Manufacturing which provided us with invaluable advice, guidance, information, and contacts. This saved us much time and effort and greatly improved the report.

Other units of the Department of State and Regional Development which provided valuable advice and support were: the State and Regional Development Policy Group, the Office of Manufacturing, and Multimedia Victoria. We are grateful for their support.

Other departments which contributed to this report were: the Department of Premier and Cabinet, the Department of Treasury and Finance, the Department of Infrastructure, and the Department of Education, Employment and Training through the Office of Post-compulsory Education, Training and Employment. Their assistance throughout the report drafting process was appreciated.

Finally, we are grateful for the active interest and support that The Honourable Rob Hulls, Minister for Manufacturing Industry and his Staff gave to the Audit Team throughout the Audit process.

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1. Executive Summary

With the enthusiastic participation of many and varied members of the automotive manufacturing industry, this audit has identified a range of gaps in the industry's performance and structure, and puts forward a number of recommendations to address them. These should provide a basis for the industry to improve the growth prospects of this fundamental element of Victorian manufacturing.

The manufacture of motor vehicles and components, parts and accessories is Victoria's largest manufacturing industry, contributing 2.3% of Victorian Gross State Product (GSP) in 1998/99. This represents a total value added component of almost \$3 billion dollars per annum from the industry's total turnover of approximately \$9 billion per annum. The industry also directly employs over 30,000 people in Victoria. While those companies directly involved in the industry are of major economic importance to Victoria in their own right, it is important to note that the industry's significance to the economy extends far beyond automotive production.

The automotive manufacturing industry is a leader in the adoption of new manufacturing technology and processes and is a significant consumer of the output of a wide range of other industry sectors. It's economic significance to the Victorian economy as a whole makes the future of the Victorian automotive manufacturing industry a matter of high priority for the Victorian Government.

The audit acknowledges that the main policy levers affecting the automotive industry are not within State Government control. For example, Australian Design Rules (ADRs), trade policy and macro economic management are Commonwealth Government responsibilities. Also, investment and product decisions, particularly for the vehicle assemblers and some large component manufacturers, are often subject to overseas parent company approval.

However, the conduct of this audit has indicated that there are a wide range of industry enablers which can be significantly improved under a partnership approach involving all Victorian industry stakeholders. These include skills formation and education and training, business-to-business electronic commerce (B2B ecommerce), the quality of supporting infrastructure, human resources management, State taxes and charges, and environmental and safety issues.

This audit addresses each of these specific issues and makes recommendations for a partnership approach by all industry stakeholders in addressing them. However, two central related issues have emerged during the Audit: the need to improve communication across the industry, and the need for all industry stakeholders to develop a shared vision for the future of automotive manufacturing in Victoria.

The current lack of a shared vision and effective communication between industry stakeholders, including; car, truck and bus assemblers, components manufacturers aftermarket parts and accessories manufacturers, design service providers, tooling and equipment providers, unions, education and training providers and the State Government, has contributed to problems in each of the areas mentioned above.

The major recommendations of this report therefore address the issue of improving industry communication and providing an appropriate forum for the development of a shared vision for the industry's future. The recommendations concerning specific issues flow from these central recommendations.

The State Government is committed to manufacturing in Victoria. In order for manufacturing to have a successful future in this State, it is crucial that the automotive manufacturing industry thrives. If this is to occur, all industry stakeholders will have to work cohesively towards this goal. This report represents the first step forward in the pursuit of Victoria becoming a regionally recognised centre for automotive manufacturing excellence.

2. Summary of Recommendations

- R1 Establish a Victorian Automotive Industry Council (VAIC)
- R2 Establish a Victorian Automotive Industry Website
- R3 The VAIC, industry peak bodies and the Office of Manufacturing work together to undertake co-ordinated marketing of automotive industry careers
- R4 Initiate a study, or workshop, to: -
- ascertain all currently available relevant course and education and training providers;
 - identify future demand for different skill sets in the industry and the training requirements this will generate;
 - identify gaps between existing education and training provision and future needs; and
 - develop collaborative approaches to improve provision while minimising gaps and duplication.
- R5 Conduct Business to Business (B2B) ecommerce awareness raising sessions.
- R6 Establish a B2B ecommerce mentoring program.
- R7 Invite the VAIC to formulate and articulate to the State Government whole of industry positions on matters relating to supporting infrastructure.
- R8 That, as a matter of priority, a human resources management (HRM) symposium be organised.
- R9 The Department of State and Regional Development, in consultation with the VAIC, review the structure and nature of the business development programs currently available to the automotive industry.
- R10 Ensure adequate resources are made available for the development and implementation of the Industry Plan.

3. Audit Process

3.1 Background

In its election campaign the Government committed to a strategic audit of Victorian industry to identify both current business needs and the long term strategies needed to realise the growth potential of Victorian industry.

The Department of State and Regional Development is now implementing this commitment in respect of a number of key Victorian industries. The automotive manufacturing industry is one such key industry. For the purpose of this audit the “automotive industry” includes:

- automotive design and engineering services;
- automotive component manufacturing of all kinds;
- automotive aftermarket parts and accessories manufacturing; and
- motor vehicle assembly.

While recognising that responsibility for many of the key policy levers impacting upon the automotive manufacturing industry rests with the Federal Government, the Victorian Government is committed to playing a constructive role in ensuring that Victoria can develop and be recognised as a centre for manufacturing excellence.

A primary objective of the automotive industry strategic audit was to develop, in conjunction with industry, a clear vision of what action is required to ensure the long term success of the industry.

3.2 Audit methodology

Each stage in the strategic audit process was conducted in close consultation with industry stakeholders, including: vehicle assemblers, component, parts and accessories manufacturers, design and technical service providers, tooling providers, unions, industry bodies, and education and training providers. The major stages of the audit included:

- an initial assessment of the key issues currently facing the automotive industry;
- the gathering of industry stakeholder feedback on these issues and an industry stakeholder assessment of the challenges and opportunities the industry faces;
- the development of a discussion paper setting out a range of potential initiatives to improve the industry’s future opportunities for growth;
- conduct of a public forum to gather industry feedback to the discussion paper; and
- the preparation of the final Audit Report, overseen by an Industry Reference Group, which will provide the basis for the development of an Industry Development Plan. The Industry Reference Group membership was as follows: Mr Peter Sturrock (FCAI), Mr Peter Upton (FAPM), Mr Kim Elliott (AAAA), Mr David Purchase (VACC), Mr Denis Payton (TIFA), Mr Ian Jones (AMWU), Mr John Parish (Kangan-Batman TAFE), Prof Ian Bates (RMIT), Mr John Braddy (ATA), Mr Scott Grinter (Autoliv).

This paper represents the Final Audit Report, and was submitted to the Minister for Manufacturing on 31 October 2000.

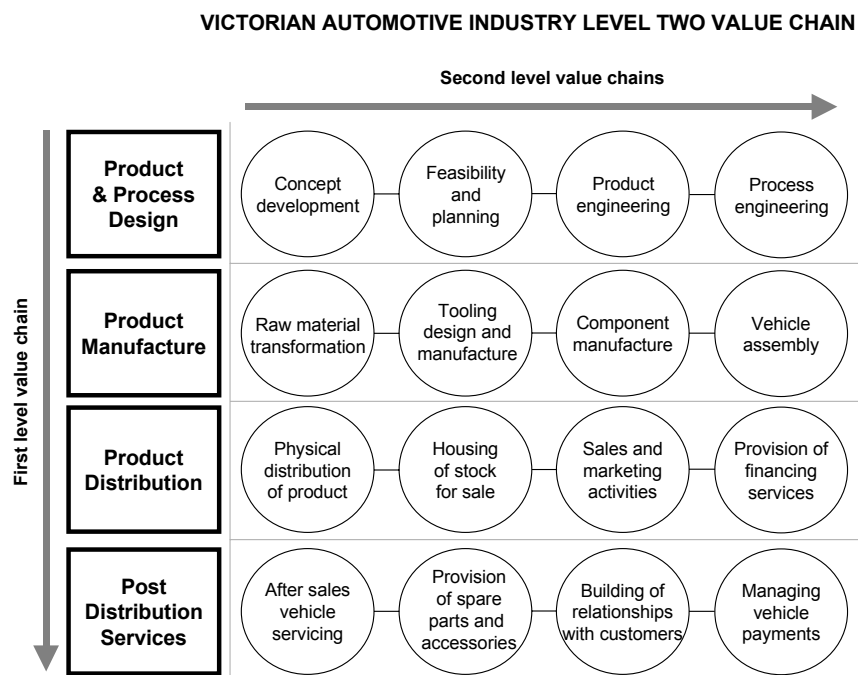
4. Industry Overview

The design, manufacture and assembly of motor vehicles and components, parts and accessories is Victoria’s largest manufacturing industry, contributing 2.3% of Victorian Gross State Product (GSP) in 1998/99. This represents a total value added component of almost \$3 billion dollars per annum from the industry’s total turnover of approximately \$9 billion per annum. The industry also directly employs over 30,000 people in Victoria. This employment is across passenger motor vehicle (PMV) assemblers, bus and truck assemblers, and over one hundred and fifty component, aftermarket parts and accessories manufacturers.

4.1 The industry’s wider economic context

While the industry audit primarily focused upon the activities of those companies directly involved in the automotive manufacturing industry, it is important to note that the industry’s significance to the economy extends beyond the companies directly involved in automotive production. Inputs purchased by the automotive industry represent a major market for companies in other sectors of the Victorian economy. For example, the motor vehicle industry is the single largest purchaser of products from the rubber and the furniture and mattresses sectors of the economy, the second largest purchaser of basic iron and steel products and the third largest purchaser of paints. The automotive industry is also a leading user of advanced technologies which are associated with design and engineering, production, material handling, inspection and testing processes and communications.

One way to examine the extent of the industry’s importance to the Victorian economy is to consider the value chains (which can also be referred to as supply chains) involved in the automotive industry. The diagram below illustrates how the first and second level value chains of the Victorian automotive industry may be represented.



The first level value chain reflects the generic stages in creating and distributing a manufactured product. The product and process design phase represents the first step in this value chain as only once this phase is completed can product manufacturing commence. Similarly, product distribution will follow product manufacture and post distribution service will follow product distribution.

The second level value chains represent the broad areas of activity that are needed in order to perform the functions of each segment of the first level value chain. For instance, in order to manufacture a vehicle, raw materials must be transformed into components and components into sub assemblies before the vehicle can be assembled.

Within each segment of these second level value chains there may be many more value chains at work. For example, beneath the *transformation of raw materials* segment of the *product manufacture* second level value chain lies a wide range of activities such as textile manufacturing, steel manufacturing, paint manufacturing and so on, with each of these activities having their own production value chains. While not all of these activities will necessarily be carried out in this State, Victorian industry and workers will be significantly involved across a wide range of the activities that go into each segment of each of the second level value chains.

Consequently, the importance of the Victorian automotive industry to the wider economy extends beyond the activities of those directly involved in automotive manufacturing. It extends to the Victorian involvement in the activities represented in the third level value chains that can be derived for the Victorian automotive industry.

The automotive industry is also an early adopter of new production technologies, such as Computer Aided Design and Computer Aided Manufacturing (CAD CAM), and lean manufacturing processes such as just-in-time stock control. Thus the industry is a major source of technology and production skills leadership to the rest of the manufacturing sector.

This awareness of the automotive manufacturing industry's wider linkages to the Victorian economy provides an important background context to this strategic audit of the automotive manufacturing industry itself.

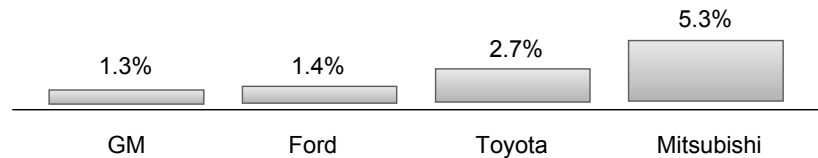
4.2 Industry 'snapshot'

4.2.1 Industry structure

The Australian automotive industry is centred on the local subsidiaries of four major global automotive manufacturers (Ford, General Motors, Toyota and Mitsubishi), two of which (Ford and Toyota) have their vehicle assembly plants located in Victoria. Together, in Australia these companies produce five models of passenger motor vehicles (PMVs) in four factories. Production is heavily concentrated in the upper-medium size category of vehicle, with some production also occurring in the medium size sector. Ford and General Motors also produce utility and van variants of their PMVs for the light commercial market. Total production by the four PMV assemblers in 1998 was 361,000 units, representing less than 1% of world output, with manufacturing capacity approaching 400,000 units.

As the chart below indicates, each of the PMV assemblers' operations in Australia contribute only a small percentage of the turnover of their global parent companies.

