Skilling the Bay - Geelong Regional Labour Market Profile

Final Report

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About this Briefing Report

This report has been developed by the Centre of Sustainable Organisations and Work (RMIT University) for the Gordon Institute of Technology (The Gordon). The aim of the report is to review the labour market for the Regional Geelong Area (RGA), in particular the major sectors of employment: Health and Community Services, Manufacturing, and Education and Training.

Utilising a combination of statistical and qualitative data, the report analyses the current state of these employment sectors and considers possible future trends. Workers' skills and aspirations are considered alongside the forecast trends, in order to inform recommendations and priorities for policy makers and training providers.

Appendices to the report include an international comparison of training and education initiatives undertaken in locations experiencing comparable industry transformation, as well as a detailed statistical analysis.

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Abbreviations

AAC	Australian Apprenticeship Centre
ABS	Australian Bureau of Statistics
AEU	Australian Education Union
AMA	Australian Medical Association
AMWU	Australian Manufacturing Workers Union
ANF	Australian Nursing Federation
AWU	Australian Workers' Union
BSEAP	Barwon South Educational Attainment Project
BSWR	Barwon South-West Region
CBD	Central Business District
CFMEU	Construction, Forestry, Mining and Energy Union
CISR	Centre for Intelligent Systems Research
COAG	Council of Australian Government
CoGG	City of Greater Geelong
CPN	Clinical Placement Network
CS&HISC	Community Services and Health Industry Skills Council
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSOW	Centre for Sustainable Organisations and Work
DEECD	Department of Education and Early Childhood Development
DEEWR	Department of Employment, Education and Workplace Relations
DoHV	Department of Health Victoria
DPCD	Department of Planning and Community Development
ENG	Engineering Network Geelong

FTE	Full Time Equivalent
GFC	Global Financial Crisis
GFCC	Geelong Food Co-products Cluster
GMC	Geelong Manufacturing Council
GRLLEN	Geelong Region Local Learning and Education Network
GTO	Group Training Organisation
ICT	Information Communication Technology
IFM	Institute for Frontier Materials
JSA	Job Services Australia
LGA	Local Government Area
NBN	National Broadband Network
NDIS	National Disability Insurance Scheme
NHWT	National Health Workforce Taskforce
NILFET	Not in Labour Force, Education or Training
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PESTEL	Political, Economic, Social, Technological, Ecological and Legal
POW	Place of Work
PUR	Place of Usual Residence
RACV	Royal Automobile Club of Victoria
RGA	Regional Geelong Area
RPL	Recognition of Prior Learning
RTO	Registered Training Organisation
SLA	Statistical Local Area
SME	Small and Medium Enterprise
TAFE	Technical and Further Education

VCAL	Victorian Certificate of Applied Learning
VET	Vocational Education and Training
VETiS	Vocational Education and Training in Schools
WAG	Welsh Assembly Government

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The Research Team

The research has been undertaken by a research team based in the Centre for Sustainable Organisations and Work, RMIT University. The team comprises:

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As part of the project, the Centre commissioned Dr Dean Stroud and Dr Claire Evans from the School of Social Sciences, Cardiff University (Wales, UK) to provide expert analysis on international case studies from regions facing comparable employment transitions, examining the skills response undertaken.

Centre for Sustainable Organisations and Work

Established in 2009, the Centre for Sustainable Organisations and Work promotes theoretically informed analyses across a number of disciplines. Unified by common enquiries into Work, Sustainability and Organisations, and Globalisation, Centre staff develop highly relevant evidenced-based theories and applied analyses of the contemporary social world. The aim is to inform and promote effective policy, practice and debate. A distinctive feature of the Centre's work is its use of historical and comparative reference. Thus, the work of the Centre is focussed on developing an understanding of people in the context of significant social, economic and organisational change.

In order to build concentrations of expertise, the Centre is structured around a series of Research Clusters. These Clusters enable the Centre to produce high-quality research outputs as well as to develop strong collaborative links with other research centres and institutions. The Clusters include: Sustainable Regions and Transition; Sustainable Innovation and Management; Entrepreneurship and Business Futures; Green IT; Social Enterprise; Women and Work; Organisational Value and Social Media; The Art of Design and Management; Ports and Maritime Logistics; Geopolitics, Business and Government; Emergency and Disasters. This report has been prepared by the 'Sustainable Regions and Transition' cluster led by Dr Darryn Snell.

http://www.rmit.edu.au/bus/research/csow

Disclaimer

Executive Summary

The project and objectives

The aim of the project, 'Skilling the Bay - Geelong Regional Labour Market Profile' is to better understand the current and future skills needs in the Regional Geelong Area (RGA).

Project scope

The RGA comprises the four Local Government Areas (LGAs) of the City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and the Golden Plains Shire.

Objectives

The objectives are to:

- Identify the types of skills and qualifications workers currently possess, and how these may (or may not) meet current or future skills needs of Regional Geelong Area businesses;
- Suggest potential future skills demands of employers with a consideration of changes in demand;
- Understand the position of displaced and vulnerable workers along with their career aspirations as they confront changes in employment and labour market conditions; and
  Inform development of a long-term vision for jobs and training in the Regional Geelong Area.

Skills framework

Skills are reproduced in spatially bounded and context specific labour markets, a skill ecosystems approach. This report considers the employment profiles of the RGA residents, and their place of work.

Research design and data collection

The methodology is designed to identify the possibility of job growth, informed by worker and employer input via in-depth interviews as well as a process of workshop facilitation and awareness building. The methodological approaches involve:

- Documentary research
- Labour Market analysis
- Sector studies
- Scenario workshops

One hundred and ten people were interviewed either individually or as part of a focus group, from three principal sectors:

- Manufacturing
- Health Care and Social Assistance
- Education and Training

A range of respondents from agencies, government and other organisations were also interviewed, a number providing additional documentary material and source leads. This data was analysed using a well-established CSOW analytic framework, based on a political economy analysis of skills.

The Regional Geelong Area

For the purposes of this project, the RGA is defined as the four Local Government Areas (LGAs) of the City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and the Golden Plains Shire, an area with a reported population of 258,516 in 2011. Reference is also made to a broader regional area where appropriate, for instance when discussing labour force commute to/from areas such as Greater Melbourne and Ballarat.

Demographic profile

- RGA resident population is 258,516.
- The RGA as a whole has relatively low levels of disadvantage although there are subareas that experience high levels of disadvantage.
- Socio-economic disadvantage is associated with poor educational outcomes and limited labour market attachment.
- The ethnic diversity in the RGA is limited.
- The most common age of residents of the Regional Geelong Area LGAs is between 40-49 years.
- The RGA has a population that is on average older than the Australian population more generally, with nearly half (43 per cent) aged over 45 years. It has a significantly smaller proportion aged between 20 and 34 years. This suggests that younger workers may be leaving the region to seek employment and training opportunities elsewhere.
- The RGA population has relatively low levels of educational attainment, with lower than state-average levels of year 12 completion and post-secondary qualifications.

Employment

- The RGA comprises a large regional labour market with close proximity to the Greater Melbourne economic region.
- The RGA labour market is relatively self-contained with a fifth of workers commuting out of the region for employment and much smaller proportions commuting into the region for employment.
- The RGA has an employment participation rate of 59.6 per cent, marginally lower than national rates.
- The RGA has a high level of occupational gender segregation. Mirroring the Australian labour market more generally, women are less likely to participate in the labour market than men, and when they do are more likely to work on a part-time basis.
- The majority of RGA residents are employed within small business with major employers employing approximately 21 per cent of the RGA labour force.
- The majority of full-time employed RGA residents earn under AU$1,000 per week.

Sectors of Employment

The major divisions of employment in the RGA are:

- Health Care and Social Assistance
- Retail Trade
- Manufacturing
- Construction
- Education and Training

Three divisions were selected as the focus of analysis in this project because they are embedded in the RGA labour market in such a way that they define its futures:

- Manufacturing
- Health Care and Social Assistance
- Education and Training

Scenario Futures

Informed by the research, three possible and plausible futures of the RGA in ten years were developed: ‘A place for every generation’; ‘A place in transition and a transitory population’; ‘The time is now! Ten years on’

Manufacturing Sector

Key Findings

- In 2011 there were 12,944 RGA residents employed in the sector, 75.6 per cent of whom also work in the RGA (9,781).
- Of the 10,694 manufacturing employees who stated that their place of work is within the RGA, 91.3 per cent are residents of the RGA.
- Workers are most commonly 'Automotive and Engineering Trades workers', 'Machine and Stationary Plant Operators' and 'Specialist Managers'.
- 31.6 per cent of workers resident in the RGA are aged 50 or above
- 79.7 per cent of workers resident in the RGA are male
- 36.6 per cent of workers resident in the RGA are Certificate qualified

Challenges

Five job challenges face workers in the manufacturing sector today:

1. Replacement, complicated by retrenchment and uncertainty.
2. Recruitment of previously retrenched workers and re/up-skilling (many are skilled but not credentialised).
3. Pathways for young workers: previously established pathways are no longer applicable.
4. SMEs are not able to provide apprenticeship and training given current arrangements and costs.
5. Intergenerational unemployment.

Trends

- The RGA has much in common with experiences of deindustrialisation elsewhere (e.g. US 'rustbelt'; the struggling auto industry in Canada; Ireland; parts of Europe and the UK). As labour intensive manufacturing jobs are offshored, public services begin to play a more vital role as employers (for instance in hospitals, universities, human services, education, local government).
- Displaced manufacturing workers in the RGA are receiving assistance to find work elsewhere, and some are successful in this transition, albeit often on reduced salary levels. These models to deal with displaced workers are commonly used elsewhere where heavy industry has disappeared.
- Of note, there is an attempt to revitalise/hold onto the manufacturing base of the region through 'advanced manufacturing' and 'clean-technology'. While common elsewhere, in parts of Europe, the US and Canada, there are fewer jobs available and it is not clear that these approaches will be successful in the longer term.

- The skill requirements of 'new' industries (clean-technology/advanced manufacturing) are not all that different from the so-called 'old' skills in this sector.
- The ageing workforce in the sector has reduced the social impact of large-scale worker displacement in the short-term, as many simply retire. But, the loss of those 'ageing' skills may present challenges for newly emerging advanced manufacturing industries, should they develop into major employment areas.
- In the longer term, there may be reduced employment opportunities for youth.
- As with international cases, in particular Hamilton in Canada (see *An International Study of Comparator Cases - Attachment to Final Report*), local government, employers, universities/TAFE are taking proactive and engaged roles in trying to develop solutions. Unions have been active players in this process of change. There are indications that these measures will set the region up to act proactively to address more long term challenges.

Health Care and Social Assistance Sector

Key Findings

- In 2011, there were 15,811 residents of the RGA employed in the sector, of whom 81.5 per cent also work within the RGA.
- Of the 13,495 health care and social assistance sector employees who stated that their place of work is within the RGA, 95.6 per cent are residents of the RGA.
- Workers are most commonly ‘Health Professionals’, ‘Carers and Aides’ and ‘Inquiry Clerks and Receptionists’.
- 50 per cent of workers resident in the RGA are aged 45 years or above.
- 80 per cent of workers resident in the RGA are female.
- 40 per cent of workers resident in the RGA are tertiary qualified.

Challenges

Three main job challenges face workers today:

1. Demographic variables (population growth, population ageing) and the burden of disease (chronic illnesses) will continue to drive demand for traditional health professionals (doctors, nurses, allied health).
2. Changes in service delivery (settings and ways of delivering services) creating new skills demands. This includes industry reform such as shifts towards person-centred models (for example NDIS) and increasing focus on primary and preventive health, in a community setting.
3. Mismatch between the number of medical students/specialist support staff and nurses and number of positions available in hospitals and related facilities

for their practice. Shortages are expected for community settings and are being experienced for specialised positions. Some of these specialties are not offered by local universities.

Trends

- There is an increasing demand for health workers of different types. Some skill shortages have appeared for higher skilled professions such as doctors, nurses, allied health professionals, and specialists (speech pathologists and other types of therapists), which are anticipated to continue to be in strong demand. Within hospitals, registered nurses will be the first to feel greater demand, followed by other types of nurses, carers, administrative staff and GPs. There is strong demand for personal carers and aides.
- There is a shortage of internship positions available in which nurses, doctors and allied health professionals can complete their final practical training.
- There are particular difficulties in having enough skilled health workers in outlying areas or obtaining the resources for those areas. The high turnover rates of personal carers and aides is mostly true for younger workers rather than older workers (the 40-50 year old female cohort that makes up the majority of this labour force).
- The implementation of the community-based National Disability Insurance Scheme (NDIS) and the continuing trend of person-centred care models will exacerbate the need for both lower and higher skilled workers. At present, there is no workforce development plan to address the supply of these workers for the medium and long-term.
- The role of the growing health care and social assistance sector in absorbing workers displaced from other sectors that are in decline offers potential solutions for some of these workers, albeit with challenges.
- Issues such as low wages and difficult working conditions tend to show up more frequently in the social assistance sector.
- Occupations within the Health Care and Social Assistance sector tend to necessitate a mix of technical and personal skills; obstacles keeping people out of training need to be addressed.

Education and Training Sector

Key findings

- In 2011, there were 10,776 residents of the RGA employed in the sector, of whom 80.7 per cent also work within the RGA.
- Of the 9,198 education and training sector employees who stated that their place of work is in the RGA, 94.5 per cent are residents of the RGA.
- Employees are most commonly ‘Education Professionals’, ‘Carers and Aides’ and ‘General Clerical Workers’.
- 51 per cent of workers resident in the RGA are aged 45 years or above.

- 68 per cent of workers resident in the RGA are female.
- 38 per cent of workers resident in the RGA are tertiary qualified.

Challenges

Five job challenges face workers today:

1. Workers will have to adjust their skills profile in relation to technological advancement and student centred learning.
2. Much employment is insecure and temporary.
3. Casual employment problems becoming a feature of the tertiary sector. There is evidence of casualisation also in other parts of the sector.
4. Whilst much employment in administration support and related professional areas is likely to grow and be supplied locally, it is not necessarily easy for displaced manufacturing workers to take these jobs without substantial retraining. Some opportunities are provided by trade training activity.
5. Wage levels for some subsectors such as TAFE teachers compare negatively with others such as school teachers, this is further complicated by the short term and casual employment amongst VET providers.

Trends

- The bulk of the education and training sector workforce are employed in pre-school and school education. The RGA population, for the City and its adjacent areas, are expected to grow by up to a third of the current population over the next 20 to 30 years. There will be a need for more schools, and hence teaching and related administrative and support staff. An increasing focus on early childhood education within the sector may have long-term implications for child care provision, and related staffing requirements
- Many decisions that relate to staffing levels within the sector are taken outside the RGA, although with reference for the RGA, including staff numbers, pay rates, especially for teachers, and other related employment matters. Further, decisions can be made which have negative impacts on different sub-sectors of the sector, illustrated by the April 2013 Commonwealth decision to reduce funding to higher education and to increase school funding in relation to the Gonski Review.
- The current workforce profile is ageing, with the majority of the employees across the sector being aged 45 years and above. Over the next 5 - 10 years, as those aged over 50 retire (40 per cent tertiary teachers and 36 per cent of school teachers), possibly leading to shortages.
- The role and place of Deakin University as both an employer and catalyst for other sectoral development (such as advanced manufacturing, or as projected, food processing) is likely to have positive knock-on effects in terms of employment, although the recruitment of academic staff is likely to be

external to the RGA while professional and support staff could be from within the RGA.

- The projected growth and expansion in the number and scale of educational and training providers does not necessarily mean that jobs will grow proportionately. Providers, especially in higher education are adopting course delivery strategies that involve a reskilling of current staff, which may or may not be undertaken in formal ways. The implications for staff levels are unclear at present.

International lessons

The international case study analysis identified five key findings:

1. Many countries and regions face similar problems and experiences to those of the Regional Geelong Area.
2. Most regions have struggled to remedy the negative effects of decline and closure of major industries.
3. Regions often struggle to diversify economically
4. Government action and involvement (federal, state and regional) is uneven but is critical to positive outcomes.
5. The implications are:
    a. Appropriate job transfer depends on both skills and opportunity.
    b. Employment adjustment depends on multi-level government involvement working with regional stakeholders.
    c. Training provision for the disconnected requires specialist courses in a variety of modes (vocational training must incorporate comprehensive programs of general education to encourage flexibility, mobility and transferability between sectors as opportunities emerge).
    d. The upskilling of regions must reflect the employment opportunities being developed within the region; supply must reflect demand.
    e. Sustainability must be built into opportunities developed within the region.

The analysis identifies three key conditions for beneficial outcomes in relation to skills development in the context of regional labour market change. They are:

1. Social partnership
2. Targeted and focused projects
3. Informed multi-level governance.

Skill and Regional Development Challenges

Education and training has a critical role in addressing the changes underway in the RGA. These include skills shortages, replacement workforce, assisting displaced and disadvantaged workers and the entry of young workers into the labour market.

- The region confronts significant skill challenges associated with an ageing workforce, displaced workers, youth unemployment, disadvantaged communities, and need to cater for the demands from new and emerging industries. Skills are often perceived as the key driver of regional prosperity and addressing social and economic problems. Such a step also requires other social and economic development processes, including regional and industrial planning. Indeed such planning should be carried out in conjunction with targeted skills programs.
- The analysis suggests that some form of partnership approach to skills development and implementation is necessary for successful outcomes. Already there are key bodies in the region undertaking such steps.
- Focused policies and practices are a critical condition for success. Building on the collaborative relations that are evident between the schools, the TAFE and RTOs and the Higher Education sector it is possible that the basis for an alignment of education and training with skills needs and requirements can be laid.
- Steps towards skills policies and programs benefit from informed policy-making, in relation to both skills demands and skills supply. Such measures require an understanding of the employment trajectories underway in relation to sectors and sub-sectors, as well as the skills profiles of residents with the region. Perhaps the most difficult step as indicated above is to achieve an alignment between skills needs and skills profiles and supply.

Considerations

The considerations presented below address the challenges of transforming the economic base of the region. Critical to this process will be an education and training approach that is integrated with business growth and job creation strategies.

Manufacturing sector

1. All levels of government should continue to strengthen collaboration and partnerships between educations institutions, industries and industry networks through targeted programs and requirements for securing government funding.
2. The GMC and ENG will continue to play a key role in shaping Geelong's Manufacturing and Engineering industry and should continue to be supported by governments, unions and educational institutions.

3. Employers should continue to be encouraged to offer their workers the opportunities to develop nationally recognised qualifications as a way to upskill or reskill their workforces.
4. Given the precarious nature of the manufacturing industry in Geelong, continued support for labour adjustment assistance will be needed.
5. The future of manufacturing in the RGA rests in large part on the SMEs, in relation to the large companies or separately, and they should become a focus in the future development of the division.
6. An RGA-based National Workforce Development Officer should be appointed, attached to an appropriate Transition Committee, to work with employers and unions to identify workforce needs and promote training towards this end.
7. Industry cluster opportunities should be pursued proactively – identifying existing large companies as possible seedbeds, incubators or hosts to emergent businesses, rather than either subsidising them to continue outmoded production or letting them fall over and die.
8. The Skilling the Bay project should address the possible cleavage between skills possessed (capacities and competencies) and skills required by emerging employment circumstances.

Health care and social assistance sector

9. Develop and maintain links between training providers and employers and employees in factories that may be closing so that workers will be aware of the opportunities available elsewhere in the labour market and can receive appropriate career advice upon redundancy.
10. There needs to be a co-ordinated approach between industry stakeholders to come up with a strategy for attracting, training and retaining workers
11. Training providers will need to work closely with employers to understand the practical skills needed in the workplace to facilitate a better fit of skills to workplaces.
12. The emerging preventative health care industry will likely require some traditional health professional roles, but there will also be non-traditional roles that could present opportunities for transitioning workers.
13. For non-acute and community-based areas of practice to become more attractive, career pathways with associated rewards are crucial.
14. Initiatives such as the Epworth-Deakin training hospital are a key step in the right direction to solve the issue of intern and resident medical officer position shortages, however smaller hospitals such as St. John of God may require greater incentives so that they too can do their share supporting and employing within the community.
15. A more in depth look at the incentives currently provided by the sector could point to strategies such as improved job quality and job stability, that would create a more balanced labour force in terms of gender and perhaps make it more responsive to demand pressures.

16. A flexible approach should be maintained so that people who might lack formal credentials but possess the desired skills (such as empathy, interest in working with people and personal experience) are not deterred from carrying out these care roles.
17. An approach that facilitates the development of appropriate pathways into tertiary education for this sector should be developed.
18. The Commonwealth Government, through the Community Services and Health Industry Skills Council, should support the development of an integrated workforce development strategy for the NDIS trial in the Barwon Region and the growing aged care sector across the Barwon Region. This needs to be a top priority as the NDIS rollout in Geelong will commence on July 1, 2013. This integrated strategy should be developed through partnership between the State and Federal Departments of Health and Human Services, disability service providers, health providers / agencies and local government.

