

The Occupational Mobility and Skills Transferability of Australian Auto Industry Employees

**A Final Report for
Automotive Manufacturing Transition**

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Executive Summary

Background, Rationale and Objectives

The end of car manufacturing in Australia is expected to have a significant impact on displaced auto and automotive supply chain workers (National Institute of Industry & Economic Research, 2014; Worrall & Spoehr, 2014; Parliament of Australia, 2015; Stanwick, Circelli & Lu, 2015). Car manufacturers, auto supply chain companies and the Australian, Victorian and South Australian Governments have been working through a range of initiatives to support and assist auto industry workers to transition from their current roles to other meaningful employment. This project contributes to these initiatives in a number of key ways:

- It provides a comprehensive occupational and skills profile of auto industry workers developed through interviews with company representatives and workforce data of six auto facilities (three auto manufacturing and three auto component facilities)
- It identifies growing occupations in the labour markets in Adelaide and Melbourne where auto industry workers reside and will likely seek alternative employment
- It examines in detail the transferable skills acquired by auto industry workers and the relationship between these skills and the identified growing occupations
- It presents key information in easy to understand diagrams for use by both workers and career coaches to enable better understanding of local job opportunities, the transferable skills workers have acquired and how these relate to the occupations most likely to provide future employment opportunities. These materials are intended to assist workers in understanding their current skills and how these may be relevant to opportunities for occupational mobility and employment where they reside. In this way, the most significant findings from this research can be disseminated directly to auto and auto supply chain workers

Data and Method

The research informing this report was developed in two separate but integrated stages, involving a mixed methods approach (quantitative and qualitative). The first stage involved a labour market analysis drawing upon three data sources: The ABS Labour Force Survey, ABS Census data (Population and Housing) and the LMIP Internet Vacancy Index (IVI).

The first source of occupational data, the ABS Labour Force Survey, was used to identify employment by occupational group in Adelaide and Melbourne's West and Southeast. Census data from 2006 and 2011 was then compared to identify growing occupations, in terms of changes in number of people employed, between the two dates. This process also facilitated the identification of growing occupations within specific skills categories. IVI data subsequently provided additional insights into current job opportunities in the localities where many auto workers live and will be looking for work.

The second stage of the research consisted of a skills transferability analysis based on a comparative skills and units of competency (UoC) evaluation. Like the first stage, it was developed as a series of steps which are described below:

In the first step, comprehensive skills profiles of auto production and auto supply chain workers were developed. The profiles were based on a data driven understanding of the skills and competencies of a typical auto worker, accounting for both formal (Certificates II and III in Automotive Manufacturing Production and Certificate III in Competitive Systems and Practices) and informal training in addition to the roles and tasks typically undertaken at work. The resulting skills profiles included generic transferable skills as well as specific technical ones.

The second step involved identifying which of the auto workers' transferable skills may be applicable to the growing occupations identified in the labour market analysis. This exercise aimed to highlight the occupations into which the production workers may potentially transition with their existing skills and qualifications. As part of this stage a UoC analysis of the above formal certificates was conducted, considering those that were shared across at least one other qualification and occupation outside of auto manufacturing. Pipeline jobs were also considered as potential opportunities for displaced auto workers. Pipeline jobs are expected to result from planned, large-scale infrastructure projects, for example, the submarine contracts in South Australia and rail upgrades in Victoria. Information regarding these projects and potential jobs was gained from a variety of sources, including interviews with State Government representatives, State Government websites, media releases and media sources.

Step three involved the development of occupational transferability skills matrices, based on the data and findings from stages one and two, as well as examination of job advertisements and skills requirements for selected growing occupations. The matrices took the form of informatics diagrams to be provided to workers and employment support agents to assist in the process of identifying the range of options for alternative employment.

Also underlying the two broad stages described above were interviews conducted with auto production and component supply company managers and representatives of employment support agents involved in assisting with the transition. The views of company managers were very useful in generating understanding of the skills sets possessed by the displaced workers, the challenges experienced or anticipated in the transition process and the various measures that the companies had put in place to help their workers successfully find alternative employment. The interview data also informed the development of the worker skills profiles and transferability matrices as well as enabling greater understanding of the process of transition such as the challenges involved and where additional research and support may be needed. The interviews also provided insights into how companies, careers advisers and job support agents currently understood transferable skills in relation to local job opportunities for auto workers and which existing labour market and skills data they relied on for this information. Background information such as this assisted the research team in identifying the gaps in existing labour market and transferable skills knowledge and where data and further analysis was required.

Key Findings

The findings are presented according to the two broad research stages described above. The first set of findings relate to the labour market analysis and identify growing occupations in South Australia and Victoria where displaced auto production workers might find employment post transition. The second set of findings relate to the skills transferability analysis and identify the range of transferable skills possessed by auto production workers and their relationship to identified growing occupations.

Findings 1: South Australia and Victoria Labour Market Analysis

In the greater Adelaide region, the areas that are likely to be most significantly affected by the termination of auto manufacturing are Adelaide North and Adelaide South. In Melbourne, the effects are likely to be felt most keenly in the West and South East. The labour market analysis reveals a number of important features consistent across the different regions:

1. The most dominant semi-skilled occupational groups are Machinery Operators/Drivers and Technician/Trades. This is likely due to the historical concentration of manufacturing activity in these areas including auto and auto components. The closure of the auto industry will result in a significant decline in number of jobs in these two categories.
2. The unskilled/semi-skilled occupations which are witnessing employment growth in all the regions studied include Labourers, Sales Workers, Clerical/Administration Workers and Community/Personal Service Workers.
3. Skilled, service-orientated Professional/Management occupations currently account for significant proportions of jobs in both locations. These occupations will provide opportunities for many of the non-production and professional auto industry employees.
4. Between the 2006 and 2011 census periods, the occupational groups that experienced the most growth were those in the higher skill levels, i.e. skill levels 1 and 2, the Professional/Management occupational group - particularly in the service sector. In comparison, skill level 3 occupations, where most of the auto production workers may find appropriate work without retraining or upskilling, experienced comparatively little growth. Moreover, skill level 3 occupations that were identified as growing are often directly or indirectly related to construction, therefore, prospects in these occupations is reliant upon continued good growth in construction.
5. There are also employment opportunities at skill levels 4 and 5 which could provide horizontal skills transfer for auto workers. Indeed, although there may be limited reskilling required for some level 4 occupations, there are likely to be RPL opportunities for many auto workers at this level. It is important to note however that many of the jobs available at skill level 5 are in highly casualised, low pay industries which may present significant challenges for auto workers considering their long term options.

Findings 2: Transferability skills analysis

A comprehensive skills profile of a typical auto production worker was developed based on the key training qualifications and interviews with employers. The analysis shows that:

1. Auto production workers possess a wide range of skills, both generic and specific, which are transferable across a broad spectrum of industries. These skills include dexterity, ability to follow instructions, flexibility, reliability, strong work ethic, teamwork, communication, attention to detail, problem-solving, ability to work to high standards under time pressure, ability to anticipate needs of self and work team and the ability to stand for long periods.
2. Both core and elective UoCs contained in the auto production workers' qualifications are shared across a wide range of other certificates and occupations outside of auto manufacturing including food manufacturing, healthcare, laundry, warehousing, storage and logistics. The analysis provides guidance to auto production workers and careers advisers on which occupations offer occupational mobility opportunities on the strength of their formal certificate training.
3. Due to the state of the labour markets described in Findings 1 and the non-auto specific nature of their skills, non-production auto workers (engineering professionals, trades workers, administrative and clerical support staff and managerial staff) are expected to have a wider variety of occupations that they can transfer into compared to general production workers.

Recommendations

Seven key recommendations emerge from this research:

1. Transferable skills training workshops

Transferable skills are often poorly understood and overlooked by workers who perceive their skills to be highly occupational-specific. As a result, these skills are often understated on CVs and during interviews despite being one of their strongest assets. The findings and associated educational and training products that emerged from this research can enable workers and those assisting them to better understand transferable skills among auto and auto component workers and their relationship to alternative employment opportunities. It is suggested that transferable skills training workshops be conducted with potential end-users, such as auto supply chain firms, Skills and Job Centres, JobActives, unions and independent career counsellors.

2. Improved occupational and labour market information

The first step to assisting workers in transition is identifying where they are likely to find their next job. However, identifying local job opportunities through existing labour market data is not straightforward. Improving the quality of occupational data currently collected would go some way to improving the labour market data available to identify changing employment opportunities. This knowledge could then be used by training system and market facilitation actors to better assist workers to identify viable job and career opportunities and to make more informed decisions about how best to approach RPL and where retraining and upskilling is most likely to deliver the best job outcomes.

3. Developing an online transferable skills matrix tool

As part of assisting job seekers to understand their transferable skills and their relationship to a range of occupations, it is suggested that an online skills assessment tool for job seekers and careers advisers be developed. At present, training.gov.au provides the National Register for Vocational Education and Training in Australia and is the authoritative source of information on training packages, qualifications, UoCs and accredited courses. However, this site has been designed as a repository for information rather than an information-seeking tool. The development of an online transferable skills matrix tool which utilises the information contained on the training.gov.au site would provide the means for job seekers and careers advice personnel to gain information about the transferability potential of existing skills and qualifications.

4. Maximising job opportunities through pipeline jobs

Pipeline jobs created through Federal and State Government infrastructure and defence projects can provide important job opportunities for retrenched auto and auto supply chain workers. Many of the jobs expected to be created out of such projects require similar skills to those held by auto industry workers. However, maximising the opportunities for auto workers from pipeline jobs will depend heavily upon both the timing of these government supported projects and the willingness of the successful contractors to employ ex-auto workers. It is suggested that state governments take responsibility for monitoring contractor compliance to the terms of tenders to better ensure successful bidders deliver on the expectation that they employ retrenched auto workers on major government projects.

5. An evaluation of the role of transferable skills in assisting auto workers find employment

Transferable skills enable displaced workers to bridge the gap between the occupations that are no longer providing job prospects and occupations that are emerging. However, it is not known to what extent displaced workers make use of these skills in making job and career decisions, when applying for jobs, writing CVs or taking part in job interviews. An evaluation focused specifically on the role of auto transition assistance and the role of transferable skills in assisting auto workers find employment post industry closure would begin to answer these questions. This evaluation should commit to track soon-to-be retrenched auto workers for two years to fully evaluate the outcomes of job assistance by firms and government agencies in transitioning workers to other occupational opportunities.

6. Development of educational materials for potential employers

One of the barriers to ex-auto workers finding employment is lack of understanding on the part of alternative employers concerning the depth of skills and knowledge held by auto workers and how they might relate to the needs of their organisation. The development of educational materials based on the information and transferable skills diagrams contained in this report would assist potential employers to better understand auto worker skills and how they relate to their specific skill needs.

7. Further refinement and extension of transferable skills methodology

This project developed a particular methodology to better understand the transferable skills of workers, in this case in the auto industry but it could be applied to other vulnerable worker groups, and their relationship to growing employment areas where they could consider pursuing new opportunities. Underpinning this methodology is the assumption that skills transferability need not be restricted to manufacturing or the auto industry but is highly relevant to other industry and occupational contexts. We suggest this framework be deployed in other worker-in-transition situations as a way of managing skills transferability and employment mobility across the economy. In this way, the framework can be further refined, extended and have even greater impact.

Introduction

This is the final report from a study which examined the impact of company closures in the auto industry on workers and the possibilities for after-retrenchment employment. The Australian auto industry and its workforce are in the midst of significant transition. In 2013, Australia's three car manufacturers (Holden, Ford and Toyota) announced plans to cease manufacturing operations in Australia. All major auto industry manufacturing is currently expected to end by 2017 with some 27,500 direct jobs and up to 100,000 indirect jobs likely to be impacted by the closures (Australian Government, 2014; Worrall and Spoehr, 2014). An important issue that concerns all stakeholders – including employers, unions, government and workers – regards the future of employment. Car manufacturers and the Australian, Victorian and South Australian Governments have been working through a range of initiatives to support and assist auto industry workers in career advice and counselling. Some of the areas of focus include: skills assessment and recognition of prior learning (RPL), upskilling and retraining support and identification of new employment opportunities. The principal aim of company and government-led initiatives is to support the transition of workers from their current roles to other meaningful employment.

In order to achieve these outcomes, there is a need for a comprehensive and systematic analysis of which industries and occupations offer growing opportunities for the transitioning workers. At the same time, it is important to have a clear understanding of the skills profile of the auto workers in order to provide the best direction on where these workers may effectively transfer their skills and experiences without too much adjustment as regards retraining or upskilling. This report, therefore, consists of three parts. The first part provides an occupational and skills profile of the auto industry workforce. This component of the report considers the workforces of six auto facilities (three automaker facilities and three auto component facilities) drawing upon company workforce data and data collected through semi-structured interviews with company representatives. Part Two examines the local labour markets where the facilities are geographically located and identifies where occupational employment opportunities are occurring. This labour market analysis is based on the Australian Bureau of Statistics' (ABS) Labour Force Survey, the ABS Census and the Department of Employment's Labour Market Information Portal (LMIP) Internet Vacancy Index (IVI). Part Three contains a more detailed discussion of skills transferability for the auto workers with a view to providing practical pathways that could facilitate transfer career planning.

Part One: Occupational and Skills Profile of the Auto Industry Workforce

In Part One of this final report, the workforces of six auto facilities are examined to better understand the types of occupations involved in the industry and the skills and qualifications associated with them. The auto facilities included in this sample include three automaker facilities and three automotive component facilities. Table 1 contains the names of these firms and their geographical locations.

Table 1: Automotive facilities and their locations

Auto Industry Facility	Location
GM Holden's Vehicle Manufacturing Plant	Elizabeth, SA (North Adelaide)
GM Holden's Engine Plant	Port Melbourne
Toyota's Vehicle Manufacturing Plant	Altona, VIC (West Melbourne)
Futuris Automotive Interiors	Edinburgh Park, SA (Northern Adelaide)
Toyoda Gosei Australia	Edwardstown, SA (South Adelaide)
DENSO Automotive Systems Australia	Croydon, VIC (East Melbourne)

The workforce and occupational profile for each of these facilities was produced through data provided by these firms and semi-structured interviews conducted with senior managers and company representatives. The names and identities of the company representatives who participated in the research have not been revealed in order to safeguard confidentiality. Specific details about an occupation or skill which might compromise the anonymity of individual employees have also not been presented. The occupational and skills profiles of the three automaker facilities are discussed first, followed by the automotive component firms.

Automotive manufacturers

GM Holden Vehicle Manufacturing; Elizabeth, SA

As of mid-May 2016, Holden employed 1,320 workers at its Elizabeth plant. The average age of the workforce was 43 years old with the average years of service being 17 years. Nearly 55 per cent of Holden's workforce lives in Northern Adelaide in the Playford, Salisbury, Port Adelaide Enfield, Light, Gawler, Mallala and Tea Tree Gully LGAs.

The majority (56 per cent) of Holden's Elizabeth employees are vehicle builders. Most of these production workers have a Certificate II in Auto Manufacturing or a Certificate III in Competitive Manufacturing (recently superseded by Certificate III in Competitive Systems and Practices). These workers have also acquired other in-house qualifications such as the Global Manufacturing System

(GMS) which is a set of principles developed by parent company General Motors which governs plant operations and procedures. Lean manufacturing, continuous improvement and quality assurance are key components of GMS.

Trade workers represent the second largest occupational category of employees (11 per cent) at Holden's Elizabeth plant. These include a range of trade occupations including mechanics, fitters and turners, auto electricians and tool makers. In addition to their trade skills, many of the trade-qualified workers have also acquired other competencies related to project management, engineering, leadership and management. In some cases, they have also acquired diplomas or advanced diplomas in engineering or various management fields.

The third largest occupational group are engineers. These workers typically hold an advanced diploma or undergraduate degree in auto engineering or a similar field. Like many of the trade workers, the engineers have also acquired additional competencies or full qualifications in other areas such as project management.

A range of professional employees are also represented at Holden's Elizabeth plant. This category of employees includes procurement/logistics professionals, production/technical managers, IT professionals, HR professionals, sales and marketing managers, health services professionals, finance professionals and facilities professionals. Professional occupations account for approximately 9 per cent of Holden's workforce. Many of these employees have undergraduate and postgraduate qualifications related to their professional occupation. These professional roles are also supported by various staff such as IT support workers and general administration staff.

Storeperson is the other major occupational category within Holden's Elizabeth plant accounting for approximately 3 per cent of the workforce. Some of these employees have certificates in storeperson or warehousing and storage in addition to a range of licenses such as forklift licenses and working at heights tickets.

In addition to these more traditional occupational categories, there are also a number of defined leadership roles within the Holden plant. Vehicle builders are organised into groups whose average size is six employees and includes a team leader; approximately 10 per cent of Holden's workforce are considered team leaders. Some team leaders have acquired Certificate IIIs in Business, Instruments or Leadership. Group leaders or supervisors represent a second leadership category (representing approximately 3 per cent of Holden's workforce) who work more directly with divisional managers. Group leaders typically have diplomas related to management and leadership.

According to the Holden representatives interviewed by the research team, there are a number of transferable skills and attributes acquired by Holden workers. These include:

- The ability to understand standardised work practices and follow procedures and instructions including maintenance and operating procedures
- Job performance analysis and an understanding of how company planning, objectives and goals can be integrated across business operations (Holden teams are expected to run their own metrics which align with the strategic goals of the plant including safety metrics, absenteeism metrics, cost metrics and quality metrics)
- Appreciation for occupational health and safety and how a safe workplace is achieved through hazard identification and elimination
- The ability to understand and identify opportunities to improve efficiencies including cost efficiencies and waste reduction

- Problem-solving
- Lean manufacturing principles and continuous process improvement (e.g. Six Sigma), quality improvement and total production maintenance
- The ability to work in teams and apply 5S principles to evaluate and organise workplace organisation
- Appreciation and understanding of change management
- Job flexibility associated with workplace and job rotation practices
- Ability to work under pressure and to deadlines
- Communication skills
- Leadership skills
- Manual dexterity
- A strong work ethic that conforms to structure and timelines
- Resilience

GM Holden Engine Operations; Fishermans Bend, Melbourne

In May 2016, Holden's Engine Operations plant located in Fishermans Bend, Port Melbourne employed 178 employees. The average age of the workforce was 46 years of age. Like Holden's Elizabeth plant, the Engine Operations workforce is ethnically diverse with workers born in twenty-two different countries. The majority of this workforce lives in Western and Northern Melbourne; 109 employees (61 per cent) live in the West – Hobsons Bay, Maribyrnong, Wyndham, Melton and Brimbank – and 41 (23 per cent) live in the Northern suburbs of Moonee Valley, Moreland, Darebin, Hume and Whittlesea.

The majority (51 per cent) of workers employed in the Engine Operations facility are machine operators. Trade (e.g. fitters, machinists, electricians) and specialised technician workers (e.g. quality technicians, lubrication technicians) are the second largest category of employees; combined they are responsible for 17 per cent of the total workforce. Leadership roles ranging from supervisors, managers and technical officers account for 10 per cent of the total workforce and represent the third largest category of workers. In addition to these categories, a range of unskilled and semi-skilled occupations are represented (including metal workers, tool setters, administrators, apprentices and interns) but very few workers are employed in any single occupation.

It is likely that machine operators, due to their level of skill, the large number of workers found in this category and the relatively small demand for machine operator skills in the labour market, may confront the greatest challenges in finding alternative employment.

Toyota Vehicle Manufacturing; Altona North, Melbourne

In June 2016, Toyota employed around 3,900 workers nationwide. It is estimated that around 2,700 of these workers will be impacted by the end of Toyota auto production in 2017. With the end of auto production, Toyota will operate primarily as a sales, marketing and distribution company in the Australian market. The overwhelming majority of workers impacted are located at the Altona plant. Toyota Altona is a fully integrated auto manufacturing plant incorporating engine, welding, paint and assembly shops. The plant builds three Toyota models: Camry, Camry Hybrid and Aurion.