**Australian subsidiaries revenue as a percentage of global group revenue
(average for the period 1996-98)**



Source: Audit team analysis of company Annual Reports

In addition to the activities of the four PMV assemblers, there are also substantial low volume/high value bus and truck assembly activities undertaken in Australia by Mack, International, Kenworth, Volvo, and MAN. International and Kenworth are primarily located in Victoria. Heavy vehicle industry activities represent an important component of automotive manufacturing industry turnover.

In addition to vehicle assemblers, there are almost 300 firms producing automotive components and parts and accessories in Australia, over 150 of which are primarily located in Victoria. The largest 35 firms contribute about 75% of local component output. The component sector manufactures a wide range of automotive components (with tyre manufacturers also being treated as a component manufacturers within the context of this audit) for both the vehicle assembly and aftermarket parts and accessories markets. However, there is considerable overlap between the components and parts and accessories sectors, with numerous companies manufacturing for both markets.

Another important sector of the local industry is design and engineering services providers. These professional service firms supply design and engineering services to both vehicle assemblers and components manufacturers. The industry is also supported by the domestic tooling industry, which supplies tooling direct to the vehicle assemblers, component manufacturers, and aftermarket parts and accessories manufacturers. Providers of product testing services also support the industry.

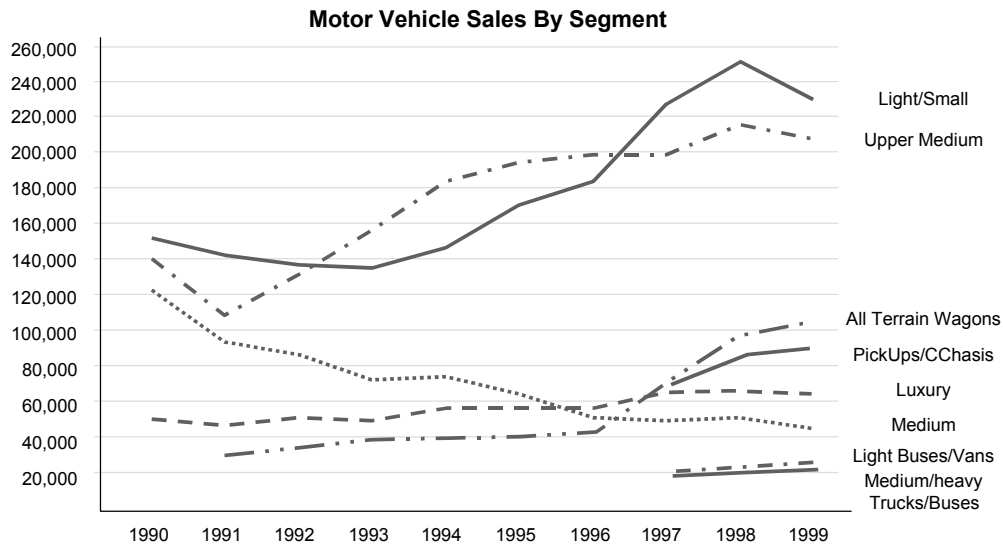
The retail service and repair (RS&R) sector makes up another important part of the automotive industry supply chain. While this non-manufacturing sector of the industry falls outside the scope of this Audit, it should be acknowledged that it is an important element of the overall functioning of the automotive supply chain. Indeed, as the vehicle assemblers are increasingly positioning themselves as brand managers, outsourcing much of the responsibility for the assembly of vehicles and focusing on managing the relationship with their customers, the boundaries between the retail and manufacturing sectors of the industry are becoming increasingly fluid.

The Australian population size and income level dictates the size of the domestic market for PMVs and Commercial Vehicles (CVs). The size of the domestic market for PMVs and CVs in turn dictates the size of the domestic components markets. Due to the limits to domestic market growth and rising levels of import penetration into this market, increasingly both PMV assemblers, components manufacturers and aftermarket parts and accessories manufacturers are turning towards exporting activities in order to reach a

viable scale of operation. However, Australian CV manufacturers are still primarily domestic market focused assembly arms of their overseas parent companies.

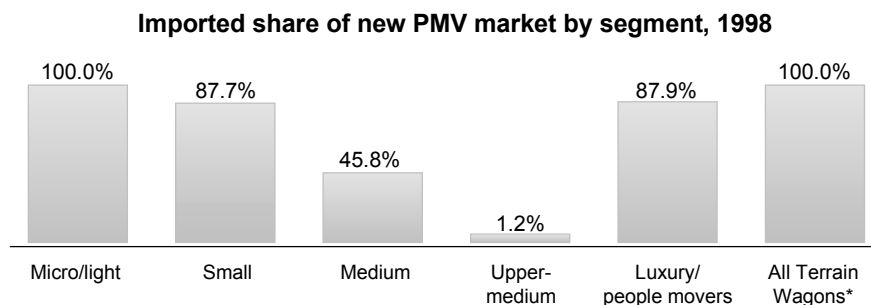
4.2.2 Domestic market profile

The chart below illustrates the level of vehicle sales over the past ten years. It highlights that while there has been a marked increase in total sales, performance of different vehicle segments has been quite diverse. While the commercial vehicle, upper medium, light/small, luxury and all terrain wagon sectors have each grown to varying degrees, the medium car market has contracted sharply.



Sources: DISR, Key Automotive Statistics; The Australian Automotive Intelligence Report

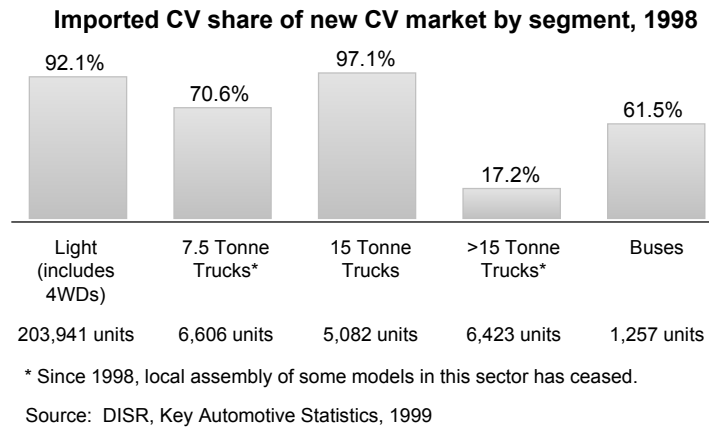
The imported share of the Australian PMV market has been steadily increasing as tariff barriers have decreased and local assemblers have reduced the number of locally assembled models. By 1998 all bar the medium and upper medium sectors were dominated by imports (and since 1998 import penetration in the small car market has reached 100% with the cessation of local production of the Toyota Corolla, while in the medium car segment local production of the Holden Vectra has ended). The figure below clearly illustrates the fact that the local assemblers are highly focused on the upper-medium segment of the PMV market



* While all terrain wagons are technically included in the light commercial classification, they have been included in this chart due to their significant use as a PMV substitute.

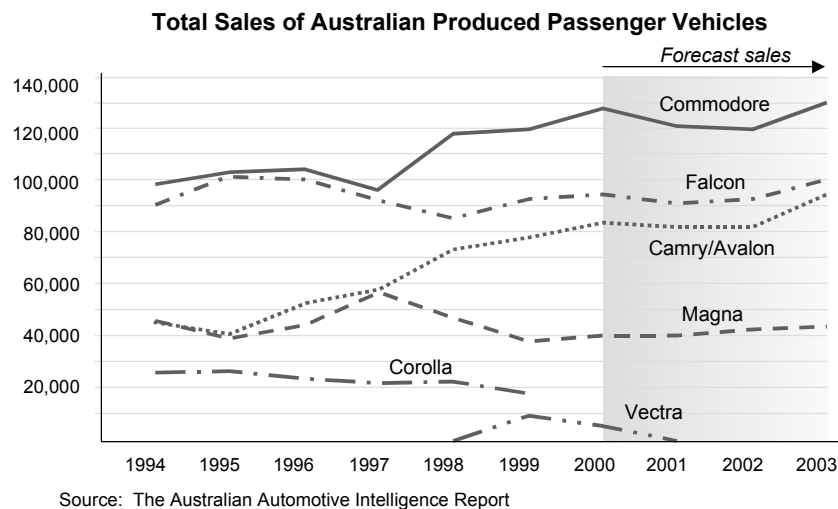
Source: DISR, Key Automotive Statistics, 1999

The figure below indicates that most sectors of the CV market are also dominated by imports. It is only in the greater than 15 tonne truck segment that domestic assemblers have a majority of market share. It is this segment that suffered the most severe sales downturn in the first half of this year in the lead up to the introduction of the GST.



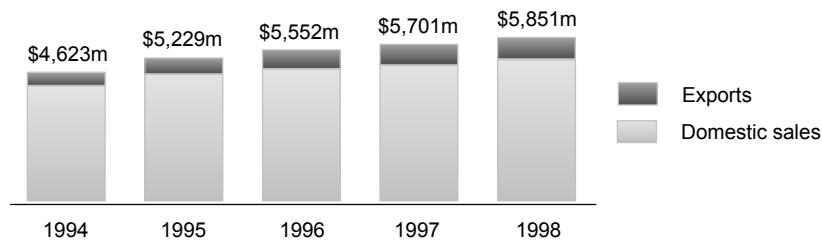
4.2.3 Domestic manufacturing profile

Levels of local PMV assembly are expected to trend marginally upwards over the next three years. This reflects a continuation of solid domestic demand conditions and a continuation of the trend towards increased exporting activity. The chart below indicates recent and forecast total domestic and export sales of Australian produced PMVs.



The level of components manufacturing activity has shown steady improvement over the past five years, particularly in area of exporting activity. Given that domestic components sales are limited by the size of the local PMV assembly activity, exports provide the primary opportunity for significant sales volume growth.

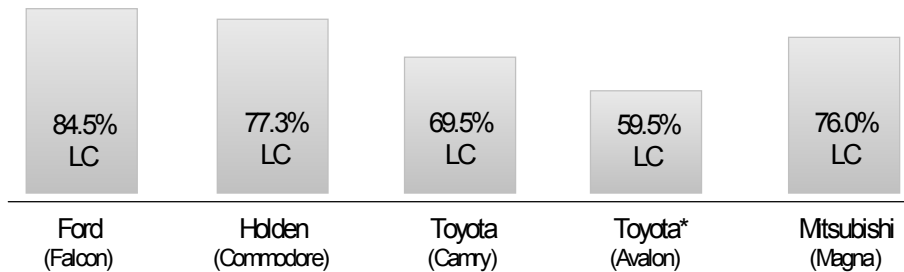
Domestic and export sales of components by FAPM member companies



Source: DISR, Key Automotive Statistics, 1999

Notwithstanding the improving export performance of component manufacturers, the sourcing of locally produced components by the PMV assemblers continues to underpin the performance of the domestic component manufacturing industry. The chart below indicates that for all models currently assembled in Australia a clear majority of components are sourced locally.

Local content (LC) percentages of domestically produced PMV models

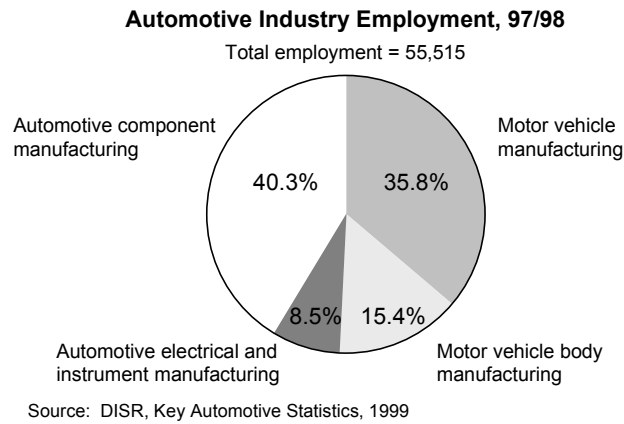


Source: DISR, Key Automotive Statistics, 2000. *Source: Toyota Motor Corporation Australia Ltd; September quarter 2000.

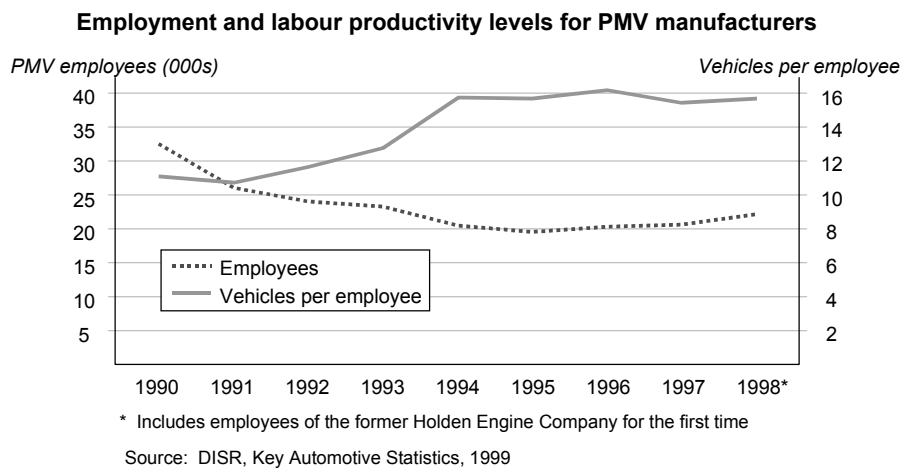
The manufacture of automotive aftermarket parts and accessories is a growing sector of the industry. Domestic producers continue to supply approximately 50% of the domestic parts and accessories market for both domestically assembled and fully imported vehicles. The aftermarket parts and accessories sector is also increasingly focusing on supplying to niche export markets. The automotive tooling sector is also increasingly capitalising on niche export opportunities.