Education and training sector

19. Workforce planning for the sector is becoming pressing in terms of replenishment and expansion, suggesting that policy makers within the RGA, in conjunction with State and Commonwealth departments, should implement strategic workforce development plans for the sector as a matter of urgency. The other side of the age profile is the situation and prospects for young workers and here there is a need to formulate carefully crafted pathways into and within the division by the major education bodies (schools) and tertiary organisations, such as The Gordon and Deakin University.
20. There is a prospect of recruitment into the division, particularly in relation to VET teaching but also more broadly, of displaced employees from other divisions, particularly manufacturing; targeted programs and support to enable transition should be developed by educational providers with support from government.
21. Attention should be given to wages and conditions of employment within the division by appropriate representatives of employers and workers, with the intention of addressing the implications of staff redevelopment, workloads and stability of employment.
22. Measures should be put in place by the State government to ensure RTO compliance with regulations relating to quality.
23. In view of the importance of tertiary education, Deakin University, together with The Gordon should consider the promotion of staff exchange pathways to develop a proactive way of further embedding these two key bodies in the RGA as the lead teaching and research bodies, while retaining the desirable division of responsibility for further and higher education.

General considerations

24. The RGA should be transformed into a coherent economic development unit, comprising the four (or five if Colac Otway is included) municipal areas with delegated capacity (including funding on a per capita basis) to promote economic development as an RGA authority.
25. Changing skill and labour market conditions matched with an ageing workforce requires the policy makers to develop and implement a 'Next Generation' Workforce Development Strategy.
26. A workforce development plan (as a practical implementation of the Workforce Development Strategy) should be developed for the RGA by an RGA Authority, involving a social partnership of governments, employers, unions and educational bodies to facilitate workers in transition.
27. The focus of policy on skill supply considerations should be made in relation to both skill demand and skill usage and involve partnerships between education providers and employers and unions, and should be a practical implementation of the Workforce Development Plan and Strategy.
28. Policy makers and industry associations should assist firms and clusters of firms to do more to make workforce and skill related issues a higher priority, but in ways that they help themselves to resolve them.

Displaced workers considerations

29. Job creation and/or jobs providing opportunities for displaced workers must be a major consideration of any government support for private enterprises seeking to relocate and/or expand their operations in the RGA.
30. The establishment of a Worker Transition Centre must be given priority. This Centre should involve unions, the Gordon, Centrelink, industry and employer associations and relevant Federal and State government departments.
31. The Workers in Transition Program needs to be better promoted across all sectors including education and health and community services.
32. In situations where employers plan to retrench large numbers of workers, they should be encouraged to support RPL processes for their workforce ahead of the actual redundancies.
33. Eligibility for subsidised training places should be means-tested on the basis of an individual's ability to pay for re-training.

Skills and training considerations

34. In order to have a sufficient replacement workforce a number of barriers must be addressed including low rates of educational attainment, high attrition among trainees/apprentices, social and geographical education and training inequities, and discrimination among employers.

35. Cultural tensions within the community should be acknowledged and addressed by policy leaders in ways that all benefit from economic opportunities and tensions and divisions are minimised.
36. Ongoing monitoring of training outcomes needs to continue taking into account the quality of training, employer and worker perceptions of the quality of training and the success of securing a job following the completion of formal training.

Education and training provision considerations

37. A standing committee, based on the 'Skilling the Bay' program steering committee should be founded to identify pathway activity, promote institutional links, seek funding, and promote policy in relation to integrated learning and training initiatives.
38. As indicated, targeted and focused programs should be developed in relation to apprenticeships, pathways from schools into the workforce, and for the movement of displaced workers into other jobs, in the same sector or others.
39. The provision of education programs in relation to skills development and usage requires informed policy.

Chapter 1. The Project and Objectives

The aim of this research project is to better understand the current and future skills needs in the Regional Geelong Area (RGA), as local industry undergoes a period of changes and transition. This research project, titled 'Skilling the Bay - Geelong Regional Labour Market Profile' is part of a broader project led by the Gordon Institute of Technical and Further Education (TAFE) aimed at 'Skilling the Bay'.

The broader 'Skilling the Bay' project is funded by the State Government. In April 2011 the Minister for Higher Education and Skills, Peter Hall, announced a $1.8 million funding package to help address economic and industry changes impacting Geelong, including the job losses at the local Ford automotive plant. The package provides ex-Ford workers with access to government subsidised training and re-skilling opportunities and also makes an additional $1.3 million available to engage Deakin University and The Gordon in research and other activities aimed at enhancing the region's skills base and supporting businesses to fast track new technologies and practices.

'Skilling the Bay' is being delivered in partnership with Deakin University and the State Government (through the Higher Education and Skills Group in the Department of Education and Early Childhood Development - DEECD) over 2012-14. The project 'aims to assist Geelong transition to a more diverse economic base by facilitating the development and implementation of an education and training led model of business growth and job creation'.

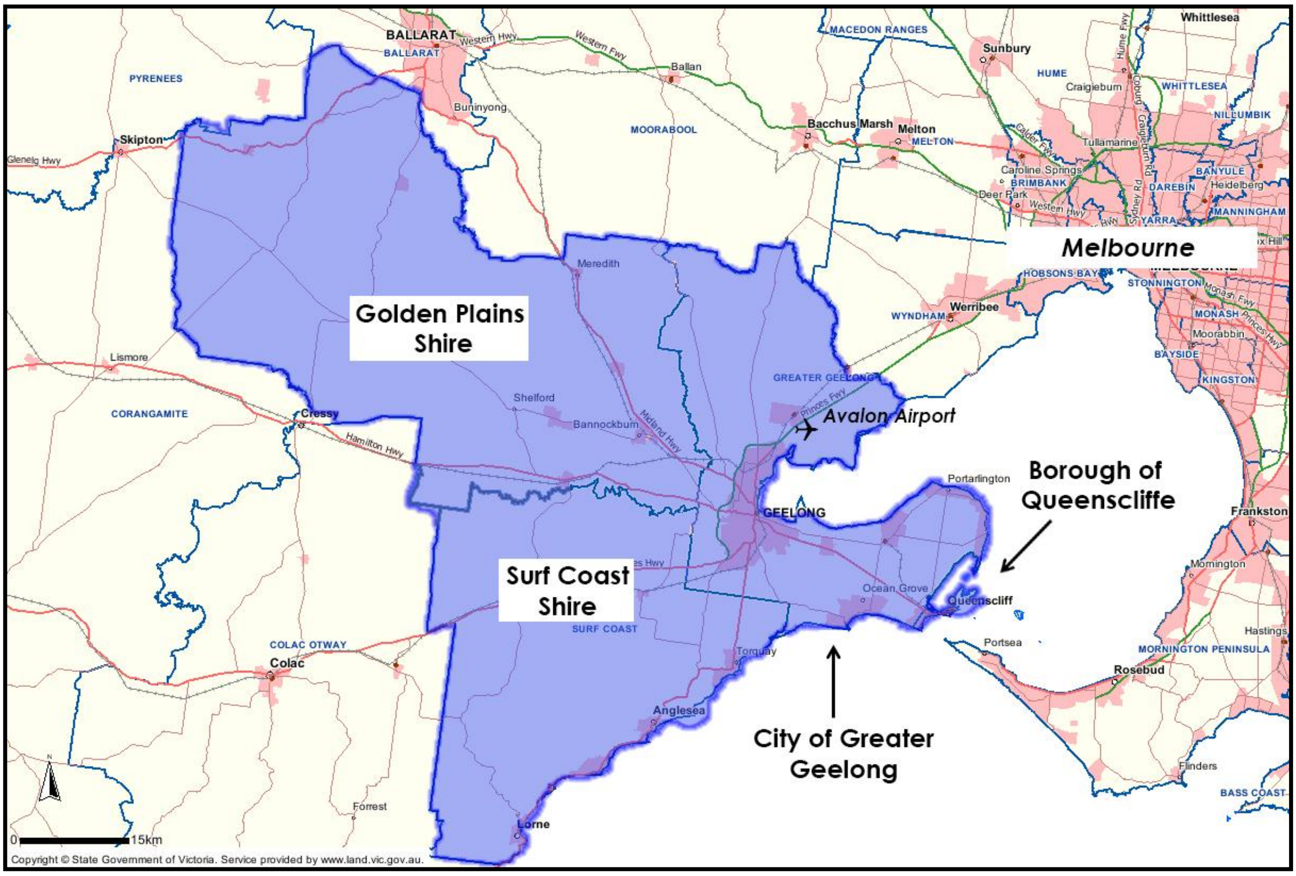
As part of the 'Skilling the Bay' project, RMIT University has been commissioned to provide analysis of the RGA employed labour force, industries in transition, and workers' skills and aspirations. One of the questions explored as part of this exercise is if 'an education and training led model of business growth and job creation' is the way forward for addressing regional employment challenges.

1.1 Project scope – The Regional Geelong Area

The geographic scope of the project is defined in this report as the 'Regional Geelong Area (RGA)'. As depicted below in Figure 1, the RGA includes the four Local Government Areas (LGAs) of the City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and the Golden Plains Shire, an area with a reported population of 258,516 in 2011.

While the City of Greater Geelong LGA accounts for the majority of the regional population and economic output, the nature of the labour and training market makes it appropriate to locate this study within the broader region defined by the Geelong Region Local Learning and Employment Network (GRLLEN) area. This area operates over the City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and the southern end of Golden Plains Shire. However, in order to utilise ABS data for comprehensive and detailed statistical profiling, the entirety of the Golden Plains Shire LGA must be considered. As discussed throughout the report, the proximity of the Golden Plains Shire, and most notably its northern end, to Ballarat has implications in terms of residents' work and study patterns, particularly given the Shire's nature as a rural region comprised of small townships with limited local employment opportunities).

Figure 1. The Regional Geelong Area



Source: Land Channel, State Government of Victoria.
Note: This map has been modified to highlight the Regional Geelong Area.

By focusing on the four LGAs, the ABS data can be used in a comprehensive and detailed way. This designation captures both the employment and skills profile of the populations as well as some of the complexity of local labour markets that would be missed by an exclusive focus on the City of Greater Geelong. By starting with the regional population it becomes possible to specify the potential employment resource in the region and the implications for likely labour market development. The intersection between these two aspects means that it is both a dispersed labour market and a porous employment region.

The RGA is part of a broader economic region west of Melbourne; it is also adjoined to the City of Ballarat to the North and the Colac area in the West. These economic conurbations are also areas where many RGA residents find work (see Table 21). The porosity of the region draws attention to the pull of these broader economic relations, particularly in the form of employment outside the region, especially towards Melbourne. Of equal note, a proportion of the employment within the RGA is held by non-residents. Where appropriate the implications of this latter feature are discussed.

The four municipalities that make up the RGA also map against the LGAs included in the Department of Education, Employment and Workplace Relations (DEEWR) 'Geelong Employment Service Area', making direct utilisation of their data possible. Additional regional designations referred to throughout the report, but which do not map exactly against the RGA are:

- G21 Region – The geographic focus of the G21 Regional Alliance, this region encompasses the four municipalities of the RGA (Greater Geelong, Golden Plains, Surf Coast Shire, and Queenscliffe), as well as the Colac Otway Shire. This region has a population of around 298,000 peoples (G21 region website 2013).
- Barwon Region – The five LGAs that make up the G21 Region (above) are also sometimes referred to as the "Barwon Region".
- Barwon South Western Region – one of the Victorian Government's eight Department of Health regions, the Barwon South Western contains three of the LGAs of the RGA (Greater Geelong, Surf Coast Shire, and Queenscliffe), as well as six other LGAs extending west to the South Australia border (Colac Otway, Corangamite, Warrnambool, Moyne, Southern Grampians and Glenelg). This much broader area had a total population of 378,724 in 2010 (Department of Health 2011, p. 7).
- Barwon South West – a geographic designation used by Rural Development Australia covering the same geographic scope as the Barwon South Western Region (above).
- 'Geelong and Surrounds' – a designation for the Colac-Otway, Greater Geelong, Queenscliffe and Surf Coast LGAs used in the DEECD Regional Training Profile (see section '11.1 The skill market in the RGA' for a discussion).

Where relevant, this report explains the implications on the RGA of policies in the regions above, as well as any discrepancies that may be expected because of the different geographic scope.

1.2 Key research questions

The Regional Labour Market Profile considers the current pattern of employment in the RGA. It considers skills needs now and into the future. Thus in order to understand the current labour force, potential changes in the future, and the key issues facing the regional Geelong area labour market, the research was guided by the following key questions:

1. Given the economic and industrial changes occurring within the RGA, where is the region's future economic and employment activity headed? Where is

future job growth and investment likely to occur? Are there opportunities for innovation that could strengthen investment and job creation in the sectors?

2. What are the future job growth areas or emerging employment opportunities? What is the likely nature and skills requirement for these future jobs? Are skills (and/or suitably qualified workers) locally available to meet these demands? Does an ageing workforce pose challenges for any/all these industries/sectors?
3. Are retrenched, vulnerable or disadvantaged workers able to take advantage of job opportunities? Are workers able to easily transition from one industry/sector to the next when the situation necessitates (i.e. workforce cuts) or opportunities emerge, or do their skills tend to be tied to a particular industry/occupation?
4. What is being done to assist ‘transitions’ from unemployment to employment, or from a job that is threatened to one where there are opportunities? What, if any, role do the public and private sectors have to play in assisting this transition?
5. Are training providers delivering the appropriate skills in sufficient supply and are they assisting the successful transition of workers? In what ways are industries and companies engaging in workforce planning?
6. When it comes to skill development and transition, how do the aspirations and interests of workers align with the interests of employers?
7. Given the porosity of the regional labour market, how do the population make use of their qualifications and skills sets working within and outside of the region? What is the relationship between skills shortages and the mobility of the workforce?

In addition to asking these questions in relation to the local RGA context, an international case study comparison explored how three comparable regions have sought to address their skills and training challenges. The key questions in the international review were:

1. How could international experience best inform the approach adopted for the Skilling the Bay project?
2. What has happened to demand for specific skills and jobs in countries where labour market changes and worker displacement has occurred?
3. What can international experience reveal about the core dimensions of successful responses to changing industry and skill needs identified in the RGA context?

1.3 Objectives

The objectives of the Geelong Regional Labour Market Profile are to:

- Identify the types of skills and qualifications workers currently possess, and how these may (or may not) meet current or future skills needs of Regional Geelong Area businesses.
- Suggest potential future skills demands of employers, with a consideration of changes in demand resulting from new technologies and work practices.
- Understand the position of displaced and vulnerable workers along with their career aspirations as they confront changes in employment and labour market conditions.
- Understand how workers make decisions about future job and training opportunities, and how they seek transition to other occupations and forms of work.
- Recommend how training providers can best meet the needs of local employers and workers, including how the workforce in transition can be supported to other employment opportunities
- Inform development of a long term vision for jobs and training in Geelong.

Chapter 2. Skills: A Political Economy Framework

Skills are the product of social and material processes involving three principle players: education and training providers, employers and trainees. Skill development involves the acquisition of knowledge and ability by people through education, training and experience at work. There are four dimensions to skills formation:

- Motor skills (manual dexterity),
- Perceptual skills (judging and sensing),
- Conceptual skills (inferring and abstracting) and
- Discretionary skills (decision making, critical thinking) (DEWR 2005).

They build upon the natural and socially-conditioned abilities of individual trainees. A trainee is typically considered 'skilled' when they have the ability to perform a task to a pre-determined standard of competence.

Much of the debate about 'skills', however, focuses of the definition of 'skills' rather than the actual social and material production of the skills themselves. Two aspects are important for this study. First, there has been considerable debate about the definition of skills in the context of the social relations that define work and employment. Second, these debates have implications for the ways in which research on skills is conducted. One of the difficulties in discussing skills is that there are a number competing conceptual frameworks that have been used to define skills (e.g. Green & Ashton 1992; Spenner 1990; Stasz 2001; Vallas 1990). These frameworks are rooted in the changes that are taking place in work and employment relations over the last few decades. This interest is associated with recognition that in the context of change it is also necessary to consider the skills profiles of workforces with reference to recruitment, retention, employability and work output.

Analysis, however, must be extended to consider changes that are occurring within the education and training sector, which impacts upon the how skills are developed and training occurs. As this report highlights, the education and training sector in the RGA has undergone considerable transformation over the past two decades which has had implications for not only those working within the sector but also how skills are delivered, standards are maintained, and qualifications are issued. Thus while commentators point to a range of changes that are taking place in relation to work and employment with implications for skills deficits and requirements (e.g. technological change, managerial reorganisation and focus, the reorganisation of work processes, and the internationalisation of product chains and markets) (Stasz 2001; Vallas 1990), the changes occurring within the education and training sector also have implications for skill quality and supply.

Skill definitions have been constructed over decades, and are often rooted in negotiations between employers, workers (usually via trade unions) and educationalists and training providers (see the attachment to this report, *An International Study of Comparator Cases*). In this respect, it could be argued that there is a social basis to skill definition that distinguishes between different social groupings involved in the acquisition and production of skill, according to designated criteria. This recognition may be linked to qualifications; it may also implicitly be linked to gendered definitions of work and work relations, so that traditionally the skills acquired by women workers are often not socially recognised and therefore valued less (in the form of wage levels) than those acquired by men (Penn 1999). Such distinctions may also come to justify the distinctions, demarcations and different treatment of categories of workers that are often evident among workforces.

So what is meant by skills?

Text box 1. Skills – a definition

'Skills are capabilities and expertise in a particular occupation or activity. There are a large number of different types of skills and they can be split into a number of different categories. Basic skills, such as literacy and numeracy, and generic skills, such as team working and communication, are applicable in most jobs. Specific skills tend to be less transferable between occupations. Most occupations use a mix of different types of skills. The most common measures of skills are qualifications. On the job training in the workplace is a vital source of skills development and career progression.' (The Leitch Review 2006, p. 6)

The implications vary:

1. For individuals, skills potentially provide portability in the labour market. They enable individuals to demonstrate their capacities.

2. For employers, skills are utilised in the workplace by individual workers, alone or together with others.

Qualifications are a key reference for employer recruitment strategies. As well as qualifications, skills *per se* are a focus for educational and training bodies.

Source: Leitch 2006, *Review of Skills: Prosperity for all in the Global Economy – World Class Skills*, Final Report; HMSO, Norwich, available at: www.hm-treasury.gov.uk/leitch

Skills and how they are defined are shaped by a range of social practices and relations of power. Skill and skilled work are subject to the strength of occupational groups to protect a real technical skill that produces demonstrable results (Collins 1979, pp. 132–3). Cockburn, in particular, in a number of studies has argued that historically in industries such as print, trade unions have played a key role in ensuring women could not be employed to traditionally male occupations. This was the case even when the character of the job changed in terms of skill content and what was traditionally thought of as men's work (Cockburn 1983; 1991). In this respect, the gendered construction of skill and indeed occupations is informed by patriarchal assumptions about work and employment. These aspects are then reflected in the labour market where distinctions are made between male and female jobs and skills. In other words, occupational groups might defend (or hide) the content of a skill to maintain the status and standing of practices.

In the same way the status and standing of a skill might also be monopolised by controlling who will be trained (Collins 1979). In this regard, there may be an

> …artificial delimitation of certain work as skilled, the purpose of this delimitation being the reservation of certain kinds of work for those who have also acquired the label 'skilled', thus ensuring for them high wages, better chances of employment or some other advantage (More 1982, p. 109).

Nonetheless, it is important to remember that skill is also a category that has real content (knowledge/ability/competence), even if in some respects the content of skill is sometimes ambiguous and difficult to define. Perhaps one of the most reliable ways of measuring, or at least one of the most acceptable and recognisable ways of defining, skill is through qualifications. In this context, qualifications may act as a proxy measure for skill and denote something about skills that are acquired through 'learning'. Qualifications, however, can also be questioned as a true measure of skill in cases whereby acquired skills are perceived as insufficiently matched with acquired credentials. Findings from this project illustrate these problems and complexities.

2.1 Skill and learning

There is a long-standing debate about the nature and character of skill. In general, skill has been defined in terms of practical abilities, cleverness and dexterity and/or as an attribute requiring knowledge, coupled with readiness and dexterity. Following on from this broad perspective, questions arise as to whether skill is innate - a practical ability and cleverness that exists within the individual - or whether it is outside the individual and recognisable as an acquired knowledge and/or ability.

In a useful account on skills and work, Stasz (2001, p. 386) identifies four broad skill areas:

- *Academic or competence skills*: knowledge about broad subject areas;
- *Generic skills*: problem solving, communications or working in teams;
- *Technical skills*: specific skills needed in an occupation; and
- *Work related skills*: motivation, volition and dispositions.

These differing areas indicate the complexity that is involved in defining skill.

This formal distinction of skill should be complemented by a consideration of skills transferability; after all for an individual worker the question is not just "do I have a job here?" but "can I have a job elsewhere?". Increasingly the focus in debate has shifted to transferable skills (e.g. Field *et al*. 2009). Thus, it seems most useful to discuss skill as a process of learning (see Ashton 2004; Fuller & Unwin 2004). This definition takes skill to be an acquired knowledge. In this way, it is possible to link the acquisition of skill with the training and learning processes (both formal and informal). This relationship is most evident in the way that workers are often categorised as skilled, semi-skilled or unskilled (for a discursive discussion on these features, see Penn 1999). The classic version is that skilled workers are 'craftsmen' [*sic*], whose training (or learning) is spread over a significant period of years. Semi-skilled workers require a more limited period of training and unskilled workers no formal training whatsoever (Woodward 1965).

A more useful approach is that by Green who defines skills as follows: '…skill is a personal quality with three key features:

i. **P**roductive: using skill is productive of value;
ii. **E**xpandable: skills are enhanced by training and development;
iii. **S**ocial: skills are socially determined' (Green 2011, p. 5).

Skills can be located socially and economically. They can also be enhanced and changed.