The majority of Toyota Altona workers are in production or production-related occupations; approximately 89 per cent of the total number of workers impacted. The majority of these employees have a Certificate II in Automotive Manufacturing. Toyota is also currently supporting a number of

their production workers to upgrade to a Certificate III in Competitive Manufacturing (now known as Certificate III in Competitive Systems and Practices) to better reflect the skills they have acquired. Toyota workers are expected to understand and perform their work according to Toyota Production System (TPS) lean manufacturing standards including 5S principles. Identification and achievement of production and quality goals are considered critical skills along with safety awareness and the ability to resolve routine problems in the work area. Many of these skills are transferable to other occupations and sectors. In addition, a number of specialised hard skills exist among these production workers which reflect the particular shop (e.g. engine, paint, assembly, etc.) and particular role the production workers perform. Workers in the engine plant, for example, have acquired hard skills related to operating casting equipment and inspecting powertrain parts against defined standards.

A range of trade and technical occupations represent another significant employment category at Toyota's Altona plant. Among the specialist trade workers directly employed by Toyota are electricians, motor mechanics, engineering-mechanical and metal fabrication trades (e.g. boilermakers). In addition to the specific skills associated with their particular trade, these workers are also expected to understand and work according to the TPS, understand company safety standards and periodically work as part of a team. Technicians, technical officers and senior technical officers are expected to perform a range of technical and drafting duties as well as assist and provide guidance to production teams on ways to make workplace and productivity improvements. Problem-solving and communication skills are, therefore, important attributes. Those in more senior technical officer roles are also expected to have well-developed leadership skills that enable them to effectively supervise teams of technical workers.

Engineers represent another occupational group with advanced technical skills who carry out various flexible roles and responsibilities within the Altona plant. Recent graduate engineers tend to perform normal auto engineering work involving routine technical decisions and assist senior engineers in various technical tasks. More experienced engineers with advanced engineering knowledge tend to perform supervisory roles requiring leadership skills to plan, coordinate and conduct specialist engineering projects involving engineering and technical teams.

Operating on the basis of TPS and team-based work units, a number of well-defined leadership roles ranging from team leaders to supervisors are also represented in the Altona facility. Qualifications for these positions range from Certificate III to diplomas depending upon the leadership position. Employees in these roles are expected to have team leadership, decision-making and good communication and interpersonal skills.

The remaining workers impacted by Toyota's closure of the Altona facility are comprised of non-production roles. These include a range of management and professional occupations related to human resource management, divisional and senior management, information technology and marketing as well as supporting office administration roles (e.g. production administration, information technology support workers, clerical staff). Advanced written and verbal communication skills, digital literacy and interpersonal skills are needed to perform these roles. Employees filling these roles often have diplomas or undergraduate degrees (for example, management, marketing).

Beyond those impacted at the Altona plant, it is also expected that some 240 Toyota employees located in the Sutherland Shire of Sydney will be impacted by Toyota's decision to cease auto manufacturing. These workers are primarily involved in sales and marketing roles.

Like Holden, Toyota has established a comprehensive assistance programme for supporting its impacted workers. Their DRIVE programme (Dedicated, Ready, Individual, Vocational and Energised) is designed as a one-stop shop to help employees prepare for their future through career planning, financial support services, company-sponsored training and advice and other assistance measures. Identifying transferable skills among workers has been one component of the programme's activities. According to one Toyota representative, a range of transferable skills and personal attributes have already been identified by those working closely with Toyota employees. These skills and attributes include:

- Understanding standard processes and procedures
- Ability to follow instructions
- Ability to prioritise and work to strict deadlines
- Keen attention to detail and quality standards
- Problem-solving
- Process improvement
- Lean manufacturing and continuous improvement
- Ability to work as part of a team
- Organisation
- Hazard identification and rectification
- Time management
- Interpersonal skills
- Strong sense of customer expectations
- Community-oriented
- Strong work ethic and commitment

It was also acknowledged that a number of the production workers were lacking English literacy skills, numeracy and digital skills which they were seeking to address through free assistance programs offered to employees between shifts and on Saturdays.

Auto Supply Chain Companies

Futuris Automotive Interiors, North Adelaide

Futuris Automotive Interiors is an auto supply chain company located in North Adelaide producing a range of interior auto components including seats, carpets, headliners and interior trims.

In mid-May 2016, Futuris employed approximately 190 workers; 160 full-time employees and 30 contractors. The average age of the workforce was estimated to be 40 years making it generally younger than the auto manufacturing workforce. Among the workforce, 95 per cent were from non-English speaking backgrounds and men filled 80 per cent of the jobs. Labour turnover was low and the average number of years of service was estimated to be 10 years. Some 70 per cent of the workforce lives within 20 minutes of the Futuris site but survey data collected by the company suggests that many workers are prepared to travel much further to find employment if required.

The overwhelming majority of staff (nearly 70 per cent) are production workers. Many of these workers have completed a Certificate III in Automotive Manufacturing. As is the case with auto manufacturing plants and most tier one and two auto component firms such as these, working conditions – including payment and entitlements – for these workers are regulated by an enterprise bargaining agreement. Moreover, job rotation, multi-tasking and teamwork are features of the work

they perform which has contributed to the development of multi-skills among this category of workers.

A range of leadership roles make up the second largest occupational category. These include production team leaders, production managers, site services managers and human resource managers. Some of the production team leaders have completed Certificate IV in Training and Assessment whilst more senior managers have diplomas or degrees in the management field such as frontline management, project management and logistics.

Trade-related occupations make up the third largest occupational category at Futuris. Primarily these include fitters and turners, auto mechanics, mechanical fitters, toolmakers and electricians. It was also acknowledged that, while some Futuris employees may have trade qualifications, they may not be using their specialised trade skills to perform their roles at Futuris. Some of these workers also held a number of licenses and tickets such as forklift truck operation, first aid, confined space and heavy rigid vehicle licenses which may or may not be a job requirement.

Engineers constitute another important occupational category, although it was noted that many of the engineering staff had already been released as part of the staged closure. Within this engineering group were manufacturing engineers, product engineers and quality engineers. As a group, these workers have developed a range of technical process development skills (e.g. process analysis, design test procedure skills and advanced problem-solving skills). Some of these staff also perform management and leadership roles.

Employees working in a range of professional, administrative and non-production occupations make up the remaining workforce. These professionals include financial analysts, information technology experts and human resource specialists as well as administrative office support staff. The skills of these workers are less industry-specific, which may make finding alternative employment less of a challenge.

According to the Futuris managers interviewed, a range of transferable skills have already been identified through their own assessment of their workforce and through worker engagement with career advisers. Such skills and attributes include:

- Teamwork and collaboration skills
- Attention to cleanliness and orderliness of their work area
- Problem-solving
- Continuous improvement and process change management
- Quality improvement and assessment skills
- Ability to follow instructions
- Familiarity with standardised work practices
- Attention to occupational health and safety
- People management
- Strong work ethic
- Resilience

Resilience was highlighted as an important transferable skill as a result of the resiliency training which Futuris has supported for all of its employees since the announced closure. The aim of this training is to develop skills which will support health and wellbeing in the workforce during the transition and other periods of personal adversity. For instance, mental health first-aid skills are an important component of resiliency training.

Toyoda Gosei, South Adelaide

Toyoda Gosei is a global auto components firm employing some 30,000 people worldwide. Toyoda Gosei's South Adelaide factory – which was originally established by South Australian Rubber Mills Pty Ltd in the 1930s – manufactures a range of auto components including airbags, dashboard components, rubber seals and door seals.

In May 2016, Toyoda Gosei's South Adelaide plant employed approximately 150 workers. Some of the features of the workforce include:

- More than 50 per cent of the workforce is over the age of 50
- Nearly 60 per cent of the workforce has greater than 20 years of service at the plant
- 65 per cent of the workforce is male
- Most workers live near the plant in South Adelaide

The occupational profile of the workforce is very similar to that of Futuris discussed above. The majority (73 per cent) of workers are employed in direct manufacturing roles. The work is organised according to TPS principles with job rotation and team work being important components. Each team consists of five or six production workers and a team leader. Many of the process manufacturing workers have no formal qualifications with some not having graduated from high school. It was noted, however, that some workers had completed the Certificate III in Frontline Management. For some, English is a second language which could also be a significant barrier to them finding alternative employment.

A variety of leadership roles make up the second largest employment category. Like Futuris, these range from team leader roles on the production line to frontline management and professional management positions (e.g. human resources). Frontline management skills were considered to be well developed among many employees and an important transferable skill.

Another important occupational category at Toyoda Gosei consists of the trades group. This includes the toolmakers, fitters and turners and electricians. As the firm has reduced the size of its workforce in recent months, many of the remaining trade workers are performing multi-task roles. In addition to their trade qualifications, many of these workers also have a range of licenses and tickets (forklift, heavy vehicle, confined spaces, etc.) and, in some cases, engineering certificates.

The engineering group represents another significant occupational category which includes operations, product development and projects engineers. Many of the product and projects engineers have already been released by the company as part of its staged closure.

Toyoda Gosei also maintains a stores group involved in receiving and dispatching of products. Within this group are workers with skills associated with warehousing including picking and packing, forklift driving and logistics. These skills are not specific to the auto industry and there is some labour market analysis that suggests logistics and warehousing skills may be in demand in other sectors in the local labour market.

Approximately 35 professional staff are involved in a range of occupations including administration, finance, purchasing, sales, information technology and human resources. Many of these workers have diplomas or degrees related to their occupational roles. In a similar way to the stores group, most of the occupations found in the professional category are not auto industry-specific which may make it easier for these workers to transition to employment in other industries when Toyoda Gosei closes.

According to the Toyota Gosei managers interviewed, much of the knowledge and many of the skills acquired by Toyota Gosei's workers were transferable to other industries and occupations. The transferable skills and attributes identified in these employees include:

- Teamwork
- Occupational health and safety and safety hazard identification and reporting
- Ability to follow standardised work practices
- Able to work to quality standards
- Ability to assess and document problems
- Lean manufacturing (TPS)
- Continuous improvement assessment and implementation
- People-management
- Strong work ethic

It is generally assumed that production workers will confront the greatest challenges transitioning to other types of work due to the overall decline in manufacturing jobs, their lower level of education and other personal barriers such as injuries or not being proficient in English. Professional and administrative workers were considered the least likely to experience these challenges as their skills could be applied in a range of industry settings. It was also noted that professional staff were far more likely to take up RPL and retraining opportunities than many of the other staff.

DENSO Automotive Systems Australia; Croydon, Melbourne

DENSO Automotive Systems Australia has operated in Australia since 1972 in various locations but moved to its current location in the eastern suburbs of Melbourne in 1989. DENSO manufactures car radiators, oil coolers, air conditioning systems, electric cooling fans, air intake systems, fuel pumps and dashboard instruments. DENSO also has its own Technical Training Centre which is registered as a private Registered Training Organisation delivering nationally recognised qualifications. DENSO was one of the first automotive supply companies to announce their departure from Australia following the closure announcement by Toyota. As part of that process, DENSO put in place a comprehensive transition and support program for its workforce. Resilience training is a key component of this program which is being delivered by a specialist outside agency.

In June 2016, DENSO employed 376 employees. It is expected that only sixty to seventy workers associated with sales, research and development and design will remain at the Croydon facility once Toyota ceases manufacturing. The average age of the workforce is 47 years (58 per cent of the total employees were aged 45 or above) with approximately 14 years' service. The majority (65 per cent) of workers live less than 20 kilometres from the facility and nearly 75 per cent of the workforce was male.

In terms of qualifications among the workforce, 21 percent hold less than a Certificate II, 36 per cent have a Certificate II, 8 per cent have a Certificate III, 6 per cent hold a trade qualification, 11 per cent have a diploma and 18 per cent, an undergraduate degree. Non-production staff (e.g. professional, management, administrative and other office staff) tend to be younger than production employees and are much more likely to have undergraduate degrees; approximately 65 per cent of non-production staff hold a bachelor degree. Among production employees, 75 per cent have only a Certificate II or lower.

The largest proportion (approximately 58 per cent) of employees are engaged in production-related occupations. Process manufacturing positions dominate this side of the business. Some of these

workers have Certificate II or Certificate III in Process Manufacturing. Other workers are involved in polymer moulding and have skills more closely aligned with the Certificate III in Polymer Processing. The more skilled production positions require technician and engineering-type production skills which have often been developed through internal training.

Technical and trade workers represent another prominent employment category. Trade workers account for 6 per cent of the DENSO workforce with many of them performing maintenance roles. These trade workers cover a range of engineering (e.g. manufacturing engineering) and metal trades (e.g. fitting and turning, tool making). As electrical work is outsourced, no electricians are employed by DENSO.

There are approximately 30 warehouse-related jobs at the Croydon facility ranging from picker and packer to more logistics oriented roles. Some of these workers have forklift licenses. According to DENSO representatives, almost a third of these warehouse workers are in the process of starting a Diploma of Logistics as part of their future career plans.

Approximately 20 per cent of DENSO employees are occupied in leadership roles. These roles include: CEO/VP, divisional manager, manager, supervisor and team leader. Team leaders and assistant team leaders encompass the largest proportion of leadership employees. Some of these workers have either a Certificate IV in Competitive Manufacturing (now known as Competitive Systems and Practices) or a Diploma in Management. Those involved in training delivery also have training and assessment certificates. Those in more senior management roles have undergraduate qualifications.

A range of indirect associates and non-production employees constitute the final employment category at DENSO. This category ranges from highly-skilled occupations that usually require an undergraduate degree such as accountants, human resources, marketing, finance and IT specialists to less skilled, support occupations such as office administration and clerical staff.

The transferable skills and personal attributes identified by company representatives in their workforce include:

- Appreciation for standardised work (i.e. structured mindset)
- Quality assessment and improvement (e.g. quality circles)
- Problem-solving through structured methodologies
- Identification of safety risks and mitigation (i.e. safety mindset)
- Teamwork
- Communication skills
- Project management
- Understanding of process control
- Just-in-time work methodologies
- Ability to work under pressure and according to timelines
- Resilience

Part Two: Labour Market Analysis

Part Two of this final report identifies growth areas in the labour markets of the two cities – Adelaide and Melbourne – which stand to experience the most significant impact of auto industry closure and associated employment losses. This includes the areas where the auto facilities are located and the areas where the majority of the workforce resides. This is because, as indicated in Part One, currently most auto employees live near their workplace. Evidence suggests that most workers will also seek post-transition employment close to home. Workers at Holden's Port Melbourne Engine Plant, however, do provide an exception. These workers mostly reside in North and West Melbourne, where many Toyota workers also live. Therefore, it has been assumed for the purposes of analysis that these workers may also seek future employment in the North and West. In addition to this analysis, Part Two also contains a discussion around so-called 'pipeline' jobs, that is, future employment opportunities that could be stimulated by large projects or investments in the two states.

Data and Method

The labour market analysis utilises data from three sources: The ABS Labour Force Survey, ABS Census data (Population and Housing) and the LMIP Internet Vacancy Index (IVI). It was anticipated that triangulation of data from disparate sources would lead to the most reflective overall picture in the respective labour markets. A brief description of each data source follows below.

The first source of occupational data, the ABS Labour Force Survey, is collected monthly by the Department of Employment and offers the most up-to-date occupational figures. This data was used to give an overall picture of some of the regions of Adelaide and Melbourne with respect to the share of overall employment each occupational group has.

Secondly, census data from 2006 and 2011 was compared in order to identify the more specific occupations which had increased in number of people employed between the two dates. Census data also enabled the researchers to identify growing occupations within specific skills categories. This is relevant because some of the transitioning auto workers may prefer to seek employment within the same skill category (i.e. horizontal occupational mobility) as opposed to having to retrain or upskill to acquire vertical occupational mobility. Although the 2011 data is dated and changes have occurred in the Australian economy since 2011 (e.g. the end of the mining boom, further decline in manufacturing), these changes are not anticipated to have had an impact on the growth industries and occupations identified in the analysis. For example, occupational forecasts used by the Department of Employment in their 2015 Jobs Report confirm that most of the occupations identified as growing over the 2006 and 2011 Census periods are expected to continue to provide strong employment opportunities over the next five years.

Lastly, the Internet Vacancy Index is collated monthly by the Department of Education. The IVI incorporates all the advertisements on SEEK, CareerOne and Australian JobSearch during the month. Clearly, as the IVI only captures online advertisements, it cannot reflect the total number of job advertisements in the labour market. Furthermore, the IVI cannot account for multiple jobs advertised in a single entry. However, the IVI does enable a good level of understanding into job opportunities in the localities where many auto workers live and will be looking for work.

The final section containing information relating to pipeline jobs is also based on several sources of data. Although these projected jobs – which include projects such as the submarine contracts in South

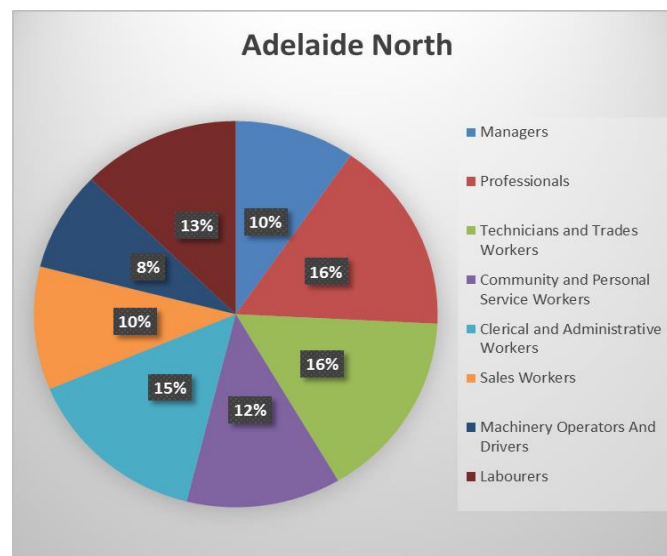
Australia and rail upgrade-related employment in Victoria – have attracted much publicity in the media, obtaining concrete information as to the relevance of these future projects to retrenched auto workers proved difficult. However, it was also clearly important to include these potential jobs as they do not otherwise appear in the labour market analysis. Therefore, this section is based on a variety of sources which included State Government websites (including major projects websites), government media releases and media sources. As such, what we describe is designed to stimulate discussion of an area that needs greater clarification and substance if it is to be of real use to transitioning auto employees.

Findings

Occupational spread in Greater Adelaide: ABS Labour Force Survey

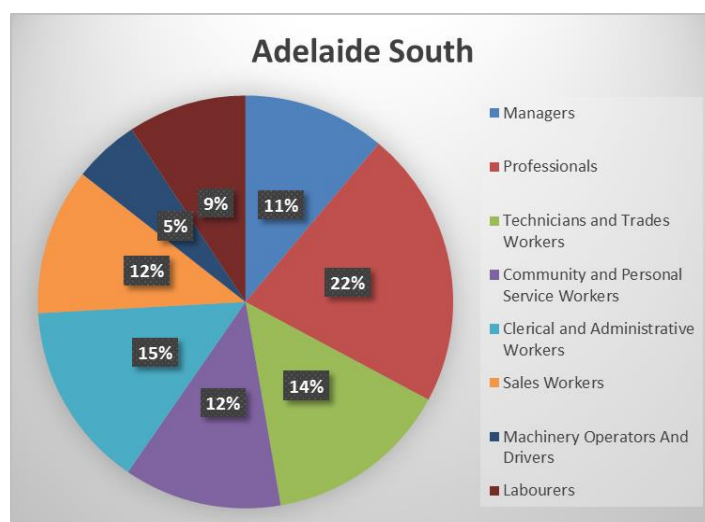
Adelaide is a small labour market which, even before the proposed shutdown of the auto industry, contained areas that were struggling economically in the North and West (Neville, 2011). The following charts illustrate the situation in the Adelaide labour market with figures from the North (Figure 1) and South (Figure 2) regions. These are the likely to be the regions that will be most significantly affected by the termination of auto manufacturing because they are where the auto manufacturing plants and component suppliers are currently situated.