4.2.4 Employment levels

Automotive manufacturing industry employment levels have stabilised over the past three years, following a prolonged period of employment reduction within the industry. There is now a relatively even division of employment between the assembly and components sectors of the industry. The chart below sets out the breakdown of employment for the Australian industry. Victorian employment distribution most likely follows a similar pattern.



As the chart below indicates, the reductions in employment experienced through the early to mid 1990's were accompanied by significant improvements in labour productivity. While labour productivity is still lower than that found in some world markets, as the 1997 Federal Productivity Commission report into the automotive industry indicated, the gap has narrowed significantly and labour productivity appears to be approaching world's best practice levels.



Given the continual trend towards the adoption of automation in production methods, in order for current employment levels to be maintained, a continuation of the improved export performance of the industry is needed. In order for employment levels in the industry to actually increase an even more significant increase in the volume of domestic manufacturing would be required.

4.2.5 Skills profile

The automotive industry draws upon a wide range of skill sets. These extend from shop floor trades, numerous engineering specialisations (including electrical engineering, mechanical engineering and thermodynamics), design skills, project management, finance, marketing and general management skills. Due to the pace of change in the industry over recent years, the quality of the industry's skill sets in each of these areas needs to be continuously deepened and updated. The capacity and flexibility of the institutional and intellectual infrastructure supporting the industry is clearly critical to this process of skills strengthening.

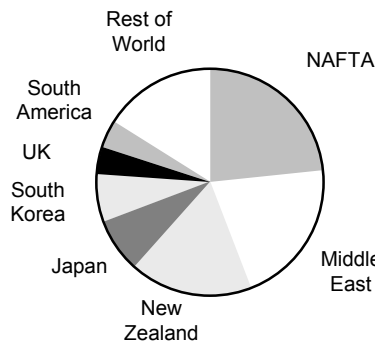
4.2.6 Automotive foreign trade

Despite the recent improved export performance of both PMV assemblers and components manufacturers, Australia remains a significant net automotive importer. In addition to running a significant deficit in the passenger vehicle market, Australia is also a significant net importer of heavier commercial vehicles. The domestic truck and bus assemblers produce almost exclusively for the Australian market, with only small numbers of vehicles being built for export markets such as New Zealand. Other export activities include the growing trade in aftermarket parts and accessories, the export of design and product testing services, and the export of tooling.

As the charts below illustrate, the source of imports and the destination of exports are significantly different. In part this reflects the focus of the local industry on the upper medium sector of the market. Primary export markets for these vehicles are North America, the Middle East, South Africa and New Zealand. The potential for exporting large vehicles into South East Asia appears to be limited given the demand profile of that region and the active presence of the parent companies of the local assemblers in most of those markets.

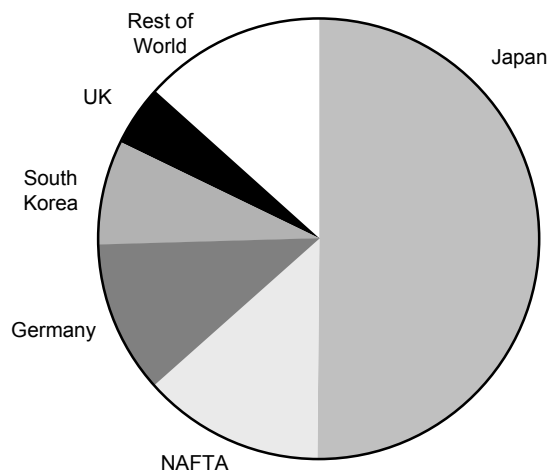
Automotive Industry Exports, 1998

Total exports, \$2,516 million



Automotive Industry Imports, 1998

Total imports, \$12,832 million



Source: DISR, Key Automotive Statistics, 1999

The imbalance of trade in automotive components is somewhat less than the overall automotive trade imbalance, with an import/export ratio of 3.6:1 as against a ratio of 6.5:1 for non component automotive trade.

From the Victorian based segment of the automotive industry, exports have grown from \$350m to over \$1b between 1992/93 and 1998/99. PMV exports have gone from \$224m to \$771m while components exports have increased from \$134m to \$344m over that period. In order for the industry to build the scale of its operations, a continuation of this improved export performance is needed. Therefore, issues such as improving international market access, and the promotion of the industry's capabilities to the world market are of significant importance to the future of the industry.

4.3 Conclusion

As this brief overview of the Victorian automotive manufacturing industry indicates, the industry is a very important part of the Victorian economy. The industry is: -

- a major contributor to the State's output, employment and export earnings;
- a leading adopter of new manufacturing technologies and processes; and
- a major customer for many other sectors of the Victorian economy.

If the industry is to be successful in the future, increasing output, employment and export earnings, there are a range of key challenges that must be met and opportunities that must be capitalised upon. Outlining these general challenges and opportunities is the focus of the next section of this report.

5. Key Challenges and Opportunities

The Australian automotive industry has a number of significant strengths. These include expertise in small volume manufacturing, a high degree of flexibility, some highly innovative products including the use of light metals, and an ability to exploit niche markets. If the industry is to grow in the future, these strengths will need to be fully leveraged for the industry to gain greater access to international markets.

The challenges facing the industry are also significant. These start with a lack of scale due to the small absolute size of the domestic market and the high degree of penetration by imported vehicles. This is compounded by barriers to entry into the ASEAN growth markets and head office allocation of markets.

5.1. Demand issues

The profile of product demand varies widely across different geographic car markets. The best selling models in the United States, South Africa and Thailand are large sports utility vehicles and pickups. In Japan minicars are the market leaders. In Europe, South America and most Asian markets it is small and medium size models that lead sales. In the Australian market there is a more even spread between small models, models in the upper-medium market segment, and 4WD and light commercial vehicles.

The lack of homogeneity in demand profiles across different geographic markets presents a challenge to automotive exporters. In order to succeed in a market, products must reflect local demand conditions. Australia's production focus on the upper-medium PMV sector may severely limit Australia's export options in many markets. At the same time, being a centre of excellence in medium/large rear wheel drive cars provides an opportunity to supply into in some markets such as the Middle East and South Africa.

Increasing environmental concerns, mainly expressed through government regulation, are causing manufacturers to reduce fuel consumption and exhaust emissions. Current efforts focus on hybrid electric/petrol drive trains with a transition to fuel cell power plants in the long term.

The local industry will need to respond to this environmental trend in order to comply with possible changes in local regulations and to secure future export growth. Commonwealth Government policy consistency in respect of environmental matters, ADRs, and fuel standards is of particular significance.

5.2 Production issues

There are several key production trends in the global automotive industry with potentially serious implications for the Australian industry. In recent years there has been a series of mergers between major motor vehicle manufacturers, followed by rationalisation and consolidation of production facilities and the number of model platforms. Vehicle platforms are increasingly providing the base for a range of models, for example the VW Passat and the Audi A4 share the same basic platform. This trend has been in response to growing global production over-capacity and the pursuit of market share. In 1999, the

global production level of 52.9 million units reflected a capacity utilisation figure of only 69%¹. Global mergers involving any of the four PMV assemblers with Australian operations could see changing head office attitudes towards the status of their Australian operations.

Concurrently there has been a trend towards greater outsourcing of systems engineering and manufacturing to first tier systems integrators as the major assemblers transform themselves into being primarily brand managers. In order to be globally cost competitive, first tier components manufacturers are under pressure to increase the size of their operations to take advantage of economies of scale. The trend towards increased systems and manufacturing outsourcing has been accompanied by two other trends. A push for systems integrators to be located adjacent to assembly plants, and to strengthen their product and manufacturing capabilities – usually by joint venture or alliance with a major international systems integrator. This presents further challenges for local components manufacturers.

Some companies have positioned themselves to take advantage of these trends, while others are clear losers. However, becoming a first tier systems integrator may not be a viable option for many smaller components manufacturers. The way forward for such companies may involve them establishing themselves as high quality second or third tier component suppliers. Here, factors such as flexibility, innovation, quality and service are crucial to being globally competitive in capturing and retaining supply contracts.

5.3 The macro economic environment

There is a broad range of economic factors over which the industry has no control but which have a significant impact on the industry. These include exchange rate fluctuations, interest rates, and the rate of economic growth. In combination, these external economic factors seriously affect the industry's cost structure, competitiveness, and consumer demand. How these competing pressures balance out has a significant impact on domestic and international demand for automotive products.

Advanced product and business systems, strategic alliances, and insightful market intelligence are key to coping with these economic forces.

5.4 Technological change throughout the value chain

The automotive industry is now an intensive user of new technology and intellectual property is becoming increasingly important. Technological change is impacting strongly on each stage of the automotive industry value chain. The integration of manufacturing into the knowledge economy is becoming deeper and more sophisticated. Not only is technology, such as robotics and CAD CAM, changing the nature of product design and manufacturing processes, it is also fundamentally changing the way that suppliers interact with their customers.

On the production side, the integration of the computer systems of suppliers and their consumers allows for the streamlining of procurement processes and the strengthening of

¹ The second Automotive Century, PriceWaterhouseCoopers, 2000

customer relationships. While the growth of business to business e-commerce will present opportunities for strengthening supply relationships, it also represents a threat to those who are slow to adopt the technology.

In addition to changes that new information technology tools are bringing about in the management of the production supply chain, new technologies are also changing manufacturing processes. The need for continuous productivity improvement, requires the domestic industry to successfully adopt the latest robotics and automation tools. This must occur within the context of the relatively low manufacturing volume environment that typifies the domestic industry.

Similarly, technology is reshaping the nature of the relationship between the producers of automobiles and their end customers. The Internet allows direct product marketing and distribution, eliminating sales intermediaries. This trend again represents both an opportunity for early adopters, to cut sales costs, increase the quality of post distribution service and build stronger customer loyalty, and a potential threat to those that are slow to adapt.

The need to continuously improve products, manufacturing processes, and business processes, makes it essential that a culture of innovation is established throughout the automotive supply chain.

5.5 Increasing automotive exports

The Australian automotive industry has made significant export gains in recent years. Since the mid 1980s the value of component, aftermarket parts and accessories, tooling, and PMV exports has increased more than six fold. However, the continuation of this export performance can not be taken for granted.

The trends that are reshaping the global automotive industry present Australian exporters with a fresh set of challenges in coming years. Domestic market strengths will need to be built upon and continuously leveraged off. A strong domestic market presence will continue to be critical in underpinning the industry's export potential. The challenge facing the industry is to capitalise on its competitive strengths in design and engineering, light metal die casting and low volume manufacturing of vehicles, components, parts and accessories, and tooling to secure a profitable niche in the world market.

All Australian motor vehicle assemblers, and many component makers, are subsidiaries of multi national companies. As such, their export performance is frequently determined by head office policy rather than product suitability, quality, and competitiveness. Therefore, if export growth is to continue, action will be required by both Government, in the area of international trade agreements, and by individual companies, in winning export mandates from their global parent companies. Individual companies will also need to be continually focused on finding new international niche markets.

However a growing number of smaller component, aftermarket parts and accessories, and tooling and equipment manufacturers are developing niche export markets with international vehicle assemblers and through independent distribution networks. This growth has been fuelled by the global trend to reduce the overall number of vehicle

platforms while maintaining product differentiation through the customisation of vehicles with accessories packages, which is contributing to growth in this sector of the industry. Due to their ability to rapidly respond to emerging niche overseas markets, the primarily small to medium sized enterprises manufacturing aftermarket accessories are increasing their export performance.

5.6 Changing consumer demand patterns

Much of the growth in consumer demand for vehicles in Australia has been divided between small cars and 4WD vehicles. Demand for these has grown at a higher rate than demand for cars in the medium and upper-medium sized sectors. This change in consumer preferences has been accompanied by a growth in the market share of imported vehicles to over 50% of the domestic PMV market. Given the focus of Australian assemblers on the medium and upper-medium market sectors this is a major challenge to the domestic industry.

Domestic demand for vehicles in the upper medium sector is dominated (approximately 80% of sales) by corporate and Government fleet purchasers. Therefore, the local market for domestically produced cars is vulnerable to any change in corporate and/or Government fleet purchasing policies.

As was highlighted earlier in the section on technological change, relationships between PMV assemblers and end customers are changing. This presents opportunities for PMV assemblers to strengthen their links with their customers.