Skills are socially constructed, often distinguished by 'hard' and 'soft'. 'Hard skills' are usually reflected in qualifications, as forms of technical knowledge and work-related knowledge, whereas 'soft skills' are another thing. Soft skills are those 'involving interpersonal and intrapersonal abilities to facilitate mastered performance in particular contexts' (Hurrell 2009, p. 397). Most attention has been given to emotional labour overlooking aesthetic labour, 'the management of employee appearance, or what is termed "aesthetic labour"' (Nickson *et al*. 2012, p. 66). As Nickson and colleagues note (with reference to the retail sector), while training attention has been given to the emotional (front-line staff managing their own and customers emotions), little attention has been given to aesthetic, the soft skills relating to appearance, the ways in retail for example, such front line workers can appeal to customers. Most training to date overlooks these aspects (see Cullen 2008 on training for the unemployed); thus it does not focus on employability. Such concerns are a key feature of retail, and the possibility that this is an area of employment for the young, and the unemployed.

The important point that arises from this consideration is that while analytic distinctions can be made about different types of skill, it is likely to be the case that there is a complex inter-relationship between these areas of skill, in any particular industry or occupation. We have kept these distinctions in mind when carrying out the study of the skills profile in the region.

2.2 Changing requirements

Skill recognition is often equated with formal qualifications and credentials. One consequence may be that such formal recognition may encourage simplistic and de-contextualised conclusions to be drawn about an individual's competencies and abilities (Fuller & Unwin 1999). Traditionally, industry has been organised in terms of a layered set of skill gradations, ranging from unskilled labourers, to operators and to staff, principally qualified engineering and technical staff. However, over the last two decades this conventional picture has been qualified, following technological change and innovation and the increased marketisation of all sectors. More often than not, this means an increasing demand for more highly qualified individuals. However, in many areas of manufacturing and traditional industry the number of workers without any specific qualifications comprises a high proportion of personnel. Qualifications held do not necessarily indicate, except indirectly and with possible inaccuracy, the skills demanded at work. These matters must be fully acknowledged when developing an appropriate workforce transition strategy.

Indeed, it might be that the skills profile of many workers is severely underestimated, simply because as a group of workers they lack formal credentials. A 'credentialist' perspective fails to properly contextualise a workforce's skills profile. For instance, older workers' skills might not be credentialed in a formal way, even though they might be highly skilled individuals who may be expected to provide mentoring and skills development assistance to less experienced workers. Moreover, extensive workplace training does not always result in formal qualifications. Thus, it is difficult to measure skills and competencies. Indeed, it is perhaps more useful to consider how skills and credentials – especially those acquired through in-house training - that are particular to specific industries, might be formally recognised and acknowledged by employers more widely. Formal processes of assessing worker skills through the recognition of prior learning (RPL) is one way for employees to acquire national recognised qualifications.

2.3 An approach to skills

The approach taken here seeks to understand how skills are produced and how workers' skills should be part of an assessment of skills profiles. During times of employment adjustment, policies aimed at re-training, upskilling and stimulating industry/regional development must take into account workers' skills alongside the potential for job growth in local labour markets – in this way policies are more likely to be successful. Neglect of these aspects may create situations where the current workforce is a secondary rather than a prime focus in transition and adjustment. Moreover, the young who are seeking ways into the labour market may be overlooked as employers seek immediate answers to their perceived skill requirements. Likewise, older, semi-retired persons may also be overlooked as a potential source of recruitment or retraining. Similarly, single parents or those with other dependency obligations may also miss out in a restructured and expanding labour market.

Many skill audits focus on how skills meet or do not meet business needs, i.e. the skills gap whereby an employer's skills needs are not met by an existing workforce (on these debates, see Frogner, 2002; Green *et al*. 1998; Skillsmart Retail 2004). While the needs of business have been the primary focus in much skills related research, this project builds on existing skills debates through its concern with understanding workers' needs, career interests and aspirations in the context of a regional economy that is predicted to undergo significant change. Working from this understanding, we aim to lay the foundation for policy development that addresses two aspects of adjustment: the current position of workers and potential employees, so that they are involved in planning their futures; and the demand for and utilisation of skills by employers.

Conceptually it is important to distinguish between skills gaps and skills shortages: skills gaps are defined as deficiencies of skills that employees need to carry out their existing tasks (Green *et al*. 1998) whilst skills shortages are defined as deficiencies within the labour pool, which in turn create problems in recruiting new staff, that is there is a shortage of individuals with the required skills in the accessible labour market (Frogner 2002, p. 18). In addition, it is worth noting that there may be skills shortages where the current workforce does not have skills that an employer believes will be necessary in future, if the business is to develop (Skillsmart Retail 2004). These distinctions should be kept in mind.

The focus of the current research thus becomes one where the initial focus is on the current and the potential workforce living and based in the regional Geelong area. For potentially displaced workers the questions are: where will the jobs be? What sort of jobs? In which sectors? To answer these questions it is necessary to know the types of skills and qualifications they have, their experience in the labour market and their aspirations in relation to employment and work. And with others—the young, the marginal, the elderly—it is also necessary to understand their place in the labour market, as actual employees or potential ones or possible retirees.

It is important to place such considerations in the context of current employer requirements, across sectors, and in relation to the immediate future. However, international evidence affirms that addressing regional regeneration via an employer-driven approach can have negative implications, with Foreign Direct Investment (FDI) led regional regeneration resulting in the underdevelopment of local skills. Further, there is the possibility of an added regional vulnerability if foreign investors decide to move their operations away from the region at some point in the future (see the attachment to this report, *An International Study of Comparator Cases*). Consideration of such factors leads to an approach that seeks to understand the skills and aspirations of workers in a situation where jobs disappear or are drastically reduced, rather than the needs and aspirations of *employers*. In this context, it is important to engage workers who are likely to be affected by changes in the regional economy in the process of planning for their future. Such a step will result in a comprehensive and focused analysis of skills and needs in the industry, thereby making possible informed policy making to support a positive transition.

During times of significant industrial and employment change, re-training and upskilling and industry/regional development policy has to take into account both worker aspirations and local industry and job growth realities/potentials, as well as the situation and concerns of employers outside the industry (the latter point being one that is beyond the remit of this particular research project). In other words, in the consideration of skills, attention should be given to both supply and demand. The dominant narrative over the last few decades has been on supply; there has been a relative neglect of demand, and in particular the consideration of demand for and utilisation of skills (Buchanan *et al*. 2010; Payne & Keep 2011). This project focuses on one aspect of this more integrated analysis, that of skills utilisation, both by current employers and potentially by others. It also addresses the relation between high and low skills in the unfolding relations of institutional and structural change (Payne 2008).

The project also seeks to understand the ways in which workers address change, in relation to their age, gender, skills and qualification levels, as well as the sectors in which they are employed. It considers training, skills levels, career intentions and assistance that is most appropriate for workers to meet their career aspirations and to adjust to a changing job and labour market. The research methodology is designed to build a knowledge base about these issues, informed by worker representatives and workers' input via in-depth interviews and related data, as well as understandings and approaches to skill acquisition and retention by employers. This knowledge establishes the basis for additional research to inform the development of a transitional workforce development strategy for the industry and the region.

2.4 Towards a political economy of skills

This research project proposes a political economy approach to a skills analysis that considers the production and social conditioning of skills. The starting point for our analysis is to consider the interrelationship between corporate reorganisation, the changing labour market, the specificities of a sector and its interaction with local and national government institutions, regulations and policies, and the prospects for transition. The task in addressing this theme is to consider 'how skill is socially conditioned and determined?' and then to ask 'what are the changing requirements for skills and for whom?' These questions raise further queries about agency, influence and trajectory. The aim is to lay the foundation for the analysis that informs the project.

Our approach builds upon the developing political economy of skills framework (see Brown 1999; Buchannan *et al*. 2001; Crouch *et al*. 1999; Lloyd & Payne 2002). This approach goes beyond the narrow focus on the skills gap, that is, skills that are not met within a current workforce, which rests on an assumption that skills will be, and should be, determined by business interests and concerns. An understanding of skill formation and skill transition challenges during structural change in this broader approach includes an understanding of both the specific socio-economic contexts in which skills are embedded and the dynamics that underpin them. It goes one step further by considering the position of education and training providers and how the pressures (i.e. economic, social and regulatory) they are under influence how skills are developed and training is delivered. In addition to these internal factors influencing the direction and capacity of the education and training sector, external relations with employers, industry associations and policy-makers constrain and enable the sector to perform its educational and training role. These relations and associations have implications for not only skills development but also the capacity of the sector to perform a lead role in 'an education and training led model of business growth and job creation'.

Finegold's (1999) conception of 'skill ecosystem' in which skills are reproduced in spatially bounded and context specific labour markets is a useful starting point. Buchanan and colleagues (2001), expanded upon this framework in their regional labour market research in Australia. They define skill ecosystems as 'clusters of high, intermediate or low-level competencies in a particular region of industry shaped by interlocking networks of firms, markets and institutions' (Buchannan *et al*. 2001, p. 21). They posit that skill ecosystems are shaped by a range of social forces including business settings and networks, institutional and policy frameworks (including Vocational Education and Training – VET - and industry specific policies), ways of training and engaging labour, and the particularities of job design and work organisation (also see Bosch and Charest 2009).

Our political economy approach takes into account the relationship between the organisational characteristics of the industry, the context in which it is situated, skill formation and skill utilisation. In presenting a holistic people focused approach to skills analysis we draw upon the notable work of Lloyd and Payne (2002). They remind us of the agency of powerful actors (e.g. government, employers and trade unions) their competing and vested interests and the ways their interaction shapes skill formation and workforce developments. Skill and training requirements, the breadth and depth of training, credentialing and the formal recognition of skills, re-training and transferability of skills, along with remuneration for particular skills, are often deeply contested matters. Such interests and differences point to the limitations and possibilities for skill trajectory development and change (see also Brown 1999; Brown *et al*. 2010). Politically negotiated outcomes and solutions achieved through such a complex and contested socio-political dynamic complicate the policy making and transition process. These outcomes also have significant implications for how skills become produced and acquired into the future.

Drawing upon such an understanding, this report highlights the ways power relations within firms (employers and trade unions principally) and between firms, in conjunction with national, state and local institutional and regulatory arrangements, have shaped the development of skills. It is argued that definitions of skill and the skills themselves should be understood as occurring through these contested and negotiated social and political processes. Recent controversy and political fallout from government decisions to bring about changes to TAFE funding are one example of this process. 'Locating issues of class, conflict and power at the centre of the skills debate' as Lloyd and Payne (2002, p. 384) point out, 'forces a confrontation with the nature and scale of the political challenges that surround any project that realistically aims to shift the economy'. The considerations put forward throughout this report are sensitive to these political realities and challenges. Policy makers must be aware of the tensions and clashes that may be involved and at no point rely on only one principal source of information.

The political economy approach adopted in this report considers the implications of the regional Geelong area's changing industrial landscape for workers and their skills and for those responsible for developing the region's future workforce (i.e. employers, schools, training providers and universities). This approach aims to provide governments and other social actors an improved understanding of the skills and work experiences of workers so they can better assist them during an adjustment period. Further, it is important to take into account dispositions to learning, the decisions made, progression or not and considerations of ways learning may take place in different forms, such as lifelong learning (Hodkinson 2008). In this respect, the approach should be assessed as an exploratory methodology, opening up issues, not only for job growth strategies but also for education and learning development.

Chapter 3. Research Design and Data Collection

As presented in Chapter 2, skills are reproduced in spatially bounded and context specific labour markets, as skill ecosystems. The research design and data collection processes utilised in this study provide a multi-layered approach for deciphering the complexities of the regional Geelong area's labour market. It involves both quantitative and qualitative data collection. The analysis considers the employment profiles of the RGA residents and their place of work, within the RGA or outside, such as in Melbourne, the western Melbourne boundary area, Ballarat and environs, and elsewhere across the State and beyond. This approach redefines the skill ecosystem approach by locating the resources and capacities of residents within the region as well as pointing to the emergent profile of employment sectors and their implications for the RGA.

The project considered and reports on four levels of enquiry:

- The **capacities and aspirations** of existing companies and employers in the region in meeting the future challenges of their industry, regulatory environment, labour and technological and infrastructure requirements. This knowledge assists with improving understanding of the issues influencing employer behaviours and the barriers and facilitators to future investment, job growth and particular skill demand.
- ***Current skills and qualifications of workers and how skills mesh with sector opportunities***. This enquiry aims to better understand the current skills profile and its relationship to job growth areas. A comprehensive and focussed analysis of sector needs and prospects in the light of enables informed policy making.
- ***Identification of key 'drivers' that will assist in opening up new opportunities for work and employment.*** In-depth interviews with employers, employer and industry associations and local government representatives were conducted to supplement and assess current understandings of the key 'drivers' as found in documentary sources. These possibilities enable the identification of opportunities that are in the process of emerging.
- ***Exploration of key industry sector futures and the implications for the regional labour market.*** Collaborative workshops with key stakeholders elicited a series of 'extreme scenarios' for the regional Geelong area. These scenarios enabled analysis of and critical reflection on how various driving forces may interact and define the limits of possibility and plausibility for the futures of key sectors. This analysis informs the skills debate.

The methodology is designed to identify the possibility of job growth, informed by worker and employer input via in-depth interviews and related data collection, as well as a process of workshop facilitation and awareness-building via scenario analyses.

3.1 The selection of employment sectors

As discussed in section 3.3 Labour Market Analysis, an analysis of employment by sector was conducted drawing upon 2006 and 2011 ABS census data (also see Briefing Report 2). It was determined that in 2011 the RGAs five major employment sectors were Health Care and Social Assistance, Retail, Manufacturing, Construction and Education and Training, Construction and Manufacturing. These five sectors employed 55.8 per cent of RGA resident workers.

Three of these five sectors were chosen further study and analysis: Health Care and Social Assistance, Manufacturing, and Education and Training. The reason for focusing analysis on these three sectors is that the RGA's future economic success will be built around its historical and emerging industry strengths, its existing plans and activities for the region and its connections beyond the region. These sectors are embedded in the regional economy more so than other types of industries and the central role they perform underpins much of the success of other sectors such as retail, hospitality and construction.

The construction industry, for example, is a major contributor to total regional production, is a major employer and perceived by some as a "propulsive industry". It may be more accurate to understand construction as important to employment but one that cannot necessarily provide an economic base for the region. It is highly vulnerable to peaks and troughs in the general economy. Currently, more than $2 billion worth of major construction projects are under way. This boom is led by the education and health sectors. Employment growth and decline in the retail and hospitality sectors is similarly influenced by developments within the RGA's other embedded industries and sectors. (For a further discussion of sector selection see Chapter 6. Major Employment Sectors).

3.2 Documentary analysis

Publicly available reports and policies on the Regional Geelong Area informed much of the initial analysis, provided guidance for identifying relevant stakeholders to participate in the research, and gave context for the interpretation of qualitative and quantitative data.

Important sources of information included the following:

- G21 Regional Economic Development Strategy;
- Geelong Region Local Learning and Employment Network Environmental Scan;
- Department of Health workforce planning exercise across the Barwon Southwest region;
- Barwon Southwest Regional Tertiary Education Attainment Strategy;

- News items from local (e.g. *Geelong Advertiser*, *Geelong Independent*), Victorian and national newspapers (e.g. *The Age*, *The Australian*).

A full Bibliography is provided at the end of this report.

3.3 Labour market analysis

This report utilises data and information from the Australian Bureau of Statistics (ABS) primarily drawn from the 2011 Census of Population and Housing (2011) with reference, where appropriate, to data from the 2006 Census of Population and Housing (2006) and other ABS surveys and publications. For the purposes of this report and for compatibility with other reports produced by third parties, the industry and occupation classifications within this report will reflect the Australian and New Zealand Standard Industry Classification (ANZSIC) and Australian and New Zealand Classification of Occupations (ANZSCO).

ABS Census databases used are:

- Counting Persons: Place of Usual Residence
- Counting Employed Persons: Place of Work (POW)
- Counting Persons: Place of Enumeration

Utilising this data, the report provides a profile of RGA residents working, either in the RGA or beyond. This provides the base for a sector focused analysis. This data is complemented by Place of Work data for the RGA and this data is indicative of actual jobs in the region. A difficulty in the analysis is the high number of census respondents who have not reported either a work location or a place of residence. There is an ambiguity when considering responses that are 'unknown' or 'not stated' – they may work or live within the RGA or they may live or work elsewhere. When considering this data, we have attempted to quarantine these categories, acknowledging their existence, but excluding them from the analysis of the porosity of the labour market.

With this caveat, the report presents a calculation of a minimum number for the level of self-containment within the RGA labour market, keeping in mind that both the numbers for those residents working in the region and those outside are not categorical. These qualifications are noted where appropriate.

A complication arises when drawing comparison between the 2006 and 2011 data. There are a number of areas where direct comparison cannot be made between the two sets of data. A direct comparison, for example cannot be made between the most common occupation categories reported in the 2006 Census compared to the 2011 Census due to changes introduced to occupational categories in ANZSCO 2006. Where appropriate both sets are presented so that an indicative comparison can be drawn between the two sets of figures. Another case involves the sub-divisions of some of the industries due to changes in ANZSIC. Where appropriate, adjustments have been made to enable comparable approximations between the two sets of figures.

The overview of the RGA labour market provides analyses of employment by industry and occupation at the highest level of aggregation, utilising ANZSIC divisions and ANZCO major groups (the one digit level of aggregation). Within the sector analysis in Chapters 7 to 9, more disaggregated data is drawn from the census, utilising ANZSIC sub-divisions and ANZSCO sub-major groups (the two digit level of aggregation).

Three caveats should be noted:

- The ABS database 'Counting Persons: Place of Usual Residence', is used in this report. This data covers residents of Golden Plains, Greater Geelong, Queenscliffe and Surf Coast LGAs. As a consequence, this data excludes people residing outside these LGAs.
- The ABS database 'Counting Persons: Place of Work' within this report identifies people residing within the Golden Plains, Greater Geelong, Queenscliffe and Surf Coast LGAs and outside these LGAs who work in the RGA. This data includes people residing outside these LGAs.

Where appropriate the coverage of the data is indicated as 'Notes' at the bottom of tables and figures.

Of note, the ABS provides the following data disclaimers when issuing their data tables:

- In tables with very small cell sizes, the cells have been randomly adjusted to avoid the release of confidential data.
- POW geographical area - Place of Work relates to where the person worked in the week prior to Census Night. Applicable to employed persons aged 15 years and over.
- LFSP - The category "Employed, away from work" includes persons who stated they worked and did not state the number of hours worked.

3.4 Interview analysis

A range of organisations and individuals, including industry associations, employers, employees, unions, training providers and local government representatives, were asked to participate in the project through one-on-one interviews or focus groups. Current and future skill needs and challenges were a focal point for these interviews (the interview schedules can be found in the Appendix to this report).

3.4.1 Participants

Interviewees were selected on the basis of their position in organisations, whether involved in management/recruitment/training at relevant regional employers, or as workers themselves invited in relation to the jobs that they undertake. Additionally, interviews were carried out with representatives from government, agencies, industry organisations, training providers and trades unions.

In total, 110 people were interviewed either individually or as part of a focus group. A breakdown is provided below. 'Agencies and experts' includes representatives from all levels of government, regional networks, industry organisations, and learning networks. The category of 'Employers' includes management/human resources representatives of employing organisations in the Regional Geelong Area.

Table 1. Skilling the Bay, Labour Market Profile, Interviewees

Health Care and Community Services Sector	
Agencies and experts	4
Employers	17
Employees	16
Unions	1
Total	38
Manufacturing Sector	
Agencies and experts	3
Employers	9
Employees	7
Unions	6
Total	*25*
Education and Training Sector	
Agencies and experts	14
Employers	9
Employees	3
Unions	2
Total	28
Other Informants	
Agencies and experts	10
Employers	6
Total	19
Total Interviewees	**110**

3.4.2 Recruitment and interviews

Key respondents, such as state officials, agency staff, and other related employees, from the public and private sectors, were initially identified via the documentation analysis and through the recommendation of the project funders, The Gordon Institute. Additional recruitment was arranged through networking via known contacts in the RGA.

Direct approaches were made to employers, agency staff, trade union leaders and members and other key actors in the area. Potential participants were contacted directly by the researcher(s) by email or telephone, with suitable times and locations for face-to-face interviews decided upon by the participant. At the interview participants were provided with Participant Information Sheets and were required to consent in writing to participating in the research.

At all stages, it was made clear to potential participants that the process was purely voluntary and that they were at liberty to withdraw at any stage. Interviews with workers were not undertaken in the presence of employers, The Gordon Institute or union officials. Interviews and focus groups were held in agreed settings, on interviewees' premises and public facilities where appropriate.

The interviews and focus groups were held in agreed meeting places. Where requested anonymity is guaranteed, and if confidential remarks were made, these were noted and respected. All interviews and focus meetings were recorded and transcribed.

This data was then analysed by the researchers using an agreed analytic framework. This framework was constructed on the basis of themes that came up in the labour market analysis, and from an overview analysis of the interviews in relation to themes identified in the literature and in policy documents and statements.

3.5 Scenario analysis as a method

As part of the research project, a series of scenario workshops were held in Geelong in February 2013, envisioning futures for the region in ten years' time. These workshops engaged a range of stakeholders from key sectors: Health Care and Social Assistance, Manufacturing, Education and Training, and local government. The workshops enabled stakeholders in the Regional Geelong Area to consider 'extreme futures' and to identify and discuss key issues that are seen as central to future planning and policy making.