Figure 1: Adelaide North



Source: ABS Labour Force Survey employment by occupation February 2016 www.lmip.gov.au

Figure 2: Adelaide South



Source: ABS Labour Force Survey employment by occupation February 2016 www.lmip.gov.au

The Machinery Operators/Drivers and Technician/Trades occupational groups account for 24 per cent of employment in Adelaide North and 19 per cent in Adelaide South. The relatively high proportion of employment in these two occupational categories is due to the existing concentration of manufacturing activity – including auto and auto components manufacturing – in these two regions. Over the next eighteen months, with the closure of the auto industry, it can be expected that employment will decline in these two occupational categories.

If retrenched workers were to limit their job search to those same regions (North and South), the occupations into which they could transfer with minimal retraining or upskilling, are Labourers, Sale Workers, Clerical/Administration Workers and Community/Personal Service Workers. Notably, most of these occupations are based in the growing services sector of the economy (Australian Industry Report, 2015). The exception to that would be Labourers which account for 13 per cent of employment in Adelaide North and 9 per cent in Adelaide South. However, given the nature of this work, it may not be desirable in the longer term. This is because the workforce profiles demonstrate that the auto workers are older, some carrying long term injuries with fewer years that they are likely to be fit enough to do labouring. It is also unskilled work which is not utilising the full potential of this group of people (the auto employees) and this could be a source of frustration in the long term. Of course, such work may provide a satisfactory short term option for retrenched workers.

However, data collected for Part One of this report has suggested that Adelaide auto employees may be willing to travel further within the wider Adelaide area in order to secure employment post-auto industry. This could enhance their job prospects.

In comparison, skilled, service-oriented Professional/Management occupations account for significant proportions of Adelaide regional employment: 41 per cent in Adelaide North and 48 per cent in Adelaide's South. This dominance again illustrates the increasing shift in Australia more generally towards a more highly skilled, service-oriented economy (Snell, Gekara & Gatt, 2016). Furthermore, for displaced autoworkers to find work at this level would require them to significantly upskill. Indeed, even in the more comparable skill level occupations (Sales and Community/Personal Care), the auto workers would require some retraining because of the vastly different nature of the jobs in these services sectors. Ultimately, the key message to take away is that the economy is changing and,

therefore, something needs to happen in the way of retraining. Otherwise meaningful employment may be hard to come by. The next data set builds on this broad picture and looks at Greater Adelaide at a more detailed level showing which actual jobs are on the increase and, thus, where future opportunities will lie.

Occupational change in Greater Adelaide between 2006 and 2011: Census data

Having established which industries broadly offer the best job opportunities in the two localities, the following tables examine occupational change between 2006 and 2011. The aim is to determine which actual occupations experienced the most growth in this time period. Firstly, Table 2 delineates the top 20 growth occupations at all skill levels. The following tables (3-7) then detail each different skill level, broken down into the top 5 occupations for each skill level 1-3 (Table 3-5) and the top 10 occupations for skill levels 4 and 5 (Tables 6 and 7). Census data from all the Adelaide Local Government Areas (LGAs) were amalgamated to achieve these figures by economy.id.com.au/.

Table 2: Occupational Growth in Adelaide all skill levels, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Personal Carers & Assistants	12 541	15 655	+3 114
General Clerks	12 133	15 104	+2 971
Midwifery & Nursing Professionals	14 510	17 112	+2 602
Accounting Clerks & Bookkeepers	10 673	12 699	+2 026
Hospitality Workers	10 943	12 795	+1 852
Engineering Professionals	4 799	6 268	+1 469
Health & Welfare Support Workers	7 233	8 659	+1 426
Checkout Operators & Office Cashiers	6 176	7 578	+1 402
School Teachers	16 649	18 038	+1 389
Electricians	4 955	6 187	+1 232
Food Preparation Assistants	7 635	8 848	+1 213
Social & Welfare Professionals	5 306	6 511	+1 205
Medical Practitioners	4 273	5 394	+1 121
Information & Organisation Professionals	5 153	6 267	+1 114
Construction & Mining Labourers	5 888	6 954	+1 066
Child Carers	5 238	6 271	+1 033

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Construction, Distribution & Production Managers	10 724	11 747	+1 023
Truck Drivers	6 474	7 471	+997
Food Trades Workers	7 468	8 461	+993
Health Diagnostic & Promotion Professionals	3 232	4 183	+951

Source: ABS Census of Population and Housing 2006 & 2011.

Table 2 illustrates the dominance of skill level 1 (professional and managerial) occupations in contributing to jobs growth in Adelaide between 2006 and 2011. In addition, the services sector of the economy also experienced significant jobs growth, which confirms the previous employment by occupational group proportional analysis.

Providing further evidence for this shift, Tables 3 to 7 examine job growth by occupation at each specific skill level. The findings confirm the growing importance of service industries to employment in the Adelaide economy.

Table 3: Occupational Growth in Adelaide skill level 1, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Midwifery & Nursing Professionals	14 510	17 112	+2 602
Engineering Professionals	4 799	6 268	+1 469
School Teachers	16 649	18 038	+1 389
Social & Welfare Professionals	5 306	6 511	+1 205
Medical Practitioners	4 273	5 394	+1 121

Source: ABS Census of Population and Housing 2006 & 2011.

The steady growth in level 1 occupations illustrated in Table 3, reflects changes in the economy from traditional industrial and manufacturing to a service-based economy – the long-term trend for Australia (Australian Industry Report, 2015). These occupations would require upskilling by the majority of the auto workforce although some may be realistic options for younger workers or those currently involved in senior leadership or management roles in the auto industry who already possess the required bachelor level qualifications.

Table 4: Occupational Growth in Adelaide skill level 2, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Health & Welfare Support Workers	7 233	8 659	+1 426
Food Trades Workers	7 468	8 461	+993
Miscellaneous Hospitality, Retail & Service Managers	5 846	6 745	+899
Defence Force Members, Fire Fighters & Police	4 301	5 166	+865
Retail Managers	10 962	11 498	+536

Source: ABS Census of Population and Housing 2006 & 2011.

Skill level 2 occupations show moderate growth in the period between the two census points (Table 4).

However, only two skill level 2 occupations appear in the overall top 20 growing occupations list (Table 2). Furthermore, the same conclusion as above regarding retraining/upskilling applies here.

Nonetheless, although employment at these higher skill levels sometimes appears out of reach for production autoworkers, there are opportunities for those who have the motivation, resources and support to retrain and upskill. Indeed, approximately 20 workers from one auto company in Australia have successfully retrained for careers in nursing and approximately 39 more have enrolled for training as hospital operating theatre technicians.

Table 5: Occupational Growth in Adelaide skill level 3, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Electricians	4 955	6 187	+1 232
Building & Engineering Technicians	5 096	6 020	+924
Bricklayers, Carpenters & Joiners	5 175	6 085	+910
Plumbers	3 161	3 808	+647
Glaziers, Plasterers & Tilers	3 205	3 653	+448

Source: ABS Census of Population and Housing 2006 & 2011.

Skill level 3 occupations (Table 5) are often considered to be the most directly related to the knowledge and capabilities of production autoworkers and, therefore, such occupations are often assumed to be an area where their skills may easily transfer. Significantly though, skill level 3 occupations did not experience significant growth between 2006 and 2011. Moreover, those identified as growing are heavily dependent on the construction industry remaining buoyant and continued population growth. Such contingency may not, therefore, provide the retrenched auto workers with the meaningful, consistent employment they may be seeking.

Table 6: Occupational Growth in Adelaide skill level 4, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Personal Carers & Assistants	12 541	15 655	+3 114
General Clerks	12 133	15 104	+2 971
Accounting Clerks & Bookkeepers	10 673	12 699	+2 026
Child Carers	5 238	6 271	+1 033
Truck Drivers	6 474	7 471	+997
Sports & Fitness Workers	2 649	3 472	+823
Insurance Agents & Sales Representatives	6 534	7 280	+746
Personal Service & Travel Workers	3 397	4 043	+646
Stationary Plant Operators	2 756	3 327	+571
Office & Practice Managers	7 066	7 614	+548

Source: ABS Census of Population and Housing 2006 & 2011.

Table 6 shows that there was steady growth in level 4 occupations in Adelaide between 2006 and 2011. In fact, the first five jobs in the above table are all in the top 20 overall. Some re-skilling would be required for production auto workers to transition into these roles but the training would be at a comparable Australian Qualifications Framework (AQF) level Certificate II or III and, in instances like this, opportunities for RPL may exist. An example of service-sector prominence, disability and aged care work fits into this group (Personal Carers and Assistants). The rollout of new initiatives, such as the National Disability Insurance Scheme (NDIS), may give additional impetus to this sector and could stimulate additional, sustained growth in this area (Monash Leader, 2016).

Skill level 5 occupations are shown below and also demonstrated growth, although it must be noted that many of these occupations are in highly casualised industries. Therefore, transitioning into these industries would represent a significant difference in occupational culture, including job security and pay, for the auto workers. However, realistically there are opportunities at this level for production auto worker transition albeit perhaps in the shorter term with little re-skilling required. Therefore, these occupations could serve as a stop-gap while transitioning auto workers study or decide what to do long term.

Table 7: Occupational Growth in Adelaide skill level 5, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Hospitality Workers	10 943	12 795	+1 852
Checkout Operators & Office Cashiers	6 176	7 578	+1 402
Food Preparation Assistants	7 635	8 848	+1 213
Construction & Mining Labourers	5 888	6 954	+1 066
Sales Assistants & Salespersons	36 428	37 255	+827
Cleaners & Laundry Workers	13 088	13 656	+568
Miscellaneous Labourers	5 793	6 096	+303
Miscellaneous Sales Support Workers	2 667	2 764	+97
Food Process Workers	3 238	3 303	+65
Freight Handlers & Shelf Fillers	4 458	4 499	+41

Source: ABS Census of Population and Housing 2006 & 2011.

Job advertisements in Greater Adelaide in 2016: The Internet Vacancy Index

In the next section, we present another view of possible future jobs for displaced autoworkers using data from the Internet Vacancy Index.

Table 8 considers the most common unskilled/semi-skilled occupations found in the IVI data for 2015/16. These are the occupations at a similar skill level as many of the auto production workers and, therefore, where they could potentially find jobs with minimal retraining.

Table 8: Adelaide unskilled/semi-skilled

Adelaide top five unskilled/semi-skilled occupations	Number of job advertisements 2015/16
1. General inquiry clerks/call centre/reception workers	7205
2. Sales assistants & salespersons	6057
3. Carers & aides	3270
4. Labourers (non-mining/ construction)	2994
5. Food trades workers	2993

Source: Internet Vacancy Index (IVI) Job Vacancy Data 2015/16 (www.lmip.gov.au)

The occupations in Table 8 appear to bear little resemblance to auto manufacturing. If these are the dominant occupations where jobs are growing, displaced autoworkers will need some re-skilling perhaps at AQF Certificate II or III level, in order to gain employment in them and make the most of the growing opportunities.

Table 9: Adelaide trade and engineering

Adelaide top five trade & engineering occupations	Number of job advertisements 2015/16
1. Automotive & engineering trades workers	2654
2. Engineering, ICT & science technicians	2027
3. Construction trade workers	1285
4. Hairdressers, printing, clothing and wood trade workers	1269
5. Electrotechnology and telecommunications trade workers	1060

Source: IVI Job Vacancy Data 2015/16 (www.lmip.gov.au)

Table 9 presents the vacancies in Trades and Engineering occupations. On the one hand, this is useful because the occupations in this table bear the greatest relation – in terms of skill sets and job opportunities – for transitioning autoworkers. On the other hand, however, overall there are far fewer jobs than for unskilled/semi-skilled occupations (Table 8) or, indeed, for professionals (Table 10) suggesting that this may be a sector in decline.

Table 10: Adelaide professionals

Adelaide top five professional occupations	Number of job advertisements 2015/16
1. Business, finance & HR	4455
2. Corporate managers	3966

Adelaide top five professional occupations	Number of job advertisements 2015/16
3. ICT professionals	3690
4. Hospitality, retail and service managers	3285
5. Medical practitioners & nurses	3186

Source: IVI Job Vacancy Data 2015/16 (www.lmip.gov.au)

Professional occupations (Table 10) represent the occupations in which most job vacancies were placed. In terms of opportunities for auto industry employees, a number of the non-production workers could potentially fill vacancies in these areas (e.g. HR, finance, IT). For the majority of the production auto workers however, extensive retraining would be required as well as high levels of English language proficiency and digital literacy which may put these options out of the reach of some.

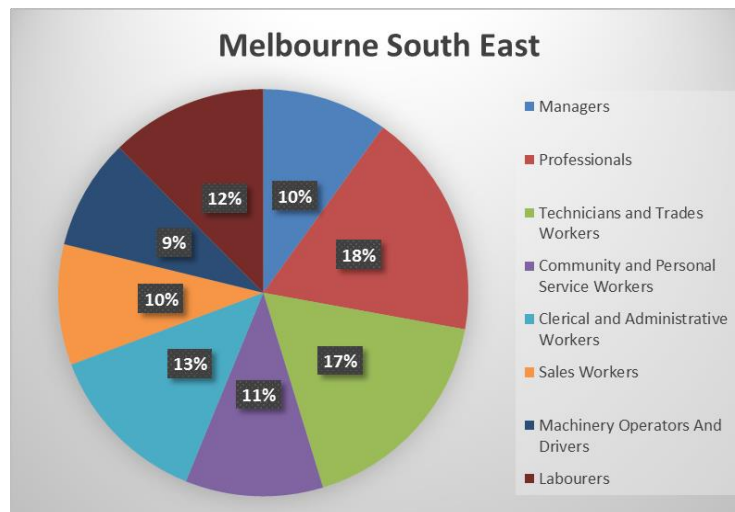
The above analysis of IVI data confirms the findings from the previous ABS data analysis which suggested potentially dwindling numbers of jobs into which auto manufacturing workers are likely to be able to seamlessly transfer their existing core skills after retrenchment. The IVI data also confirms that the occupations that offer the greatest opportunity are located in the service and professional sectors, including hospitality, healthcare and retail. This indicates that the Adelaide economy is shifting in the direction of a service/management economy, also meaning perhaps that the concept of transferable skills requires re-examination and the workers need to start thinking about the skills they have gained in terms of a generic skill set, applicable across industries – a concept that is examined in detail in Part Three of this study.

Occupational spread in Melbourne: ABS Labour Force Survey

Compared to Adelaide, Melbourne is a much larger economy and labour market. However, the data shows that many of the overall characteristics are similar in terms of the economic transformations and industrial restructuring happening in Australia generally. The implications of these changes to occupations are, therefore, similar. This section of the labour market analysis considers these changes with a view to establishing what job opportunities there may be now and into the future and which into which occupations auto manufacturing workers might transition most successfully post-retrenchment.

Figures 3 and 4 present an overview of the major occupations in the South East and West of the region. These are the areas due to be impacted by the closure of Holden, Toyota and the auto supply chain. Nevertheless, our analysis will show that, as these areas are also growth areas themselves (Metropolitan Planning Authority, 2016), they are therefore, good potential sources of employment opportunity as well

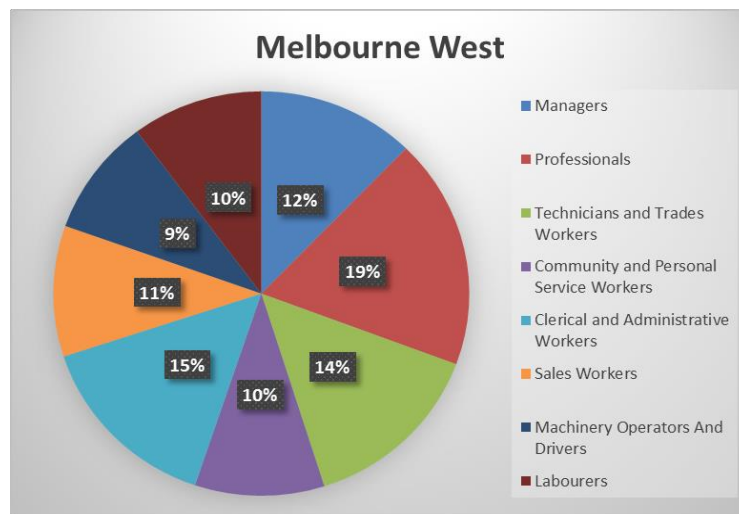
Figure 3: Melbourne South East



Source: ABS Labour Force Survey employment by occupation February 2016 www.lmip.gov.au

Figure 3 shows Melbourne's South East to have a relatively diversified occupational profile with jobs almost evenly distributed across the different major occupational groups which is also the case in Melbourne's West. Nonetheless, Managers and service-oriented Professionals are the most dominant with 41 per cent share of the employment market in Melbourne South East and 46 per cent in Melbourne West (Figure 4). This is, again, indicative of an economic shift in Australia towards a more highly-skilled, highly-qualified service-based economy as seen in the Adelaide labour market (Australian Industry Report, 2015; Neville, 2016; Snell, Gekara & Gatt, 2016). The jobs that are more traditional to these areas such as Technicians/Trades, Machinery Operators/Drivers and Labourers are clearly on the decline at 38 per cent in Melbourne South East and 33 per cent in Melbourne West. These jobs are mostly located in the manufacturing sector which means that the shutdown of manufacturing companies like Holden and Toyota as well as the associated component suppliers will contribute to further decline of these traditional jobs.

Figure 4: Melbourne West



Source: ABS Labour Force Survey employment by occupation February 2016 www.lmip.gov.au

Similarly to the picture in Adelaide, job opportunities into which retrenched, semi-skilled auto production workers can easily move into with little retraining appear to be diminishing. It will require significant upskilling for them to access the higher skill level jobs as Managers and Professionals. Furthermore, it will require some retraining even to fit into similar skill level occupations such as Sales and Community/Personal Service due to the vastly different fields these opportunities are occurring in.

Occupational change in Melbourne between 2006 and 2011: Census data

The following section focuses on the labour market in Melbourne's West and South East. These are areas where much of the auto industry and its supply chain in Melbourne are currently situated. As with Adelaide, we compare census data to ascertain which occupations witnessed the most growth in the time period 2006-2011. These results are presented as the top 20 growth occupations in all skill levels (Tables 11 and 17) and subsequently broken down into the top 5 occupations for each skill level 1-3 and the top 10 occupations at skill levels 4 and 5 – those where transitioning auto workers could potentially acquire employment with minimal retraining.

Like the Adelaide analysis, data was analysed using ABS Tablebuilder and the Place of Work categories from the 2006 and 2011 Censuses. Unfortunately for comparative purposes, the geographical region categories were changed slightly between the two census periods. Therefore, in this analysis, the 2006 'Western Melbourne' region was equated with the 2011 'West Melbourne' region to make Melbourne West. The 2006 'South East Outer Melbourne', 'Greater Dandenong' and 'Frankston' areas have been amalgamated and equated with the 2011 'Melbourne South East' wider region.

Melbourne West growth occupations 2006-2011

West Melbourne is one of the traditional locations of manufacturing in Melbourne. It is a working class region, a history still reflected in the prevalence of level 4 and 5 occupations in the top 20 jobs (Table 11) in the region – 16 out of 20. This is quite positive for retrenched auto workers who may be able to fit easily into many of these roles with minimal re-skilling. Level 4 jobs generally require AQF level II or III certification, which would be realistically achievable between now and the ultimate

closure of the auto plants and supply chain. The most obviously suitable occupations for transitioning workers – due to their inherent similarity in skills and competencies – and which have experienced some significant growth in the period of focus include Storepersons, Mobile Plant Operators and Truck Drivers. Also in the top 20, Construction/Mining Labourers, Stationary Plant Operators and Miscellaneous Labourers could be interpreted as possible avenues for the same reason. However, it is important to bear in mind that growth in these last occupations, although present, was minimal. In addition, the West has also been designated an urban growth corridor (MPA, 2016c) which means that population growth is expected in this area as well as investment from government and the private sector – all good news for job seekers in this region.