5.7 The impact of Government policy on the industry

Federal and State Government policies have a major impact upon the performance of the Australian automotive industry. Primary areas of Government policy affecting the industry include microeconomic reform (at both Federal and State levels), safety and environmental design standards (including policies on fuel quality), and export promotion activities. Government policy responsibilities and impacts are outlined at Appendix 1.

5.7.1 Microeconomic reform

Three major areas of recent Federal microeconomic reforms affecting the automotive industry have been the continued reform of tariffs on imported automotive products, labour market reforms and the overhaul of the tax system. At the State level, reforms of the utilities industry have generally acted to reduce the cost of major business inputs such as gas and electricity.

In response to the Industry Commission's Automotive Industry Report in 1997 the Federal Government adopted the following policy position towards the industry: -

- the continued phasing down of tariffs at 2.5% per year reaching a rate of 15% this year, where they will remain until 2004 before dropping to 10% in 2005 (however, it should be noted that the tariff on trucks and buses is already at 5%);

- further expected reductions in tariffs prior to the APEC free trade deadline of 2010; and
- the introduction of the Automotive Competitiveness Investment Scheme as the central element of the Automotive Action Agenda.

The continued tariff phase down will clearly impact upon the domestic industry by increasing competitive pressure from imports.

The introduction of the new Federal tax system will have wide ranging effects throughout the economy. Preliminary indications suggest that the new tax system has had a positive effect on the automotive industry.

5.7.2 Safety and environmental design standards

Concern over the environmental effects of vehicle emissions has led to a progressive tightening of vehicle emissions standards in Australia. However, Australian standards still lag behind those in place in some international jurisdictions. As the Australian industry becomes more export oriented, this emissions standards differential may limit the markets Australian manufacturers are able to target. With regards to safety standards, despite Australia's policy of harmonising standards where possible with United Nations Economic Committee for Europe (UNECE) regulations, some differentials between UNECE regulations and Australian standards remain.

5.7.3 Export market access

In contrast to the relative openness of the Australian automotive market, Australian exporters encounter significant entry barriers in most potential markets. In order to improve our export prospects Australia must pursue both multilateral and bilateral trade policy. For example, the Commonwealth should actively pursue access to ASEAN markets on a bilateral basis.

If the industry is to grow in the future, it will need to continue the trend to improved export performance that has been established over the past five years. It is therefore essential that Australia be a participant in any zones of Closer Economic Relations (CERs) that are established in the ASEAN region. If Australia does not participate in such CERs, high tariff and non-tariff barriers will prevent any significant export growth into the ASEAN region.

5.8 Conclusion

The above trends and issues are shaping the general operating environment that the automotive industry faces. They present the industry with a range of broad challenges and opportunities. The next section of the report explores some of the specific issues facing the Victorian automotive industry, where improvement is needed if the Victorian automotive industry is to be able to effectively respond to these challenges and opportunities.

6. Areas for action

If the automotive industry is to succeed in the long term, the entire automotive supply chain must be globally competitive. Throughout the supply chain, products and services must meet global quality and delivery reliability standards. This means that all the elements of the supply chain must have appropriate capabilities in the areas of product design, manufacturing processes and logistics management.

For this to occur, the industry as a whole will need to co-ordinate its activities, have access to a skilled workforce, embrace reliable information transfer systems, interact effectively with State and Federal Governments, have a stable human resources climate, and access to quality supporting infrastructure. Improvements in these enablers will help raise the capabilities of the entire automotive supply chain.

Each of these general capability enablers has been raised in the context of this audit. Some were the focus of specific workshops at the Public Forum held on the 11 September 2000, while others have been raised in individual meetings with industry stakeholders. In this section of the report, these specific areas for action are discussed and are linked to the Audit Team's recommendations.

6.1 Industry co-ordination

The Victorian automotive industry consists of a wide range of stakeholders. These include, car, truck and bus assemblers, component manufacturers, aftermarket parts and accessories manufacturers, tooling manufacturers, design and testing services providers, unions, education and training providers, industry peak bodies and the State Government. A key message that has come from each of these stakeholders is that for the industry as a whole to move forward, all of these groups must work collaboratively towards the shared goal of a successful, growing industry.

At the Public Forum for industry stakeholders, a strong consensus emerged that a shared industry - Government vision for the future of the automotive industry was needed. It was felt that without a shared vision of the future, it will be hard for the industry to co-ordinate its activities effectively and succeed. Government and industry stakeholders need to work together to ensure that there is a shared vision for the future direction of the industry.

The themes to be addressed in such a shared industry vision could include: -

- the need for further integration and strengthening of the supply chain;
- the clear articulation of the importance of the roles performed by each section of the supply chain;
- the development of an industry export promotion strategy;
- the articulation of domestic and export sales targets; and
- the need to foster continuous innovation in both products and processes throughout the industry.

If the State Government, in co-operation with the full range of industry stakeholders, is to play a constructive role in the development of such a shared vision for the industry, it needs to be able to access a whole of industry view on a regular basis. While individual

industry sectors have presented, and will continue to present, their own views to Government, the lack of a whole of industry viewpoint could undermine the State Government's ability to effectively interact with the industry and respond to industry needs.

However, better communication between industry and Government is by no means the only area where improved communication would be of significant benefit to the industry. Improved communication between the different elements of the automotive value chain would help to prevent duplication of effort, reduce product development lead time, and allow for the anticipation and removal of potential bottlenecks in the supply chain. For example, future industry skill needs could be jointly addressed by the industry and training providers, to ensure that the training provided to potential industry employees gives them the skills that will be required. Further, if each sector of the industry communicates with one another, the business planning activities of each sector of the industry will be better informed and form an integrated strategy for the future of the industry.

In addition to a need for greater communication between industry stakeholders, a number of the workshops held at the Public Forum suggested that the improved information flows across the industry were essential. The automotive industry is currently undergoing a period of extensive technological and structural change. If industry participants (including Government) are to successfully respond to these changes, they must first be well informed about the technological and structural changes that will be impacting on them. Making this information easily available to all industry participants would be of significant benefit, particularly for small and medium sized enterprises. At the Public Forum, it was suggested that the development of a content rich industry web site, where such information could be made easily accessible to all industry participants, would be an appropriate response to this issue.

In response to the need for the development of a shared vision for the industry's future, greater strategic communications across the industry, and improved information flows, the Audit team recommends: -

R1 Establish a Victorian Automotive Industry Council (VAIC)

R2 Establish a Victorian Automotive Industry Website

6.2 Skills formation and education and training

Skills formation and education and training have emerged as key issues confronting the automotive industry. These concerns are closely linked to work force development and employment.

The industry faces staff quality and quantity problems across the board: from production and trades to engineering specialisations, from clerical to senior management. The reasons for this are many and complex. They range from the poor image of manufacturing as an industry, to ignorance of the employment prospects available. From uncertainty about the future of manufacturing to a significant, and growing, mismatch between courses and qualifications provided, and those needed by the industry.

There is clear evidence of a significant shortfall of knowledge as to what courses are available under the existing Australian Qualification Framework on the one hand, and industry needs on the other. Given the wide range of issues that have emerged concerning education and training these matters were addressed in two separate workshops at the Public Forum.

The first workshop sought solutions relating to current quality and quantity shortfalls in the availability of shop floor workers and skilled trades/technical people. The second workshop addressed the acute shortage of para/professional skills in the areas of design and engineering. Obviously, there are strong linkages between these two areas. Potential solutions put forward in the workshops often related not just to individual training areas but to across the board issues.

Production workers

Production workers now have to be able to undertake basic equipment maintenance, elementary diagnosis and solution of production problems, and provide useful suggestions for further improvements. The increasing sophistication and complexity of many products, particularly motor vehicles, requires ever-greater product and process knowledge and understanding.

The negative image of manufacturing as an industry, and a perceived anti-manufacturing bias in the education system, appear to be the main impediments to attracting the necessary talent. The industry has expressed strong approval of the Department of State and Regional Development's support of "Automotive Week", and the development of career seminars to promote the automotive industry to young people. However, the discussion at the Public Forum left no doubt that more initiatives are needed, from both Government and industry, to improve not just the image of the automotive industry but manufacturing in general.

Other major difficulties explored included: -

- a lack of competency in English;
- basic numeracy and technology/trade awareness;
- the need for cultural change in the industry;
- the need for development of integrated automotive industry specific training courses at the sub-diploma, diploma, and post-diploma levels;
- the need for an automotive industry website (refer also Recommendation 2); and
- work force attrition as baby boomers begin to retire.

Professional and para-professional workers

The increasing sophistication and complexity of motor vehicles also calls for a broad range of para/professional skills. The industry seems to be generally satisfied with the quality of the basic engineering qualifications available. However, there are significant shortages across a wide range of specialisations including design/graphics, thermodynamics, optics, electronics, toolmaking, mechatronics, computer programming, and software development. The industry has also indicated problems in attracting first class graduates in such disciplines as law, commerce and marketing. These difficulties are even more pronounced for manufacturers in regional areas.

The recent Karpin report noted weaknesses in Australian management standards and emphasised the need for continuous updating of skills. The strengthening of management skills was also viewed by the industry as an important issue. Given the rapidly changing nature of the global automotive industry, the adoption of a culture of continuous learning for management, as well as production workers, is necessary for the industry to meet the challenges that it faces.

Issues such as the image of manufacturing as a career base, the need for an industry vision, the need for an industry plan, and the urgency in addressing some of the issues raised are common across all sectors and levels of the industry.

Matters specific to the para/professional levels of the industry include a looming shortage of automotive engineers internationally, the need for better marketing of engineering as a career, and better collaboration between the industry and training/education providers.

R3 The VAIC, industry peak bodies and the Office of Manufacturing to work together to undertake co-ordinated marketing of automotive industry careers.

R4 Initiate a study, or workshop, to: -

- **ascertain all currently available relevant courses and education and training providers;**
- **identify future demand for different skill sets in the industry and the training requirements this will generate;**
- **identify gaps between existing education and training provision and future needs; and**
- **develop collaborative approaches to improve provision while minimising gaps and duplication.**

6.3 Business to Business (B2B) ecommerce

As automotive assemblers devolve more component design and integration responsibility to emerging systems integrators, the need for seamless secure information flows along the supply chain is driving the rapid adoption of B2B ecommerce in the industry. This may also provide for significant transaction costs savings. The drive towards the adoption of B2B ecommerce is also being fuelled by vehicle assemblers' desire to reduce the lead time between a customer ordering a specific vehicle and the delivery of that vehicle to the customer.

In response to the need to lower transaction costs, improve information flows, lower vehicle delivery lead times, the United States automotive industry has become a leading edge adopter of B2B ecommerce systems. However, participants in the workshop on B2B ecommerce at the Public Forum, strongly questioned whether the same could be said of the Australian automotive industry.

A wide range of levels of awareness, and usage of, ecommerce systems in the Victorian automotive industry is evident. The automotive assemblers and large component manufacturers generally have high awareness and usage levels. This is particularly true of companies with linkages to wider global company groups. Data flow linkages between

emerging systems integrators and the assemblers are strong. However, linkages back down the supply chain to component manufacturers who will increasingly fill a Tier 2 or Tier 3 or 4 function are generally far less developed.

It was also noted that as the relationship between manufacturers and the end consumer becomes closer, many small manufacturing firms may also need assistance with developing their business to consumer (B2C) ecommerce practices.

While almost all the players in the industry use CAD systems for design and significant levels of automation in their production processes, many of the smaller component suppliers have not digitised their business processes to the same degree. There is a significant danger that those who do not integrate these business processes with the systems of their customers and suppliers will struggle to remain competitive in the future. They stand to miss out on the opportunities for inter-company co-operation that B2B ecommerce will present. As platforms for ecommerce (such as the Australian Automotive Network eXchange (AANX)) mature, industry participants that remain unaware of, and uninvolved in, these developments may simply be left out of the increasingly digitised supply chain. Given the speed at which the industry globally is moving towards the digitisation of the supply chain, the adoption of a 'wait and see' attitude is not a viable option for the local industry.

Given the time critical nature of this issue for the Victorian industry, the Audit Team has developed a range of recommendations, in addition to the recommendations set out in the context of industry co-ordination, for accelerating the industry's adoption of B2B ecommerce. These recommendations are: -

R5 Conduct Business to Business (B2B) ecommerce awareness raising sessions.

R6 Establish a B2B ecommerce mentoring program.

6.4 Environmental and safety standards

Issues raised in the area of environmental and safety standards included the age of the Australian car fleet, emission standards, fuel standards and engine technology, fuel prices, and safety concerns about sub-standard imported replacement parts.

At an average age of 10.6 years Australia has one of the oldest car fleets in the developed world. Trucks also tend to be kept in service much longer in Australia than in other developed nations. This has significant implications for safety and the level of exhaust emissions.