While it is not uncommon to use scenario style analysis as a tool for research and planning, the methodology employed here has been different. For example, of relevance to the RGA, scenario style planning was utilised as part of the community consultation and engagement undertaken for the development of the G21 Regional Growth Plan, at the end of 2011. Three possible scenarios for regional growth, developed via workshops with targeted stakeholders over the previous months were presented to community members and business/industry representatives. Response to the three scenarios (Scenario 1 'Growing in', Scenario 2 'Shared Growth' and Scenario 3 'Growing out') suggested that 'striking a balance' between development and maintenance of the unique character of the region is important. Economic growth, education, and transport and other infrastructure were additional key themes raised. These themes fed into the Draft G21 Regional Growth Plan and analysis of key regional issues and challenges (G21 2012a, p. 39)

The G21 Geelong Region Plan (2007) also includes two hypothetical visions for 2050: Scenario 1 – What we want to avoid, and Scenario 2 – What we want to achieve. The conclusion is that 'If we don't change the way we think and act, as individuals, organisations and as a region, the region will continue to grow in a way that will be substantially dictated by external factors and it will not reach its full potential' (G21 2007, p. 85) and will lead to worst case scenario for 2050.

The difference between the current research methodology and these previous examples of scenario planning is that the scenarios featured in this project are deliberately 'extreme' cases, informed by the research undertaken by the Research team. The scenarios presented were intended to provoke contemplation and discussion, working from the 'extreme' to the plausible, over three inter-linked workshops, with the final scenario an expression of the participants.

3.5.1 The question of forecasting

The G21 Economic Development Strategy states that the 'economic development needs of the region are likely to centre on leveraging and connecting existing assets and organisations in order to maximise potential' (AEC Group 2011, p. ii). In terms of overcoming challenges in the region, this appears to be a logical course of action. In terms of realising some new opportunities, however, there may need to be more significant, targeted intervention. Such realisations have led to the development of a range of economic growth and stimulus plans. As a starting point for many of these plans are attempts to identify 'drivers' of growth and how best to build upon them. The G21 Regional Growth Plan, for example, identifies a range of investment and growth 'drivers' and interventions and initiatives needed to support them. These include:

- Ensuring that the region's transportation infrastructure is well integrated and connected to Melbourne and surrounding regions;
- Creating an efficient and vibrant infrastructure;
- Ensuring available land supply for commercial, industrial and housing sectors;
- Striking the right balance between economic, environmental and social considerations so that natural and social assets are preserved; and
- Ensuring the CBD is 'healthy and vibrant' (G21 2012, p. 26).

These ‘drivers’, which are also highlighted in other reports, are usually seen to be the key to managing and sustaining economic growth and job creation. The identification and use of the ‘driver’ concept, however, appears to relate more to regional assets and ‘enablers’ for economic growth rather than stimuli. One of the ‘drivers’ which does not appear to be reflected upon sufficiently is the way the region’s skilled labour force has underpinned the region’s economy and attracted employers to the region. Building upon the region’s skills advantages and developing a broader skills base will be vital to creating a robust economy into the future.

This report is complemented by other reports that provide a range of data about future possibilities in the region. In the main they rest on forecasting analyses, extrapolating trends from available data about employment, sector profiles and related financial and other data. Existing reports claim that the economy of the Geelong region is increasingly becoming a diversified one. These reports consistently identify propulsive and priority industries in the region as: health and community services, retail trade, education and construction. That is, the region now has a predominantly service-based economy and is shifting away from an historic manufacturing economic base. A number of reports, however, tend to characterise Geelong’s economy as being still largely defined by ‘heavy’ or ‘dirty’ manufacturing (e.g. AEC Group 2011). While manufacturing does still account for a significant part of the region’s economy, in particular, in terms of output and value-add (CoGG 2013), it is a sector in decline, particularly in terms of employment. Thus, there is an understanding that the Geelong economy is in transition and may be on the cusp of major change. Indeed, with traditional employers in the region such as Alcoa, Ford and Avalon Airport, planning or enacting cuts to their production and/or workforces (Best 2012), there is an increasing need to identify emerging industries, and to assess future skills and training needs.

Occupational forecasting has been the subject of much debate. There are two major approaches to this type of forecasting: workforce projection (trends) and labour market analysis (signalling). Taking workforce projections first, they are commonly used to provide long-term estimates of occupational trends, five, ten, fifteen years and so on (Canadian Council on Learning 2007). The important point here is that estimates are only as good as the assumptions on which they are based. This factor means that it is likely that the value of forecasts as a predictive model decreases with the increase in the forecasting period (Campbell 1997); many unforeseeable factors may affect economic growth of a locality, region, country (and the labour required). Even so, research indicates that projections of sectoral change can be reasonably accurate, but any extension of such forecasts beyond the defined remit of this not sustainable (Campbell 1997). Nonetheless, the cautions about length of time also apply here. In addition, it is difficult to translate a forecast of possible skill changes across to training and education requirements (Psacharopoulos 1991).

Second, labour market analyses use 'signals' to forecast future labour and education requirements. Such signals may include data on job openings, contraction, salary and wage shifts, job vacancies and so on. They may be learnt about from public job listings, recruitments information, data on unemployment rates and location and related sources. Such data can offer insights into current shortages or surpluses of workers. Reference can also be made to employer and household surveys, often carried out for local authorities and similar regional bodies. Nevertheless, such data tends to be partial and time specific and limited. Moreover, job information may be public or more informal such as word of mouth. There also may be different arrangements for large and small enterprises. These qualifications underwrite the importance of caution in working with such data, particularly in relation to policy development.

Two caveats should be made in relation to these methodologies. First, much analysis, particularly in the policy domain is opaque in relation to method, data source, and the limitations that apply in interpretation. The corollary is that caution and care must be exercised in reading such material, often involving awareness of econometric modelling and research design. In addition, it is often difficult to compare and contrast different analyses because the assumptions are either opaque or drawn up in specific ways. Second, forecasting research rests on source, location, and time specificity, with the implication that cautions must be exercised in relation to the time horizons that are often presented.

While not devaluing such approaches we address the question of forecasting differently. We use an extreme scenario methodology to develop plausible futures. By then locating these plausible futures in relation to cross-cutting data sources, from statistical sets, policies and interview and related methodologies we build up a plausible future for the RGA as a whole as well as in relation to selected key sectors.

3.5.2 Scenario process

A series of three facilitated workshops were held with stakeholders, including employee, employer and union representatives from the three key sectors, as well as representatives from all levels of government and learning networks. Potential participants were identified on the basis of their previous or planned research involvement in interviews or focus groups, or their position in roles or organisations considered relevant to the project. Potential participants were invited via email, telephone or in person to attend one of the first two Scenario Workshops. All attendees at these workshops were then invited to attend a third and final Scenario Workshop.

Table 2. Details of Scenario Workshops

Scenario Workshop 1	*Scenario Workshop 2*	*Scenario Workshop 3*
Participants: 14	Participants: 11	Participants: 12
11 February 2013	12 February 2013	26 February 2013
The Gordon	The Gordon	The Gordon
2 Fenwick St, Geelong	2 Fenwick St, Geelong	2 Fenwick St, Geelong

The Scenario Workshops explored potential 'extreme scenarios' for the future of the Regional Geelong Area, informed by existing research and thus grounded in the current situation and plausible possible futures. The scenarios encouraged discussion of skills profiles and strategies to deal with skills surfeits, deficits and up-skilling that may be needed to mitigate worse-case outcomes for the region and compel best-case outcomes. The workshops were additionally aimed at opening up discussion about industry futures and the identification of investment and job opportunities and the key actions that would be needed.

Table 3. Scenario Workshop Attendees

Position	*Sector*	*Attendees*
Industry and Company Representatives	Manufacturing	2
	Health Care and Social Assistance	3
	Education and Training	10
Government Representatives		7
Union Representatives		2
Total		26

3.5.3 Scenario content and utilisation

Scenario Workshop 1 – The workshop facilitator presented extreme scenarios for 'best' and 'worst' case futures, based upon a review of existing literature, extant reports, and the research findings to date. Key stakeholders responded to the scenarios in terms of their plausibility and possibility. If the scenarios were deemed too far out, the reasons why were discussed; if too close in, the boundaries were pushed through discussion.

Scenario Workshop 2 – The workshop facilitator presented revised and refined extreme scenarios, based upon discussion in Scenario Workshop 1 and further research and interviews by the team. Discussion was focussed on who drives the futures, what (non)decisions are key, what resources are required or are not available, and what are the external (State, Federal, global) contexts and conditions for each.

Scenario Workshop 3 – The workshop facilitator presented final versions of the two extreme scenarios built on the previous discussions, along with a further 'aspirational future' scenario. This scenario pushed thinking to new levels of innovation, including the design of political, economic, social, technological, ecological and legal structures and a consideration of positive culture, values and integration in the community.

The scenarios utilised in Scenario Workshop 3 can be found in Chapter 5. Three Plausible Scenarios; they provide a framework for analysis of future possibilities.

The full analysis of the Scenario Workshops was delivered in *Briefing Report 3: Scenario Workshops*. Throughout the present report findings from the Scenario Workshops are drawn upon in order to understand and make recommendations on:

- Skills issues, as they emerge and are understood from different actors' perspectives;
- The opportunities and barriers for action and change, as experienced and understood within the area;
- The full range of 'driving forces' – political, economic, social, technological, ecological and legal (PESTEL) factors – that might enable or inhibit certain actions;
- The key actions/decisions that have been identified as vital to the future of the Regional Geelong Area; and
- Who the stakeholders are that may influence, be interested in, and/or be the subjects of such actions.

3.6 International case studies

The Regional Geelong Area is not alone in experiencing a transition away from a dominant employment sector and the ensuing skills challenges of (re)training employees. A component of this research project was the comparative analysis of select national and international case studies that have involved employment transition centred on skills. Analysis of these international case studies can be found the attachment to this report, *An International Study of Comparator Cases*. Findings are also integrated into the present report, most specifically in Chapter 10: International Lessons, but also referenced throughout the report's analysis and considerations.

The international case studies provided:

- An understanding of the types of problems faced by like regions around the world;
- The identification of the drivers for successful skills initiatives in different countries; and
- An indication of some of the specific strategies and approaches that seem to work in situations similar to that of Geelong.

As per the project specification, in the international case study research there is a particular focus on training and skills. To open up this aspect it was important to focus on the 'practical' steps taken (by those engaged with the provision of training in particular) to assist displaced, vulnerable and disadvantaged workers. In this respect, the question asked was what should education and training institutions be doing to assist:

- Retrenched and displaced workers (essentially, re-training for what?)
- Long-term unemployed and disadvantaged
- Young workers' training
- Improving educational attainment levels generally
- Transition the region's workforce and region's revitalisation.

The project locates examples of what training and educational providers are doing in this respect, and the innovative strategies being undertaken to address the situations outlined above.

In terms of its methodology, the international review comprises research that involves the collection, collation, summarisation and synthesis of existing primary research and evidence from research reports and publications as well as an interrogation of policies and related materials. It is in effect a systematic review of the existing evidence, which is used to understand what is known to date and to identify what new data is required.

The specific outputs of this part of the work are:

- A detailed report providing detail and referencing for the above (see *An International Study of Comparator Cases - Attachment to the Final Report*)
- An extensive reference list of available reports, policy statements and programs (as included in the *Attachment to the Final Report*).

3.7 Conclusion

The research design adopted for this project opens up the opportunity to examine the RGA's changing job and labour market at a range of levels. We begin this investigation in Chapter 4 with a statistical overview of the RGA including its demographics and divisions of employment. This is followed by chapters dedicated to better understanding the employment trends and labour market challenges for three major sectors: manufacturing, health care and social assistance, and education and training. These sectoral studies are informed by quantitative labour market analysis and qualitative worker and employer input via in-depth interviews with key informants (employers, industry associations, unions, workers, etc.) as well as the scenario workshops. Utilising this approach and methodology, the project develops a baseline profile of the regional labour market with a specific focus on industries, and workforces, in transition. In Chapter 10, lessons to emerge from the international case study material that could be of relevance to the RGA transition and future job growth and skills opportunities are discussed. In the final chapter, we revisit the RGA's labour market and the particular challenges of assisting displaced workers, aligning skills with future job opportunities and addressing socio-economic disadvantage and educational underachievement. The role and capacity of the region's education and training providers to address these matters is further considered. The lessons from the international case studies are also drawn upon to assist in answering these questions and putting forward considerations for policy development by all levels of government as well as locally supported and focused initiatives.

Chapter 4. The Regional Geelong Area

As specified in 1.1 Project Scope – The Regional Geelong Area, for the purposes of this project, the Regional Geelong Area (RGA) is defined as the four Local Government Areas (LGAs) of the City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and the Golden Plains Shire, an area with a reported population of 258,516 in 2011. This area is defined by the labour market as a commuting region with an interlinked and embedded base to it. The region's largest economic output is derived from manufacturing (CoGG 2013), and historically this was also the largest sector of employment. However, in terms of the region's labour force, there has been a decline in employment in manufacturing and a concurrent rise in service sectors, most notably Health Care and Social Assistance. This changing profile of employment necessitates consideration of current and future skills needs, so that an appropriate skills response can be developed.

4.1 Population of the Regional Geelong Area

The combined City of Greater Geelong, Surf Coast Shire, Borough of Queenscliffe and Golden Plains Shire residential population amounts to 258,516, as shown in Table 4 (2011 Census of Population and Housing, ABS, 2011).

Table 4. RGA Residents by LGA, 2006 and 2011

			Difference 2006 - 2011	
	2006	**2011**	**Number**	**Per cent**
Golden Plains (S)	16,454	18,770	2,316	14.1%
Greater Geelong (C)	197,478	210,876	13,398	6.8%
Surf Coast (S)	21,767	25,871	4,104	18.9%
Queenscliffe (B)	3,019	2,999	-20.00	-0.7%
Total Residents	**238,718**	**258,516**	**19,798**	**8.3%**

Source: ABS Census of Population and Housing, 2006 and 2011

The City of Greater Geelong accounts for over 81 per cent of the total RGA population, with the Surf Coast Shire the next largest LGA by population (10 per cent). The City is the largest regional city in Victoria, accounting for nearly a third of the total population of the ten largest regional cities in Victoria (Essential Economics, 2009). Already there is an established pattern of growth in the RGA, with all but the Queenscliffe LGA showing population growth between the 2006 and 2011 census periods. The population of the City of Greater Geelong rose by 6.8 per cent, with 14.1 and 18.9 per cent increases in the population of Golden Plains and Surf Coast respectively.

The growth rate for the City of Greater Geelong over the past decade (0.9 per cent per year) has been lower than in Ballarat (1.3 per cent per year) and Bendigo (1.2 per cent) (Begg 2012). Reviewing a larger area, the G21 Regional Growth Plan (G21 2012b, p. 24) notes that the councils of the G21 Region (Greater Geelong, Golden

Plains, Surf Coast Shire, Queenscliffe, and Colac Otway Shire) plan for the regional population to grow to over 450,000 people over the next 20 to 30 years. Population projections for the City of Greater Geelong alone forecast an increase from current levels of approximately 223,050 to between 302,360 (Base Case Growth Scenario) and 332,930 (High Growth Scenario) by 2031 (Essential Economics 2012, see pp. 101–102). The growth of the City of Greater Geelong is anticipated to continue as the greater affordability and relative ease of transport draws the regional centre into the urban network of Melbourne, as part of a process that has been described as "metropolitanisation" (Green 2012).

Obviously, such population increases have implications for employment growth and skills capacities and requirements, as well as for infrastructure and related resources (water, public transport, energy, communication, land supply, waste management). As noted in the G21 Regional Growth Plan (2012b), planning for population growth must occur alongside consideration of how to build the regional economy, particularly via development of employment opportunities. Population growth will necessitate an increase in the number of jobs (see G21 2007, p. 72; G21 2012b, p. 30), either within the RGA or its environs. Conversely, the ageing profile of the RGA population means that as residents approach retirement age, the need for replacement workers may potentially open opportunities for employment. So too will the increased population stimulate demand for a range of healthcare, education and training, and community services, themselves necessitating a skilled workforce.

In addition to the resident population of the RGA and those who may reside elsewhere but travel to the region for employment, at peak holiday times the influx of overnight visitors to the region is reported to increase the population by approximately 60.9 per cent of its permanent population (GoGG 2013, p. 41). This is likely to have implications on regional infrastructure, as well as trigger demand for particular services and seasonal employment. In some sub-areas, such as Anglesea and Lorne in the Surf Coast Shire and the coastal towns of Portarlington and St Leonards in Queenscliffe, the council estimates that peak time holiday home visitors far outnumber the permanent population (CoGG 2013, p. 41).

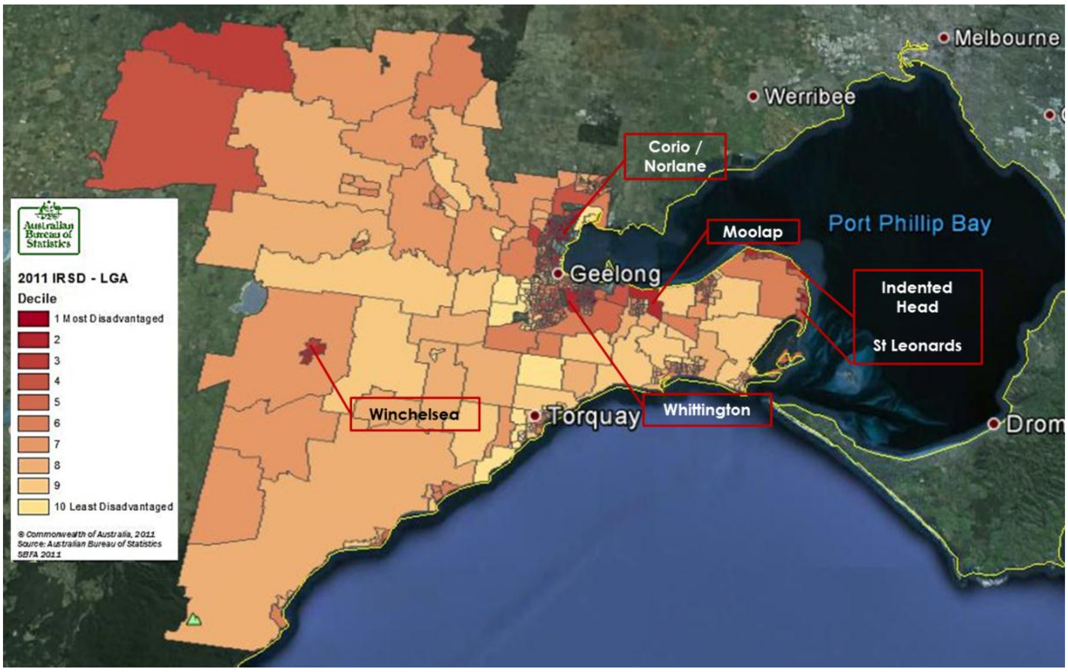
There are also reported areas of population decline within some sub-areas within the City of Greater Geelong reflecting manufacturing losses and ageing populations (Department of Planning and Community Development 2010, pp. 2-3). Thus, areas of growth and expansion are accompanied by population decline and socio-economic disadvantage in some areas.

4.2 Socio-economic disadvantage

On the whole the RGA has relatively low levels of socio-economic disadvantage, according to the ABS Socio Economic Indexes for Areas (SEIFA). SEIFA is defined by the ABS as an Index of Relative Disadvantage and it 'identifies and ranks areas in terms of their relative socio-economic disadvantage' (ABS 2011). The index is based on a range of factors that contribute to disadvantage including the level of English proficiency, education attainment, skill classification and employment, marital status, vehicle ownership, age, health and disability, dependents, monetary expenditure, income, and access to the internet in the home. A low index score indicates the 'most disadvantaged' areas; conversely, a high index score shows areas of 'least disadvantaged'.

The 2011 census figures show the RGA as a whole having a decile rating of 7 at both the state and national level. However when broken down to smaller localities, it is evident that some areas perform better than others. The City of Greater Geelong has a decile rating of 7, Queenscliffe 8 and Geringhap 9, showing that there are areas of 'advantage' in the locality. These areas of advantage give an overall skew to the SEIFA results that can be misleading, as there are areas of significant disadvantage within the RGA as shown in Figure 2.

Figure 2. RGA Advantage and Disadvantage by Statistical Area 1, 2011



Source: ABS Census of Population and Housing, 2011

The areas of Corio/Norlane and Wittington have been singled-out in a number of reports as suffering from significant disadvantage in terms of lower educational attainment, higher unemployment and increased reliance on government support (AEC Group 2011; Altegis 2009; DPCD 2011).

Issues of disadvantage are difficult to address. While there has been some improvement in the suburbs' relative ranking across Australia, Table 5 shows that decile rankings within the State have remained low or declined since the 2006 census.