Table 11: Occupational Growth in Melbourne West all skill levels, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
School Teachers	5 705	7 758	+2 053
Storepersons	3 044	4 848	+1 804
Child Carers	1 295	2 906	+1 611
Mobile Plant Operators	2 431	3 950	+1 519
Truck Drivers	3 079	4 553	+1 474
Sales Assistants & Salespersons	10 963	12 341	+1 378
Construction, Distribution & Production Managers	3 473	4 682	+1 209
Midwifery & Nursing Professionals	2 746	3 855	+1 109
Checkout Operators & Office Cashiers	1 844	2 570	+726
Personal Carers & Assistants	2 234	2 898	+664
Education Aides	1 025	1 602	+577
Food Preparation Assistants	1 710	2 259	+549
General Clerks	2 915	3 432	+517
Construction & Mining Labourers	1 186	1 687	+501
Retail Managers	3 313	3 806	+493
Hospitality Workers	1 835	2 317	+482
Logistics Clerks	2 514	2 962	+448
Office & Practice Managers	1 247	1 684	+437
Stationary Plant Operators	854	1 285	+431

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Miscellaneous Labourers	1 475	1 881	+406

Source: ABS Census of Population and Housing 2006 & 2011.

It is also important to remember that the above profile may adjust significantly when the auto industry ceases to be because of direct (auto manufacturing) and indirect (auto component supply chain) effects. In the following tables (12-16), we analyse employment opportunity in the West by skill level.

Melbourne West growth occupations by skill level 2006-2011

Tables 12 and 13 show which occupations at skill levels 1 and 2 – Management and Professionals – are growing. Jobs at this level require qualifications at Certificate IV and above. Therefore, occupations at these skills levels could be a possibility for some non-production management and professional workers from the auto industry who already hold qualifications at this level. Moreover, there may even be other individuals who feel able to undergo a complete career change. Redirection of this nature would involve extensive retraining and upskilling. However, although retraining for level 1 jobs would be extensive, in terms of growth and opportunity this would demonstrate the best use of time and resources for some workers compared to training for level 2 careers, a level that has shown considerably less growth (Table 13).

Table 12: Occupational Growth in Melbourne West skill level 1, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
School Teachers	5 705	7 758	+2 053
Construction, Distribution & Production Managers	3 473	4 682	+1 209
Midwifery & Nursing Professionals	2 746	3 855	+1 109
Social and Welfare Professionals	1 532	1 905	+373
Health Diagnostic & Promotion Professionals	705	1 050	+345

Source: ABS Census of Population and Housing 2006 & 2011.

Table 13: Occupational Growth in Melbourne West skill level 2, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Retail Managers	3 313	3 806	+493
Miscellaneous Hospitality, Retail & Service Managers	1 561	1 894	+333
Health & Welfare Support Workers	1 334	1 564	+230
Contract, Program & Project Administrators	988	1 204	+216
Defence Force Members, Fire Fighters & Police	918	1 081	+163

Source: ABS Census of Population and Housing 2006 & 2011.

Skill level 3 occupations (Table 14) at the outset appear to offer the greatest opportunities for transitioning production workers as they are at a similar skill level. Unfortunately, occupations in this category are not growing at the same rate as those at skill level 1, for example. Furthermore, with the impending closure of the auto industry, some of these jobs will be lost, such as Fabrication Engineering Trades Workers.

Table 14: Occupational Growth in Melbourne West skill level 3, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Bricklayers, Carpenters & Joiners	1 117	1 486	+369
Automotive Electricians & Mechanics	1 559	1 901	+342
Building & Engineering Technicians	1 123	1 437	+314
Electricians	1 238	1 546	+308
Fabrication Engineering Trades Workers	1 332	1 464	+132

Source: ABS Census of Population and Housing 2006 & 2011.

Indeed, we make these observations bearing in mind that these numbers are pre-auto transition so that some of the growth in level 3 occupations will presumably fall further. The two census periods (2006 and 2011) also predate the most recent construction ‘boom’ which, one can assume, has stimulated construction-related occupations in the last five years and may not continue indefinitely.

Table 15: Occupational Growth in Melbourne West skill level 4, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Storepersons	3 044	4 848	+1 804
Child Carers	1 295	2 906	+1 611
Mobile Plant Operators	2 431	3 950	+1 519
Truck Drivers	3 079	4 553	+1 474
Personal Carers & Assistants	2 234	2 898	+664
Education Aides	1 025	1 602	+577
General Clerks	2 915	3 432	+517
Logistics Clerks	2 514	2 962	+448
Office & Practice Managers	1 247	1 684	+437
Stationary Plant Operators	854	1 285	+431

Source: ABS Census of Population and Housing 2006 & 2011.

In many ways, skill level 4 and 5 occupations are the most immediately suited for production auto workers to transition into based on the skill levels required – generally a certificate I or II. Indeed, occupations at these levels have shown moderate growth in Melbourne West. Closer examination of the occupations, however, suggests that there may be a significant skills mismatch in some cases. Occupations which may be comparable to auto workers’ existing jobs are Storepersons, Mobile Plant

Operators, Truck Drivers and Stationary Plant Operators from Skill level 4 (Table 15). From Skill level 5 (Table 16), Construction/Mining Labourers, Miscellaneous Labourers and Freight Handlers/Shelf Fillers may have similar skill demands. However, as before, much of the growth at these levels is in the service-sector such as Sales Assistants/Salespersons and Carers. Despite the similarity in level of qualification, the industries concerned are different and auto workers will need support to transition successfully into these roles. Not least because many of them (who are male) are transitioning from industries traditionally dominated by men to those traditionally dominated by women which could engender repercussions for masculinity and feelings of self-worth – all of which must be taken into account if smooth transition is the ideal. Notwithstanding, many occupations at this level are achievable for most transitioning auto workers with minimal re-skilling required.

Table 16: Occupational Growth in Melbourne West skill level 5, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Sales Assistants & Salespersons	10 963	12 341	+1 378
Checkout Operators & Office Cashiers	1 844	2 570	+726
Food Preparation Assistants	1 710	2 259	+549
Construction & Mining Labourers	1 186	1 687	+501
Hospitality Workers	1 835	2 317	+482
Miscellaneous Labourers	1 475	1 881	+406
Cleaners & Laundry Workers	2 264	2 619	+355
Packers & Product Assemblers	2 551	2 881	+330
Freight Handlers & Shelf Fillers	1 027	1 252	+225
Food Process Workers	1 000	1 206	+206

Source: ABS Census of Population and Housing 2006 & 2011.

Melbourne South East growth occupations 2006-2011

Melbourne's South East is home to many auto component supply firms for the Melbourne auto industry. It is also a large area with strong population growth more broadly containing the Melbourne South East Growth Corridor (MPA, 2016b). Economic transformation is already well underway in this part of Melbourne with the public sector, medical and educational facilities (all predominantly service-sector) emerging as significant employers, with further plans for expansion and integration in the wider area (Victorian State Government & MPA, 2016). However, this changing economy also means strong growth in more highly skilled, level 1 professional jobs. Strong growth in level 4 occupations in this area may also be connected to the level 1 growth suggesting that level 4 occupations often emerge in support of the professional jobs, for example, in clerical and administration roles (Table 17).

Table 17: Occupational Growth in Melbourne SE all skill levels, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Construction, Distribution & Production Managers	4 518	7 565	+3 047
Accounting Clerks & Bookkeepers	4 546	7 065	+2 519
Storepersons	3 393	5 885	+2 492
Sales, Marketing & PR Professionals	1 159	3 344	+2 185
School Teachers	7 292	9 467	+2 175
General Clerks	3 515	5 655	+2 140
Natural & Physical Science Professionals	572	2 581	+2 009
Advertising, PR & Sales Managers	1 663	3 627	+1 964
Insurance Agents & Sales Representatives	2 805	4 740	+1 935
Logistics Clerks	2 355	4 216	+1 861
Accountants, Auditors & Company Secretaries	1 697	3 544	+1 847
Midwifery & Nursing Professionals	4 094	5 935	+1 841
Engineering Professionals	1 231	2 986	+1 755
Tertiary Education Teachers	857	2 561	+1 704
Personal Carers & Assistants	2 595	4 202	+1 607
Business & Systems Analysts & Programmers	529	1 932	+1 403
Building & Engineering Technicians	1 288	2 654	+1 366
Business Administration Managers	1 488	2 848	+1 360
Call or Contact Centre Information Clerks	994	2 285	+1 291

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Miscellaneous Hospitality, Retail & Service Managers	1 783	3 072	+1 289

Source: ABS Census of Population and Housing 2006 & 2011.

Tables 18-22 below confirm these observations from Table 17. Overall, there is strong growth in skill level 1 and 2 jobs (Tables 18-19) in South East Melbourne – as in Melbourne as a whole. As we have already stated, this growth could provide opportunities for some non-production auto workers and potentially some younger workers who might have the time and the interest to retrain and upskill, since again, up-skilling would be required for the large majority of the retrenched auto workers to transition into these opportunities.

Melbourne South East growth occupations by skill level 2006-2011

Table 18: Occupational Growth in Melbourne SE skill level 1, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Construction, Distribution & Production Managers	4 518	7 565	+3 047
Sales, Marketing & PR Professionals	1 159	3 344	+2 185
School Teachers	7 292	9 467	+2 175
Natural & Physical Science Professionals	572	2 581	+2 009
Advertising, PR & Sales Managers	1 663	3 627	+1 964

Source: ABS Census of Population and Housing 2006 & 2011

Table 19: Occupational Growth in Melbourne SE skill level 2, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Miscellaneous Hospitality, Retail & Service Managers	1 783	3 072	+1 289
Contract, Program & Project Administrators	926	2 036	+1 110
Food Trades Workers	2 060	2 816	+756
Retail Managers	4 058	4 771	+713
Miscellaneous Clerical & Administrative Workers	1 342	1 924	+582

Source: ABS Census of Population and Housing 2006 & 2011.

Skill levels 3, 4 and 5 (Tables 20, 21 and 22) below show occupations that may offer the best horizontal occupational mobility for production auto workers. However, these areas are not growing at the same rate as level 1 and 2 occupations. Skill level 4, nonetheless, shows moderate growth and, although some re-skilling would be required for auto workers to fit into some of these opportunity areas, it would not be too extensive and could in some cases be achievable with the time and support available from auto employers and the government. However, as further training is likely to be required in some form, early initiation is important in order that transition be smooth when the time comes.

Table 20: Occupational Growth in Melbourne SE skill level 3, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Building & Engineering Technicians	1 288	2 654	+1 366
Electricians	1 141	2 009	+868
Automotive Electricians & Mechanics	2 294	2 903	+609
Mechanical Engineering Trades Workers	2 274	2 759	+485
Bricklayers, Carpenters & Joiners	1 553	1 970	+417

Source: ABS Census of Population and Housing 2006 & 2011.

Table 21: Occupational Growth in Melbourne SE skill level 4, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Accounting Clerks & Bookkeepers	4 546	7 065	+2 519
Storepersons	3 393	5 885	+2 492
General Clerks	3 515	5 655	+2 140
Insurance Agents & Sales Representatives	2 805	4 740	+1 935
Logistics Clerks	2 355	4 216	+1 861
Personal Carers & Assistants	2 595	4 202	+1 607
Call or Contact Centre Information Clerks	994	2 285	+1 291
Office & Practice Managers	1 931	3 089	+1 158
Receptionists	2 719	3 823	+1 104
Child Carers	1 913	2 828	+915

Source: ABS Census of Population and Housing 2006 & 2011.

Table 22: Occupational Growth in Melbourne SE skill level 5, 2006-2011

Occupation	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Packers & Product Assemblers	3 525	4 718	+1 193
Hospitality Workers	1 934	2 845	+911

<i>Occupation</i>	<i>Employed people in 2006</i>	<i>Employed people in 2011</i>	<i>Change in number of jobs</i>
Sales Assistants & Salespersons	13 412	14 260	+848
Cleaners & Laundry Workers	2 538	3 289	+751
Clerical & Office Support Workers	2 088	2 749	+661
Food Preparation Assistants	2 217	2 816	+599
Miscellaneous Labourers	1 932	2 472	+540
Checkout Operators & Office Cashiers	2 398	2 814	+416
Construction & Mining Labourers	1 803	2 201	+398
Food Process Workers	1 231	1 368	+137

Source: ABS Census of Population and Housing 2006 & 2011.

Job advertisements in Melbourne in 2016: The Internet Vacancy Index

This final section of Part Two, presents an overview of job opportunities in the Greater Melbourne area based on the Internet Vacancy Index. As with Adelaide, the data is broken down into categories: unskilled/skilled occupations where there are jobs semi-skilled, production auto workers could walk into with limited retraining, trade and engineering which is the skill level where many trade-qualified auto workers are currently located and professional where non-production auto workers who fill leadership, management or specialist roles might access available jobs. Note that compared to Adelaide, the number of advertisements is much greater illustrating the larger size of the Melbourne labour market overall.

Table 23: Melbourne unskilled/semi-skilled

Melbourne top five unskilled/semi-skilled occupations	Number of job advertisements 2015/16
1. General inquiry clerks/call centre/reception workers	41517
2. Sales assistants & salespersons	31049
3. Numerical clerks	21561
4. Sales representatives & agents	19409
5. Carers & aides	17003

Source: IVI Job Vacancy Data 2015/16 (www.lmip.gov.au)

The occupations in the above table (23) in the unskilled and semi-skilled category reflect the increasing significance of service occupations in the Melbourne labour market. Note however, that many of these occupations also have high rates of turnover so the number of job vacancies may reflect this characteristic rather than actual growth. This transience in the labour market may reflect future trends, though, such as the casualisation of the workforce (Kryger, 2015) and, therefore, still be important areas for the auto workers to consider seeking employment if the jobs are there.

Table 24: Melbourne trade and engineering

Melbourne top five trade & engineering occupations	Number of job advertisements 2015/16
1. Engineering, ICT & science technicians	14724
2. Automotive & engineering trades workers	11530
3. Construction trade workers	7601
4. Engineers	6334
5. Hairdressers, printing, clothing and wood trade workers	5364

Source: IVI Job Vacancy Data 2015/16 (www.lmip.gov.au)

Table 24 contains the IVI numbers for the top five trade and engineering occupations currently advertising vacancies in Melbourne. It is important to note here that the actual numbers of these vacancies are much less than for unskilled/semi-skilled or professional occupations. Whilst opportunities do exist, many of these areas are reliant on sustained population growth and the construction and housing ‘boom’ continuing - a point made previously in relation to skill level 3 jobs. Of course, the closure of the auto industry is also not yet reflected here, which may have a further negative impact on the number of advertisements in some of these categories, such as Automotive and Engineering Trades Workers.

Table 25 below further confirms the dominance of professional occupations, which showed strong growth in the period between the two census points. The vacancies in this category also demonstrate the importance of computer technology in the Melbourne job market and, therefore, provide some indication of the potential digital future of jobs and skills in this market.

Table 25: Melbourne professional

Melbourne top five professional occupations	Number of job advertisements 2015/16
1. ICT professionals	36240
2. Corporate managers	34232
3. Business, finance & HR professionals	29924
4. Construction, production and distribution managers	16611
5. Sales, marketing and public relations professionals	11713

Source: IVI Job Vacancy Data 2015/16 (www.lmip.gov.au)

Pipeline Jobs

The term ‘pipeline’ refers to future employment opportunities that will be created as a result of major government infrastructure, construction or nation-building projects or other significant investments in an area by large employers. In interviews with state and local government representatives, a number of pipeline jobs were highlighted which are predicted to provide future job opportunities for auto workers in Adelaide and Melbourne. Many of these pipeline jobs were expected to emerge as a consequence of major federal and state government investments in defence, road infrastructure and transportation including trains and rail. The precise details of the location and number of jobs to be

created, the types of occupations likely to be required and the timelines for these projects were often not available at the time of the research. Nonetheless, government representatives did expect these government-supported projects to provide auto worker transition opportunities and, in some cases, government procurement contracts for these projects provide incentives for employers to employ former auto workers. The following discussion provides an overview of pipeline jobs that are expected to emerge from these major projects.

Adelaide, South Australia

According to the South Australian Government, there are over 300 major projects underway or planned in South Australia with a total value of more than \$100 billion. These projects cover a range of industries:

- Minerals and energy
- Urban development
- Defence
- Infrastructure (roads, ports and water)
- Health
- Education (schools)
- Water management
- Advanced manufacturing and industrial development

A number of these projects are occurring or scheduled to occur in Greater Adelaide. Construction-related occupations are associated with a number of these major projects including:

- Rail upgrade and rail extension projects such as the electrification of the Gawler train line in 2017-18
- The \$2.5 billion North-South Road Corridor Upgrade
- The Adelaide Festival redevelopment and Convention Centre expansion

Federal Government funding for a number of defence industry-related projects represent the other major area where pipeline jobs are expected to be created in Adelaide. Among these projects are:

- The establishment of a \$230 million Centre for Defence Industry Capability
- A \$40 billion project to build 42 offshore patrol vessels involving some 2,500 defence construction jobs being created in Adelaide and Perth (Nicholson, 2016)
- A \$50 billion Federal Government contract to build 12 new naval submarines with estimates of 2,800 jobs created nationally with the majority based in Adelaide (A. Donnellan, 2016)

The types of occupations required for delivering these major defence projects are expected to be varied with many apparently closely aligned with the skills of auto workers. According to one South Australian government representative, these include both production and trade occupations and non-production roles such as:

Production and Trade:

- Production operators
- Pipefitters
- Welders
- Boilermakers and metal fabricators

- Painters and blasting
- Electricians
- Cablers, cable jointers and cable pullers
- Machine and instrument calibrators
- Fitters and cabinet makers
- Forklift operators
- Truck drivers
- Crane drivers and banksmen
- Diesel mechanics
- Scaffolders
- Storepersons and warehousing operators
- Cleaning staff

Non-production:

- Design/electrical/mechanical/safety/quality engineers
- Professional technical positions (e.g. draftsman)
- Management (HR/finance/ICT/logistics/procurement/safety/quality)
- Legal and commercial services
- Security
- Hospitality including chefs and kitchen support staff

These pipeline jobs are expected to provide some welcome relief for many Holden workers if they are created near the time of Holden's closure. Many of the defence jobs associated with the naval submarine project, however, are not expected to commence until after 2018.

In addition, the South Australian government has identified a number of occupations expected to grow as key industries expand (South Australia Government, 2016). These include:

Health care and social assistance related occupations:

- General medical practitioners
- Medical imaging professionals
- Ambulance officers and paramedics
- Aged and disabled carers
- Registered and enrolled nurses
- Physiotherapists
- Psychologists
- Child carers

Education and training related occupations:

- Early childhood (pre-primary school) teachers
- Primary and secondary school teachers
- Special education teachers
- University lecturers and tutors
- VET sector lecturers and teachers
- Private tutors and teachers

Professional, scientific and technical services related occupations:

- Accountants
- Solicitors
- Software and applications programmers
- Architects and landscape architects
- Civil engineering professionals
- ICT support technicians
- Advertising and marketing professionals
- Computer network professionals

Transport, postal and warehousing related occupations:

- Warehouse and logistics workers
- Transport drivers (trains, cars and trucks)
- Motor mechanics
- Air and marine transport professionals

Advanced manufacturing related occupations:

- Electrical and electronics engineers
- Motor mechanics
- Telecommunications, electronics and electrical distribution trades workers
- Electrical engineering draftspersons and technicians
- Electricians
- Software and applications programmers

Many of these identified occupations reflect the findings of our labour market analysis for Adelaide and further reinforce the notion that many growth occupations are expected to occur at higher skill levels (Australia Government, 2014).