Notwithstanding an agreed timetable for the implementation of the more stringent Euro 2 and Euro 3 emission standards over the next three years, Australian standards are still less strict than world leading standards. This has significant implications for:

- Australia's ability to meet its Kyoto protocols;
- the exportability of Australian-made vehicles to advanced markets; and

- fuel prices. If improved fuels cost more than current standard fuels then the uptake rate will be very slow and this will impede the introduction of new engine technology.

There are also industry concerns about the performance of imported sub-standard replacement parts. Insofar as these do not comply with Australian standards they may pose a safety threat. This is an enforcement issue. There is a belief in the industry that Australian road safety standards are not always enforced.

Participants in the environmental and safety standards workshop at the Public Forum noted that there are already three ongoing forums in Victoria that relate to some of the above issues. These include: -

- an inquiry by the Parliamentary Road Safety Committee into aspects of vehicle roadworthiness;
- a VicRoads discussion paper entitled Road Safety Strategy for Victoria, 2000-2005 and an accompanying consultative process; and
- a Draft Air Quality Improvement Plan for the Port Phillip region issued by the Environment Protection Authority.

The Victorian Automobile Chamber of Commerce and the Federal Chamber of Automotive Industries have made submissions to both the Parliamentary Committee and to VicRoads in regards to the above reviews. Consequently, while the Audit Team acknowledges that the industry has concerns in the areas of environmental and safety standards, it may not be appropriate for any recommendations to be made in these areas at this time. The conclusions of the above mentioned reviews, will most likely cover many of the areas of industry concern regarding environmental and safety standards that have been raised during the audit process. Nevertheless, the issue of fuel standards, which is a Commonwealth responsibility, requires resolution. This is a potential area for State advocacy at the Federal level.

6.5 Advocacy role for State Government

The State Government has, and will continue to be, a strong advocate of the Victorian industry. A strong industry consensus emerged during the audit consultation process for the State Government to continue to exercise an advocacy role to influence Federal Government policy affecting the automotive industry. Given the consensus regarding this role, the issue was not specifically addressed at the Public Forum.

The advocacy role of State Government, in helping to shape Federal Government policy concerning the industry, covers a very broad range of issues. These include tariff arrangements, market access, investment attraction, industrial relations legislation at the Federal level, macro economic settings, and international relations.

The State Government is aware of the industry's position on a range of issues, such as its desire for Australia to be included in the establishment of any zones of Closer Economic Relations (CERs) that are established in the ASEAN region, where advocacy at the Federal level may be helpful. However, if the State Government is to perform a useful advocacy role at the Federal level, it is vital that it has access to a whole of industry view on matters

that federal policy impacts upon. The VAIC should provide the appropriate forum for such a whole of industry view to be formulated and articulated.

6.6 Supporting infrastructure

Efficient infrastructure is an essential enabler for all economic activity. Supporting infrastructure refers to physical, intellectual and institutional infrastructure.

In terms of physical infrastructure, the automotive industry is particularly concerned about transport infrastructure, especially the efficiency of the Port of Melbourne, railways (interstate connections), electricity costs, telecommunications (particularly in regional areas), and roads generally in terms of both supply chain efficiency and the use of motor vehicles. As the Government will be addressing these issues in the overall context of State development, and they are not unique to the automotive industry, supporting physical infrastructure was not workshopped at the Public Forum.

Intellectual supporting infrastructure refers to the research and development and education and training activities that support the industry. The industry expressed general concern that the climate for research and development was not supportive of optimal levels of research and development being undertaken. The reduction of the Federal research and development tax concession was cited as an example of this lack of support.

While there appears to be general industry concern regarding the supporting climate for research and development, the Audit Team did not receive a clear picture of how the State Government could assist in improving this climate. There is a need for a more consolidated industry position on this issue to be developed.

The institutional supporting infrastructure relating to the industry refers to the various industry peak bodies, industry councils, Unions and Government departments that represent and/or deal with the industry. These bodies each need to have clearly defined roles and interact efficiently. The establishment of the VAIC will both improve the interaction between these institutional groups and enable clarification of the roles that they each fulfil.

To address the issue of the quality of supporting physical and intellectual infrastructure, the Audit team recommends the following: -

R7 Invite the VAIC to formulate and articulate to the State Government whole of industry positions on matters relating to supporting infrastructure.

6.7 Human resources management

Discussion of human resources management (HRM) in the automotive industry has generally been focused on traditional industrial relations issues. Recently these have included Campaign 2000, the rigidities of existing award arrangements/union demarcation disputes which inhibit the industry's ability to maximise asset utilisation, job security, supply chain exposure to third party industrial disputes, and the difficulties of negotiating agreements which address individual enterprise needs. These are important and complex

issues affecting the industry's competitiveness. However, given the sensitivities of the current industrial relations climate, these issues were not workshopped at the Public Forum.

However, the Audit Team believes that the industry could extract considerable value from a broader HRM symposium conducted separate to the audit and after the current round of industrial relations negotiations is concluded. This symposium could examine issues such as: the use of enterprise bargaining to facilitate enterprise cultural change, the development of automotive career paths, the costs of supply chain vulnerability to industrial disruption, industry needs in terms of labour force flexibility, and training and education in the context of industrial agreements.

To promote the development of a constructive human resources climate, the Audit Team recommends the following: -

R8 That, as a matter of priority, a human resources management symposium be organised.

6.8 State taxes and charges

State taxes and charges, particularly pay roll tax and stamp duties on motor vehicles, are of concern to the industry. Numerous industry participants expressed a view that these taxes should be reduced or abolished.

In May 2000 the Treasurer established an independent State Tax Review Committee, to review State business taxes. This committee will be making its recommendations to the Treasurer in mid December 2000. Several automotive industry participants have made submissions to this review. Given that this review is currently under way, and that the ability of the State to respond to industry preferences is dependent upon broader taxation issues (eg. the impact of the Goods and Services Tax) the issue of State taxes and charges was not discussed at the Public Forum. Consequently, the Audit Team does not make any recommendations on the issue of State taxation.

However, given the ongoing importance of State taxes and charges to the industry, the VAIC would be an appropriate conduit to keep the Government informed of the industry's views.

6.9 Current State Government programs

The range of Business Development programs administered by the Department of State and Regional Development are listed in Appendix 2. In general terms these programs are tailored to the main development stages in the life of a business. This implies that their primary focus is small and medium enterprises.

These programs range from a subsidy for a generic diagnostic report to support for outward trade missions. The programs administered by DSRD are listed at Appendix 2. In addition, the Government also provides investment facilitation and incentives on a case

by case basis. Other departments, notably the Department of Education Employment and Training, also provide some support for industry training programs.

The Audit Team encountered a range of responses as to the efficacy of these programs. In general, awareness and usage seemed relatively low. The Export Manager Program was strongly endorsed, as were various training support initiatives.

Criticisms include lack of flexibility, the amount of the subsidy available, and the range of eligible circumstances. The Audit Team believes that these criticisms stem mainly from the 'one size fits all' approach underlying any generic program design. A move towards greater customisation of business development programs to meet the needs of specific industries may be needed.

State Government programs should also be designed to complement, rather than duplicate Federal Government programs relating to the automotive industry. Particularly in the area of export facilitation, the State Government needs to integrate its programs with Federal initiatives. These include the Automotive Competitiveness and Investment Scheme and the Federal Automotive Market Access and Development Strategy which are set out in the Department of Industry Science and Tourism's Australian Automotive Action Agenda.

Therefore the Audit Team recommend: -

R9 The Department of State and Regional Development, in consultation with the VAIC, review the structure and nature of the business development programs currently available to the automotive industry.

6.10 Conclusion

This chapter of the report has set out the major areas for action that the Audit Team identified during the conduct of this Audit. In the next chapter each of the recommendations that are linked to these areas for action are set out in greater detail.

The further development and implementation of each of these recommendations will require significant work. In order for these important tasks to be undertaken, appropriate resources will need to be allocated. Therefore, in addition to the recommendations relating to the areas for action discussed above, the Audit Team recommends that the State Government: -

R10 Ensure adequate resources are made available for the development and implementation of the Industry Plan.

7. Recommendations

There is a wide range of industry enablers that the State Government can directly influence that are in need of improvement. These include skills formation, business-to-business electronic commerce (B2B ecommerce), the quality of supporting infrastructure, the human resources climate, State taxes and charges, and environmental and safety issues.

This report addresses each of these specific issues and makes recommendations for a partnership approach by all industry stakeholders in addressing them. However, three central, and related, issues have emerged: the need to improve communication across the industry, the need to improve industry-Government interaction, and the need for all industry stakeholders to develop a shared vision for the future of automotive manufacturing in Victoria.

Consequently, the Audit Team's first two recommendations address the issue of industry co-ordination. These recommendations will create a forum for industry debate, a mechanism for the whole 'industry' to communicate with the State Government, and an improved method of information sharing in the industry. All of these will become important tools for addressing the other recommendations of this report.

Each of the recommendations below will require more detailed development within the context of the implementation plan to be developed following the Government's consideration of this Audit Report.

R1 Establish a Victorian Automotive Industry Council (VAIC)

A key message coming from all industry stakeholders is that for the industry to move forward, they all must work collaboratively towards the shared goal of a successful, growing industry. Participants at the Public Forum agreed that there was an urgent need for the development of a shared industry vision for the future of automotive manufacturing in Victoria. This recommendation for the establishment of a Victorian Automotive Industry Council (VAIC), is based on suggestions for improving industry co-ordination and vision put forward by industry stakeholders at the Public Forum.

The VAIC should become the peak 'automotive industry' body in Victoria. It should include the whole supply chain at all levels to the maximum extent practicable. Its mission should include: -

- the urgent development of a shared vision for the future of the Victorian automotive industry (refer section 6.1);
- the identification and development of an industry response to key long term strategic industry issues, i.e. post 2004; and
- the identification and development of an industry response to short term (tactical) issues, i.e. pre 2004, that require immediate attention.

It is recognised that organisations representing various sectors of the automotive industry already exist. However, invariably these are either national bodies and/or do not represent all members of the supply chain. The VAIC would focus on State issues and enable the

industry to develop whole of industry positions to present to national or broader State advisory bodies such as the Manufacturing Industry Consultative Council (MICC).

An important aspect of VAIC's activities that would require close management is its interaction with other industry or government bodies and institutions. For example, the image of manufacturing in general, and automotive in particular, as a career choice is a major industry concern. Clearly, this is a broad matter that the MICC should address. Given the automotive industry's keen interest in this, and the significance of automotive manufacturing, VAIC should work closely and consistently with the MICC on any initiatives designed to remedy this perception.

The proposed VAIC would consist of no more than twenty members including representatives from: car, truck and bus assemblers, components manufacturers (T1, T2 and T3), tool makers, parts and accessories manufacturers, product testing service providers, design service providers, unions, education and training providers and the State Government.

It is envisioned that this Council would meet quarterly once it is fully operational. However, the Forum workshop agreed that monthly meetings initially, were essential to develop the momentum necessary to ensure long term success. Precise details of the Council membership structure and nomination processes will need to be refined during the development of the implementation plan following the consideration of this report. However, a few of the key features of the Council are set out below: -

- Members would initially be appointed for a two-year term. During this period, a system for membership turnover would be introduced.
- Potential members should initially be nominated by major industry stakeholder groups and should include representatives from both large and small industry participants.
- So that the Council is not seen as a closed shop, all Council meeting notes and recommendations would be posted on the Victorian Automotive Industry Website (see recommendation 2). Industry stakeholders would thus be able to send in suggested agenda items and comment on Council recommendations.
- The Council would have the right to invite others, including representatives from relevant state and federal government departments, to attend meetings.
- The Council will not replace the various industry peak bodies, or prevent them or individual companies from talking directly with the Government as they do currently.
- The Council will enable industry stakeholders to co-operate in addressing common issues.
- The establishment of the Council, as is set out in other recommendations in this report, is linked to it having a range of concrete responsibilities and the resources to fulfil them (some additional possible functions of the council are set out below).
- The Council would be an essential organisation for the enhancement of the automotive industry in Victoria, and to assist in achieving the State Government's objective of Victoria as a centre of manufacturing excellence.
- To enhance the link with the State Government and progress the industry vision, the industry participants at the workshop deemed it desirable that the Minister for Manufacturing, The Hon Rob Hulls, at least initially chair the Council. It was

noted that in South Australia a similar body - AUTO21 - is chaired by the Premier.

- The Council should be supported by an Executive Officer who will be responsible for ensuring that its recommendations are implemented.

It is not the purpose of this recommendation to prescribe the Council's modus operandi. However, useful models include sub-committees and/or working parties to develop specific issue agendas, prepare discussion papers, and/or implement Council decisions. These sub groups could cover areas such as human resources management, the image of the automotive industry, industry skill formation needs, and improving the capabilities of the supply chain in areas such as B2B ecommerce adoption. So as to maintain the essential link with the main body, a Council member should chair each sub group. Initially the issues agenda could be based on the recommendations of this Audit.