Table 5. RGA Sub-areas 'Most Disadvantaged', 2006 and 2011

	2006				2011			
	Ranking within Australia		Ranking within State or Territory		Ranking within Australia		Ranking within State or Territory	
Suburb Name	**Decile**	**Percentile**	**Decile**	**Percentile**	**Decile**	**Percentile**	**Decile**	**Percentile**
Whittington	1	3	1	1	1	4	1	1
Norlane	1	2	1	1	1	3	1	1
Corio	1	7	1	3	1	6	1	2
Thompon	1	5	1	2	1	7	1	3
St Leonards (Vic.)	3	21	2	15	2	19	2	11
North Shore (Vic.)	3	23	2	16	3	23	2	13
North Geelong	3	29	3	22	3	25	2	15
Winchelsea	3	24	2	17	3	25	2	16
Indented Head	5	41	4	36	4	31	3	21
Moolap	6	57	6	57	5	44	4	34
Leopold	7	69	7	70	6	57	5	50

Source: ABS Census of Population and Housing, 2006 and 2011

Section 11.4 Socioeconomic disadvantage provides a more detailed discussion of these implications for the RGA.

4.3 Socio-demographics

There is an almost even gender split across the RGA with 126,268 male and 132,248 female residents, and this gender balance is replicated within the LGAs that comprise the RGA, Table 6.

Table 6. RGA Residents by LGA and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Golden Plains (S)	9,548	7.6%	9,222	7.0%	18,770	7.3%
Greater Geelong (C)	102,465	81.1%	108,411	82.0%	210,876	81.6%
Surf Coast (S)	12,834	10.2%	13,037	9.9%	25,871	10.0%
Queenscliffe (B)	1,421	1.1%	1,578	1.2%	2,999	1.2%
Total Residents	**126,268**	**100.0%**	**132,248**	**100.0%**	**258,516**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Of the overall RGA population, 81.1 per cent (102,465) males and 82.0 per cent (108,411) females reside in the City of Greater Geelong LGA. The Golden Plains LGA is the only area that has a higher population of males to females with 9,548 and 9,222 populations respectively.

4.3.1 Age of residents

The RGA population is unevenly distributed across the age bands, as indicated in Table 7. The most common age of residents of the Regional Geelong Area LGAs is between 40-49 years (14 per cent). Of the total population, approximately 64.6 per cent (or166,970) are aged in what is often referred to as the 'working age population' of 15 to 64 years. A quarter (25.7 per cent or 66,466) of the population are aged 19 years and under.

Table 7. RGA Residents by Age Group and LGA, 2011

	Golden Plains (S)		Greater Geelong (C)		Surf Coast (S)		Queenscliffe (B)		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
0-4 years	1,290	6.9%	13,083	6.2%	1,856	7.2%	122	4.1%	**16,351**	**6.3%**
5-9 years	1,503	8.0%	12,740	6.0%	1,902	7.4%	131	4.4%	**16,276**	**6.3%**
10-14 years	1,548	8.2%	13,132	6.2%	1,769	6.8%	176	5.9%	**16,625**	**6.4%**
15-19 years	1,339	7.1%	14,154	6.7%	1,568	6.1%	133	4.4%	**17,194**	**6.7%**
20-24 years	776	4.1%	13,591	6.4%	1,187	4.6%	79	2.6%	**15,633**	**6.0%**
25-29 years	781	4.2%	12,918	6.1%	1,119	4.3%	81	2.7%	**14,899**	**5.8%**
30-34 years	1,002	5.3%	12,518	5.9%	1,356	5.2%	78	2.6%	**14,954**	**5.8%**
35-39 years	1,336	7.1%	14,161	6.7%	1,966	7.6%	133	4.4%	**17,596**	**6.8%**
40-44 years	1,587	8.5%	14,318	6.8%	2,097	8.1%	161	5.4%	**18,163**	**7.0%**
45-49 years	1,532	8.2%	14,487	6.9%	1,895	7.3%	190	6.3%	**18,104**	**7.0%**
50-54 years	1,455	7.8%	14,261	6.8%	1,914	7.4%	195	6.5%	**17,825**	**6.9%**
55-59 years	1,325	7.1%	13,269	6.3%	1,776	6.9%	225	7.5%	**16,595**	**6.4%**
60-64 years	1,277	6.8%	12,693	6.0%	1,752	6.8%	283	9.4%	**16,005**	**6.2%**
65-69 years	831	4.4%	9,959	4.7%	1,230	4.8%	273	9.1%	**12,293**	**4.8%**
70-74 years	513	2.7%	8,061	3.8%	873	3.4%	217	7.2%	**9,664**	**3.7%**
75-79 years	311	1.7%	6,600	3.1%	647	2.5%	193	6.4%	**7,751**	**3.0%**
80-84 years	211	1.1%	5,672	2.7%	479	1.9%	179	6.0%	**6,541**	**2.5%**
85-89 years	101	0.5%	3,563	1.7%	324	1.3%	104	3.5%	**4,092**	**1.6%**
90-94 years	41	0.2%	1,335	0.6%	119	0.5%	41	1.4%	**1,536**	**0.6%**
95-99 years	11	0.1%	314	0.1%	36	0.1%	5	0.2%	**366**	**0.1%**
100 years and over	0	0.0%	47	0.0%	6	0.0%	0	0.0%	**53**	**0.0%**
Total Residents	**18,770**	**100.0%**	**210,876**	**100.0%**	**25,871**	**100.0%**	**2,999**	**100.0%**	**258,516**	**100.0%**

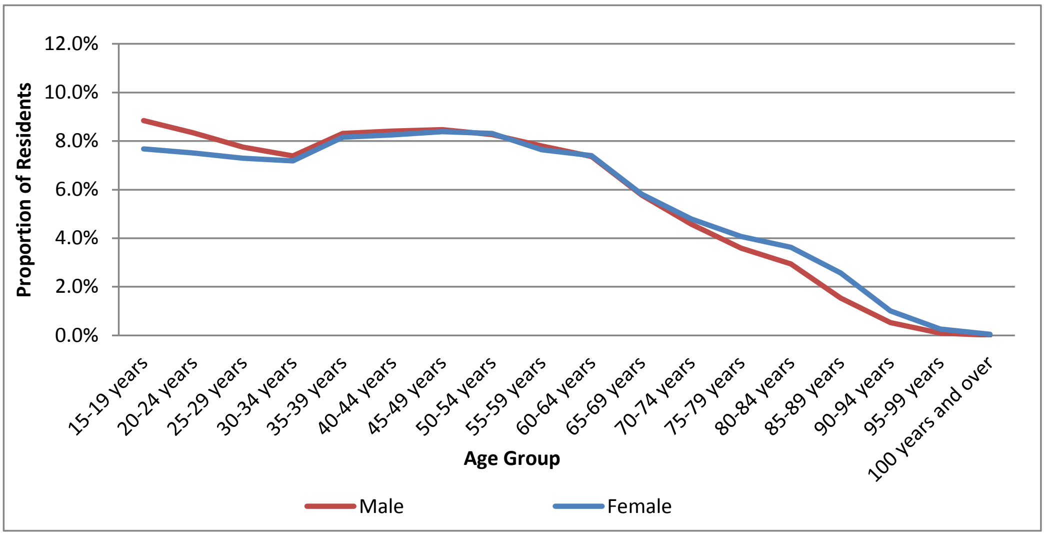
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

The lower proportion of RGA residents aged between 20-34 years suggests that this is a region where those in the age group live (and presumably work) elsewhere, perhaps seeking education, employment or lifestyle opportunities not available within the region. Such a pattern has implications for employment and training in the RGA in that a proportion of people are likely to leave the Area and may not return. In turn, such outward migration may have implications for post-school career and training pathways in the region. As people leave the labour market through retirement and natural attrition, there could be a shortfall in ready replacement from the area. This type of consideration could be as important as planning to attract and develop growth industries in the region.

Each LGA within the RGA has a lower a percentage of population aged 15-24 than the Australian population overall, and higher than average representation in the 44-64 age group. Queenscliffe in particular has very low percentages of younger residents and very high proportion of people at retirement age (65+). Within Queenscliffe, more than 35 per cent of all women are aged 65+ whilst 30 per cent of all males are aged 65+ years of age.

The overall age profile in these LGAs has implications for a consideration of the supply and demand for skills capacities and competencies across the RGA. Given the concentration of the population across the region, the benchmark provided will be the City of Greater Geelong, as shown in Figure 3.

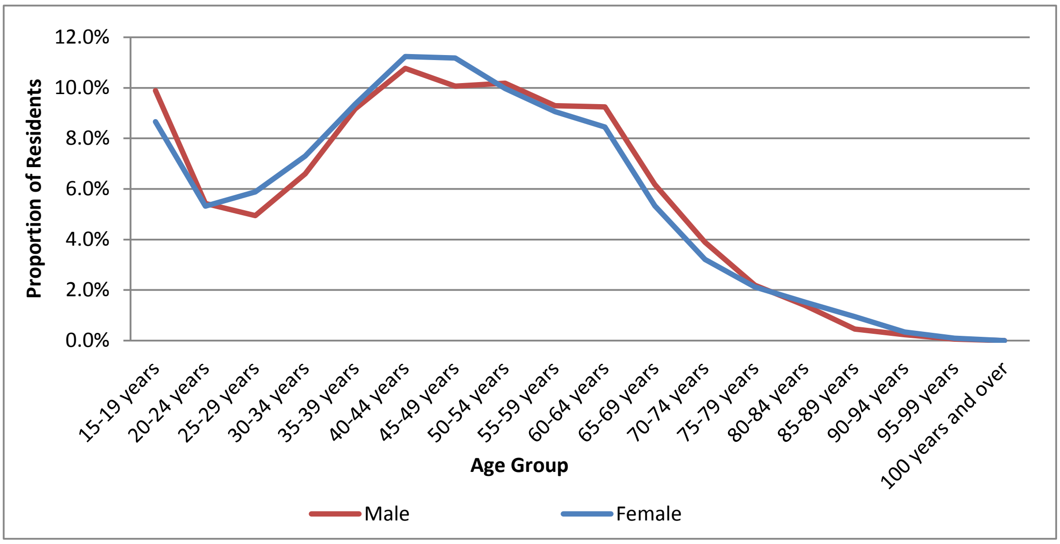
Figure 3. Proportion of Residents by Working Age Population and Sex, Greater Geelong, 2011



Source: ABS Census of Population and Housing, 2011

As shown by the figure above, while there is a slight dip in the proportion of residents aged between 20 to 35 years in the Greater Geelong LGA, this is not as notable as the trend observed in the other LGAs. As Figure 4 below depicts, the highest proportion of working age residents in the Golden Plains are typically between 35 and 65 years of age.

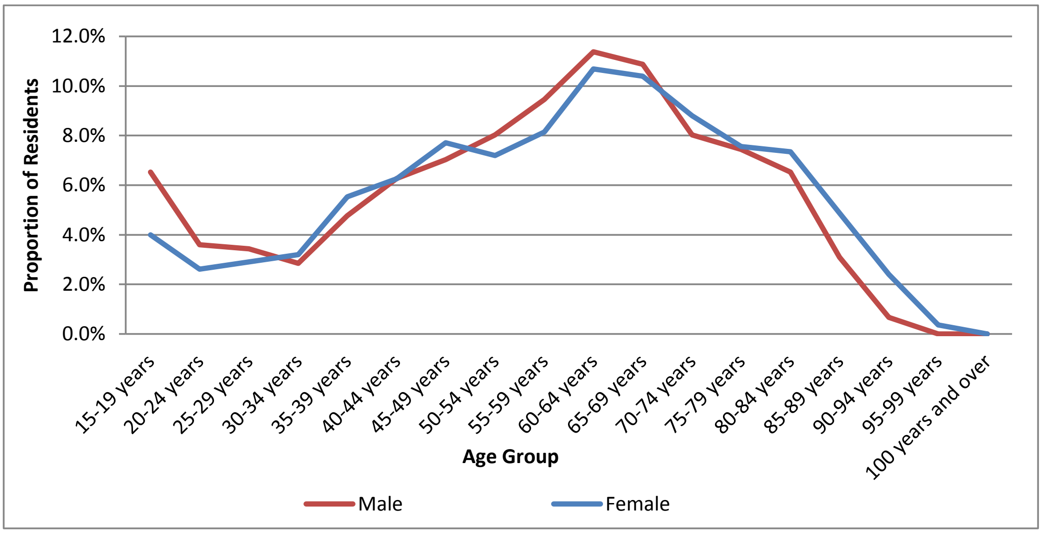
Figure 4. Proportion of Residents by Working Age Population and Sex, Golden Plains, 2011



Source: ABS Census of Population and Housing, 2011

A sharp decline in the residential population between 20 and 29 years may be attributed to residents leaving the LGA to work or study elsewhere, particularly males who may travel to achieve higher earning employment than in the Golden Plains.

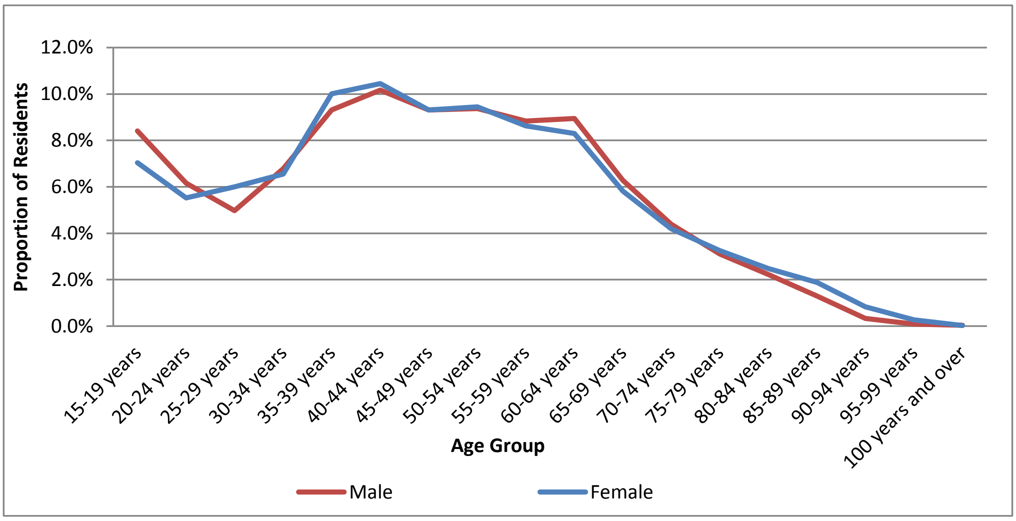
Figure 5. Proportion of Residents by Working Age Population and Sex, Queenscliffe, 2011



Source: ABS Census of Population and Housing, 2011

The population in Queenscliffe is more notably skewed, with only very small proportions of the population aged 34 years and under, as shown in Figure 5 above.

Figure 6. Proportion of Residents by Working Age Population and Sex, Surf Coast, 2011



Source: ABS Census of Population and Housing, 2011

The Surf Coast Shire age profile, as presented above in Figure 6, likewise displays a dip in those aged between 20 to 35 years.

4.3.2 Ethnic and national patterns

The RGA is a relatively homogenous region with low levels of ethnic diversity. The Indigenous population represents less than one per cent of the region's population, significantly lower than the Australian average (ABS 2011). Moreover, just on eighty per cent of RGA residents were born in Australia (Table 8). Of the remaining 20 per cent, The United Kingdom (includes Channel Islands and Isle of Man) accounts for 4.8 per cent of residents, while a further 4.6 per cent of residents did not state a country of birth.

Table 8. RGA Residents by Country of Birth, 2011

	Total	Per Cent
Australia*	**207,937**	**80.43%**
United Kingdom**	**12,475**	**4.83%**
Not stated	**11,841**	**4.58%**
South Eastern Europe	**4,771**	**1.85%**
Western Europe	**4,124**	**1.60%**
Southern Europe	**2,754**	**1.07%**
New Zealand	**2,361**	**0.91%**
Maritime South-East Asia	**2,096**	**0.81%**
Southern Asia	**1,604**	**0.62%**
Eastern Europe	**1,304**	**0.50%**
Mainland South-East Asia	**1,162**	**0.45%**
Chinese Asia (includes Mongolia)	**1,138**	**0.44%**
Southern and East Africa	**1,095**	**0.42%**
Northern America	**944**	**0.37%**
Middle East	**649**	**0.25%**
Ireland	**577**	**0.22%**
North Africa	**328**	**0.13%**
Northern Europe	**271**	**0.10%**
Japan and the Koreas	**264**	**0.10%**
South America	**197**	**0.08%**
Central and West Africa	**145**	**0.06%**
Polynesia (excludes Hawaii)	**140**	**0.05%**
Melanesia	**133**	**0.05%**
Central Asia	**88**	**0.03%**
Supplementary codes	**47**	**0.02%**
Caribbean	**31**	**0.01%**
Central America	**28**	**0.01%**
Micronesia	**12**	**0.00%**
Total	**258,516**	**100.00%**

*Australia includes External Territories
** United Kingdom includes Channel Islands and the Isle of Man
Source: ABS Census of Population and Housing, 2011

South Eastern Europe, Western and Southern Europe were the birthplaces of 4.5 per cent, of RGA residents, New Zealand 0.9 per cent, while the remaining 4.8 per cent of the resident population was drawn from across a broad range of areas including Asia, America, the Middle East and the Pacific. Overall these figures suggest a very limited ethnic and cultural diversity across the region.

In terms of inter-census change, there has been a more than doubling of the RGA population born in Southern and Central Asia (117.5 per cent growth), although this represents an increase of only 915 people, or 4.6 per cent of all population growth during the period, as shown below in Table 9.

Table 9. RGA Residents by Country of Birth and Sex, 2006 and 2011

	2006						2011						Difference					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Oceania and Antarctica	94,110	80.6%	98,601	80.9%	192,711	80.7%	102,636	81.3%	107,954	81.6%	210,590	81.5%	8,526	8.3%	9,353	8.7%	**17,879**	**9.3%**
North-West Europe	8,337	7.1%	8,906	7.3%	17,243	7.2%	8,446	6.7%	8,999	6.8%	17,445	6.7%	109	1.3%	93	1.0%	**202**	**1.2%**
Southern and Eastern Europe	4,811	4.1%	4,678	3.8%	9,489	4.0%	4,422	3.5%	4,395	3.3%	8,817	3.4%	-389	-8.8%	-283	-6.4%	**-672**	**-7.1%**
North Africa and the Middle East	374	0.3%	338	0.3%	712	0.3%	517	0.4%	460	0.3%	977	0.4%	143	27.7%	122	26.5%	**265**	**37.2%**
South-East Asia	931	0.8%	1,293	1.1%	2,224	0.9%	1,383	1.1%	1,876	1.4%	3,259	1.3%	452	32.7%	583	31.1%	**1,035**	**46.5%**
North-East Asia	447	0.4%	488	0.4%	935	0.4%	641	0.5%	761	0.6%	1,402	0.5%	194	30.3%	273	35.9%	**467**	**49.9%**
Southern and Central Asia	424	0.4%	355	0.3%	779	0.3%	996	0.8%	698	0.5%	1,694	0.7%	572	57.4%	343	49.1%	**915**	**117.5%**
Americas	429	0.4%	496	0.4%	925	0.4%	552	0.4%	646	0.5%	1,198	0.5%	123	22.3%	150	23.2%	**273**	**29.5%**
Sub-Saharan Africa	468	0.4%	417	0.3%	885	0.4%	619	0.5%	623	0.5%	1,242	0.5%	151	24.4%	206	33.1%	**357**	**40.3%**
Supplementary codes	41	0.0%	27	0.0%	68	0.0%	30	0.0%	20	0.0%	50	0.0%	-11	-36.7%	-7	-35.0%	**-18**	**-26.5%**
Not stated	6,403	5.5%	6,344	5.2%	12,747	5.3%	6,024	4.8%	5,818	4.4%	11,842	4.6%	-379	-6.3%	-526	-9.0%	**-905**	**-7.1%**
Total residents	**116,775**	**100.0%**	**121,943**	**100.0%**	**238,718**	**100.0%**	**126,266**	**100.0%**	**132,250**	**100.0%**	**258,516**	**100.0%**	**9,491**	**7.5%**	**10,307**	**7.8%**	**19,798**	**8.3%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing 2006 and 2011

Across residents born in South-East, North-East and Southern and Central Asia there has been an increase of 2,417 residents, representing 12.2 per cent of all population growth between 2006 and 2011. Asian-born residents currently represent 2.5 per cent of the RGA population.

There has also been a notable proportional increase in residents who were born in Sub-Saharan Africa (40.3 per cent) and North Africa and the Middle East (37.2 per cent). These groups represent 3.1 per cent of the total population growth throughout the period, although this represents a total increase of only 622 total persons. Residents born in Africa and the Middle East represent 0.9 per cent of the RGA population in 2011.

4.3 Education

The RGA population has a relatively low level of educational attainment. The population has lower than State-average levels of Year 12 completion and post-secondary qualifications, as indicated in Table 10.