Melbourne, Victoria

The Victorian Government has also identified a number of priority sectors that are expected to drive economic and employment growth into the future. These sectors include:

- Medical technology and pharmaceuticals
- New energy technologies
- Transport, defence and construction technologies
- Food and fibre

- International education
- Professional services

According to the Andrews Government, ‘these sectors have the potential to drive up to \$70 billion in additional economic output by the year 2025 and create 400,000 new jobs for Victorians’ (State of Victoria, 2016: 4).

One of the major government projects stimulating jobs in Greater Melbourne relates to the metropolitan rail and rolling stock upgrade. This includes a \$2 billion commitment to build 65 new locally-made, high capacity metro trains – expected to generate in the region of 1,100 jobs – a \$2.4 billion commitment to remove at least 20 dangerous railway level crossings by 2018 and 50 by 2022 (see <http://levelcrossings.vic.gov.au/>) and a \$9-11 billion Melbourne Metro project involving the construction of a nine kilometre rail tunnel under the Yarra river and parts of the CBD. These projects are expected to drive considerable job growth in construction and rail-related occupations in the near future. Under government procurement policies, the contractors involved in delivering these projects are required to use local apprentices, trainees and engineering cadets and are strongly encouraged to employ displaced auto workers. The job opportunities created for transitioning auto workers by these projects are likely to occur in a range of production and non-production occupational areas. Many auto production workers have skills needed in the manufacturing of new rolling stock and this is currently being explored by Toyota and the State Government as a transition opportunity for workers. The rail construction projects may be more difficult for auto production workers to access but they are likely to deliver some job opportunities to other auto industry workers such as qualified trade workers, engineers and professional workers (e.g. project managers, HR managers, health and safety officers). It is also hoped that some automotive supply chain companies may be able to diversify and capture new venture opportunities in these major infrastructure projects. The Victorian Government’s Automotive Supply Chain Transition Program provides some assistance to firms towards such endeavours.

Another Victorian Government venture that has the potential to provide opportunities for retrenched auto industry workers is the Western Distributor Project. This is a major transport project in Melbourne the aim of which is to streamline traffic flow along the M1 from Geelong to Pakenham. It is made up of three interrelated major projects: The Monash Freeway Upgrade, Webb Dock Access and the Western Distributor (Western Distributor Project, 2016). This project is anticipated to create jobs, particularly in Melbourne’s west. The State Government has also pledged a requirement of 89 per cent local content for the project (L. Donnellan, 2016) which should further boost potential for job creation that could benefit transitioning auto workers.

Indeed, similar government procurement policy in both Victoria and South Australia should be a significant contributor to opportunities for retrenched auto workers in both states. This refers to when, as part of the tender process for government projects, contractors must prioritise recruiting retrenched workers, therefore, how well a firm can demonstrate a commitment to employing retrenched workers is used in the evaluation and awarding of the successful tender. However, it is not entirely clear to the research team how governments will ensure compliance. It is our view that contractor compliance on this issue will be critical if retrenched workers are to be employed onto these major government projects in significant numbers.

Part Three: Cross-matching of production auto workers' qualifications with growth occupations

Introduction

Part One of this project demonstrated that production workers form the largest group of workers to be impacted when the car manufacturing plants and associated supply chain companies cease operations. In addition, this research has shown that these are the workers most likely to have problems finding alternative, meaningful employment with new jobs growth in both geographical areas (Adelaide and Melbourne) being at professional, managerial and generally more highly-skilled levels (Part Two).

A significant proportion of the production auto workers and their supply chain equivalents, possess either AQF Certificate II or III in Automotive Manufacturing Production (AUM 20113 or AUM 30113) or Certificate III in Competitive Systems and Practices (MSS 30316), formerly Certificate III in Competitive Manufacturing. Therefore, the third stage of this project focused on these three certificates with a view to exploring the potential for transferability of skills and qualifications from automotive manufacturing to other occupations identified as growing in Part Two. This section used the website training.gov.au, firstly, to create a comprehensive profile of each of the three qualifications individually, and then to examine how the individual units of competency (UoC) within those certificates relate to other certificates, thus identifying their potential for transferability. Part Three also extends this analysis to include trade workers and a statement describing the post-closure prospects for other categories of non-production workers in the automotive plants and associated supply chain.

There were five key objectives in Part Three:

1. To discover which growing occupations, identified in Part Two, the production auto workers could potentially transition into based upon their existing qualifications, skills and competencies.
2. To determine which other certificates in the AQF framework share a significant number of UoCs with the ones that the production workers already possess. The aim of this objective is to highlight where transferable competencies exist.
3. To categorise the broad groups of skills developed within UoCs according to levels of transferability and develop a skills profile that will enable workers to better understand the depth and breadth of their skills. It is envisioned that this skills profile can be used to form the basis of a CV or job application or coaching for job interviews. Particular attention is paid to skills which are likely to be in demand in the occupational employment growth areas revealed in Part Two.
4. To present the information in a way that it can be easily understood and utilised by workers and careers advisers at the auto and auto supply companies for maximum practical impact on the transition process.
5. To discuss the transferable skills and the future job prospects for trade, engineering and other non-production auto workers in relation to identified labour market opportunities.

Data and method

The method employed to conduct these skills transferability analysis is based upon a comparative skills and UoC evaluation involving a series of stages as described below:

The first stage involved the development of a skills profile of auto production workers through a skills and UoC evaluation of Certificates II and III in Automotive Manufacturing Production (Passenger Motor Vehicle) and Certificate III in Competitive Systems and Practices. This evaluation was conducted using the most up to date versions of these certificates through the website training.gov.au. Data accessed included descriptions of each certificate and the specific skills and competencies developed in core and elective UoCs for each qualification. The decision to include both core and elective UoCs was on the basis that the research team were unable to acquire a record of the exact units the workers had undertaken in their certificates, and interviews with company representatives suggested that the UoCs acquired varied for each distinct group of production workers depending on their speciality. From this exercise, a general skills profile was developed for auto production employees. These comprehensive skills profiles were based on a data driven understanding of the skills and competencies of a typical auto worker, accounting for both formal and informal training typically undertaken and the roles and tasks normally undertaken at work. The skills profiles were organised into generic transferable skills, on the one hand, and specific technical ones, on the other.

The second stage involved identifying auto production workers' skills and competencies which could be transferred into the growth occupations identified in stage one. This stage aimed to highlight the number of occupations into which the production workers could potentially transition utilising their existing skills and qualifications. The comparative skills analysis recognised that many of the competencies and skills held by auto workers are transferable across industries beyond manufacturing. As part of this stage a UoC analysis was conducted. UoCs were considered transferable if they were shared with at least one other certificate, and occupation, outside of auto manufacturing.

The third stage involved the development of occupational transferability skills matrices based upon the data and findings from stages one and two and a detailed examination of job advertisements and skill requirements for selected growing occupations. The matrices took the form of simple informatics diagrams to be provided to workers and employment support agents to assist in the process of identifying the range of options for alternative employment. The objective is that this information can be directly provided to autoworkers at careers advice sessions and displayed at relevant locations within auto and auto component facilities such as transition centres, notice boards, lunchrooms, etc. In developing these diagrams, the ANZSCO language used to describe occupations was often simplified in order that it be more familiar to the production auto workers or careers advisors who were the target audience for this information.

The findings of this staged analysis are presented in three sections. The first section presents the skills profile of auto production workers based upon the examination of the relevant certificates and interviews with auto and auto component companies. Section two provides more specific details about the auto production certificates and the skills and specific UoCs shared with other occupations and qualifications outside the auto industry. The final section presents the comparative occupational analysis diagrams, which illustrate to auto production workers which of their skills are transferable to other growing occupations.

Skills Profile of Auto Production Workers

The following provides a comprehensive profile of the duties, responsibilities, skills and competencies of auto production workers developed through company interviews and documents and a systematic analysis of the qualifications commonly held by auto production workers (Certificates II and III in Automotive Manufacturing Production and Certificate III in Competitive Systems and Practices). This skills profile provides the basis for comparative analysis of the skill requirements of other occupations and identification of transferable skills. As the following discussion highlights, and has been alluded to previously, many of the duties performed and the skills required for these duties are generic skills capable of facilitating occupational mobility to a range of occupations.

Key duties and responsibilities:

- Assemble products - able to competently operate several phases of assembly line process
- Complete tasks according to specifications and production targets
- Load and unload machinery
- Use hand tools, power tools, welding, painting and finishing equipment including robots
- Check and troubleshoot machinery and equipment including evaluating their accuracy
- Keep work area clean and organised following work safety guidelines
- Monitor, document and report problems - verbal and written
- Check manufactured items for quality control
- Participate in/facilitate group meetings to share job-related information
- Make suggestions for continuous improvement of work processes
- Use electronic information systems and keep accurate log of products produced during shift
- Prepare and label products for storage and distribution
- Train new employees
- Possess intricate knowledge and understanding of work systems
- Use correct disposal measures for waste including hazardous materials and recyclables

Skills and attributes:

- Dexterity - well-developed hand/eye coordination
- Ability to follow instructions
- Time management skills
- Reliability and strong work ethic
- Ability to work in teams
- Flexibility in work role
- Communication (verbal and written)
- Attention to detail and ability to solve problems
- Ability to work to high standards under time pressure
- Ability to think ahead, anticipate and plan needs of self and work team
- Ability to stand for long periods - accustomed to demanding physical work
- Relevant technical knowledge of specialised equipment

The most generic and transferable skills relate to the following areas:

Communication

- Uses verbal and written communication skills related to work procedures, OH&S, team dissemination
- Ability to interact with diverse workforce

Teamwork

- Can work effectively in teams
- Promotes innovation in team environment
- Communicates effectively within and across teams

Problem-solving

- Uses structured problem-solving tools e.g. root cause analysis
- Continuous improvement of work processes
- Problem-solves to improve quality and efficiency, maximise OH&S and improve team cohesion

Initiative and enterprise

- Applies competitive systems and practices: quality standards, 5S system, process improvements, cost factors
- Can identify and detect defects and stop production to make improvements

Planning and organising

- Plans work to optimise productivity
- Organises workplace information utilising knowledge management systems
- Applies Just in Time, Lean Manufacturing, quick changeover procedures where required

Self-management and resilience

- Adapts to change with resilience
- Adheres to work safety practices
- Minimises waste to achieve production goals

Continuous learning

- Has knowledge of environmentally friendly work practices
- Keeps up to date with OH&S and mandatory training requirements

Technological skills

- Uses information systems and other technologies according to training and skill level
- Ability to use a range of hand tools, power tools and complex machinery including robots

Transferable skills and competencies within auto production worker qualifications

The following provides an overview of the three most common certificates held by auto production and auto supply chain workers (Certificate II or III in Automotive Manufacturing Production and Certificate III in Competitive Systems and Practices). It provides a brief description of each certificate and analysis of the various units of competency and their level of transferability across other

certificates and associated occupations. The sharing of units of competency across different certificates in different industries is used as a proxy to identify transferable skills. As the following discussion highlights, the Certificate III in Competitive Systems and Practices provides workers with the greatest transferability opportunities due to the manner in which units of competency within this certificate are shared more widely with other certificates. Toyota's program of upskilling its workforce to the Certificate III in Competitive Systems and Practices is therefore considered a worthwhile development in assisting workers in transition.

Certificate II in Automotive Manufacturing Production (Passenger Motor Vehicle)

This qualification reflects passenger vehicle production roles in the automotive manufacturing industry. These roles may also include undertaking a range of limited supervisory tasks with accountability for the quality of outcomes. The qualification was designed for entry into the automotive manufacturing industry. The total number of units taken is nine, six core units plus three electives chosen from the elective units listed below. The Certificate II in Automotive Manufacturing is the qualification held by a large percentage of the Holden Elizabeth workforce (approximately 56%) and about 89% of the Toyota Altona production workers making it the most common qualification held by the frontline auto workers who will be most greatly affected by the impending closure of the auto industries in Victoria and South Australia. Employees with this certificate will not necessarily have expertise in each area shown, that is, each certificate holder can attest to attaining all the core skills (generic and specialist) but will have various configurations of electives.

The following snapshot of the units of competency (UoCs) that comprise Certificate II in Auto Manufacturing, and those for the other two certificates which follow after, contributed to the crafting of the skills profiles and analysis of transferable occupations found in the final sections of this report. It should be noted that some of the specialist modules listed appear only within the Auto Manufacturing training package with limited crossover into bus, truck and trailer versions only. This provides a good example of the way these qualifications were developed by the industries themselves and so became siloed making cross-occupational mobility and skills transferability more difficult to ascertain. This is the case with all three of the qualifications described in this section. In reality however, many of the units within the auto certificates are also found in other qualifications in a range of industries. These have been highlighted in the tables at the end of each section below indicating the other qualifications of which they form part.

Skills and their UoCs: Certificate II in Auto Manufacturing

Core skills generic	Brief description of skill
Maintain workplace relationships	Give and receive instructions, follow workplace procedures
Work effectively in teams	Contribute to teams, work tasks and team review of tasks
Contribute to production goals	Identify, support and contribute to cost reduction

Core skills specialist	Brief description of skill
Apply safe work practices in the automotive manufacturing environment	Identify and follow work health and safety requirements and procedures, respond to hazards in the workplace, follow emergency procedures, complete incident and accident reports
Prepare and operate tools, equipment and machinery	Select, prepare, check and use tools, equipment and machinery, complete work processes
Prepare and process automotive materials and components	Plan, prepare, inspect and process materials and components

Elective skills with good transferability	Brief description of skill
Manage the impact of change on own work	Examine the impact of change on own work practices, implement change and continuous improvement
Apply quality standards	Assess own work, quality of received components and investigate causes of quality deviations, parts or materials
Undertake root cause analysis	Recognise problems, implement quick fix, determine root cause, develop permanent solution
Sustain process improvements	Examine previous improvements, implement corrective actions, check changes and for further improvements
Apply 5S procedures	Sort needed items from unneeded, get workplace in order, shine work area, standardise activities, sustain 5S system
Apply competitive systems and practices	Identify own place in value chain, improve product and process value, use competitive systems and practices
Participate in environmentally sustainable work practices	Identify current resource use and environmental issues, comply with environmental regulations, seek opportunities to improve environmental practices and resource efficiency

Elective skills specific to auto industry	Brief description of skill
Monitor and maintain automotive equipment	Monitor operation, perform minor maintenance, apply preventative maintenance, complete monitoring and maintenance procedures
Receive and dispatch vehicle components	Identify work requirements, receive, check and dispatch materials, complete work processes
Apply continuous improvement in automotive manufacturing	Prepare for, apply and monitor continuous improvement
Apply environmental and sustainability best practice in an automotive workplace	Identify and follow environmental and sustainability best practices relating to own automotive workplace

The following table lists units of competency within Certificate II in Auto Manufacturing with good crossover/transferability to qualifications in other industries:

Skill/Unit of Competency	Other Certificates that include UoC
Manage the impact of change on own work	Certificate III Cabinet Making
	Certificate III Timber and Composites Machining
	Certificate II Furniture Making
	Certificate II Furnishing
Apply quality standards	Certificate II & III Manufactured Mineral Products
	Certificate II & III Polymer Processing
	Certificate II & III Laundry Operations
	Certificate III Dry Cleaning Operations
	Certificate III Kitchens and Bathrooms (Retail)
	Certificate III Cabinet Making
	Certificate III Interior Decoration (Retail)
	Certificate III Flooring Technology
	Certificate III Soft Furnishing
	Certificate III Timber & Composites Machining
	Certificate II Furniture Making
	Certificate II Furnishing
Undertake root cause analysis	Certificate II & III Manufactured Mineral Products
	Certificate II & III Polymer Processing
	Certificate III Cabinet Making
Sustain process improvements	Certificate II & III Polymer Processing
	Certificate III Cabinet Making
	Certificate II Furniture Making
	Certificate II Furnishing
Apply 5S procedures	Certificate II & III Manufactured Mineral Products
	Certificate II & III Polymer Processing
	Certificate III Cabinet Making
	Certificate III Soft Furnishing
	Certificate II Furnishing
Apply competitive systems and practices	Certificate III Cabinet Making
	Certificate III Timber & Composites Machining
	Certificate II Furniture Making
	Certificate II Furnishing
Participate in environmentally sustainable work practices	Certificate II & III Manufactured Mineral Products
	Certificate II & III Polymer Processing
	Certificate II & III Laundry Operations
	Certificate II & III Process Manufacturing
	Certificate II & III Glass and Glazing
	Certificate II & III Furniture Making
	Certificate II & III Furniture Finishing
	Certificate III Dry Cleaning Operations
	Certificate III Laboratory Skills
	Certificate III Interior Decoration (Retail)
	Certificate III Cabinet Making
	Certificate III Kitchens & Bathrooms (Retail)
	Certificate III Blinds, Awnings, Security Screens & Grilles
	Certificate III Flooring Technology
	Certificate III Upholstery
	Certificate III Soft Furnishing
	Certificate III Timber and Composites Machining
	Certificate II Sampling & Measurement
	Certificate II Furniture Making Pathways
	Certificate I & II Furnishing

Certificate III in Automotive Manufacturing

This qualification reflects the role of individuals in passenger vehicle production roles in the automotive manufacturing industry and supply chain. This may include performing a range of supervisory or specialist roles, such as quality specialist, process specialist, team leader or production supervisor. The qualification is suitable for entry into the automotive manufacturing industry. Total number of units is 10 consisting of the 6 core units plus 4 electives from the tables below.