For example, skill formation and education and training was the second largest specific area of concern articulated to the Audit Team. As can be seen from the discussion in the preceding chapter, the issues are many, varied, and complex. Consequently, a sub-committee on skill formation and education and training, would be a logical mechanism for dealing with the potential workflow.

While it is not envisioned that the sub-committee would directly undertake all the work, it is clear from the scope of the issues, and the recommendations made, that a mechanism is required to address and manage these matters.

The Audit Team believes that it would be appropriate for the VAIC, given that its membership would include representatives of all industry stakeholder groups, to determine the composition and operating procedure for this and any other sub-committee/working party. However, given the urgency of some of these issues, consideration should be given to establishing an interim-working group to initiate and oversee some of this work.

Another potential role for the Council (in addition to those set out in the other recommendations) would be to present a whole of industry view to the State Government on matters requiring State Government advocacy on the industry's behalf. As noted throughout the report all the major policy levers impacting the industry are beyond the remit of the State Government, and/or need a national approach. The Victorian Government has been a strong industry advocate in the past and, given the significance of the industry to the State's economy, will continue to undertake this role.

However, in the past the Government has rarely, if ever, had the benefit of an "industry" position on major matters. Its interaction with the industry has been fragmented. It has had advice from the assemblers, the component manufacturers, and so on. This has resulted in the Government either supporting a particular view, or having to synthesise its own version of the industry's position.

Consequently, the Audit Team considers that one of the responsibilities of the VAIC will be to provide Government with the "industry's" position on a broad range of matters as the need arises and Government advocacy is considered necessary. This could be on an on-going basis or on specific issues. It would also be appropriate for the Government to seek advice as required.

In view of the importance of automotive manufacturing to the Victorian economy, the Audit Team recommends that the VAIC should initially receive strong support from the State Government. However, the Audit Team recommends that its operations should be reviewed after three years and that it should become self sufficient within a maximum period of five years.

R2 Establish a Victorian Automotive Industry Website

A key weakness in the Victorian automotive industry is a lack of effective communication and co-ordination between the industry's different stakeholders. This has resulted in a range of sub-optimal outcomes throughout the industry value chain. All industry stakeholders need to communicate and share information better amongst themselves. It is this basic need to improve communication and information flows across the industry that underpins the recommendations for the formation of a Victorian Automotive Industry Council (VAIC) and a Victorian Automotive Industry Website.

The proposed VAIC (refer R1), should provide a forum for an enhanced level of industry co-ordination. However, the Council alone will not be adequate for meeting all of the industry's information needs.

Improved communication and information flows are not only needed in the Victorian sector of the Australian automotive industry. The needs of the Victorian sector of the industry cannot be separated from the wider national industry's needs. There are extensive interstate customer/supplier linkages in the industry, and many companies operate in more than one state.

Across the Australian industry there is a need for latest industry news and developments to be easily accessible to all industry participants. There is also a need for industry participants to be able to easily contact each other and access information regarding what services different industry participants can provide. The establishment of a Victorian Automotive Industry Website, in conjunction with the establishment of an Australian Automotive Industry Web Portal, where such information can be aggregated, presented in an easily accessible format and regularly updated, would be an important tool in addressing the above industry needs.

In addition to addressing industry co-ordination needs, the establishment of a Victorian Automotive Industry Website (in conjunction with an Australian Automotive Industry Web Portal) would be a powerful tool in addressing other areas of industry concern. These include the need to make careers information easily available to students, effectively promote the local industry to potential overseas customers, providing information on training resources options for employers and employees, and raising the level of the industry's awareness of, and readiness to adopt, the latest B2B ecommerce tools.

The national Automotive Industry Portal would be the appropriate site for information that is relevant for the entire Australian industry, while the Victorian Automotive Industry Website could be the locus for information that more specifically relates to the Victorian sector of the industry. For greatest ease of use, the Victorian Automotive Industry Website should be fully integrated with any national Automotive Industry Web Portal that is established. Therefore, while this recommendation deals specifically with the structure

and content for the Victorian Automotive Industry Website, if the performance of this Website is to be optimised, the concurrent establishment of an Australian Automotive Industry Web Portal is required.

For the above reasons, the Audit Team recommends that a Victorian Automotive Industry Website be established, preferably in conjunction with an Australian Automotive Web Portal. The Audit Team's preferred structure for this Website, and its relationship to a national Web Portal, is set out below. This explanation covers the layout and range of the Website's content and functionality, the organisational and funding structure behind the Website during its start up phase, and an organisational and funding structure for the Website once it has been fully established. The State Government, the VAIC and the Website operator each have clearly defined roles under this proposal.

Crucial to the success of a national Web Portal and a Victorian Website in meeting industry needs will be the quality of its content, its ease of use, and its functionality. The chart below sets out our suggested model for the content structure of this national Portal and the place of the Victorian Website within it.

**AUTOMOTIVE INDUSTRY WEB PORTAL
- CONTENT STRUCTURE -**

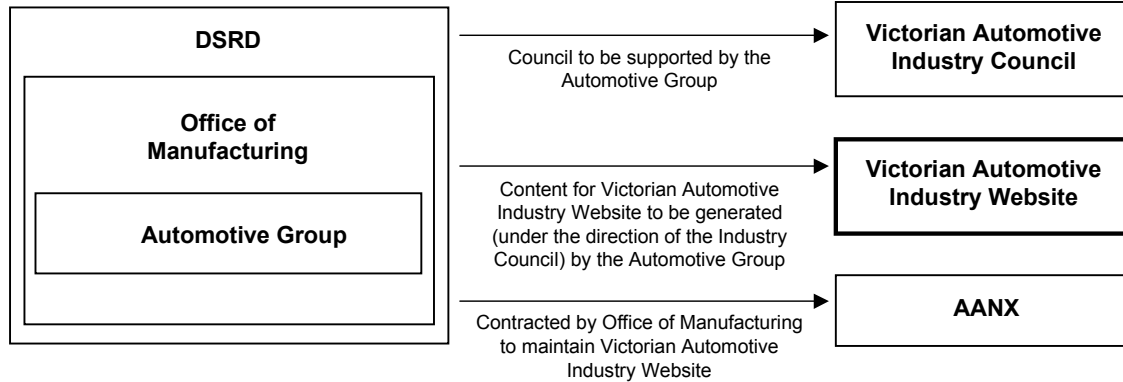
Level 1	Public Site (Free) Low Security	Include national career information, education and training options information, general industry news, links to other sites of interest, etc... Site to be updated weekly.	Victorian Automotive Industry Website Include Victorian specific career information, education and training options information, general industry news, links to other sites of interest, etc... Site to be updated weekly.
Level 2	Members Site (Free) Medium Security (Registration and Password Required)	Include national industry news & trends analysis, information on current market opportunities, detailed information on relevant Government programs & legislation, international market access issues analysis, links to all members websites, etc... Site to be updated daily.	Victorian Automotive Industry Website Include Victoria specific industry news & trends analysis, information on current market opportunities, detailed information on relevant Government programs & legislation, international market access issues analysis, links to all members websites, etc... Site to be updated daily.
Level 3	AANX Core Site (Commercial) High Security (VPN, data encryption, etc..)	Online procurement, collaborative design facilitation, accounts settlement, exchange of contracts, confidential data transmission, etc... could all be offered over the secure AANX platform.	

The establishment and maintenance of the comprehensive national Web Portal and Victorian Website envisioned above will require significant resources and supervision during its start up phase. In relation to the establishment of the national Web Portal, the Audit Team recommends that the Victorian Government actively advocate that the Federal Government support its creation. However, given that this Portal would be a largely national industry/Federal Government initiative, the remainder of this section will focus on the requirements for the establishment of a Victorian Website that would be integrated with this national Web Portal.

During the start up phase of the Victorian Website, the active participation of the State Government and the VAIC will be vital in ensuring that the Website is established quickly and that its content meets industry needs. The chart below sets out the Audit Team's

preferred operating structure to support the development of the Website during its start up phase (envisioned to last 12-18 months).

**VICTORIAN AUTOMOTIVE INDUSTRY WEBSITE
- START UP PHASE OPERATING STRUCTURE -**



Under this proposal, the VAIC, would inform the content creators and the Website managers of the content and functions that the industry wishes the Website to provide. The Executive Officer for the Council, may initially be a member of the Automotive Group of the Office of Manufacturing.

In addition to the provision of the ongoing role of the Executive Officer to the Council, we recommend that during the start up phase of the Website, a research officer will be required to assist in the development of content for the Website. The research officer, under the supervision of the Executive Officer to the VAIC, would be responsible for generating much of the initial content for the Victorian Website. This person could be assisted in this considerable task by a program of industry interns.

The industry intern program would involve recent graduates working in the automotive industry taking on short term (2-3 month) placements as interns with the Website development group assisting with the development of content for the first two levels of the Website. It is envisioned that these interns would continue to be employed by their industry employer, and would in effect be seconded to the Website development group. The benefits of this program to the interns' industry employers would be considerable. In a short period of time their recent employees would gain an extensive overview of the automotive industry that they would otherwise take much longer to obtain.

We believe that there would be considerable industry support for this program. However, if support for this program is lacking, or if it proves to be logistically infeasible, the role could be effectively addressed through the appointment of a second research officer to the Website development group.

We recommend that the responsibility for the technical maintenance of the Victorian Website, as opposed to the content creation, should be contracted out to the manager of the Australian Automotive Industry Web Portal. In the Audit Team's view, the Australian Automotive Network eXchange (AANX) would be the most appropriate choice as manager of this national Web Portal.

The AANX pilot is a Federal Chamber of Automotive Industries (FCAI) and Federal Government (National Office of the Information Economy) funded project. The AANX intends to become self-funding after completion of the current pilot phase. The AANX is a member of the initiative for a global automotive extranet in co-operation with ANX (North America), ENX (Europe), JNX (Japan) and KNX (Korea).

Its core business is the provision of a secure platform for the conduct of B2B ecommerce in the local and global automotive industry. This platform will be based on available internet technology and be characterised by agreed and standardised service level guarantees, a common security infrastructure, proactive management of trading partner connections, high standards of security and privacy for trading partner transactions and interoperability between multiple service providers. These demanding characteristics encompass the preferred, and for some transactions mandatory, protocols for interacting online with large companies in the automotive industry. The AANX will provide a fee for service operation that would be available through the third level of the Web Portal.

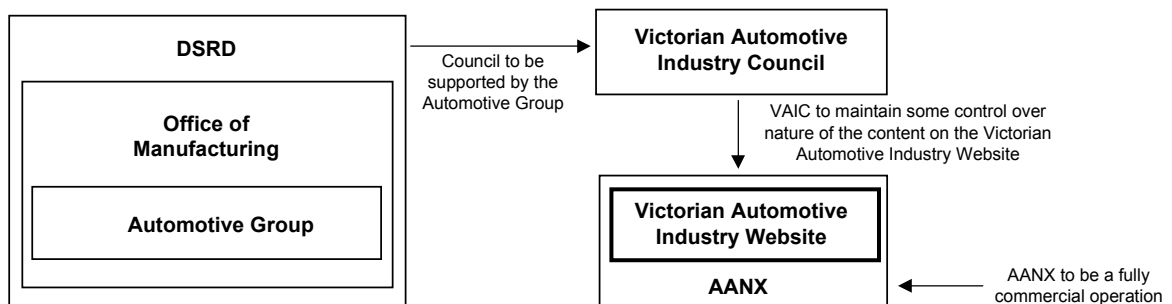
The appointment of the AANX as a contracted Web Portal manager would allow for the integration of the three levels of the Website to provide a seamless progression for companies from the first and second levels of the Web Portal through to the functions of the third level of the Web Portal, which the AANX is already piloting. The Audit Team recommends that the State Government, in its efforts to promote the establishment of the national Web Portal, promote the choice of appointing the AANX as the contracted Web Portal manager.

The initial assumption by the Automotive Group, rather than by the Website manager, of responsibility for the content creation for the first and second levels of the Website, has the following advantages: -

- it would allow the VAIC (once it is established) to maintain control over the process of the establishment of the Website. Prior to the VAIC becoming operational, the current Automotive Industry Reference Group could fulfil this overseeing role on an interim basis.
- it would enable the VAIC (once it is established) to ensure that the Website is developed to meet industry information needs. Prior to the VAIC becoming operational, the current Automotive Industry Reference Group could fulfil this overseeing role on an interim basis.
- it would prevent the risk of distracting the AANX from building its core business functions, whose development could significantly accelerate the industry's adoption of B2B ecommerce and participation in global automotive ecommerce activities, and
- it would enable the Automotive Group to greatly increase its knowledge base of the industry and develop significant intellectual property that would enhance its capacity to deal with strategic issues facing the industry.

Once the Website was successfully established, a migration to a different organisational structure (from the one described above) is recommended. The chart below sets out a proposed ongoing organisational structure for the Website.