Table 10. Residents by Highest Year of School Completed, RGA and Victoria, 2011

	RGA Residents				RGA Total	Victoria Residents				Victoria Total
	Male		Female			Male		Female		
	Number	Per cent	Number	Per cent	Number	Number	Per cent	Number	Per cent	Number
Year 12 or equivalent	40,314	31.9%	47,954	36.3%	**88,268**	1,025,458	39.0%	1,144,277	42.0%	**2,169,735**
Year 11 or equivalent	17,610	13.9%	17,227	13.0%	**34,837**	281,176	10.7%	278,779	10.2%	**559,955**
Year 10 or equivalent	18,711	14.8%	18,003	13.6%	**36,714**	334,368	12.7%	309,354	11.4%	**643,722**
Year 9 or equivalent	8,417	6.7%	8,590	6.5%	**17,007**	146,234	5.6%	137,603	5.1%	**283,837**
Year 8 or below	6,863	5.4%	7,853	5.9%	**14,716**	136,706	5.2%	163,151	6.0%	**299,857**
Not applicable	25,439	20.1%	23,817	18.0%	**49,256**	512,795	19.5%	486,000	17.9%	**998,795**
Not stated	8,410	6.7%	8,226	6.2%	**16,636**	176,742	6.7%	175,703	6.5%	**352,445**
Did not go to school	505	0.4%	577	0.4%	**1,082**	19,137	0.7%	26,556	1.0%	**45,693**
Total Attainment by Residents	**126,269**	**100.0%**	**132,247**	**100.0%**	**258,516**	**2,632,616**	**100.0%**	**2,721,423**	**100.0%**	**5,354,039**

Source: ABS Census of Population and Housing, 2011

A lower proportion of residents had completed Year 12 or equivalent, irrespective of sex. As a corollary of this feature, RGA residents are more likely to hold Year 11 or equivalent, and below, qualifications.

Just over a third (36.5 per cent) of the resident population in the RGA have completed a vocational, higher or postgraduate education qualification, Table 11.

Table 11. Qualification Attainment by Place of Usual Residents, RGA and Victoria, 2011

	Regional Geelong Area		Victoria	
	Number	Per cent	Number	Per cent
Postgraduate Degree Level	4,914	**1.9%**	170,382	3.2%
Graduate Diploma and Graduate Certificate Level	4,237	**1.6%**	95,351	1.8%
Bachelor Degree Level	25,079	**9.7%**	641,218	12.0%
Advanced Diploma and Diploma Level	17,762	**6.9%**	364,758	6.8%
Certificate Level	42,320	**16.4%**	714,186	13.3%
Inadequately described	2,149	**0.8%**	45,347	0.8%
Not stated	19,419	**7.5%**	412,290	7.7%
Not applicable	142,636	**55.2%**	2,910,507	54.4%
Total Residents by Qualification Attainment	**258,516**	**100.0%**	**5,354,039**	**100.0%**

Source: ABS Census of Population and Housing, 2011

The resident RGA population is skewed towards Certificates and related qualifications, or no qualification at all, when compared with the Victorian population as a whole. Given that residents in the RGA are more likely to have Certificate and related qualifications than for Victoria as a whole, it may be the case that these residents are beneficiaries of government training initiatives over the last few years.

Table 12. RGA Residents by Qualification Attainment and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Postgraduate Degree Level	2,643	2.1%	2,271	1.7%	4,914	1.9%
Graduate Diploma and Graduate Certificate Level	1,420	1.1%	2,817	2.1%	4,237	1.6%
Bachelor Degree Level	10,421	8.3%	14,658	11.1%	25,079	9.7%
Advanced Diploma and Diploma Level	7,480	5.9%	10,282	7.8%	17,762	6.9%
Certificate Level	27,322	21.6%	14,998	11.3%	42,320	16.4%
Inadequately described	840	0.7%	1,309	1.0%	2,149	0.8%
not stated	9,300	7.4%	10,119	7.7%	19,419	7.5%
Not applicable	66,841	52.9%	75,795	57.3%	142,636	55.2%
Total Residents by Qualification Attainment	**126,267**	**100.0%**	**132,249**	**100.0%**	**258,516**	**100.0%**

Source: ABS Census of Population and Housing, 2011

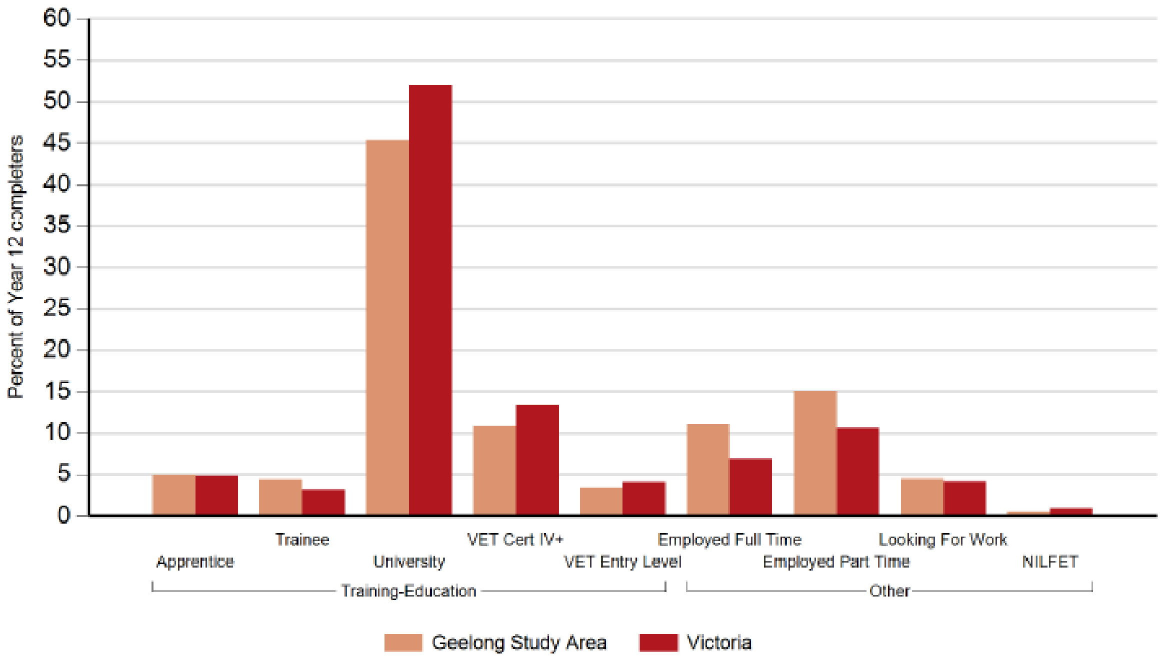
When disaggregated by sex, as shown above in Table 12, some differences can be noted. RGA resident males are almost twice as likely than females to hold a Certificate Level qualification, at a rate of 21.6 per cent of males and 11.3 per cent of females. Conversely, a greater proportion of all female residents (11.1 per cent) hold a Bachelor Degree Level qualification than male residents (8.3 per cent). Considering the 'Not applicable' category, which encompasses those residents that do not hold a non-School Qualification, there are around 9,000 more female than male residents.

4.3.1 Study pathways

A critical point for labour market analysis is the transition from school to further education, employment and forms of voluntary engagement. Drawing upon *On Track* survey data (2013), it is possible to present a picture of the destinations of City of Greater Geelong residents exiting or completing secondary education. These destinations encompass further education at university, vocational education, apprenticeships, other forms of education and employment. The survey data is broken into two segments, 'Year 12 or Equivalent completers' and 'Early School Leavers' (persons who have completed their secondary school equivalence or persons who have left prior to completing their secondary education respectively).

In the Geelong Study Area, 2,094 respondents completed the *On Track* survey of which 88.3 per cent (1,848 respondents) had completed their Year 12 education and 11.7 per cent (244 respondents) were 'early school leavers' (Figure 7).

Figure 7. Destinations of Year 12 of Equivalent Completers by Geelong Study Area and Victoria, 2011



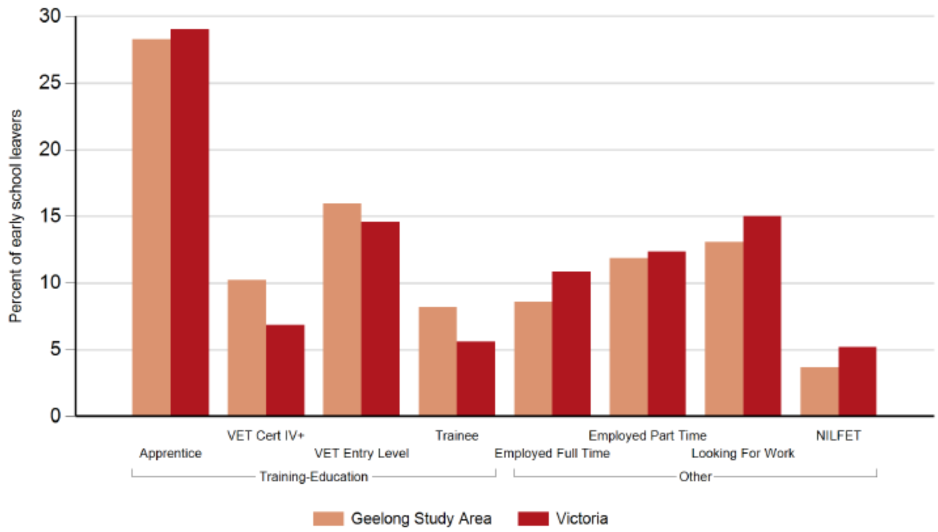
Note: Completers who deferred a place at university of TAFE/VET have been allocated to their labour market destinations.
Source: DEECD, *On Track*, 2013

Of the respondents who completed Year 12 in the Geelong Study Area, 45.3 per cent (837) indicated that tertiary education was their next destination with the next highest cohort going directly into the workforce 26.1 per cent (438 respondents). Smaller proportions of respondents indicated that they were going into other forms of education such as VET, 14.2 per cent (263) or Apprenticeships/Traineeships, 9.4 per cent (173). These figures are slightly below the state averages for those completing Year 12 with the exception of Apprenticeship/Traineeship destinations which are slightly higher than state averages.

The pathways for vocational education and training are skewed towards the Gordon TAFE and private RTOs. Of the students who completed Year 12 or equivalent study and are going on to VET/TAFE institutions, 18.9 per cent indicated they were studying at Gordon Institute (191 respondents). The next largest cohort of students were studying at 'Other' providers, most likely private RTOs, 14.8 per cent (149 respondents). There were over 20 of the latter listed in this area, with less than 7 respondents each. This pattern could be due to both the proximity of education providers and the course areas of study offered for respondents in the area. Equally it could be a reflection of the type of provision offered by the VET providers.

Early school leavers often go into further training, such as apprenticeships and other related forms of learning. Of the survey respondents who indicated that they are early school leavers (244 respondents), 36.5 per cent engaged in an apprenticeship or traineeship (89 persons). A smaller proportion indicated that their destination was TAFE, 26.2 per cent (64) with others indicating they were going to employment (20.5 per cent, 50) or looking for work (13.1 per cent, 32), as shown in Figure 8.

Figure 8. Destinations of early school leavers: Geelong Study Area and Victoria, 2011



Source: DEECD, On Track, 2013

These figures are higher across the board when compared with Victorian averages, with the exception of respondents who were not in labour force, education or training (NILFET).

When considering the courses of study for Year 12 completers conducting campus based study, the highest proportion of students, 12.2 per cent (32 respondents), are engaged in 'Sport and Recreation' study. The next two most common study areas are 'Graphic and Art Design Studies' and 'Other Health', equally showing 6.5 per cent of respondents (17 persons). 'Building' accounted for a further 6.1 per cent (16 respondents) and other notable study areas were in 'Personal Services' and 'Nursing', 4.6 and 4.2 per cent respectively. It is notable that the fields of education most identified with skill shortages in the area are not highly represented in the educational choices made by students.

4.4 Employment

Australia has a resident population of over 21.5 million people of which over 17.3 million were aged 15 years and over at the time of census in 2011, Table 13.

Table 13. Australia Labour Force Status by Sex and Population Aged 15 and Over, 2011

	Male		Female		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	4,071,062	71.6%	2,296,491	46.2%	**6,367,553**	**59.7%**
Employed, worked part-time	982,232	17.3%	2,080,742	41.9%	**3,062,974**	**28.7%**
Employed, away from work	313,371	5.5%	314,427	6.3%	**627,798**	**5.9%**
Total Employed persons	*5,366,665*	*94.4%*	*4,691,660*	*94.4%*	***10,058,325***	***94.4%***
Unemployed, looking for full-time work	225,188	4.0%	132,682	2.7%	**357,870**	**3.4%**
Unemployed, looking for part-time work	94,943	1.7%	147,318	3.0%	**242,261**	**2.3%**
Total Unemployed persons of	*320,131*	*5.6%*	*280,000*	*5.6%*	***600,131***	***5.6%***
Total in the labour force	*5,686,796*	*66.9%*	*4,971,660*	*56.1%*	***10,658,456***	***61.4%***
Not in the labour force	2,304,961	27.1%	3,424,344	38.7%	**5,729,305**	**33.0%**
Not stated	514,418	6.0%	461,509	5.2%	**975,927**	**5.6%**
Total Population aged 15 and over	**8,506,175**	**100.0%**	**8,857,513**	**100.0%**	**17,363,688**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Australia has a labour force participation rate of 61.4 per cent. That is, 61.4 per cent of the working aged population are considered economically active and are employed either full or part-time, or are unemployed looking for work. This represents a relatively high proportion of the population in comparison with other developed economies. Amongst those in the labour force, Australia currently has one of the lowest unemployment rates globally. At the time of the 2011 census Australia's unemployment rate was 5.6 per cent.

In 2011, the RGA had a resident population of 258,516 persons of whom 209,258 were aged over 15 years. As shown in Table 14, the RGA has a labour force participation rate of 59.5 per cent, marginally lower than the Australian average participation rate.

Table 14. RGA Labour Force Status by Sex and Population Aged 15 and Over, 2011

	Male		Female		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	46,801	71.1%	22,667	38.5%	**69,468**	**55.7%**
Employed, worked part-time	11,776	17.9%	29,123	49.5%	**40,899**	**32.8%**
Employed, away from work	3,742	5.7%	3,912	6.7%	**7,654**	**6.1%**
Total Employed persons of Working Age	*62,319*	*94.7%*	*55,702*	*94.7%*	***118,021***	***94.7%***
Unemployed, looking for full-time work	2,463	3.7%	1,374	2.3%	**3,837**	**3.1%**
Unemployed, looking for part-time work	1,004	1.5%	1,746	3.0%	**2,750**	**2.2%**
Total Unemployed persons of Working Age	*3,467*	*5.3%*	*3,120*	*5.3%*	***6,587***	***5.3%***
Total residents in the labour force	*65,786*	*65.2%*	*58,822*	*54.2%*	***124,608***	**59.5%**
Not in the labour force	30,303	30.1%	45,014	41.5%	**75,317**	**36.0%**
Not stated	4,737	4.7%	4,596	4.2%	**9,333**	**4.5%**
Total Population aged 15 and over	**100,826**	**100.0%**	**108,432**	**100.0%**	**209,258**	**100.0%**

Source: ABS Census of Population and Housing, 2011

This lower rate is predominantly due to the lower participation rate of women within the region, 54.2 per cent compared to the average of 56.1 per cent for all Australian women. Women within the RGA are significantly less likely to work full-time (38.5 per cent) compared to the Australian average (46.2 per cent). These patterns of women's lower participation in the labour force and lower rates of full-time employment are frequently observed in regional labour markets across Australia.

Table 15 below shows that gendered patterns of employment and participation are accentuated when the LGAs are examined in more detail. Across the four LGAs that make up the RGA there is some significant variation in participation rates, with Greater Geelong and Surf Coast closer to the national averages, while Golden Plains has significantly higher participation rates and Queenscliffe has lowest participation rate of the four LGAs. This may reflect the age structures of the LGAs with a higher proportion of residents aged 40-64 living in Golden Plains and a higher proportion of residents aged over 65 living in Queenscliffe.

Within the RGA there are almost 5.3 per cent of residents (6,600) looking for either full or part-time work, predominantly males seeking full time employment. This is a feature on par with Australian rates which indicate that 5.6 per cent of Australian residents are seeking employment, typically males looking to acquire full time employment. These apparently positive aggregate figures conceal greater vulnerability in employment status for particular groups of workers. Amongst RGA residents aged 15 to19 the unemployment rate is significantly higher at 15.3 per cent (ABS 2011). A further 7.2 per cent of those aged 15 to 19 who are not in the labour market, are also not engaged in education or training (ABS 2011).

Employment opportunities for young people within the RGA appear to be particularly constrained, with 70.6 per cent of female 15 to 19 year olds employed in retail trade and accommodation and food services. Amongst males the proportion employed in these two industry divisions is slightly lower at 49.8 per cent, with 18.8 per cent of male 15 to 19 year olds employed in construction and 7.5 per cent employed in manufacturing (ABS 2011).

Table 15. RGA Residents of Working Age by Labour Force Status, LGA and Sex, 2011

	Golden Plains				Greater Geelong				Queenscliffe				Surf Coast				TOTAL			
	Male		Female		Male		Female		Male		Female		Male		Female		Male		Female	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	3,859	75.0%	1,602	37.8%	37,726	71.0%	18,650	38.9%	392	62.7%	219	37.6%	4,824	70.0%	2,196	36.0%	**46,801**	**71.1%**	**22,667**	**38.5%**
Employed, worked part-time	771	15.0%	2,166	51.1%	9,435	17.8%	23,521	49.1%	156	25.0%	300	51.5%	1,414	20.5%	3,136	51.5%	**11,776**	**17.9%**	**29,123**	**49.5%**
Employed, away from work	313	6.1%	269	6.3%	2,966	5.6%	3,103	6.5%	42	6.7%	44	7.5%	421	6.1%	496	8.1%	**3,742**	**5.7%**	**3,912**	**6.7%**
Total Employed persons	*4,943*	*96.1%*	*4,037*	*95.2%*	*50,127*	*94.4%*	*45,274*	*94.5%*	*590*	*94.4%*	*563*	*96.6%*	*6,659*	*96.6%*	*5,828*	*95.7%*	***62,319***	***94.7%***	***55,702***	***94.7%***
Unemployed, looking for full-time work	150	2.9%	85	2.0%	2,144	4.0%	1,197	2.5%	27	4.3%	3	0.5%	142	2.1%	89	1.5%	**2,463**	**3.7%**	**1,374**	**2.3%**
Unemployed, looking for part-time work	52	1.0%	119	2.8%	852	1.6%	1,435	3.0%	8	1.3%	17	2.9%	92	1.3%	175	2.9%	**1,004**	**1.5%**	**1,746**	**3.0%**
Total Unemployed persons of Working Age	*202*	*3.9%*	*204*	*4.8%*	*2,996*	*5.6%*	*2,632*	*5.5%*	*35*	*5.6%*	*20*	*3.4%*	*234*	*3.4%*	*264*	*4.3%*	***3,467***	***5.3%***	***3,120***	***5.3%***
Total in the labour force	*5,145*	*70.6%*	*4,241*	*59.4%*	*53,123*	*64.5%*	*47,906*	*53.5%*	*625*	*52.3%*	*583*	*42.5%*	*6,893*	*69.3%*	*6,092*	*58.6%*	***65,786***	***65.2%***	***58,822***	***54.2%***
Not in the labour force	1,869	25.6%	2,653	37.2%	25,360	30.8%	37,814	42.2%	510	42.6%	716	52.2%	2,564	25.8%	3,831	36.8%	**30,303**	**30.1%**	**45,014**	**41.5%**
Not stated	276	3.8%	242	3.4%	3,912	4.7%	3,805	4.3%	61	5.1%	73	5.3%	488	4.9%	476	4.6%	**4,737**	**4.7%**	**4,596**	**4.2%**
Total Population aged 15 and over	**7,290**	**100.0%**	**7,136**	**100.0%**	**82,395**	**100.0%**	**89,525**	**100.0%**	**1,196**	**100.0%**	**1,372**	**100.0%**	**9,945**	**100.0%**	**10,399**	**100.0%**	**100,826**	**100.0%**	**108,432**	**100.0%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

Of the approximate 118,000 employed RGA residents, the Places of Work they reported varied, with 71.7 per cent indicating that their place of work was within one of the four LGAs that make up the RGA, as shown in Table 16 below.

Table 16. RGA Residents Employed by Place of Work and Place of Usual Residence, 2011

	Place of Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Place of Work is RGA	4,431	49.4%	70,013	73.4%	862	74.4%	9,335	74.8%	**84,641**	**71.7%**
Place of Work is other LGA	3,204	35.7%	12,695	13.3%	153	13.2%	1,630	13.1%	**17,682**	**15.0%**
Place of Work unspecified (VIC)*	466	5.2%	4,582	4.8%	42	3.6%	674	5.4%	**5,764**	**4.9%**
Place of Work State, Territory Undefined (VIC)	610	6.8%	5,342	5.6%	68	5.9%	527	4.2%	**6,547**	**5.5%**
Place of Work unspecified Other States*	28	0.3%	194	0.2%	7	0.6%	44	0.4%	**273**	**0.2%**
Not Stated	236	2.6%	2,574	2.7%	27	2.3%	278	2.2%	**3,115**	**2.6%**
Total Employed Persons	8,975	**100.0%**	**95,400**	**100.0%**	**1,159**	**100.0%**	**12,488**	**100.0%**	**118,022**	**100.0%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

The set of data on RGA residents presented in Table 16 has been classified as follows:

- Place of Work is RGA: work within one of the four LGAs that make up the RGA
- Place of Work is other LGA: an LGA outside the RGA was reported
- Place of Work unspecified (VIC): reported work in unspecified Victorian locations including unincorporated areas or undefined areas of Greater Melbourne Area, or have no fixed address for Place of Work
- Place of Work State/Territory Undefined (VIC): a category of response that the ABS used for respondents who gave a business name but no workplace address, and for whom Victoria is considered their State of work (ABS 2012a)
- Place of Work unspecified/undefined other State/Territory: a non-Victorian Place of Work was reported, without specific detail of the LGA
- Not Stated: No Place of Work was stated.