Skills and their UoCs: Certificate III in Auto Manufacturing

Core skills	Brief description of skill
Work effectively in teams	Contribute to teams, work tasks and team review
Monitor and maintain a safe automotive work environment	Identify and manage hazards in work area, maintain the necessary conditions for a safe work environment, monitor and improve safety in area of own responsibility
Reduce cycle time in automotive manufacturing work processes	Review work processes, plan and implement cycle time reduction, record changes in cycle times
Reduce waste in automotive manufacturing work processes	Review waste generated in manufacturing processes, plan and implement waste reduction, record changes in waste generated
Sustain quality standards in an automotive manufacturing workplace	Identify and monitor quality standards, suggest corrective activity, implement adjustments
Apply workplace technical quality standards	Prepare for inspection, inspect work, complete work processes

Transferable skills elective	Brief description of skill
Apply competitive systems and practices	Identify own place in the value chain, improve product and process value, use competitive systems and practices
Sustain process improvements	Examine previous improvements, implement corrective actions, check changes, check for further improvements
Manage the impact of change on own work	Examine the impact of change on own work practices, implement change and continuous improvement
Apply 5S procedures	Sort needed items from unneeded, get workplace in order, shine work area, standardise activities, sustain 5S system
Work effectively with diversity	Recognise individual differences, respond appropriately and work effectively with them
Organise workplace information	Collect, assess and organise information, review information needs
Utilise a knowledge management system	Access, use and input to knowledge management system, review and improve work practices
Promote innovation in a team environment	Create opportunities to maximise innovation within the team, agree effective ways of working, support and guide colleagues, reflect on how team is working
Maintain workplace safety	Assist with incorporating WHS policies and procedures into work team processes, support participative arrangements for managing WHS, support procedures for providing WHS training, participate in identifying hazards, assessing & controlling risks for work area
Use structured problem solving tools	Identify problem, determine cause and corrective action, communicate recommendations
Perform basic tests	Interpret test requirements, prepare sample, check equipment, perform tests on samples, maintain a safe work environment
Perform microscopic examination	Interpret test requirements, set up work area for preparation and examination of samples, prepare samples, setup and use a light microscope, observe, identify and report sample characteristics, maintain a safe work environment
Apply quick changeover procedures	Prepare for and make quick changeover, improve work health and safety (WHS)
Apply Just in Time procedures	Respond to indicator of demand, make products or deliver service to demand, update demand information as required, recommend improvements
Apply cost factors to work practices	Identify the major cost components of product or process in own work area, identify constraints to cost-efficiency, apply cost-efficient work practices
Interpret product costs in terms of customer requirements	Identify cost components deriving from customer benefit and other costs, compare required performance of product or process steps with actual performance, minimise waste
Assist in implementing a proactive maintenance strategy	Develop components of reliability strategy for a work/plant area, assess current practice for maintenance implications, assist in implementing the reliability strategy
Identify products and store to specifications	Identify and categorise products, match products to locations based on specified criteria, assist individuals to solve stock identification and location problems, identify appropriate transfer and handling requirements, contribute to continuous improvement
Coordinate stocktakes	Plan and coordinate stocktake, identify stock discrepancies, adjust documentation
Assess and monitor optimum stock levels	Assess projected demand, assess variables that impact on optimum stock levels, determine and monitor optimum

Transferable skills elective	Brief description of skill
	inventory levels

Specialist skills elective	Brief description of skill
Influence and lead work groups in an automotive manufacturing workplace	Plan, participate in and monitor progress of work group task
Repair faults in vehicle metal components	Assess and repair fault, complete work processes
Diagnose and repair mechanical faults	Plan, prepare for and undertake diagnostic and repair activities
Rectify assembly faults	Locate and rectify faults
Rework faulty production engines	Confirm test findings, rectify engine fault
Repair structural faults in vehicles	Assess defects to inform repair plan, repair defects
Rectify minor faults in vehicle paintwork	Assess and rectify paintwork defects
Control vehicle paint line production	Assess paint line flow and rectify problems
Repair electrical faults in assembled vehicles	Diagnose and rectify electrical faults
Test vehicle welds ultrasonically	Analyse and test welds
Perform die coating	Disassemble and inspect dies, coat and assemble dies
Set and adjust automotive production machine tools	Select, check, remove, replace and maintain machining tools and stock levels
Monitor and maintain operation of metal treatment plants	Monitor metal treatment plant operating processes and maintain product quality
Conduct engine hot tests	Shift and mount engine and hot test
Undertake preliminary fault finding and machine reset	Prepare for and undertake task
Apply environmental and sustainability best practice in an automotive workplace	Identify and follow environmental and sustainability best practices relating to own automotive workplace
Participate in workplace productivity improvement processes	Determine work area productivity and identify productivity improvement opportunities and communicate ideas

Units within Certificate III in Auto Manufacturing with good crossover/transferability:

Skill/Unit of Competency	Other Certificates that include UoC
Apply competitive systems and practices	Certificate III Cabinet Making Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Sustain process improvements	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate II Furniture Making Certificate II Furnishing
Manage the impact of change on own work	Certificate III Cabinet Making Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Apply 5S procedures	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate II Furnishing
Work effectively with diversity	Certificate III Business Certificate III Business Administration Certificate III Business Administration (Medical) Certificate III Business Administration (Legal) Certificate III Business Administration (Education) Certificate III Business Administration (International Education) Certificate III Recordkeeping Certificate III Work Health & Safety
Organise workplace information	Certificate III Water Industry Irrigation Certificate III Water Industry Operations Certificate III Health Administration Certificate III Hospital/Health Services -Pharmacy Support Certificate III Sterilisation Services Certificate III Dental Laboratory Assisting Certificate III Timber Truss, Frame Design & Manufacture Certificate III Timber Merchandising Certificate III Timber Manufactured Products Certificate III Wood Panel Products Certificate III Business Certificate III Business Administration Certificate III Business Administration (Medical) Certificate III Business Administration (Legal) Certificate III Business Administration (Education) Certificate III Business Administration (International Education) Certificate III Recordkeeping Certificate III Work Health & Safety
Utilise a knowledge management system	Certificate III Business Certificate III Business Administration Certificate III Business Administration (Medical) Certificate III Business Administration (Legal) Certificate III Business Administration (Education) Certificate III Recordkeeping Certificate III Meat Processing (Smallgoods - General) Certificate III Meat Processing (Food Services)

Skill/Unit of Competency	Other Certificates that include UoC
Promote innovation in a team environment	Certificate III Hospital/Health Services -Pharmacy Support Certificate III Health Support Services Certificate III Health Services Assistance Certificate III Allied Health Assistance Certificate III Early Childhood Education & Care Certificate III Micro Business Operations Certificate III Business
Maintain workplace safety	Certificate II & III Water Industry Operations Certificate III Water Industry Irrigation Certificate III Water Industry Treatment Certificate III Business Administration (International Education)
Use structured problem solving tools	Certificate III Manufactured Mineral Products Certificate III Polymer Processing Certificate III Process Manufacturing Certificate III Cabinet Making

Skill/Unit of Competency	Other Certificates that include UoC
Perform basic tests	Certificate III Manufactured Mineral Products Certificate III Polymer Processing Certificate III Process Manufacturing Certificate III Laboratory Skills Certificate III Meat Processing (Smallgoods - Manufacture) Certificate III Meat Processing (Smallgoods - General) Certificate III Meat Processing (Quality Assurance) Certificate III Meat Processing (General) Certificate III Meat Processing (Food Services) Certificate II Sampling & Measurement
Perform microscopic examination	Certificate III Laboratory Skills Certificate II Sampling & Measurement
Apply quick changeover procedures	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Apply Just in Time procedures	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Furnishing
Apply cost factors to work practices	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate II Furnishing
Identify products and store to specifications	Certificate II & III Warehousing Operations Certificate III Logistics Certificate III Meat Processing (Food Services)
Coordinate stocktakes	Certificate III Logistics

Certificate III in Competitive Systems and Practices

The Certificate III in Competitive Systems and Practices (formerly Certificate III in Competitive Manufacturing) specifies the competencies required to apply competitive systems and practices to one's own work as well as to assist others to apply competitive systems and practices to theirs. This qualification provides a mixture of introductory and more advanced skills and knowledge with respect to competitive systems and practices. It provides the skills needed to improve efficiency in a person's own work role or the efficiency of a team or work area. It is designed to complement qualifications supplying operational, production, maintenance, logistics, administration or other technical skills to industry. The skills in this qualification are often known in industry under a variety of titles many of which relate to manufacturing which is the origin of many competitive systems and practices. The most common term is lean manufacturing. Other names for some of the system skills and techniques include agile manufacturing, lean operations, Six Sigma and lean Six Sigma. To achieve the Certificate III in Competitive Systems and Practices, competency must be achieved in 10 of the following units of competency made up of all of the 3 core units plus 7 electives. The electives must comprise a minimum of 1 unit from Group A, a minimum of 2 units from Group B and the balance of 4 units may be selected from any of the groups (A, B or C) providing they have not been previously selected.

Skills and their UoCs: Certificate III in Competitive Systems and Practices

Core skills	Brief description of skill
Review competitive systems and practices	Contribute to and implement improvements to the operations system in team or work area
Participate in environmentally sustainable work practices	Identify current resource use and environmental issues, comply with environmental regulations, seek opportunities to improve environmental practices and resource efficiency
Work safely	Identify hazards and assess risk, follow procedures for risk control and emergency procedures, initiate suggestions to enhance task/job-specific safety

Elective skills Group A	Brief description of skill
Ensure process improvements are sustained	Examine previous improvements, ensure corrective actions are implemented, verify systems support improvement, audit change
Facilitate use of a Balanced Scorecard for performance improvement	Interpret Balanced Scorecard results, review key performance indicators (KPIs) for the organisation and work area, review reporting systems for Balanced Scorecard information, lead improvement to work area performance
Facilitate implementation of competitive systems and practices in an office	Establish scope of processes to be included, facilitate engagement by office or administration work group with competitive systems and practices, facilitate continuous improvement
Facilitate change in an organisation implementing competitive systems and practices	Define nature and impact of change for designated area and processes, identify KPIs, liaise with key stakeholders, develop strategy to implement change, implement change and monitor

Elective skills Group A	Brief description of skill
Facilitate implementation of competitive systems and practices	Facilitate the development of process and competitive systems and practices knowledge, facilitate commitment to efficiency improvements, encourage a competitive systems and practices approach, implement improvements
Lead team culture improvement	Facilitate team understanding of competitive systems and practices, facilitate application of knowledge about the importance of controlling variation in competitive systems and practices, facilitate development of skills and knowledge within the team, facilitate development of commitment within the team to the competitive systems and practices strategy

Elective skills Group B	Brief description of skill
Apply cost factors to work practices	Identify the major cost components of product or process in work area, identify constraints to cost-efficiency, apply cost-efficient work practices
Implement continuous improvements based on standardised work practices	Identify standardised procedures applicable to work, follow standardised practices, make improvements
Undertake root cause analysis	Recognise problems, implement quick fix, determine root cause, develop permanent solution
Map an office value stream	Identify a value stream, map value stream, analyse value stream, develop improvement plan
Monitor a levelled pull system of operations	Monitor the pull system, take corrective action, test/improve the pull system
Work within a constrained process	Identify the system constraint (bottleneck), manage capacity constrained resource (drum), determine schedule based on capacity constrained resource, examine operation of system/process
Improve cost factors in work practices	Analyse cost components of work area or team function, improve cost-efficiency of processes and procedures
Analyse manual handling processes	Assess manual handling risks, analyse physical effort requirements of job, determine time/effort components of physical effort, analyse the ergonomics of physical effort, optimise application of physical effort
Map an operational process	Define scope of process map, map process, apply map
Organise products into groups	Determine basis of product organisation, apply analysis tool, develop strategic response to results
Implement the visual workplace	Determine needs of visual workplace, determine possible locations of visual devices, develop visual devices in liaison with workplace personnel, facilitate implementation of visual workplace
Facilitate and improve 5S in an office	Plan for 5S implementation, facilitate setup of 5S, facilitate implementation of 5S, monitor and improve 5S
Facilitate and improve implementation of 5S	Facilitate set-up of 5S, facilitate implementation of 5S, monitor and improve 5S
Facilitate breakthrough improvements	Prepare for improvement event, identify improvements, facilitate event, evaluate and embed improvements

Elective skills Group B	Brief description of skill
Facilitate mistake proofing in an office	Prepare for mistake proofing, analyse processes, identify options for mistake proofing, facilitate the implementation of mistake proofing, embed mistake proofing
Facilitate breakthrough improvements in an office	Prepare for improvement event, identify improvements, facilitate event, evaluate and embed improvements
Facilitate continuous improvement through use of standardised procedures and practices	Facilitate the application of standardised procedures, facilitate identification of improvement opportunities, standardise and sustain improvements
Mistake proof an operational process	Analyse process, develop preventative techniques/systems, implement permanent fix, monitor implementation, seek improvements
Improve changeovers	Record changeover process, identify waste in changeover map, make quicker changeover
Implement and monitor environmentally sustainable work practices	Investigate current practices in relation to resource usage, set targets for improvements, implement performance improvement strategies, monitor performance
Use structured problem solving tools	Identify problem, determine fundamental cause, determine corrective action, communicate recommendations

Elective skills Group C	Brief description of skill
Sustain process improvements	Examine previous improvements, implement corrective actions, check changes, check for further improvements
Manage the impact of change on own work	Examine the impact of change on own work practices, implement change and continuous improvement
Apply quick changeover procedures	Prepare for changeover, make quick changeover, improve work health and safety (WHS)
Apply Just in Time procedures	Respond to indicator of demand, make products or deliver service to demand, update demand information as required, recommend improvements
Interpret product costs in terms of customer requirements	Identify cost components deriving from customer benefit and other costs, compare required performance of product or process steps with actual performance, minimise waste
Apply 5S procedures	Sort needed items from unneeded, get workplace in order, shine work area, standardise activities, sustain 5S system
Apply 5S in an office	Prepare for implementation of 5S, sort needed items from unneeded, get workplace in order, shine work area, standardise activities, sustain 5S system
Monitor process capability	Collect and process data, identify non-random variations and take action, assist in process improvement
Apply quality standards	Assess own work, assess quality of received components, investigate causes of quality deviations, parts or materials
Participate in breakthrough improvements in an office	Contribute to planning improvement events, assist in making improvements, contribute to evaluating improvements, sustain improvements
Use planning software systems in operations	Use interface, access information, take action in accordance with procedures
Use SCADA systems in operations	Use operator interface, use information, make required changes in accordance with procedures
Contribute to the application of a proactive maintenance strategy	Maintain equipment/plant, monitor operation of equipment/plant, identify deviations and patterns, take action appropriate to competency and authority on deviation

Units from the Cert III in Competitive Systems & Practices with significant transferability include:

Skill/Unit of Competency	Other Certificates that include UoC
Participate in environmentally sustainable work practices	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate II & III Laundry Operations Certificate II & III Process Manufacturing Certificate II & III Glass & Glazing Certificate II & III Furniture Making Certificate II & III Furniture Finishing Certificate III Dry Cleaning Operations Certificate III Laboratory Skills Certificate III Interior Decoration (Retail Services) Certificate III Kitchens & Bathrooms (Retail Services) Certificate III Cabinet Making Certificate III Blinds, Awnings, Security Screens & Grilles Certificate III Flooring Technology Certificate III Upholstery Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Sampling & Measurement Certificate II Manufacturing Technology Certificate II Furniture Making Pathways Certificate I & II Furnishing
Work safely	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Flooring Technology Certificate III Furniture Finishing Certificate III Furniture Making Certificate III Glass & Glazing Certificate III Interior Decoration (Retail Services) Certificate III Kitchens and Bathrooms (Retail Services) Certificate III Blinds, Awnings, Security Screens & Grilles Certificate III Cabinet Making Certificate III Soft Furnishing Certificate III Upholstery Certificate III Laundry Operations Certificate III Dry Cleaning Operations Certificate III Timber & Composites Machining
Apply cost factors to work practices	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate II Furnishing
Undertake root cause analysis	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making
Use structured problem solving tools	Certificate III Manufactured Mineral Products Certificate III Polymer Processing Certificate III Process Manufacturing Certificate III Cabinet Making
Sustain process improvements	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate II Furniture Making Certificate II Furnishing
Manage the impact of change on own work	Certificate III Cabinet Making

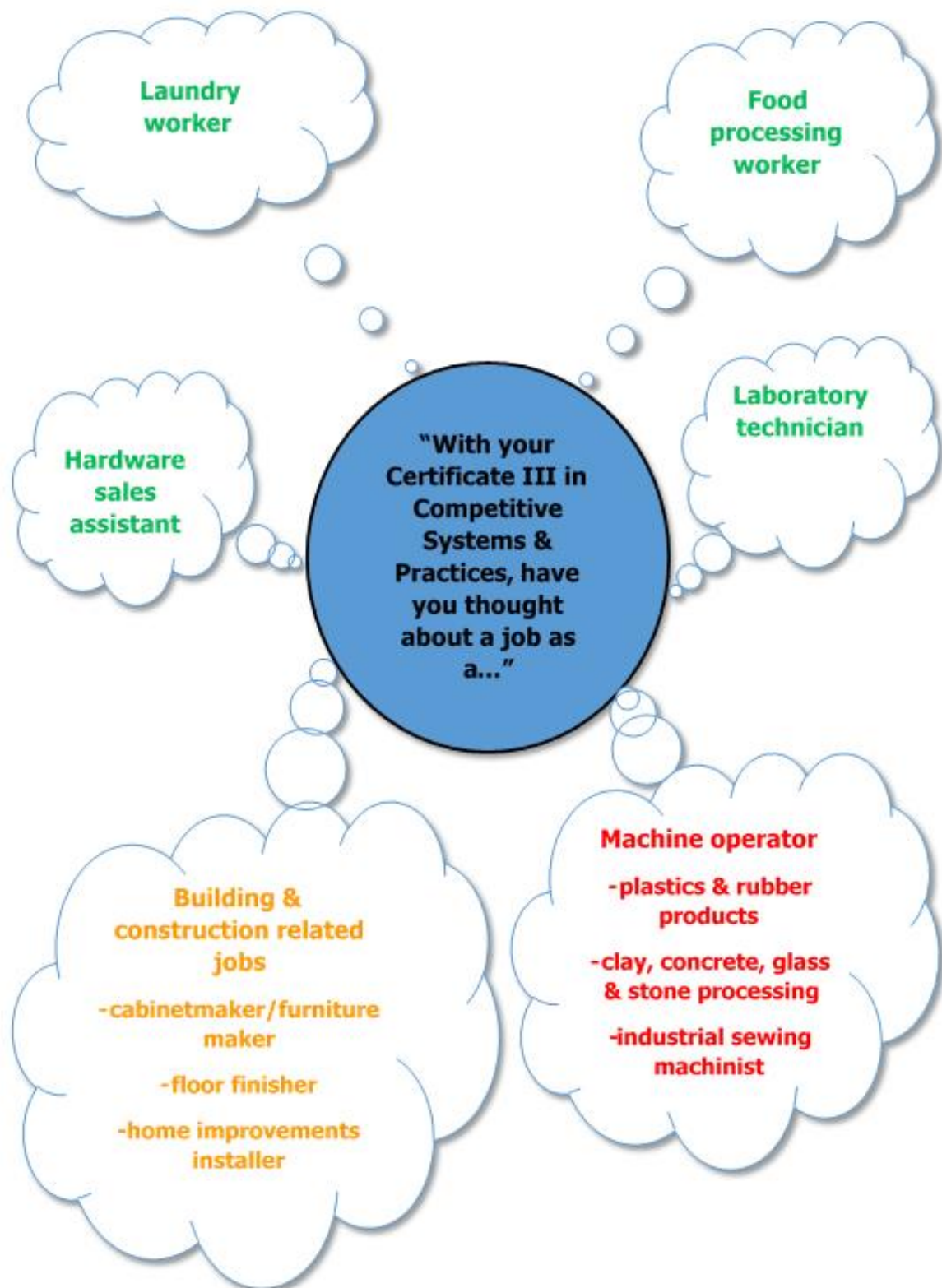
	Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Apply quick changeover procedures	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Apply Just in Time procedures	Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Furnishing
Apply 5S procedures	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate II Furnishing
Apply quality standards	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate II & III Laundry Operations Certificate III Dry Cleaning Operations Certificate III Kitchens & Bathrooms (Retail Services) Certificate III Cabinet Making Certificate III Interior Decoration (Retail Services) Certificate III Flooring Technology Certificate III Soft Furnishing Certificate III Timber & Composites Machining Certificate II Furniture Making Certificate II Furnishing
Implement and monitor environmentally sustainable work practices	Certificate III Laboratory Skills Certificate III Meat Processing (Food Services)
Facilitate implementation of competitive systems and practices	Certificate III Meat Processing (Food Services)
Lead team culture improvement	Certificate III Meat Processing (Food Services)
Monitor process capability	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Soft Furnishing Certificate II Furniture Making Certificate II Furnishing
Use planning software systems in operations	Certificate II & III Manufactured Mineral Products Certificate II & III Polymer Processing Certificate III Cabinet Making Certificate III Timber & Composites Machining
Contribute to the application of a proactive maintenance strategy	Certificate II & III Manufactured Mineral Products Certificate III Cabinet Making Certificate III Timber and Composites Machining Certificate II Furniture Making
Analyse manual handling processes	Certificate III Meat Processing (Packing Operations) Certificate III Meat Processing (Food Services)

Auto production worker transferable skills and employment opportunities among growing occupations

In the next stage of this analysis, the skills and competencies of auto production workers were examined in relation to the identified growing occupations in Adelaide and Melbourne. The following cloud diagrams were developed to help auto production workers identify alternative employment growth occupations that utilise similar skills and competencies. The alternative occupations have been colour coded: Green denotes fast growing occupations, orange moderately growing and red, slow growth. This information was embedded into the design of the diagram as a way to remind workers that future employment success depends on both their transferable skills and the employment opportunities provided by different occupations:







Skills matrices: transferring skills from auto production to growth occupations

The following matrix diagrams have been formulated to be used as a guide by job-seeking auto production and auto supply chain workers and careers advisers to encapsulate the skills those workers currently have and translate them from the auto environment to other occupations which have been demonstrated in Part Two to have employment potential. The resulting diagrams are designed as easy to understand representations of auto production worker skills and how they relate to other occupations.