**VICTORIAN AUTOMOTIVE INDUSTRY WEBSITE
- MATURE PHASE OPERATING STRUCTURE -**



The key difference from the start up phase structure is that the responsibility for the creation of content for the Victorian Website would no longer be undertaken by the Automotive Group. This task would be undertaken by the national Web Portal manager (likely the AANX), possibly in co-operation with Victorian branches of industry associations and the VAIC. The Victorian Website would cease to be reliant on the financial and content creation support of the Office of Manufacturing. In its mature phase, the entire national Web Portal and Victorian Website would be fully industry funded, through advertising revenues generated on Levels 1 and 2, and through the service fees generated at Level 3. Support from the Office of Manufacturing for the maintenance of the Victorian Website would gradually be phased out over 18-24 months as the levels of industry usage of the national Web Portal and Victorian Website increased to critical mass and revenue generated from them increased to self-sufficiency levels.

However, even once the Website manager (likely the AANX) takes on full responsibility for the entire Victorian Website, the VAIC could reserve the right to provide content to the Website manager that the manager would then include on the Website.

Provided that a high quality Australian Automotive Industry Web Portal is established, the above recommendation would provide for the needs of the industry in Victoria to be well served. The national Web Portal would improve industry information sharing nationally, while the Victorian Website on the Web Portal would allow the Victorian industry's specific needs to be served.

The successful adoption of this recommendation relies upon the concurrent establishment of an Australian Automotive Industry Web Portal. The Audit team recommends that the Victorian Government take a leading advocacy role in promoting the development of such

a national Web Portal by the Federal Government and national industry peak bodies. However, if it is determined that the establishment of such a national Web Portal is unlikely to occur in a timely manner, a different approach by the Victorian Government may be needed.

Improved industry co-ordination and information flows in the automotive industry are of significant importance to the future success of the industry. Given the importance of the establishment of a Web Portal to addressing these needs, the Audit Team recommends that if Federal support for the establishment of a national Web Portal cannot be obtained in a timely manner, the Victorian Government, in conjunction with industry peak bodies and the VAIC, take responsibility for the development of a national Web Portal.

This would require the State Government to make an additional initial commitment to the project, as a greater burden for content creation and contracting the Portal manager would fall upon the Automotive Group in the Office of Manufacturing. Furthermore, this option would entail the State Government providing resources that would be of direct benefit to the national automotive industry rather than being purely focused on the Victorian sector of the industry.

The Victorian Government and industry (through the VAIC), would be taking on the responsibility to provide both the national Web Portal and the Victorian Website during their start up phases. However, given the pressing industry need for the Portal and Website, and given that the majority of the Australian automotive industry is based in Victoria, the Audit Team believes that the acceptance of this responsibility would be justified.

R3 The VAIC, industry peak bodies and the Office of Manufacturing to work together to undertake co-ordinated marketing of automotive industry careers

Despite the fact that cars themselves are generally perceived as exciting, the automotive industry seems to suffer from a poor image as a career choice despite its economic significance. Consequently, in addition to participating in a total image revival for all of manufacturing, the automotive industry needs to undertake some automotive specific initiatives.

In addition, there is a perception of marked bias against manufacturing in schools and in the career advice provided to students. One approach would be the development, perhaps by the VAIC, in conjunction with the Office of Manufacturing and the Department of Education Employment and Training, of automotive careers information for distribution to secondary students and careers counsellors. In addition, the VAIC may be able to develop a program of regular-hosted school group tours of leading edge manufacturing facilities.

Another suggestion received by the Audit Team was that the automotive industry should work more closely with DEET to increase the effectiveness of the TRIP Program. The number of teachers gaining experience in the auto industry should be increased, and greater effort should be devoted to ensuring that teachers participating in the Program gain a highly positive impression of the industry. This could be achieved by involving all levels of staff in planning and mentoring of participants during their time in the industry. It has also been suggested that this program be systematically extended to involve teachers

in the TAFE sector. According to the Public Forum workshop on shop floor/trades, union support and involvement in all phases of the program is essential.

While there is much work to be done in order to revive the image of the automotive industry as an attractive career destination, there are some programs in place that provide a model for how this can be achieved. The Formula SAE (Society of Automotive Engineers Australia) program is widely seen by the industry as being an important recent initiative. The Formula SAE program involves trades and engineering students, from both the TAFE and University sectors, designing and building a vehicle within certain parameters. The vehicle is then subject to various tests eg handling, speed, and endurance. The program develops and enhances technical, management, team working, and entrepreneurial skills – all of which are immediately applicable on entering employment. By involving students from both technical and business disciplines, the program reflects the wide range of skills that the automotive industry draws on. This program has been very popular for many years in the United States, and is now in its third year in Australia.

The State Government, through DSRD, is currently providing \$15,000 per year over a three-year period by way of support. The Audit Team recommends that this support should continue. The “Automotive Week” program, which has focused on improving the image of the industry, has also been cited as an important initiative.

Reviving the image of the automotive industry as a career destination presents a significant challenge. In order for it to be met, it is important that industry and the State Government co-ordinate their endeavours and leverage off existing careers information available from Federal bodies such as the Department of Employment Education Training and Youth Affairs, who are currently funding a Career Information Industry Partnership Program.

R4 Initiate a study, or workshop, to: -

- **ascertain all currently available relevant courses and education and training providers;**
- **identify future demand for different skill sets in the industry and the training requirements this will generate;**
- **identify gaps between existing education and training provision and future needs; and**
- **develop collaborative approaches to improve provision while minimising gaps and duplication.**

The Audit Team was struck by the gulf between criticisms of education and training provision on the one hand and a lack of awareness by industry of what was available on the other. The Australian Qualifications Framework was poorly understood by industry, while some education and training providers do not seem fully aware of current industry work practices and skill needs.

We conclude therefore, that a sensible starting point for planning for future training provision should start with a stocktake of what is currently available and who provides it. For example, we heard many times the complaint that there was no automotive specific engineering qualification, yet RMIT University has launched exactly such a course. Many respondents agreed that communication between the industry and education and training providers was grossly inadequate.

It would be useful if this task was initiated early so that the final product was available for the VAIC's consideration soon after the Council is formed. This should not be a major exercise. We believe that it merely involves collating all the currently available information and consolidating it for review and analysis.

There are a number of comprehensive databases that have been developed by organisations such as the Australian National Training Authority, Automotive Training Australia, Automotive Training Victoria, and various other institutions. However, this information is dispersed and difficult for industry participants to access. For example Automotive Training Victoria does not make this information available on its website.

Access to relevant training information is further complicated for industry participants by the separation of responsibilities between Automotive Training Victoria, the Electrical Industry Training Board, and the Metals and Engineering Industry Training Board. The problem of access and the apparent complexity of the training system has been noted in the recent Allen Consulting Group report, *Training to Compete*, prepared for the Australia Industry Group. Industry participants need to be able to access all training information relevant to the automotive industry in one place. The consolidation of this information onto the proposed Victorian Automotive Industry Website would address this need.

An impending lack of qualified employees threatens the automotive industry in most western countries. This is the result of the approaching retirement of baby boomers from the workforce over the next few years, and the current poor image of manufacturing as a career prospect. This is compounded by education and training deficiencies. The SAE International has identified a shortage of 250,000 automotive engineers worldwide over the next decade.

Given the lead times involved in developing courses and training people, action is required before the impending shortages become real.

Many respondents, and the Public Forum workshop on shop-floor/trades education and training, indicated that there are two matters of concern in respect of gaps between current provision and the skills required.

The first is comprised of actual gaps in provision. For example various engineering specialisations. The second issue is more complex. This is a question of cultural change on the part of all industry participants. It involves abandoning the continuing segmentation of 'trades' (although it is recognised that in the broader labour market, eg. the construction industry, the current segmentation of trade model may make good sense). Modern manufacturing equipment now generally used in the industry requires very low levels of factory-floor staff involvement for routine operation, monitoring and adjustment. Survival of Australian automotive manufacturing in domestic and export markets depends on continued implementation of 'lean manufacturing' methods. This requires shop floor operators to become cross skilled so that they can competently and confidently perform an extended range of tasks that are intermittently required to maximise production and minimise waste and breakdowns.

The resolution of this issue seems to require agreement in the human resources management (HRM) sphere as a precursor to improved education and training provision. This should be an issue for discussion at the proposed HRM symposium (See R8).

R5 Conduct Business to Business (B2B) ecommerce awareness raising sessions

The Audit Team believes that the industry in general, and SMEs in the industry in particular, would benefit from a B2B ecommerce training/awareness raising program. The Audit Team recommends that industry peak bodies, in consultation with the Automotive Group within the Office of Manufacturing, conducts a series of these sessions where industry participants can attend and receive a briefing on the latest developments in B2B ecommerce. It is important that these sessions be specifically tailored to the needs of the automotive industry. A quarterly series of such meeting over the next twelve months would be appropriate. In addition to a presentation from the industry peak body and/or the Automotive Group, leading industry adopters of B2B ecommerce could make presentations regarding their company's experience with B2B ecommerce adoption.

These meetings should be publicised by industry peak bodies, the VAIC, and through the Victorian Automotive Industry Website. All presentations given should be made available on this Website.

R6 Establish a B2B ecommerce mentoring program.

A wide range of levels of awareness, and usage of, ecommerce systems in the Victorian automotive industry is evident. The automotive assemblers and large component manufacturers generally have high awareness and usage levels. However, component manufacturers who will increasingly fill a Tier 2 or Tier 3 function generally have lower levels of awareness and adoption of B2B ecommerce. In order to address this disparity, the Audit team recommends that a B2B ecommerce mentoring program be established.

Through this mentoring program large companies that have adopted B2B ecommerce, would help educate their supplier base in B2B ecommerce adoption. These B2B ecommerce mentors would be able to pass on the lessons they have learnt to those in their supplier base that are lagging in their adoption of B2B ecommerce. This mentoring would include both the passing on of awareness of the benefits of B2B ecommerce and specific information regarding what their suppliers need to do in order to integrate their operations with the systems adopted by their major customers.

The mentoring program would involve senior management interacting to address broader strategic issues, and company IT staff meeting to discuss specific technical issues. This program would largely be a company driven one with participants structuring their meetings in a manner that best fits their particular circumstances. However, the Audit Team recommends that the Automotive Group, VAIC and industry peak bodies could play a co-ordinating role in this program. They could help to match companies together and provide some organisational support for the program. Details regarding this mentoring program should be publicised and supported by industry peak bodies, the VAIC, and through the Victoria Automotive Industry Website.

R7 Invite the VAIC to formulate and articulate to the State Government whole of industry positions on matters relating to supporting infrastructure.

Given the ongoing importance of the quality of the physical, intellectual and institutional infrastructure supporting the industry, it is important that the Government has access to a whole of industry view on the automotive industry's infrastructure needs. This will enable it to take the industry's needs into account in any future State infrastructure policy decisions.

There are a range of forums regarding infrastructure currently in place that the VAIC, once operational, may wish to address. These include: -

- the Infrastructure Planning Council;
- the State Government's Linking Victoria program
- the proposed Essential Services Commission;
- the Ports Agenda;
- the proposed Freights and Logistics Strategy;
- the Travel Demand Management Strategy; and
- the Connecting Victoria Strategy.

R8 That, as a matter of priority, a human resources management symposium be organised.

Effective human resources management (HRM) is essential to the competitiveness of enterprises and the well being of employees.

As noted elsewhere, the automotive industry has undergone enormous change over the last decade or more, and faces major challenges in the future. The HRM climate of the industry in general, and the industrial relations climate in particular, is critical to its capacity to cope with these challenges.

In the broadest sense, HRM is very complex. It ranges from the setting of basic terms and conditions for production workers to enterprise personnel policies regarding paths for career development. It is intricately interrelated with skills formation, career paths and prospects, union and company politics, the state of the economy, and the perception and understanding of management prerogatives.

There is some evidence to suggest that union structures and attitudes are not changing as fast as the industry perceives to be necessary. This creates some friction and inefficiency. This is particularly evident in the matter of cross-skilling. For example, a major company stated to the Audit Team: "we would pay for flexibility", but find it very difficult to negotiate with the union on this matter.

On the other hand the Audit Team was also told that in many cases all management wants is a reduction in terms and conditions in the pursuit of productivity gains. The view was expressed that if the labour negotiations process was used to foster cultural change within enterprises, then productivity improvement would naturally follow and that unions are receptive to this approach.

These complex issues do not get addressed in the ‘heat of battle’. Yet, if the industry is to prosper, there has to be a better way to approach these matters. There is a need to move beyond the narrower topic of industrial relations to a consideration of improving overall human resources management in the industry

The Audit Team believes that a collaborative, rather than an adversarial, approach will be more productive. The proposed VAIC would be an appropriate body to sponsor an HRM symposium, or even a series of workshops, where these matters could be discussed. While the symposium will not resolve all the issues, at the very least it will provide an excellent impetus to an on-going dialogue that is badly needed.