As Table 16 above demonstrates, of the employed residents in the RGA, 71.7 per cent worked within the RGA, and 20.1 per cent worked outside the RGA, in other local government areas (LGAs), Victoria more generally, or interstate. An additional 5.5 per cent were categorised as Place of Work State/ Territory Undefined (Victoria) and 2.6 per cent did not state a Place of Work.

Thus, the RGA has a self-containment rate of approximately 72 per cent.

Not surprisingly, given the population distribution and employment opportunities in the region, most employed residents live and work in the City of Greater Geelong, with many residents from the other LGAs commuting into the city, Table 17.

Table 17. RGA Self-Contained Employees by Place of Work and Place of Usual Residence, 2011

	Place of Usual Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
Place of Work	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Golden Plains	1,926	43.5%	405	0.6%	0	0.0%	44	0.5%	**2,375**	**2.8%**
Greater Geelong	2,402	54.2%	67,191	96.0%	386	45.0%	4,227	45.3%	**74,206**	**87.7%**
Queenscliffe	6	0.1%	761	1.1%	462	53.8%	24	0.3%	**1,253**	**1.5%**
Surf Coast	95	2.1%	1,655	2.4%	10	1.2%	5036	54.0%	**6,796**	**8.0%**
Total Persons, Place of Work	**4,429**	**100%**	**70,012**	**100%**	**858**	**100%**	**9,331**	**100%**	**84,630**	**100%**

Source: ABS Census of Population and Housing, 2011

It is much more likely that a person who lives within the City boundaries is also likely to work within the City, whereas for other LGAs this is not necessarily the case. In other words, the self-containment rate is higher in the City of Greater Geelong LGA compared with other LGAs in the region, a likely indication of the greater opportunities for employment in and around the urbanised Geelong City. Moreover, in support of this proposition, large proportions of employed residents from the Golden Plains Shire, Borough of Queenscliffe, and Surf Coast Shire also work within the City of Greater Geelong. But of equal note, the proportion of residents in Golden Plains who work outside the RGA is very high, 3,204 persons (35.7 per cent). Given the geographical proximity of the Golden Plains Shire to Ballarat, it is highly likely that many of these RGA residents work there.

A small proportion of all persons who were employed in the RGA commute to the region for work from other LGAs (Table 18).

Table 18. All Persons Employed in the RGA by Place of Usual Residence and Place of Work, 2011

	Place of Work									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Residents of RGA	2,373	85.6%	74,204	93.7%	1,254	95.5%	6,803	95.0%	**84,634**	**93.6%**
Residents of other LGA	400	14.4%	4,874	6.2%	59	4.5%	343	4.8%	**5,676**	**6.3%**
Residence unknown	0	0.0%	75	0.1%	0	0.0%	12	0.2%	**87**	**0.1%**
Total Persons, Place of Work	**2,773**	**100.0%**	**79,153**	**100.0%**	**1,313**	**100.0%**	**7,158**	**100.0%**	**90,397**	**100.0%**

Source: ABS Census of Population and Housing, 2011

The total number of persons who stated in the 2011 Census that their Place of Work is within the RGA is 90,397. Of these, the majority were residents of the RGA (84,634, or 93.6 per cent). An additional 5,676 people did not reside in the RGA. 6.3 per cent of the RGAs labour force resides outside the region and 20.1 per cent of workers are employed outside the region.

It should be noted that it may be more likely that males work outside the region than females. This observation is supported by the comparable number of males (44,305) and females (46,092) who state their place of work is the RGA, but the higher number of male RGA residents employed (62,329) than females (55,698). From this it can be assumed that more males than female RGA residents are working outside the region, and as discussed below this is a likely feature of particular industries or occupations as well as gender relations more generally, Table 19.

Table 19. Employed RGA Residents by Place of Work and Place of Usual Residence, 2011

	Place of Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Place of Work is RGA	4,431	49.4%	70,013	73.4%	862	74.4%	9,335	74.8%	**84,641**	**71.7%**
Place of Work is other LGA	3,204	35.7%	12,695	13.3%	153	13.2%	1,630	13.1%	**17,682**	**15.0%**
Place of Work unspecified (VIC)*	466	5.2%	4,582	4.8%	42	3.6%	674	5.4%	**5,764**	**4.9%**
Place of Work State, Territory Undefined (VIC)	610	6.8%	5,342	5.6%	68	5.9%	527	4.2%	**6,547**	**5.5%**
Place of Work unspecified Other States*	28	0.3%	194	0.2%	7	0.6%	44	0.4%	**273**	**0.2%**
Not Stated	236	2.6%	2,574	2.7%	27	2.3%	278	2.2%	**3,115**	**2.6%**
Total Employed Persons	8,975	**100.0%**	**95,400**	**100.0%**	**1,159**	**100.0%**	**12,488**	**100.0%**	**118,022**	**100.0%**

*Place of Work unspecified includes RGA Residents who stated 'No Fixed Address' and 'Unincorporated areas'

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells

Source: ABS Census of Population and Housing, 2011

The data on self-containment and non-resident employment in the RGA raise important considerations regarding skills shortages or skills gaps. It is possible that local residents may not possess the skills required by RGA employers, necessitating employees from elsewhere. At the same time, changes in employment fortunes within the RGA, such as the recent contractions in 'Manufacturing' may provide an impetus for people to work outside the region. Further the 'metropolitisation' of the City of Geelong (Green 2012) will also be part of this picture of a relatively porous region. Nonetheless, people have varied reasons to live in one place but work elsewhere. One implication is that such employment mobility encourages careful consideration of skills profiles and how to promote employment opportunities within and outside of the RGA.

4.4.1 Gender and age

The age profile of the employed RGA residents shows a changing relationship between male and female and full-time male employment and part-time female employment, Table 20.

Table 20. RGA Residents by Age Group, Employment Status and Sex, 2011

		Male Number	Female Number	TOTAL
15-19 years	Employed, worked full-time	1,173	445	1,618
	Employed, worked part-time	2,040	2,875	4,915
	Employed, away from work	287	299	586
20-24 years	Employed, worked full-time	3,678	2,404	6,082
	Employed, worked part-time	1,639	2,698	4,337
	Employed, away from work	335	343	678
25-29 years	Employed, worked full-time	4,801	3,277	8,078
	Employed, worked part-time	773	1,691	2,464
	Employed, away from work	320	424	744
30-34 years	Employed, worked full-time	5,091	2,245	7,336
	Employed, worked part-time	645	2,354	2,999
	Employed, away from work	330	493	823
35-39 years	Employed, worked full-time	6,122	2,220	8,342
	Employed, worked part-time	712	3,463	4,175
	Employed, away from work	376	480	856
40-44 years	Employed, worked full-time	6,142	2,655	8,797
	Employed, worked part-time	780	3,732	4,512
	Employed, away from work	415	349	764
45-49 years	Employed, worked full-time	5,962	3,058	9,020
	Employed, worked part-time	814	3,668	4,482
	Employed, away from work	382	362	744
50-54 years	Employed, worked full-time	5,735	3,129	8,864
	Employed, worked part-time	886	3,248	4,134
	Employed, away from work	412	422	834
55-59 years	Employed, worked full-time	4,534	2,103	6,637
	Employed, worked part-time	1,045	2,660	3,705
	Employed, away from work	389	356	745
60-64 years	Employed, worked full-time	2,576	902	3,478
	Employed, worked part-time	1,260	1,900	3,160
	Employed, away from work	282	243	525
65-69 years	Employed, worked full-time	719	183	902
	Employed, worked part-time	735	606	1,341
	Employed, away from work	129	77	206
70-74 years	Employed, worked full-time	180	31	211
	Employed, worked part-time	290	166	456
	Employed, away from work	45	28	73
75-79 years	Employed, worked full-time	57	14	71
	Employed, worked part-time	105	47	152
	Employed, away from work	24	15	39
80-84 years	Employed, worked full-time	25	-	25
	Employed, worked part-time	44	15	59
	Employed, away from work	10	11	21
85-89 years	Employed, worked full-time	6	0	6
	Employed, worked part-time	9	0	9
	Employed, away from work	7	7	14
Total	**Employed, worked full-time**	**46,801**	**22,666**	**69,467**
	Employed, worked part-time	**11,780**	**29,123**	**40,903**
	Employed, away from work	**3,743**	**3,909**	**7,652**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells

Source: ABS Census of Population and Housing, 2011

While there is a broad balance between male and female employment numerically it is much more likely that females work part-time. These part-time numbers increase after 35 years of age and begin to decline again after 54 years of age. After 64 years it is more likely that males remain in employment than females. Of note, the distribution of males and females is broadly balanced in the 15 – 19 year age band with part-time employment the norm, presumably reflecting education commitments, difficulties in entering full-time employment at this age, and the increase in casualised work for this age group, particularly in retail and related sectors.

4.4.2 Divisions of employment

Employment both within and beyond the RGA is distributed across industries or sectors, referred to by the ABS as 'Divisions'.

4.4.2.1 RGA Residents

Table 21 presents the divisions of employment for RGA residents in 2011, distinguishing between those who reportedly work inside the RGA or those whose Place of Work is outside the RGA or unknown (designated 'Residents with Place of Work Other').

Table 21. RGA Residents Employed by Division and Place of Work, 2011

	Residents who Work Inside RGA		Residents with Place of Work Other*		Total Employed Residents
	Number	Per cent	Number	Per cent	Number
Health Care and Social Assistance	12,883	81.5%	2,927	18.5%	15,810
Retail Trade	11,909	82.6%	2,506	17.4%	14,415
Manufacturing	9,754	75.4%	3,187	24.6%	12,941
Construction	6,129	51.6%	5,740	48.4%	11,869
Education and Training	8,686	80.6%	2,091	19.4%	10,777
Accommodation and Food Services	6,612	82.8%	1,372	17.2%	7,984
Public Administration and Safety	4,551	64.2%	2,539	35.8%	7,090
Professional, Scientific and Technical Services	4,249	69.7%	1,846	30.3%	6,095
Transport, Postal and Warehousing	2,782	55.5%	2,235	44.5%	5,017
Other Services	3,300	78.1%	926	21.9%	4,226
Wholesale Trade	2,744	67.9%	1,300	32.1%	4,044
Administrative and Support Services	2,006	58.0%	1,453	42.0%	3,459
Financial and Insurance Services	2,266	69.1%	1,013	30.9%	3,279
Agriculture, Forestry and Fishing	1,674	78.2%	466	21.8%	2,140
Arts and Recreation Services	1,298	70.0%	556	30.0%	1,854
Rental, Hiring and Real Estate Services	1,247	81.2%	288	18.8%	1,535
Information Media and Telecommunications	852	57.2%	638	42.8%	1,490
Electricity, Gas, Water and Waste Services	949	69.2%	422	30.8%	1,371
Inadequately described	598	51.6%	560	48.4%	1,158
Not stated	29	2.6%	1,068	97.4%	1,097
Mining	112	29.8%	264	70.2%	376
Total employed residents	**84,630**	**71.7%**	**33,397**	**28.3%**	**118,027**

Source: ABS Census of Population and Housing, 2011

The 'Total' column on the right indicates that just over half the residential employed population (55.8 per cent or 65,810 workers) are work in five divisions, 'Health Care and Social Assistance', 'Retail Trade', 'Manufacturing', 'Construction' and

‘Education and Training’. Health Care and Social Assistance employed 15,810 RGA residents in 2011, replacing Retail Trade and Manufacturing (which were the highest employing divisions in 2006 and 2001 census periods respectively) as the largest division of employment.

The first column of the data presented in Table 21 above allows understanding of RGA self-containment figures by employment division. It appears that some divisions (such as Health Care and Social Assistance; Retail Trade; and Education and Training) retain a greater proportion of RGA resident workers, whereas in other divisions (Construction; Transport, Postal and Warehousing; and Administrative and Support Services) resident employees may be more mobile, travelling elsewhere to work.

When considering the gendered profile of the employed residential population, sector specific trends can be observed, as indicated in Table 22.

Table 22. RGA Residents Employed by Division and Sex, 2011

	Male		**Female**		**Total**	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Health Care and Social Assistance	2,887	4.6%	12,923	23.2%	**15,810**	**13.4%**
Retail Trade	5,709	9.2%	8,706	15.6%	**14,415**	**12.2%**
Manufacturing	10,319	16.6%	2,622	4.7%	**12,941**	**11.0%**
Construction	10,669	17.1%	1,200	2.2%	**11,869**	**10.1%**
Education and Training	3,476	5.6%	7,301	13.1%	**10,777**	**9.1%**
Accommodation and Food Services	3,196	5.1%	4,788	8.6%	**7,984**	**6.8%**
Public Administration and Safety	3,624	5.8%	3,466	6.2%	**7,090**	**6.0%**
Professional, Scientific and Technical Service	3,390	5.4%	2,705	4.9%	**6,095**	**5.2%**
Transport, Postal and Warehousing	4,083	6.6%	934	1.7%	**5,017**	**4.3%**
Other Services	2,283	3.7%	1,943	3.5%	**4,226**	**3.6%**
Wholesale Trade	2,785	4.5%	1,259	2.3%	**4,044**	**3.4%**
Administrative and Support Services	1,694	2.7%	1,765	3.2%	**3,459**	**2.9%**
Financial and Insurance Services	1,372	2.2%	1,907	3.4%	**3,279**	**2.8%**
Agriculture, Forestry and Fishing	1,492	2.4%	648	1.2%	**2,140**	**1.8%**
Arts and Recreation Services	984	1.6%	870	1.6%	**1,854**	**1.6%**
Rental, Hiring and Real Estate Services	747	1.2%	788	1.4%	**1,535**	**1.3%**
Information Media and Telecommunication	866	1.4%	624	1.1%	**1,490**	**1.3%**
Electricity, Gas, Water and Waste Services	1,062	1.7%	309	0.6%	**1,371**	**1.2%**
Inadequately described	724	1.2%	434	0.8%	**1,158**	**1.0%**
Not stated	633	1.0%	464	0.8%	**1,097**	**0.9%**
Mining	335	0.5%	41	0.1%	**376**	**0.3%**
Total Residents Employed by Division	**62,330**	**100.0%**	**55,697**	**100.0%**	**118,027**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Notable gendered employment patterns are evident by sector with ‘Transport, Postal and Warehousing’, ‘Construction’ and ‘Manufacturing’ all employing significantly more male residents than female residents. Conversely, ‘Retail Trade’, ‘Education and Training’ and ‘Health Care and Social Assistance’ all employ significantly more females than males.

These patterns of resident employment have undergone some notable shifts between 2006 and 2011, as depicted in Table 23.

Table 23. RGA Residents Employed by Most Common Divisions, 2006 and 2011

		2006		2011		Difference 2006 - 2011	
		Number	Per cent	Number	Per cent	Number	Per cent
1	Health Care and Social Assistance	*12,485*	11.4%	*15,810*	13.4%	*3,325*	26.6%
2	Retail Trade	*17,427*	16.0%	*14,415*	12.2%	*-3,012*	-17.3%
3	Manufacturing	*14,775*	13.5%	*12,944*	11.0%	*-1,831*	-12.4%
4	Construction	*9,359*	8.6%	*11,866*	10.1%	*2,507*	26.8%
5	Education and Training	*8,925*	8.2%	*10,775*	9.1%	*1,850*	20.7%
6	Accommodation and Food Services	*4,940*	4.5%	*7,985*	6.8%	*3,045*	61.6%
7	Public Administration and Safety	*4,399*	4.0%	*7,090*	6.0%	*2,691*	61.2%
8	Professional, Scientific and Technical Service	*4,055*	3.7%	*6,095*	5.2%	*2,040*	50.3%
9	Transport, Postal and Warehousing	*4,055*	3.7%	*5,017*	4.3%	*962*	23.7%
10	Other Services	*4,132*	3.8%	*4,227*	3.6%	*95*	2.3%
	Sub-total Top 10 Divisions of Employment	84,552	77.4%	96,224	81.5%	11,672	13.8%
	All other Industries	*24,707*	*22.6%*	*21,804*	*18.5%*	*-2,903*	*-11.7%*
	Total Residents Employed by Division	**109,259**	**100.0%**	**118,028**	**100.0%**	**8,769**	**8.0%**

Source: ABS Census of Population and Housing, 2006 and 2011

Males dominated occupations are more geographically spread while female dominated occupations tend to be geographically confined to local levels, reinforcing gendered norms of caring roles and responsibilities nearby. Women seek employment close to home to facilitate caring responsibilities whilst men travel further afield seeking higher incomes from their employment. This further supports that gendered distribution of labour in the workforce and in the home are mutually self-reinforcing.

Overall, the number of employed residents of the RGA has increased by 8.0 per cent between 2006 and 2011. Combined, the ten most divisions of employment have experienced growth by 11,672 resident employees; however this has been through the expansion of employment in some divisions and decline within others.

In 2011, 'Health Care and Social Assistance' was the largest division of employment for RGA residents, accounting for 13.4 per cent of the employed population. This change was enabled by a combination of falls in employment in the Manufacturing and Retail Trade divisions, and growth in the actual number of residents employed in Health Care and Social Assistance (up by 3,325 since 2006).

While there has been a sizeable increase in the number of residents that are employed in the Construction division, up by 26.8 per cent since 2006, rising from 9,359 residents to 11,866 in 2011. Further analysis undertaken in Briefing Report 2 revealed that only half of these residents employed in the Construction division reported working within the RGA, meaning many potentially travel to places of work outside the RGA.

In contrast, there has also been a 20.7 per cent increase in the number residents employed in 'Education and Training' division since 2006, and as Table 13 showed, most of these jobs are based in the area. An even smaller proportion of residents (17.2 per cent) employed in the Accommodation and Food Services sector work outside the RGA; hence it is likely that much of the growth in employment observed in this division (an increase of 3,045 resident employees) has been generated within the region.

The residential population of the RGA is less likely to be employed in the 'Manufacturing' and the 'Retail Trade' divisions in 2011 than was the case in 2006, the divisions, respectively experiencing a 17.3 per cent and 12.4 per cent decline. As frequently noted, and the focus of much recent government attention, manufacturing employment has been under pressure for many years. Of note, the ramifications of the Global Financial Crisis in the late 2000s are still working through the national economy, as well as within the region specifically. Employment in the Retail Trade division reflects consumption patterns within the economy at large, and perhaps reduced consumer spending combined with a perceived shift towards on-line purchasing of goods.

4.4.2.2 RGA as a Place of Work

These patterns of employment become more complicated when the RGA is considered as a 'Place of Work', irrespective of where employees live. As indicated below in Table 24, in the 2011 census 90,397 people stated that their place of work was within the RGA.

Table 24. Persons Employed in the RGA by Division and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Health Care and Social Assistance	2,421	5.5%	11,075	24.0%	**13,496**	**14.9%**
Retail Trade	4,971	11.2%	7,722	16.8%	**12,693**	**14.0%**
Manufacturing	8,479	19.1%	2,224	4.8%	**10,703**	**11.8%**
Education and Training	2,924	6.6%	6,273	13.6%	**9,197**	**10.2%**
Accommodation and Food Services	2,802	6.3%	4,130	9.0%	**6,932**	**7.7%**
Construction	5,653	12.8%	1,000	2.2%	**6,653**	**7.4%**
Public Administration and Safety	2,272	5.1%	2,572	5.6%	**4,844**	**5.4%**
Professional, Scientific and Technical Services	2,436	5.5%	2,074	4.5%	**4,510**	**5.0%**
Other Services	1,776	4.0%	1,656	3.6%	**3,432**	**3.8%**
Transport, Postal and Warehousing	2,396	5.4%	673	1.5%	**3,069**	**3.4%**
Wholesale Trade	1,931	4.4%	1,024	2.2%	**2,955**	**3.3%**
Financial and Insurance Services	905	2.0%	1,595	3.5%	**2,500**	**2.8%**
Administrative and Support Services	1,003	2.3%	1,137	2.5%	**2,140**	**2.4%**
Agriculture, Forestry and Fishing	1,233	2.8%	580	1.3%	**1,813**	**2.0%**
Arts and Recreation Services	728	1.6%	670	1.5%	**1,398**	**1.5%**
Rental, Hiring and Real Estate Services	609	1.4%	694	1.5%	**1,303**	**1.4%**
Electricity, Gas, Water and Waste Services	784	1.8%	251	0.5%	**1,035**	**1.1%**
Information Media and Telecommunications	460	1.0%	449	1.0%	**909**	**1.0%**
Inadequately described	383	0.9%	263	0.6%	**646**	**0.7%**
Mining	120	0.3%	22	0.0%	**142**	**0.2%**
Not stated	15	0.0%	12	0.0%	**27**	**0.0%**
Total employed persons	**44,301**	**100.0%**	**46,096**	**100.0%**	**90,397**	**100.0%**

Source: ABS Census of Population and Housing, 2011

The data suggests that when mobile RGA residents (who reside in, but did not state that they work in the RGA) are removed and employees who reside outside the RGA are included, then there is re-ordering within the top divisions of employment. 'Health Care and Social Assistance', 'Retail Trade', and 'Manufacturing' maintain their respective positions, with the highest number of employees who work in the RGA. Specifically, growth in Education and Training, Health Care and Social Assistance and in Retail Trade is generated by a growing local population which in turn has led to a growing demand for services. In contrast, 'Construction' has a large proportion of its workforce employed outside the RGA, although there clearly is a potential for this to change as construction is promoted within the RGA, often as part of the expansion of other Divisions, such as hospital building.