The production auto worker skills profile (column 1) and the generic transferable skills of the production auto workforce (column 2) were created from the detailed analyses of the three most widely held qualifications among this employee group discussed previously. The information in the third column of each matrix was compiled by analysing a selection of 10+ job advertisements from the job search site seek.com.au for each role (more in the case of the healthcare jobs). These were then examined in order to ascertain the key skills generally required for each occupation. Those skills that aligned with the auto workers' current skills can be seen in the third column of each matrix encompassing the transferable skills between manufacturing and the growing occupation. This information is intended to be used to help auto workers to identify the specific skills they possess and how they are needed to perform other specified occupations.

The occupations chosen for this exercise were food and beverage manufacturing workers, healthcare jobs, laundry workers and storepersons. As presented in Part Two, these occupations are expected to provide growing employment opportunities. Furthermore, the chosen occupations all demonstrate to require skill requirements which auto production workers currently possess. There are, however, several issues that auto production workers may encounter when seeking employment in occupations such as these:

Casualisation - many of the jobs being advertised in these fields are initially advertised as casual employment. However, this is very common across many industries in today's labour market. Indeed, many of the advertisements also indicate that permanent contracts are potentially available for candidates once they have proved themselves to be good workers, suitable for the role and a good fit for the company.

Experience - experience in the specific industry is often stated as a requirement. This is potentially problematic. It is possible to find opportunities where experience is not required in the field but it is worth being prepared that finding an appropriate opportunity may mean sifting through numerous advertisements without becoming discouraged.

Field-specific qualifications - these are required in some occupations for example Personal Care Assistant (PCA). However, it is still worth considering these opportunities and becoming familiar with entry requirements. This knowledge may help workers make retraining decisions during the coming year prior to company closure. In addition, it is often possible to enter a field via other occupations with lower requirements and then be supported to undertake a course in order to move into other areas.

Skills Profile: Auto Production Worker

Duties and responsibilities:

- Assemble products – able to competently operate several phases of assembly line process
- Complete tasks according to specifications and production targets
- Load and unload machinery
- Use hand tools, power tools, welding, painting and finishing equipment including robots
- Check and troubleshoot machinery and equipment including evaluating their accuracy
- Keep work area clean and organised following work safety guidelines
- Monitor, document and report problems – verbal and written
- Check manufactured items for quality control
- Participate in/or facilitate group meetings to share job-related information
- Make suggestions for continuous improvement of work processes
- Use electronic information systems and keep accurate log of products produced during shift
- Prepare and label products for storage and distribution
- Train new employees
- Possess intricate knowledge and understanding of work systems
- Use correct disposal measures for waste including hazardous materials and recyclables

Skills and attributes:

- Dexterity – well-developed hand/eye coordination
- Ability to follow instructions
- Time management skills
- Reliability and strong work ethic
- Ability to work in teams Flexibility
- Communication (verbal and written)
- Attention to detail and ability to solve problems
- Ability to work to high standards under time pressure
- Ability to think ahead, anticipate and plan needs of self and work team
- Ability to stand for long periods – accustomed to demanding physical work
- Relevant technical knowledge of specialised equipment

Common qualifications:

- Certificate II/III Auto Manufacturing
- Certificate III Competitive Systems and Practices

Transferable skills relevant to many different occupations:

Communication

- Uses verbal & written communication skills related to work procedures, OH&S, team dissemination
- Ability to interact with diverse workforce

Teamwork

- Can work effectively in teams
- Promotes innovation in team environment
- Communicates effectively in team

Problem-solving

- Uses structured problem-solving tools e.g. root cause analysis
- Continuous improvement of work processes
- Problem-solves to improve quality and efficiency, maximise OH&S & improve team cohesion

Initiative & enterprise

- Applies competitive systems & practices: quality standards, 5S system, process improvements, cost factors
- Can identify and detect defects and stop production to make improvements.

Planning & organising

- Plans work to optimise productivity
- Organises workplace information utilising knowledge management systems
- Applies Just in Time, Lean Manufacturing, quick changeover procedures where required

Self-management & resilience

- Adapts to change with resilience
- Adheres to work safety practices
- Minimises waste to achieve production goals

Continuous learning

- Has knowledge of environmentally friendly work practices
- Keeps up to date with OH&S and mandatory training requirements

Technological skills

- Uses information systems and other technologies according to training & skill level
- Ability to use a range of hand tools, power tools and complex machinery including robots.

Auto production skills & food manufacturing jobs:

Food and beverage factory workers perform routine tasks in manufacturing food and drinks.

Duties include:

- Weighing, measuring, mixing, dissolving & boiling ingredients
- Adding materials, such as spices & preservatives, to food & beverages
- Operating heating, chilling, freezing, pasteurising, carbonating, sulphuring & de-sulphuring plant
- Monitoring product quality before packaging by inspecting, taking samples & adjusting treatment conditions
- Operating machines to peel, core, slice, dice, pit & juice fruit & vegetables
- Cleaning equipment, pumps, hoses, storage tanks, vessels & floors
- Moving products from production lines into storage & shipping areas
- Packaging & bottling products

Auto production skills and attributes relevant to food and drink manufacturing jobs:

- Experience of a fast-paced work environment
- Knowledge of good manufacturing practices
- Operation and monitoring of equipment and machinery
- Loading and unloading of finished goods
- Cleaning and sanitisation of equipment and factory
- Inspection, monitoring and testing of products
- Working to production targets and schedules ensuring production rates are met, maintained and improved
- Work health and safety
- Quality control and standards
- Preparation of products to required specifications
- Minimising downtime and wastage
- Preparing and labelling products for storage and distribution including keeping inventory and stocktaking
- Physical ability, Reliability, Self-motivation
- Time-management, Attention to detail, Team-orientated, Flexibility
- Mechanical aptitude and technical skill
- Willingness to learn and upskill on the job as required

Skills Profile: Auto Production Worker

Duties and responsibilities:

- Assemble products – able to competently operate several phases of assembly line process
- Complete tasks according to specifications and production targets
- Load and unload machinery
- Use hand tools, power tools, welding, painting and finishing equipment including robots
- Check and troubleshoot machinery and equipment including evaluating their accuracy
- Keep work area clean and organised following work safety guidelines
- Monitor, document and report problems – verbal and written
- Check manufactured items for quality control
- Participate in/or facilitate group meetings to share job-related information
- Make suggestions for continuous improvement of work processes
- Use electronic information systems and keep accurate log of products produced during shift
- Prepare and label products for storage and distribution
- Train new employees
- Possess intricate knowledge and understanding of work systems
- Use correct disposal measures for waste including hazardous materials and recyclables

Skills and attributes:

- Dexterity – well-developed hand/eye coordination
- Ability to follow instructions
- Time management skills
- Reliability and strong work ethic
- Ability to work in teams Flexibility
- Communication (verbal and written)
- Attention to detail and ability to solve problems
- Ability to work to high standards under time pressure
- Ability to think ahead, anticipate and plan needs of self and work team
- Ability to stand for long periods – accustomed to demanding physical work
- Relevant technical knowledge of specialised equipment

Common qualifications:

- Certificate II/III Auto Manufacturing
- Certificate III Competitive Systems and Practices

Transferable skills relevant to many different occupations:

Communication

- Uses verbal & written communication skills related to work procedures, OH&S, team dissemination
- Ability to interact with diverse workforce

Teamwork

- Can work effectively in teams
- Promotes innovation in team environment
- Communicates effectively in team

Problem-solving

- Uses structured problem-solving tools e.g. root cause analysis
- Continuous improvement of work processes
- Problem-solves to improve quality and efficiency, maximise OH&S & improve team cohesion

Initiative & enterprise

- Applies competitive systems & practices: quality standards, 5S system, process improvements, cost factors
- Can identify and detect defects and stop production to make improvements.

Planning & organising

- Plans work to optimise productivity
- Organises workplace information utilising knowledge management systems
- Applies Just in Time, Lean Manufacturing, quick changeover procedures where required

Self-management & resilience

- Adapts to change with resilience
- Adheres to work safety practices
- Minimises waste to achieve production goals

Continuous learning

- Has knowledge of environmentally friendly work practices
- Keeps up to date with OH&S and mandatory training requirements

Technological skills

- Uses information systems and other technologies according to training & skill level
- Ability to use a range of hand tools, power tools and complex machinery including robots.

Auto production skills & laundry jobs:

Dry cleaning and laundry workers sort, clean, fold, iron and package linen, clothing and other items in commercial laundries and dry-cleaning establishments

Primary duties of laundry workers:

- Sorting articles for cleaning according to the type, colour, fabric and cleaning treatment required
- Placing sorted articles into receptacles and onto conveyor belts for moving to repair and cleaning areas
- Checking and removing stains from garments, replacing buttons and making minor repairs
- Loading and unloading washing machines, driers and extractors
- Adding cleaning agents and starches to articles
- Smoothing articles and guiding them through cleaning and pressing machines
- Stopping and starting machines to untangle, straighten and remove articles
- Ironing and pressing clean articles
- Placing articles on shelves and hanging articles for delivery and collection

Packaging articles and preparing orders for despatch

Auto production skills and attributes relevant to laundry jobs:

- Familiarity working with machinery including checking, maintaining and troubleshooting as appropriate
- Experience in a fast-paced, competitive industry
- A keen eye for quality, detail and accuracy
- Accustomed to achieving set targets
- Familiar with OH&S procedures and safe work practices
- Ability to follow strict guidelines
- Familiar with using correct disposal measures for waste including hazardous materials
- Great interpersonal and communication skills
- Takes pride in work
- Flexibility
- Reliability
- Physical fitness suitable for role
- Developed time-management skills
- Able to work as part of a team or autonomously as required
- Able to demonstrate initiative
- Great work ethic

Skills Profile: Auto Production Worker

Duties and responsibilities:

- Assemble products – able to competently operate several phases of assembly line process
- Complete tasks according to specifications and production targets
- Load and unload machinery
- Use hand tools, power tools, welding, painting and finishing equipment including robots
- Check and troubleshoot machinery and equipment including evaluating their accuracy
- Keep work area clean and organised following work safety guidelines
- Monitor, document and report problems – verbal and written
- Check manufactured items for quality control
- Participate in/or facilitate group meetings to share job-related information
- Make suggestions for continuous improvement of work processes
- Use electronic information systems and keep accurate log of products produced during shift
- Prepare and label products for storage and distribution
- Train new employees
- Possess intricate knowledge and understanding of work systems
- Use correct disposal measures for waste including hazardous materials and recyclables

Skills and attributes:

- Dexterity – well-developed hand/eye coordination
- Ability to follow instructions
- Time management skills
- Reliability and strong work ethic
- Ability to work in teams Flexibility
- Communication (verbal and written)
- Attention to detail and ability to solve problems
- Ability to work to high standards under time pressure
- Ability to think ahead, anticipate and plan needs of self and work team
- Ability to stand for long periods – accustomed to demanding physical work
- Relevant technical knowledge of specialised equipment

Common qualifications:

- Certificate II/III Auto Manufacturing
- Certificate III Competitive Systems and Practices

Transferable skills relevant to many different occupations:

Communication

- Uses verbal & written communication skills related to work procedures, OH&S, team dissemination
- Ability to interact with diverse workforce

Teamwork

- Can work effectively in teams
- Promotes innovation in team environment
- Communicates effectively in team

Problem-solving

- Uses structured problem-solving tools e.g. root cause analysis
- Continuous improvement of work processes
- Problem-solves to improve quality and efficiency, maximise OH&S & improve team cohesion

Initiative & enterprise

- Applies competitive systems & practices: quality standards, 5S system, process improvements, cost factors
- Can identify and detect defects and stop production to make improvements.

Planning & organising

- Plans work to optimise productivity
- Organises workplace information utilising knowledge management systems
- Applies Just in Time, Lean Manufacturing, quick changeover procedures where required

Self-management & resilience

- Adapts to change with resilience
- Adheres to work safety practices
- Minimises waste to achieve production goals

Continuous learning

- Has knowledge of environmentally friendly work practices
- Keeps up to date with OH&S and mandatory training requirements

Technological skills

- Uses information systems and other technologies according to training & skill level
- Ability to use a range of hand tools, power tools and complex machinery including robots.

Auto production skills & storepersons jobs:

Storepersons receive, handle and despatch goods in stores and warehouses

Primary duties of storepersons:

- Picking and packing of stock
- Receiving incoming goods, checking for damage and discrepancies between goods and invoices
- Unloading containers and vehicles
- Labelling goods with details of storage location
- Packing and weighing goods and sealing boxes
- Operating machines to lift, place and remove goods on high levels
- Operating specialised equipment, such as manually and electronically guided order pickers
- Using materials handling equipment, such as forklifts, hydraulic pallet lifters and hand trucks, to move goods

Auto production skills and attributes relevant to storeperson jobs:

- Provide safety and compliance across the workplace
- Ensure good housekeeping and work practices are maintained
- Check and troubleshoot machinery and equipment
- Identifying, documenting and reporting problems
- Continuous improvement of work processes
- Loading and unloading machinery
- Keeping accurate log of products including defects
- Preparing and labelling products for storage and distribution including keeping accurate inventory of supplies and stocktaking
- Ability to use a range of hand and power tools (e.g. RF scanners)
- Training new employees
- Knowledge and understanding of work systems
- Using correct disposal measures for waste including hazardous materials and recycling where appropriate
- Following instructions
- Time management
- Reliability and strong work ethic
- Ability to work in teams
- Good communication skills
- Ability to think ahead, anticipate and plan
- Used to standing for long periods and physically demanding work

Potential limitations for production auto workers transitioning into alternative, growing occupations

Food and beverage manufacturing

Knowledge of food industry safety systems and guidelines such as HACCP (Hazard Analysis & Critical Control Points) are often a requirement for food and drink factory jobs which, as process plant jobs, are otherwise a good fit for auto production workers. Becoming familiar with what employers are looking for in a candidate, could mean that time is spent gaining knowledge and qualifications in these systems prior to applying for these jobs over the course of the year.

Healthcare

Accessing health care jobs often requires health care-related qualifications. However, as our UoC analysis has illustrated, some of the skills acquired by auto workers align with healthcare certificates. In addition, the healthcare industry offers many diverse occupational opportunities. Often employees start off by doing something like portering and end up being a theatre technician or a PCA. For example, The Alfred Hospital in Melbourne are currently recruiting for Instrument Technicians and are prepared to appoint a candidate without the required qualification but with the expectation that they will work towards one whilst employed there.

Laundry/dry-cleaning

Laundry and dry cleaning jobs are usually situated in commercial laundries that handle linen from hospitals, aged care facilities, hotels and restaurants. Therefore, in the advertisements it is often emphasised that anyone thinking of applying must be prepared to handle badly soiled linen. It is, therefore, good to think about factors like this before applying and whether this is something you are prepared to do. Cleaning and delivery roles are often combined with working in the laundry itself depending on the size and set-up of the employer.

Storepersons/warehousing

Storeperson jobs are more suitable for the auto production workers who currently undertake warehousing-type roles or those employed in auto supply chain companies where the production workforce multitasks and often have forklift licences. However, the increasing availability of jobs in this area mean that using the next year in order to become qualified with forklift or other relevant licenses and/or tickets could be desirable for some workers.

It is unlikely that occupations in very different industries will be a perfect skills match for the auto production workforce at the outset. However, the matrices help demonstrate that there are more transferable skills and areas of crossover than may at first be apparent. Workers will need to highlight the skills they currently possess which could assist them in performing these new roles. Moreover, it is also important to emphasise that there are many opportunities that, with guidance on how to approach the application process, could offer a very good fit for the auto workers without too much adjustment and additional training.

Growing skills demand in South Australia and Victoria: the importance of digital skills

One of the key themes in relation to auto transition that underpins many of the issues highlighted in this report is that many of the traditional skills in manufacturing do not obviously align with skills that are predicted to be in high demand in the future. One example of this problem is in relation to digital

literacy. The ramifications of this phenomenon are far-reaching relating not just to employment but to economic inequality more broadly where low-skill, low-wage workers confront barriers and are unable to transfer into high wage occupations (Bessen, 2016). Low skilled production workers, for instance, might not get opportunities to work with computers or might not have the necessary digital literacy skills. Therefore, these workers need assistance in developing their computer literacy in order to transition to new, well-paying jobs. Holden, Toyota and some auto supply chain chains have recognised this as a major challenge and are providing basic digital skills training for their workers. Developing these skills will help workers in resume writing, preparing job applications and acquiring jobs in emerging occupations.

Job Opportunities for the non-production auto industry workforce

Introduction

The non-production employees from the auto industry and supply chain should typically have fewer problems than the production workforce as regards finding alternative employment at the termination of the auto manufacturing industry. The following section outlines who these workers are, why we assert that they should encounter fewer barriers to successful transition and summarises where employment opportunities are emerging based on the labour market analysis information presented in Part Two. As discussed in Part One, the actual number of non-production auto employees is also far less than the production workforce. Furthermore, many non-production workers have nationally-recognised credentials and possess the skills required to meet the growing demand of the Australian labour market. The emerging labour market increasingly expects a more highly-skilled, digitally literate and service-orientated workforce. Interviews with Holden, Toyota and auto supply chain company representatives also suggest this category of employees have been in a much better position to take advantage of retraining initiatives than production workers, which is likely to improve their labour market prospects.

The non-production employees in the auto industry

Non-production auto industry employees include several distinct groups of workers: trades, engineers, professional and managerial staff, administrative support staff and stores personnel. The key advantage this group has is that their skills, qualifications and experience are not auto industry-specific meaning they should be more readily transferable outside that industry. Furthermore, this group are more likely to have proficient English language skills, good digital literacy and above average literacy and numeracy skills; all essential in the contemporary labour market. Indeed, this group are often highly qualified with tertiary or equivalent qualifications. The following section describes the situation of each distinct group of non-production auto workers.

Trades

Trade qualified auto industry workers are a diverse group including mechanics, fitters and turners, auto and general electricians, tool makers and metal fabrication tradespeople such as boilermakers. In addition to their trade qualification, these employees have often been required to multi-task with other roles during their time in the auto industry and, therefore, possess a range of additional skills, experience and possibly qualifications in areas such as leadership, management, project management and engineering. Moreover, they are knowledgeable about working systems including GMS/TPS and lean manufacturing principles and are accustomed to working as part of a team. Many in this group also hold valuable tickets and licenses in areas such as working at heights, forklift operation or first aid. As a result, they are a flexible group of workers who are likely to have several non-auto specific

transferable qualifications. Although they often encompass the second largest working group within auto and supply chain firms, their numbers are nonetheless small in comparison to the production auto workforce. Growing trade areas identified by the labour market analysis in Part Two are:

Adelaide	Melbourne West	Melbourne South East
Electricians	Automotive Electricians & Mechanics	Electricians
	Electricians	Automotive Electricians & Mechanics
		Mechanical Engineering Trades Workers

The pipeline jobs expected in the defence industry, public transportation and rail are also expected to include a number of trade related occupations. For example, it is expected that a number of Toyota's trade qualified employees will be able to fill skilled positions manufacturing the new High Capacity Metro Trains as announced by the Victorian Government (Premier of Victoria, 2016). Likewise, a number of trade workers are expected to be needed for recently announced defence related projects in Adelaide (see end of Part Two for discussion of pipeline jobs).

Some specialised trade workers, however, are likely to confront challenges in finding employment in their trade outside the industry as large numbers of these workers are made redundant at once. An additional challenge for these workers is that many of the growing trade occupations identified in the labour market analysis are so significantly different (e.g. building and engineer technicians, bricklayers, carpenters and joiners, etc.) it would require them to undertake significant retraining before they could access these opportunities. As a consequence, some of these workers may have to find employment in alternative non-trade occupations. As presented in the following diagram, many of the transferable skills acquired by these workers are similar to auto production workers and should enable them to access the growing occupations discussed for this category of workers.