R9 The Department of State and Regional Development, in consultation with the VAIC, review the structure and nature of the business development programs currently available to the automotive industry.

The Victorian Government provides a two tiered suite of industry support programs – the generic business development programs and the support of individual initiatives. The criticisms noted earlier by the Audit Team do not invalidate the broad value of these programs. Strong endorsement for them has often been received. However, given that the current suite of programs has generally been in place for a number of years, it would seem timely for a review of their efficacy.

The review could enunciate a number of principles of good program design, beginning with the need for a clear rationale, transparency, and accountability criteria. Preferred delivery models and other matters should also be clearly articulated.

The review should also examine, and possibly broaden, the eligibility criteria for access to investment support programs. The most significant complaint that the Audit Team received from industry regarding the business development programs was that the structure of the programs was not sensitive to the specific nature of the automotive industry. Gaining industry input into the design of programs, such as the ecommerce development programs currently being developed by Multimedia Victoria, is necessary if these industry development programs are to be effective. There would also seem to be scope to address the marketing of the programs and the interrelationship between the two tiers, which should continue to be a feature of industry development programs.

R10 Ensure adequate resources are made available for the development and implementation of the Industry Plan.

In the course of the audit it became clear that the industry sees the Victorian Government as having an important role to play in fostering the future success of the automotive industry in Victoria. This role is reflected in the recommendations of this report.

In order to fill this role, the Government needs to make a commitment to drive the development and implementation of the recommendations flowing from the audit process, through an Industry Plan. This commitment would be most clearly evidenced by ensuring adequate resources are made available to the relevant Government agency.

If the momentum generated by the audit process is to be maintained, the issue of resourcing the implementation of recommendations needs to be addressed in a timely manner.

8. Conclusion

The conduct of this audit has indicated that there are a wide range of industry enablers on which the State Government can exert a direct constructive influence. These include skills formation, B2B ecommerce, the quality of supporting infrastructure, the human resources climate, State taxes, and environmental and safety issues. However, it is the current lack of a shared vision and effective communication between industry stakeholders, including; car, truck and bus assemblers, components manufacturers, design service providers, tooling providers, unions, education and training providers and the State Government, that has emerged as the central issue facing the industry in Victoria.

The major recommendations of this report therefore have addressed the issue of improving industry communication and providing an appropriate forum for the development of a shared vision for the industry's future. The recommendations concerning other specific issue areas mentioned above flow from these central recommendations.

This report has addressed each of these issue areas and the Audit Team has made ten recommendations addressing them. The effective implementation of these recommendations will require a partnership approach by all industry stakeholders. They call for a strong commitment, both in time and other resources, by all industry stakeholders.

The State Government is committed to manufacturing in Victoria. In order for manufacturing to have a successful future in this State, it is crucial that the automotive manufacturing industry thrives. For this to occur, all industry stakeholders will have to work cohesively towards this goal. This conduct of this audit represents the first step forward in the pursuit of Victoria becoming a regionally recognised centre for automotive manufacturing excellence.

Appendix 1. Government policy and the automotive industry

This section is concerned with industry specific Government policies affecting the automotive industry and identifies the major impacts. All three levels of Australian government have a policy impact on the industry, and there is both overlap and complementarity. The table below summarises jurisdictional responsibilities. In broad terms the Commonwealth controls the major economic and technical policy levers. State and local governments generally control vehicle usage and the behavioural aspects thereof.

COMMONWEALTH

POLICY RESPONSIBILITY		DESCRIPTION AND COMMENT
HEADING	ITEM	
Trade policy	Tariffs	<ul style="list-style-type: none"> Set at 15% from 1 January 2000 to 31 December 2004, and then due to reduce to 10% from 1 January 2005. Under Australia's current APEC undertakings due to reduce to zero in 2010. This phase down will increase competitive pressure from imports.
	Automotive Market Access and Development Strategy	<ul style="list-style-type: none"> This strategy will operate from 1998-99 to 2001-02, opening and developing key export and investment markets for the industry. It is directed by an Automotive Trade Council which defines objectives and broad directions, and oversees implementation through: Prime Minister's Special Automotive Envoy to spearhead representations to foreign Governments and companies to secure access to markets and global supply chains. Automotive Market Facilitator and the Department of Foreign Affairs and Trade charged with a program of comprehensive market access negotiations. Austrade, delivering a four year Automotive Market Development Program in key regions under a contract with the Department of Industry Science and Resources (DISR). Automotive Market Access and Development Fund administered by DISR providing \$20 million over four years to support the operations of the Strategy, including special projects such as the concept Car.
	WTO compliance	<ul style="list-style-type: none"> WTO rules place significant restrictions on the types of assistance that Government can offer to manufacturing businesses engaged in either exporting or import substitution activities. The availability of most industry assistance programs can not be dependent upon the export or import substitution performance of a particular firm. Assistance is defined to include things such as tax reductions, direct grants, loan guarantees, the provision of goods or services (other than general infrastructure), and price or income support programs. The area of Government assistance not covered by anti subsidy rules is the provision of general infrastructure (including education and training programs) services. Compliance with these rules constrains the scope of potential government support. Countries that do not comply can gain substantial advantages.

Commonwealth continued

POLICY RESPONSIBILITY		DESCRIPTION AND COMMENT
HEADING	ITEM	
Taxation	GST	<ul style="list-style-type: none"> • It is expected that the GST regime will reduce car prices by 6% to 8%. • However, the phasing in of input credits for fleets is likely to have a significant impact as fleets delay new purchases until full input crediting is available. This will particularly affect local manufacturers.
Safety	<i>Motor Vehicle Standards Act 1989 (Commonwealth)</i>	<ul style="list-style-type: none"> • This is the principal legislation concerning vehicle safety and imposes uniform national standards on all vehicles when first supplied to the market for use in transport. • The States determine vehicle regulatory standards beyond first supply to the market. • As a rule, all the relevant standards that apply to vehicles are covered by Australian Design Rules (ADRs). • ADRs govern three main areas: vehicle safety, environmental standards concerning emissions and noise, and some specific regulations aimed at theft prevention. • The Federal Office of Road Safety (FORS) administers vehicle certification to the ADRs. • Insofar as ADRs are unique to Australia they can add cost and/or create certification problems in other markets.
Environmental	<i>Motor Vehicle Standards Act 1989 (Commonwealth)</i>	<ul style="list-style-type: none"> • ADRs govern environmental standards concerning emissions and noise.
Industry policy	Automotive Competitiveness and Investment Scheme (ACIS)	<ul style="list-style-type: none"> • Will operate from 2001 to 2005. • Designed to encourage new investment to improve competitiveness. • Consists of two incentive packages: • Car assemblers: duty free imports up to 25% of production value and a duty credit of 10% on investment in productive assets averaged over preceding 3 years. • Component firms, tool makers, and design and engineering firms: a duty credit of 25% of investment of productive assets averaged over preceding 3 years and a duty credit equal to 45% of the value of investment in R&D averaged over preceding 3 years. • Duty credits will be transferable. • Total benefits capped at \$2 billion over the life of the scheme. • Eligibility criteria will apply. • Should stimulate investment and R&D.

STATE

POLICY RESPONSIBILITY		DESCRIPTION AND COMMENT
HEADING	ITEM	
Taxation	Motor Vehicle Registration Fees	
	Stamp duties	
Safety	Road Safety Act 1986	<ul style="list-style-type: none"> • The purposes of this Act are to: • provide for safe, efficient and equitable road use; and • improve and simplify procedures for the registration of motor vehicles and the licensing of drivers; and • ensure the equitable distribution within the community of the costs of road use.
	Road Safety (Vehicles) Regulations 1999	<p>These regulations are made under section 95 of the Road Safety Act 1986 and their objectives are to:</p> <ul style="list-style-type: none"> • establish a registration and permit system for motor vehicles and trailers used on highways that: • ensures that vehicles are appropriately registered having regard to whether they meet standards for registration; and • records the identification details of each vehicle and the name and address of the person responsible for it; and • provides for the collection of associated fees; and • ensures that when vehicles are used on highways they are safe for use and are used in a safe manner; and • provide the general mass and dimension limits and other requirements for vehicles; and • provide for uniform conditions under which vehicles may safely exceed general mass and dimension limits; and • to improve road safety; and • minimise the wear and damage caused by vehicles to roads and related structures, including bridges.
	Road Safety (Road Rules) Regulations 1999	<p>These Regulations are made under section 95 of the Road Safety Act 1986, and their objectives are to:</p> <ul style="list-style-type: none"> • incorporate into the law of Victoria, as the Road Rules – Victoria, a modified version of the Australian Road Rules; • establish rules to be observed by road users in matters not otherwise dealt with in the Road Rules; • revoke the Road Safety (Traffic) Regulations 1988 and certain other Regulations relating to traffic regulation; • provide for the installation, operation and maintenance of traffic control items; • make consequential amendments to various Regulations made under the <i>Road Safety Act 1986</i> because of the introduction of the Road Rules.

State continued

POLICY RESPONSIBILITY		DESCRIPTION AND COMMENT
HEADING	ITEM	
	Road Safety (General) Regulations 1999	<p>These Regulations are made under section 95 of the Road Safety Act 1986 and their objectives are to:</p> <ul style="list-style-type: none"> • prescribe devices and procedures for obtaining evidence in relation to: • blood alcohol concentration or the presence of alcohol or any other drug; and • the speed of vehicles; and • the mass of vehicles; and • other traffic offences; and • prescribe the matters to be included in parking infringement notices and traffic infringement notices; and • prescribe the penalties for parking infringements and traffic infringements; and • provide for the application of provisions of the Act and regulations to land of public authorities; and • prescribe other matters authorised under the <i>Road Safety Act 1986</i>.
	Road Safety (Drivers) Regulations 1999	<p>These Regulations are made under section 95 of the Road Safety Act 1986 and their objective is:</p> <ul style="list-style-type: none"> • to make provision under the <i>Road Safety Act 1986</i> for driver licences and permits, hours of driving of heavy trucks and commercial buses and the charging of fees.
	Road Transport (Dangerous Goods) Act 1995	
	Transport Act 1983	Part VI – Traffic regulation, Registration and Licensing

LOCAL

POLICY RESPONSIBILITY		DESCRIPTION AND COMMENT
HEADING	ITEM	
Local laws	Local Government Act 1989	<p>Section 111 Gives councils a broad power to make local laws in respect of the functions of Councils as listed in Schedule 1 of the Act, providing that they are consistent with other Acts and Regulations (State and Commonwealth). Schedule 1 lists the following pertinent functions:</p> <ul style="list-style-type: none"> • traffic control and signs; • parking; • transport; • environment control, protection and conservation.

Appendix 2. Business Development Programs

Subsidy levels have now been set as follows for business development assistance services:

- **Generic Diagnostic Report** 75% to a maximum of \$4,000
- **Business Plan** 25% to a maximum of \$4,000

Specialist Services -•

Change Management

- HR Practices Audit -* 75% to a maximum of \$4,000
- Workshop -* 25% to a maximum of \$4,000
- Strategic Change Management Plan -* 25% to a maximum of \$3,000

Note: Funding for any combination of the above components is up to a total of \$11,000 per company

• **Strategic Training**

- Training Audit -* 75% to a maximum of \$4,000
- Workshop -* 25% to a maximum of \$4,000
- Strategic Training Plan -* 25% to a maximum of \$3,000

Note: Funding for any combination of the above components is up to a total of \$11,000 per company

- **Mentoring -** 25% to a maximum of \$3,000

- **Strategic Research Project -** 50% to a maximum of \$10,000

• **Supply Chain Management Program**

- Diagnostic -* 75% to a maximum of \$3,000
- Workshop -* 75% to a maximum of \$6,000 per s/chain
- Development Plan -* 75% to a maximum of \$4,000 per s/chain

• **Innovation Program**

- Technical Audit -* 75% to a maximum of \$4,000
- Technology Strategy -* 25% to a maximum of \$6,000
- Maintenance Management -* 25% to a maximum of \$6,000
- Investment Evaluation -* 25% to a maximum of \$6,000
- R&DLink: R&D Audit -* 75% to a maximum of \$4,000
- R&D Plan -* 50% to a maximum of \$6,000

• **Cleaner Production Planning Program**

- Waste/Environmental Audit -* 75% to a maximum of \$4,000
- Cleaner Production Review -* 50% to a maximum of \$6,000
- Waste/Environmental Management Plan -* 50% to a maximum of \$6,000

- **Export Market Planning -** 25% to a maximum of \$6,000

• **Export Networks and Consortia**

- Feasibility Study -* 75% to a maximum of \$9,000

- Business Plan -* 75% to a maximum of \$15,000
- **Export Manager Program -** funding up to \$50,000 per company
- **Priority Exporter Program –** funding up to \$20,000 per export assistance package
- **Overseas Trade Fairs -** up to \$25,000 per fair
- **Outwards Trade Missions -** up to \$20,000 per mission