Skills Profile: Auto Trades Worker

Duties and responsibilities:

- Use hand & power tools, welding, painting and finishing equipment including robots relevant to role
- Check and troubleshoot machinery, tools and equipment including evaluating their accuracy
- Diagnose, analyse and evaluate problems and act appropriately within specialist area utilising advanced trouble-shooting skills and specialist knowledge
- Keep work area clean and organised following work safety guidelines
- Monitor, document and report problems – verbal and written
- Participate in/or facilitate group meetings to share job-related information
- Make suggestions for continuous improvement of work processes
- Use electronic information systems and keep accurate log of work tasks during shift
- Provide specialised technical advice and guidance to team
- Assist in on-the-job training of new employees
- Complete tasks according to specifications
- Project manage as required
- Load and unload machinery
- Possess intricate knowledge and understanding of work systems
- Use correct disposal measures for waste including hazardous materials and recyclables
- Keep updated with regulations and mandatory licensing and safety requirements of trade

Skills and attributes:

- Leadership – auto trade workers are autonomous practitioners expected to provide advice in own area of specialisation
- Advanced specialist technical skills able to develop tools and machinery according to needs
- Able to adapt own practices, skills and knowledge to new technologies as required
- Interpret and produce and work from technical drawings
- Use and maintain complex measuring equipment
- Dexterity – well-developed hand/eye coordination
- Ability to follow instructions and take directions
- Time management skills
- Reliability and strong work ethic
- Ability to work in teams and independently
- Ability to multitask different roles if required
- Flexibility in workplace and own role
- Communication (verbal and written)
- Attention to detail and ability to solve problems
- Ability to work to high standards under time pressure
- Ability to think ahead, anticipate and plan needs of self and work team
- Ability to stand for long periods – accustomed to demanding physical work

Common qualifications:

- Relevant trade certification
- Additional engineering certificate or diploma
- Tickets/licenses: working at heights, forklift operation, first aid

Transferable skills relevant to many different occupations:

Communication

- Uses verbal & written communication skills related to work procedures, OH&S, team dissemination
- Ability to interact with diverse workforce

Digital skills

- Interact with computing technology
- Set computer-controlled machinery
- Write basic computer programs as required

Teamwork

- Can work effectively in teams
- Promotes innovation in team environment
- Communicates effectively in team

Problem-solving

- Uses structured problem-solving tools e.g. root cause analysis
- Continuous improvement of work processes
- Problem-solves to improve quality and efficiency, maximise OH&S & improve team cohesion

Initiative & enterprise

- Applies competitive systems & practices: quality standards, 5S system, process improvements, cost factors
- Can identify and detect defects and stop production to make improvements.

Planning & organising

- Plans work to optimise productivity
- Organises workplace information utilising knowledge management systems
- Applies Just in Time, Lean Manufacturing, quick changeover procedures where required
- Lean Manufacturing, quick changeover procedures where appropriate

Self-management & resilience

- Adapts to change with resilience
- Adheres to work safety practices
- Minimises waste to achieve production goals

Continuous learning

- Implement & monitor environmental regulations, plan & manage compliance
- Expected to provide information and leadership regarding OH&S and mandatory safety requirements
- Adheres to licensing requirements for relevant trade

Technological skills

- Advanced technical skills relevant to trade
- Ability to use hand tools, power tools and complex machinery including robots
- Assumes leadership role and provides advice and expertise in technical specialisation

Engineers

Engineers are highly qualified in comparison to the majority of the auto workforce, with most of them educated to bachelor degree level as a minimum. This aligns well with the current and predicted future economic forecast in regard to the labour markets in South Australia and Victoria (Australian Industry Report, 2015; Snell, Gekara & Gatt, 2016). Moreover, some of this group may be retained by the auto manufacturing companies who are aiming to maintain Research and Development (R&D), testing and design capacities in Australia. In the same way as the trades employees, many of the engineers working in the auto industry and supply chain have gained additional qualifications and skills in highly desirable areas such as leadership and project management. From a numbers perspective, Toyota Gosei and Futuris supply chain firms have already released their engineers and there are no engineers to be impacted at either Holden, Port Melbourne or DENSO meaning that, overall, the number of engineering employees impacted is going to be relatively low by the time of full closure.

Adelaide	Melbourne West	Melbourne South East
Engineering Professionals		Engineering Professionals

In a similar way to trade workers, pipeline jobs associated with recently announced defence and rail projects in Melbourne and Adelaide are expected to support a number of engineering-related positions including fabrication engineering professionals and mechanical engineering professionals. Given the considerable knowledge, experience and qualifications of engineers in the auto industry it is highly feasible that the companies associated with these projects will look to auto industry engineers to help fill these skill areas.

Insights into the labour market outcomes of engineering professionals exiting the auto industry can also be found in a recent study conducted by the Department of Employment (Department of Employment, 2015). Using ABS's Australian Census Longitudinal Dataset, the Department of Education examined the labour market outcomes of auto industry workers who were employed in the industry in 2006 but who had exited the sector by 2011. Compared to other occupations, the labour market outcomes of engineering professionals were much more favourable with comparatively lower rates of unemployment and higher rates of labour market participation. Of the nearly 1,500 engineering professionals who existed the auto industry over this period, 50 per cent were still working as either an engineering professional or another professional occupation and the remaining 50 per cent were employed in another occupation (e.g. specialist manager, engineering, ICT and science technician, hospitality, retail and service manager). While the report speculated that the simultaneous influx of retrenched engineering professionals at the time of auto industry closure may result in less favourable outcomes for the remaining engineers, it does appear that the staged nature in which engineering professionals have been released has reduced this potential challenge.

Professional/managerial staff

The professional and managerial employees in the auto industry and supply chain are highly skilled with qualifications desirable in the growing occupations of the labour market. Many in this group are tertiary qualified in their fields. The group encompasses general management and administration, HR, IT, sales and marketing, health services, finance and accounting and purchasing specialties. All these roles require excellent English language proficiency, digital literacy, better than average literacy and numeracy abilities and developed interpersonal skills. For these individuals, their transition will be about strategic career planning and timing to make the most of opportunities whilst also fulfilling their contracts with the auto industry. This is where uptake of career advice, planning and transparency can help. Indeed, Toyota Altona provides a particularly good example, whereby this group of workers have shown to be some of the eager to take up company offers of retraining and upskilling. In addition to their advantages in the general labour market, some of these employees may also be retained by auto companies looking to focus on selling and marketing their products in Australia post-manufacturing.

Adelaide	Melbourne West	Melbourne South East
Midwifery & Nursing Professionals	Midwifery & Nursing Professionals	Sales, Marketing & PR Professionals
Accounting Clerks & Bookkeepers	Contract, Program & Project Administrators	Advertising, PR & Sales Managers
Information & Organisation Professionals		Accountants, Auditors & Company Secretaries
		Midwifery & Nursing Professionals
		Business & Systems Analysts & Programmers
		Business Administration Managers
		Contract, Program & Project Administrators

Administrative & clerical support staff

Administrative and clerical support staff at the auto manufacturing plants and supply chain perform their roles in support of the professional and managerial levels. In the wider labour market, we have shown in Part Two that – as the professional occupational groups have grown in significance (skill level 1) – so have these support roles (skill level 4). As a result, this group of employees have very promising opportunities to find work post-closure. The skills of these staff are not auto industry-specific and, as such, they are in demand. Clerical support staff are digitally literate with well-developed written and verbal communication skills. Essentially, their skills, experience and qualifications are highly relevant to the contemporary labour market in Australia. As in the case of the professional staff, planning and timing will be key to them being successful which are areas they can be assisted with between now and company closure.

Adelaide	Melbourne West	Melbourne South East
General Clerks	Checkout Operators & Office Cashiers	Accounting Clerks & Bookkeepers
Checkout Operators & Office Cashiers	General Clerks	General Clerks
Accounting Clerks & Bookkeepers	Logistics Clerks	Logistics Clerks
Office & Practice Managers	Office & Practice Managers	Call or Contact Centre Information Clerks
		Misc. Clerical & Administrative Workers
		Office & Practice Managers
		Receptionists
		Clerical & Office Support Workers
		Checkout Operators & Office Cashiers

Warehousing, logistics & stores

Auto industry and auto supply chain employees in warehousing, logistics and storepersons roles are not large in numbers, but are significant in that their skills and qualifications are very different from the production auto workforce. Their qualifications include certificates relating to picker and packer, logistics, warehousing and storepersons. They are also likely to possess additional tickets and licenses such as forklift operation, working at heights/in confined spaces. Their skills and qualifications are not auto industry-specific which should aid them in transitioning to other industries. The labour market analysis in Part Two demonstrates that there will be opportunities in areas relevant to this group - detailed in the table below. Therefore, consolidating their current skills as a formal qualification or upskilling within this field may be a good use of time and resources between now and auto industry closure. An example of this, DENSO (supply chain) retains a significant warehousing capacity (30 employees out of a total of 376) and is currently facilitating a third of this contingent to upskill to a Diploma of Logistics. The opportunities available according to the recent labour market analysis (Part Two) would appear to confirm this as a worthwhile investment of resources.

Adelaide	Melbourne West	Melbourne South East
Construction, Distribution & Production Managers	Storepersons	Construction, Distribution & Production Managers
	Construction, Distribution & Production Managers	Storepersons
	Logistics Clerks	Logistics Clerks

Many of the pipeline jobs expected to come online in Northern and Southern Adelaide and Western Melbourne over the next couple of years will include transport, logistics and warehousing occupations. These occupations are likely to cut across a range of different growth industries identified by the Victorian and South Australian Governments including food and fibre, transport, defence and construction and medical technology and pharmaceuticals.

Summary: the non-production auto workforce

The non-production auto employees include trade-qualified, engineers, professionals, administrative support staff and logistics personnel. The most significant feature of this group is that their skills and qualifications are not auto industry-specific. Furthermore, many of their skills and qualifications are relevant to occupations with demonstrated growth in the labour market. Therefore, auto employees from this cohort should experience fewer problems finding meaningful employment at the closure of the auto manufacturing plants and supply chain at the end of 2017 as compared to the production auto workforce. This section has described these groups of employees briefly and outlined their attributes which indicate that they should be highly amenable to employment transition. This section also delineated in which occupational areas, based on the labour market analysis detailed in Part Two, the best opportunities may lie for each distinct group going forward. We have also emphasised that these workers are fewer in number than the production auto workers. Ultimately, the key to successful

transition for the non-production cohort best lies with strategic career planning as timing is likely to be the most difficult element for many of these workers planning their next career move.

The Occupational Mobility and Skills Transferability of Auto Industry Employees: key considerations and recommendations

1. Transferable skills training workshops

Prior to the completion of this project, the research team held preliminary workshops with company representatives and career advisors involved in assisting auto workers in transition. Feedback from these workshops suggested that transferable skills are often poorly understood and overlooked by workers who perceive their skills to be highly occupation-specific. As a result, these skills are often understated on CVs and during interviews despite being one of their strongest assets. One of the major challenges for workers and the careers counsellors assisting them is understanding which skills, currently held by an auto employee, are transferable to an alternative industry and occupation and how these skills can be applied to suit the new work environment. The diagrams developed out of this project are designed to assist workers and advisers to better identify the specific transferable skills connected to alternative occupations. The workshops provided the researchers the opportunity to explain the data and methods underpinning the development of these diagrams, how they can be utilised by career advisors to assist workers in identifying and better understanding their transferable skills and the types of strategies that can be used to market these transferable skills in CVs, cover letters and interviews. The workshops also provided the researchers invaluable feedback from the potential end-users of these products and input on how best to improve them.

It is, therefore, recommended that additional training workshops be conducted with other potential end-users, such as auto supply chain firms, Skills and Job Centres, JSAs, unions and independent careers counsellors. Training materials related to identifying and understanding transferable skills and job opportunities in local labour markets would be developed as a result of these training workshops.

2. Improved occupational and labour market information

The first step to assisting workers in transition is identifying where they are likely to find their next job. Currently, as this report illustrates, identifying local job opportunities is not straightforward. The local labour market data reported tends to focus on employment by industry which does not help workers to understand the types of occupations that might provide job opportunities within these industries. In the absence of reliable local labour market information, career advisers tend to rely on local knowledge or speculation about job growth or national labour market reports produced by the ABS or Department of Employment, which is much more readily available and, which implicitly assumes that labour market developments at the local level reflect the national trends. Local labour market conditions, including changing demands for types of skills and occupations, have significant implications for occupational mobility and job prospects. Australian regions tend to be highly cellular, displaying different patterns of occupational growth and decline. Acquiring a better understanding of these regional labour market particularities is, thus, critical to assisting workers in occupational transition. This report has relied upon multiple sources of labour market data (ABS Census Data, Labour Force Survey Data, Internet Vacancy Index and interviews with State Government representatives) to better understand where job opportunities are unfolding in the localities where most Holden, Toyota and auto supply chain

workers reside. These data resources provide a fairly comprehensive understanding of where job growth is occurring but, with exception of the IVI data, there is little capture of employment created through replacement jobs (i.e. churn). Job replacement varies widely between occupations due to the varying rate of labour turnover but can be as high as 80-90 per cent of all jobs advertised (see Labour Mobility Survey). The ABS Labour Mobility Survey, which is collected as part of the Labour Force Survey, is the primary source for this type of information. However, its utility is limited due to the fact that occupational data is only collected at the broad 3-digit ANZSCO level and the relatively small sample size which presents reliability questions when examining local labour markets. Improving the level of occupational data collected (including occupational replacement rates and occupational job openings) would go some way to improving the labour market data currently available to identify changing occupational job opportunities (see Bureau of Labor Statistics, 2008 for how comprehensive occupational data is collected in the US). This knowledge can be used by training system and market facilitation actors to assist workers to better identify viable job and career opportunities and to make more informed decisions about how best to approach RPL and where retraining and upskilling is most likely to deliver the best job outcomes.

3. Development of an online resource

We recommend developing an online skills assessment tool for job seekers and careers advisers, based on the information contained on the training.gov.au site, whereby transferable competencies and skills can be readily identified by career advisers, job seekers and linked with suitable job opportunities. At present, training.gov.au provides the National Register on Vocational Education and Training (VET) in Australia. As such, it is the authoritative source of information on Nationally Recognised Training (NRT) which encompasses training packages, qualifications, units of competency (UoCs), accredited courses and skill sets. It also catalogues Registered Training Organisations (RTOs) who have the approved scope to deliver NRT. The site is managed by the Department of Education and Training on behalf of State and Territory Governments and has been developed for experienced training sector users (<http://training.gov.au/home/about>).

The problem is that this site has been designed as a repository for information rather than an information-seeking resource. Users of the site are expected to be industry experts as opposed to job seekers or careers personnel. As a result, manoeuvring between the various qualifications on the site is clunky and unintuitive. It takes a lot of time and prior knowledge to ascertain the transferability of a qualification and to which other industries it may apply. The design aspects are also uninspiring and unsuited to contemporary expectations in relation to searching and information seeking, which would comprise information that is quick and easy to find and understand with the ability to be mobile or app-friendly.

We recommend developing an accompanying site or resource that provides the means for job seekers and careers advice personnel to gain information about the transferability potential of existing skills and qualifications. An online tool of this nature would integrate the information provided to bridge the gap between the existing offering and the transferability information that workers need to navigate the current economic transition. This site would include the means for job seekers, for example, to click on their current qualification and from that be taken to a sample skills profile or matrix for that qualification. There could also be the opportunity for these users to amalgamate information on number of years in role/experience etc. together with additional qualifications gained and sample resumes and interview coaching tools and tips. Ideally, the means to create a personal profile containing qualifications,

transferability prospects, resume, list of potential transition opportunities etc. would be built in as well as the means to attach and store hard copies of certificates and references. A good example of such an integrated online skills resource is provided by the Canadian Government site <https://bc.tradesinfo.ca/>. This provides a good example of a government-led venture – concentrating on trades in this instance – where all relevant vocational skills and training information is integrated with government input giving reliability and credibility to the information provided and the resources to keep the site regularly updated. Another key component to the success of such a format, would be links between sections to other qualifications and occupations that skills/skills profiles can be transferred making it explicit to users what would be required to transition in terms of upskilling, retraining or framing of existing skills. Furthermore, there could be use of links to navigate within the various parts of the site and also links and suggestions for other useful and related sites such as <https://jobsearch.gov.au/>. Above all, it is vital that any online skills tool that is developed is fully comprehensive, reliable and kept up to date with labour market needs. To ensure this last requirement, input and partnership should be sought from key growth industry and skills experts on an ongoing basis.

4. Maximising opportunities presented by pipeline jobs

Pipeline jobs created through Federal and State Government infrastructure and defence projects can provide important job opportunities for retrenched auto and auto supply chain workers. Many of the jobs expected to be created out of these projects require similar skills as those held by auto industry workers. Maximising job opportunities for auto workers through pipeline jobs will depend heavily upon the timing of these government supported projects and the willingness of the successful contractors to employ ex-auto workers. The South Australian and Victorian Governments have taken steps to address these concerns through tender selection and procurement processes. However, it is not entirely clear to the research team how governments will ensure compliance. It is our view that contractor compliance on this issue will be critical if retrenched workers are to be employed onto these major government projects in significant numbers. Therefore, it is suggested that state governments take responsibility for monitoring compliance to the terms of tenders to better ensure successful bidders deliver on the expectation that they employ retrenched auto workers on major government projects.

5. An evaluation of the role of transferable skills in assisting auto workers find employment

Transferable skills enable displaced workers to bridge the gap between the occupations that are no longer providing job prospects and the occupations that are emerging. However, it is not known to what extent displaced workers make use of these skills in making job and career decisions or when applying for jobs or taking part in job interviews: selling themselves in other words. Most evaluations of programs for those laid off en masse tend to focus on retraining programs (e.g. placement rates) or job outcomes (e.g. percentage that find alternative employment) and are rarely longitudinal so they do not provide insights into the dynamics of the labour market and the longer-term benefits of job assistance and career advice which are major features of the Automotive Manufacturing Transition Program (see Dar & Tzannatos, 1999; OECD, 2013). An evaluation focused specifically on the role of auto transition assistance and the role of transferable skills in assisting auto workers find employment post-industry closure would begin to answer these questions. This evaluation should involve follow-up interviews with auto workers post-closure to find out: If they have

secured employment; their job seeking strategies and behaviours; the occupations in which they have successfully acquired or are looking for work; their reflections on the lessons learned from training assistance programs. This evaluation should commit to track soon-to-be retrenched auto workers for two years to fully evaluate the outcomes of job assistance by firms and government agencies in transitioning workers to other forms of employment.

6. Development of educational materials for potential employers

One of the barriers to ex-auto workers finding employment may be the lack of understanding and appreciation for the depth of skills and knowledge held by auto workers and how they relate to the skill needs of their organisation. Educating potential employers about the qualities and skills of auto workers is therefore strategically important. The major auto firms and auto supply chain companies have sought to do this through direct engagement with potential employers and opening their facilities to site visits for observations by other employers. The development of simple educational materials based upon the information and transferable skills diagrams contained in this report would be an additional way to assist potential employers better understand auto worker skills and how they relate to their specific skill needs.

7. Further refinement and extension of transferable skills methodology

This project developed a particular methodology to better understand transferable skills of vulnerable workers and their relationship to growing employment areas where workers might consider pursuing new opportunities. Underpinning this methodology is the assumption that skills transferability need not be restricted to manufacturing or the auto industry but is transportable to other industry and occupational contexts. This methodology is informed by an extensive piece of research into transferable skills and occupational mobility completed recently by the two lead CIs (see Snell, Gekara & Gatt, 2016). We would, therefore, suggest that the framework be deployed in other worker-in-transition situations as a way of managing skills transferability and employment mobility across the economy, particularly from declining to new and/or growing occupations. In this way, the framework can be further refined, extended and have greater impact. Indeed, it is envisioned that the tools and techniques developed out this project to understand transferable skills and their relationship to local labour market opportunities would eventually become standard to all job assistance programs for vulnerable workers.

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