These patterns are affirmed when the data for Place of Work is considered over time, Table 25.

Table 25. Persons Employed in the RGA by Most Common Divisions and Sex, 2006 and 2011

	2006		2011		Difference 2006 - 2011	
	Number	Per cent	Number	Per cent	Number	Per cent
Health Care and Social Assistance	10,956	13.0%	13,496	14.9%	**2,540**	**23.2%**
Retail Trade	15,745	18.7%	12,693	14.0%	**-3,052**	**-19.4%**
Manufacturing	12,555	14.9%	10,703	11.8%	**-1,852**	**-14.8%**
Education and Training	7,736	9.2%	9,197	10.2%	**1,461**	**18.9%**
Accommodation and Food Services	4,483	5.3%	6,932	7.7%	**2,449**	**54.6%**
Construction	5,655	6.7%	6,653	7.4%	**998**	**17.6%**
Public Administration and Safety	3,373	4.0%	4,844	5.4%	**1,471**	**43.6%**
Professional, Scientific and Technical Services	1,674	2.0%	4,510	5.0%	**2,836**	**169.4%**
Other Services	3,161	3.8%	3,432	3.8%	**271**	**8.6%**
Transport, Postal and Warehousing	2,766	3.3%	3,069	3.4%	**303**	**11.0%**
Subtotal Top 10 Divisions	68,104	80.8%	75,529	83.6%	**7,425**	**10.9%**
All other Divisions	16,186	19.2%	14,868	16.4%	**-1,318**	**-8.1%**
Total employed persons	**84,290**	**100.0%**	**90,397**	**100.0%**	**6,107**	**7.2%**

Source: ABS Census of Population and Housing, 2006 and 2011

The Place of Work data shows that 'Health Care and Social Assistance', 'Education and Training' have expanded their employment and retained their position in the ordering of the divisions, affirming their continued importance for employment in the Area. At the same time, there has been notable growth in employment within the locality of the RGA in 'Accommodation and Food Services', 'Public Administration and Safety' and 'Professional, Scientific and Technical Services', although the impetus for the expansion is likely to be a combination of public policy decisions as well as shifts towards a service economy.

4.4.3 Employers

The City of Greater Geelong Economic Development Unit (Table 26) provides an insight into some of the major employers in the RGA.

Table 26. Major Employers by FTE and Year, Regional Geelong Area and Colac Otway, 2008-2012

Employers	2008	2009	2010	2011	2012	Change 2011-'12 #	Change 2011-'12 %
Barwon Health	3,223	3,479	3,498	3,602	3,842	240	6.2%
Department of Education (Barwon South West Region)	2,877	2,333	3,013	2,398	2,975	577	19.4%
Deakin University (Waurn Ponds & Waterfront Campuses)	885	1,399	1,486	1,595	1,693	98	5.8%
City of Greater Geelong	1,325	1,357	1,403	1,446	1,418	-28	-1.9%
Ford Motor Company of Australia Ltd	1,848	1,374	1,237	1,251	1,191	-60	-5.0%
Woolworths	867	1,183	1,012	1,213	ND		
Target (Head Office & Retail)	916	926	921	914	1,005	91	9.1%
Catholic Education System	778	1,027	906	927	950	23	2.4%
Karingal Inc	645	712	841	693	851	158	18.6%
Transport Accident Commission (TAC)	160	763	715	752	757	5	0.7%
Avalon Airport (All Activities)	1,275	1,275	1,275	1,280	756	-524	-69.3%
The Gordon	575	602	642	580	632	52	8.3%
Alcoa World Alumina Australia Ltd (Victoria Operations)	736	714	668	610	616	6	1.0%
Cotton On (Head Office & Retail)	334	497	495	578	ND		
G-Force Recruitment	430	420	NA	561	ND		
Barwon Water	359	374	404	407	431	24	5.6%
Shell Refining (Australia) Pty Ltd	502	478	482	458	427	-31	-7.3%
Godfrey Hirst Australia Ltd	550	605	556	470	422	-48	-11.4%
Golden Farms (Turi Foods)	552	491	465	496	ND		
Bulla Dairy Foods	400	420	490	400	ND		
St Laurence Community Services Victoria	288	308	327	384	381	-3	-0.8%
St John of God Hospital	303	330	392	374	367	-7	-1.9%
Alcoa Australia Rolled Products	368	355	238	280	285	5	1.8%
Subtotal Major Employers	**20,196**	**21,422**	**21,466**	**21,668**	**18,999**		

Source: City of Greater Geelong, Economic Development Unit.
Notes: Barwon Region includes City of Greater Geelong, Surf Coast Shire, Borough of Queenscliffe, Golden Plains Shire Otway Shire. This table is not the top twenty major employers in the Barwon Region. It is a selection of major employers that have been willing to provide data. Around the 300 FTE point there are numerous other employers, however Alcoa Australia Rolled Products, has been added due to its connection to Alcoa World Alumina Australia

FTE - Full Time Equivalent.
ND - no data, waiting for a response as at November 2012.
NA - not available.

Note: The difficulty in collecting such data is illustrated by company advice that the figure for Ford Motor Company of Australia Ltd. is half the number listed. Further, the Avalon (All Activities) figure includes both the maintenance figure (an area of employment that is winding down) and the airport employees (who may be considered part of the tourism industry).

Major employers are defined as those organisations that reported the highest number of full-time employees. On the one hand, the largest increases in Full-Time Equivalent (FTE) persons between 2011 and 2012 have been experienced across the 'Education and training' (Department of Education, 19.4 per cent), 'Health Care and Social Assistance' (Karingal, 18.6 per cent), and 'Retail Trade' (9.1 per cent) sectors. On the other hand, Avalon Airport, Godfrey Hurst Australia Ltd, and Ford

Motor Company all declined with decreases in the FTE of 69.3 per cent, 11.4 per cent, and 5 per cent respectively. These patterns reflect the increases and contractions experienced across these sectors in the RGA.

4.4.4 Occupations

The most common fifteen occupations, listed according to number of employed RGA residents employed, account for 52.1 per cent of all residents in employment in the Area, as shown in Table 27.

Table 27. Employed RGA Residents by Most Common (Top 15) Occupations and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Sales Assistants and Salespersons	2,511	4.0%	5,567	15.9%	**8,078**	**12.0%**
Education Professionals	2,055	3.3%	4,066	11.6%	**6,121**	**9.1%**
Specialist Managers	4,472	7.2%	1,643	4.7%	**6,115**	**9.1%**
Health Professionals	1,375	2.2%	4,659	13.3%	**6,034**	**8.9%**
Construction Trades Workers	5,189	8.3%	76	0.2%	**5,265**	**7.8%**
Carers and Aides	459	0.7%	4,668	13.3%	**5,127**	**7.6%**
Hospitality, Retail and Service Managers	2,618	4.2%	2,160	6.2%	**4,778**	**7.1%**
Business, Human Resource and Marketing Professionals	2,224	3.6%	1,887	5.4%	**4,111**	**6.1%**
Automotive and Engineering Trades Workers	3,807	6.1%	47	0.1%	**3,854**	**5.7%**
Numerical Clerks	558	0.9%	2,704	7.7%	**3,262**	**4.8%**
Design, Engineering, Science and Transport Professionals	2,263	3.6%	919	2.6%	**3,182**	**4.7%**
Road and Rail Drivers	2,953	4.7%	153	0.4%	**3,106**	**4.6%**
General Clerical Workers	352	0.6%	2,673	7.6%	**3,025**	**4.5%**
Cleaners and Laundry Workers	985	1.6%	1,847	5.3%	**2,832**	**4.2%**
Hospitality Workers	631	1.0%	1,979	5.6%	**2,610**	**3.9%**
Subtotal Top 15 Occupations	32,452	52.1%	35,048	62.9%	**67,500**	**57.2%**
All other Occupations	29,877	47.9%	20,650	37.1%	**50,527**	**42.8%**
Total residents employed by occupation	**62,329**	**100.0%**	**55,698**	**100.0%**	**118,027**	**100.0%**

Source: ABS Census of Population and Housing, 2011

There are vast gender discrepancies between occupations for employed RGA residents. Of note, females predominate as ‘Sales Assistants and Salespersons’, ‘Education Professionals’, ‘Health Professionals’, and ‘Carers and Aides’ while males tend to be employed as ‘Specialist Managers’, ‘Construction Trades Workers’ and ‘Automotive and Engineering Trades Workers’. In the case of ‘Hospitality, Retail and Service Managers’ there was more or less a balance between males and females in this occupational category.

Table 28 and Table 29, respectively listing the occupations with the greatest number of male and female resident employees, provide further insight into these gender differences.

Table 28. RGA Residents Male Employees by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Construction Trades Workers	5,189	8.3%
2	Specialist Managers	4,472	7.2%
3	Automotive and Engineering Trades Workers	3,807	6.1%
4	Road and Rail Drivers	2,953	4.7%
5	Hospitality, Retail and Service Managers	2,618	4.2%
6	Sales Assistants and Salespersons	2,511	4.0%
7	Design, Engineering, Science and Transport Professionals	2,263	3.6%
8	Business, Human Resource and Marketing Professionals	2,224	3.6%
9	Education Professionals	2,055	3.3%
10	Electrotechnology and Telecommunications Trades Workers	2,026	3.3%
11	Construction and Mining Labourers	1,896	3.0%
12	Engineering, ICT and Science Technicians	1,791	2.9%
13	Other Labourers	1,744	2.8%
14	Machine and Stationary Plant Operators	1,684	2.7%
15	Factory Process Workers	1,471	2.4%
	Subtotal Top 15 Occupations	38,704	62.1%
	All other Occupations	23,625	37.9%
	Total employed male residents	**62,329**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Table 29. RGA Residents Female Employees by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Sales Assistants and Salespersons	5,567	10.0%
2	Carers and Aides	4,668	8.4%
3	Health Professionals	4,659	7.3%
4	Education Professionals	4,066	4.9%
5	Numerical Clerks	2,704	4.8%
6	General Clerical Workers	2,673	8.4%
7	Inquiry Clerks and Receptionists	2,183	3.9%
8	Hospitality, Retail and Service Managers	2,160	3.9%
9	Hospitality Workers	1,979	3.6%
10	Business, Human Resource and Marketing Professionals	1,887	3.4%
11	Cleaners and Laundry Workers	1,847	3.3%
12	Specialist Managers	1,643	2.9%
13	Sales Support Workers	1,605	2.9%
14	Office Managers and Program Administrators	1,543	2.8%
15	Sports and Personal Service Workers	1,157	2.1%
	Subtotal Top 15 Occupations	40,341	72.4%
	All other Occupations	15,357	27.6%
	Total employed female residents	**55,698**	**100.0%**

Source: ABS Census of Population and Housing, 2011

As shown in Table 28 above, for male residents of the RGA the highest occupation category is 'Construction Trade Worker' which accounts for 8.3 per cent of all male residents' employment. More generally, the occupations of male residents in the region principally cover trades, engineering, management and related areas, operators, process workers and labourers. For employed female residents the most common occupations are likely to be in service provision, in sales, clerical roles, and managerial positions, Table 29. For females residents of the RGA the largest occupational category is 'Sales Assistant and Salespersons' (10.0 per cent of all female employment), followed by 'Carers and Aides' and 'Health Professionals'.

When considering instead all Census respondents who in 2011 indicated that their Place of Work was the RGA, the occupational hierarchy does not replicate the profile for employed residents across the region, Table 30.

Table 30. RGA Place of Work, Persons Employed by Top 15 Occupations and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Sales Assistants and Salespersons	2,113	4.8%	4,787	10.4%	**6,900**	**7.6%**
Health Professionals	1,236	2.8%	4,048	8.8%	**5,284**	**5.8%**
Education Professionals	1,692	3.8%	3,444	7.5%	**5,136**	**5.7%**
Specialist Managers	3,056	6.9%	1,319	2.9%	**4,375**	**4.8%**
Carers and Aides	373	0.8%	3,763	8.2%	**4,136**	**4.6%**
Hospitality, Retail and Service Managers	2,220	5.0%	1,901	4.1%	**4,121**	**4.6%**
Automotive and Engineering Trades Workers	3,166	7.1%	40	0.1%	**3,206**	**3.5%**
Business, Human Resource and Marketing Professionals	1,527	3.4%	1,437	3.1%	**2,964**	**3.3%**
Numerical Clerks	363	0.8%	2,327	5.0%	**2,690**	**3.0%**
Design, Engineering, Science and Transport Professionals	1,798	4.1%	824	1.8%	**2,622**	**2.9%**
Construction Trades Workers	2,575	5.8%	44	0.1%	**2,619**	**2.9%**
General Clerical Workers	255	0.6%	2,283	5.0%	**2,538**	**2.8%**
Hospitality Workers	521	1.2%	1,677	3.6%	**2,198**	**2.4%**
Road and Rail Drivers	1,974	4.5%	117	0.3%	**2,091**	**2.3%**
Cleaners and Laundry Workers	684	1.5%	1,347	2.9%	**2,031**	**2.2%**
Subtotal Top 15 Occupations	23,553	53.2%	29,358	63.7%	**52,911**	**58.5%**
All other Occupations	20,752	46.8%	16,734	36.3%	**37,486**	**41.5%**
Total employed persons	**44,305**	**100.0%**	**46,092**	**100.0%**	**90,397**	**100.0%**

Source: ABS Census of Population and Housing, 2011

While this listing of occupations contained a similar sequence for a number of occupations, others were differently located, reflecting the scale of employment outside the region for some occupations. 'Construction Trades Workers', 'Specialist Managers', 'Business, Human Resources and Marketing Professionals' and 'Road and Rail Drivers' were occupations substantial numbers of employees worked outside the region.

In the case of the ranking of occupations within the RGA, as places of work, disaggregated by sex, there are some notable divergences from the ranking for employed residents, Table 31 and Table 32.

Table 31. RGA Place of Work, Male Employees by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Automotive and Engineering Trades Workers	3,166	7.1%
2	Specialist Managers	3,056	6.9%
3	Construction Trades Workers	2,575	5.8%
4	Hospitality, Retail and Service Managers	2,220	5.0%
5	Sales Assistants and Salespersons	2,113	4.8%
6	Road and Rail Drivers	1,974	4.5%
7	Design, Engineering, Science and Transport Professionals	1,798	4.1%
8	Education Professionals	1,692	3.8%
9	Business, Human Resource and Marketing Professionals	1,527	3.4%
10	Machine and Stationary Plant Operators	1,307	3.0%
11	Engineering, ICT and Science Technicians	1,285	2.9%
12	Other Labourers	1,269	2.9%
13	Health Professionals	1,236	2.8%
14	Electrotechnology and Telecommunications Trades Work	1,231	2.8%
15	Factory Process Workers	1,147	2.6%
	Subtotal Top 15 Occupations	27,596	62.3%
	All other Occupations	16,709	37.7%
	Total employed persons	**44,305**	**100.0%**

Source: ABS Census of Population and Housing, 2011

It is noteworthy is that when Place of Work within the RGA is considered (Table 31), two new occupation groups appear in the most common occupations for male employees, 'Engineering, ICT and Science Technicians' and 'Health Professionals'. While further analysis would be needed to verify such a hypothesis, it could be that these occupations bring male residents from elsewhere into the RGA to work.

Table 32. RGA Place of Work, Female Employees by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Sales Assistants and Salespersons	4,787	10.4%
2	Health Professionals	4,048	8.8%
3	Carers and Aides	3,763	8.2%
4	Education Professionals	3,444	7.5%
5	Numerical Clerks	2,327	5.0%
6	General Clerical Workers	2,283	5.0%
7	Hospitality, Retail and Service Managers	1,901	4.1%
8	Inquiry Clerks and Receptionists	1,871	4.1%
9	Hospitality Workers	1,677	3.6%
10	Business, Human Resource and Marketing Professional	1,437	3.1%
11	Sales Support Workers	1,412	3.1%
12	Cleaners and Laundry Workers	1,347	2.9%
13	Specialist Managers	1,319	2.9%
14	Office Managers and Program Administrators	1,297	2.8%
15	Health and Welfare Support Workers	994	2.2%
	Subtotal Top 15 Occupations	33,907	73.6%
	All other Occupations	12,185	26.4%
	Total employed persons	**46,092**	**100.0%**

Source: ABS Census of Population and Housing, 2011

A somewhat different pattern is evident with occupations held by females by place of work, Table 32. With the exception of 'Health and Welfare Support Workers' replacing 'Sports and Personal Service Workers', when compared to Table 29 relating to employed female RGA residents there was no marked change.

4.4.5 Incomes

The male and female residents that make up the employment population in the region are differentially involved in the labour market, as discussed above. Their earnings (see Table 33) reflect these patterns.

Table 33. RGA Residents by Employment Status, Personal Income (Weekly) and Sex, 2011

		Male Total		Female Total		Total	
		Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	Not stated	229	0.5%	215	0.9%	**444**	**0.6%**
	Not applicable	508	1.1%	280	1.2%	**788**	**1.1%**
	Negative income	1082	2.3%	502	2.2%	**1,584**	**2.3%**
	Nil income	2845	6.1%	2205	9.7%	**5,050**	**7.3%**
	$1-$199 ($1-$10,399)	6501	13.9%	4878	21.5%	**11,379**	**16.4%**
	$200-$299 ($10,400-$15,599)	7059	15.1%	4115	18.2%	**11,174**	**16.1%**
	$300-$399 ($15,600-$20,799)	7880	16.8%	4075	18.0%	**11,955**	**17.2%**
	$400-$599 ($20,800-$31,199)	5988	12.8%	2462	10.9%	**8,450**	**12.2%**
	$600-$799 ($31,200-$41,599)	7403	15.8%	2411	10.6%	**9,814**	**14.1%**
	$800-$999 ($41,600-$51,999)	6147	13.1%	1047	4.6%	**7,194**	**10.4%**
	$1,000-$1,249 ($52,000-$64,999)	101	0.2%	45	0.2%	**146**	**0.2%**
	$1,250-$1,499 ($65,000-$77,999)	807	1.7%	304	1.3%	**1,111**	**1.6%**
	$1,500-$1,999 ($78,000-$103,999)	0	0.0%	0	0.0%	**0**	**0.0%**
	$2,000 or more ($104,000 or more)	255	0.5%	129	0.6%	**384**	**0.6%**
	Total Full-time employed	**46,805**	**100.0%**	**22,668**	**100.0%**	**69,473**	**100.0%**
Employed, worked part-time	Not stated	2117	18.0%	4021	13.8%	**6,138**	**15.0%**
	Not applicable	1217	10.3%	3343	11.5%	**4,560**	**11.1%**
	Negative income	1348	11.4%	4315	14.8%	**5,663**	**13.8%**
	Nil income	2241	19.0%	7423	25.5%	**9,664**	**23.6%**
	$1-$199 ($1-$10,399)	1556	13.2%	4343	14.9%	**5,899**	**14.4%**
	$200-$299 ($10,400-$15,599)	943	8.0%	2084	7.2%	**3,027**	**7.4%**
	$300-$399 ($15,600-$20,799)	741	6.3%	1421	4.9%	**2,162**	**5.3%**
	$400-$599 ($20,800-$31,199)	458	3.9%	691	2.4%	**1,149**	**2.8%**
	$600-$799 ($31,200-$41,599)	394	3.3%	487	1.7%	**881**	**2.2%**
	$800-$999 ($41,600-$51,999)	404	3.4%	278	1.0%	**682**	**1.7%**
	$1,000-$1,249 ($52,000-$64,999)	36	0.3%	39	0.1%	**75**	**0.2%**
	$1,250-$1,499 ($65,000-$77,999)	204	1.7%	467	1.6%	**671**	**1.6%**
	$1,500-$1,999 ($78,000-$103,999)	0	0.0%	0	0.0%	**0**	**0.0%**
	$2,000 or more ($104,000 or more)	118	1.0%	211	0.7%	**329**	**0.8%**
	Total Part-time employed	**11,777**	**100.0%**	**29,123**	**100.0%**	**40,900**	**100.0%**

Source: ABS Census of Population and Housing, 2011

The pattern of earnings is markedly different between males and females. If full-time earnings are considered, 58.5 per cent of males in full-time employment earn more than a $1000 a week, while only 44.0 per cent of females in full-time employment earn this level of income. In the case of part-time work, 58.7 per cent of males earn less that $600 a week, while 65.0 per cent of women in part-time employment earn less than $600 a week.

As Chapter 6. Major Employment Divisions, demonstrates, the incomes of RGA residents must be understood in relation to the divisions they are employed and their occupations.

4.5 Regional Economy

The region is shifting away from an historic manufacturing base, particularly in relation to employment levels. Of note, however, most of the gross regional product is still derived from the Manufacturing Sector, with 2012 figures (CoGG 2013) showing that of the total $25.1bn Gross Regional Output in the CoGG, manufacturing accounted for $10.7bn (42.6 per cent). Manufacturing also accounts for 79.7 per cent of regional exports from the CoGG (CoGG 2013). Hence, it is unsurprising that a number of reports characterise the regional economy as still largely defined by 'heavy' or 'dirty' manufacturing (e.g. AEC Group 2011); however as indicated there are some trends towards clean manufacturing technologies (Begg 2013). While beyond the scope of this report, it is likely that there has been investment by a number of manufacturers in technologies and related capital investments with increases in added value. Such developments may impact on staffing levels as well as having training implications, often handled by the companies themselves.

Other sectors account for much smaller proportions of total gross revenue in the region (for example, Construction $1.9bn or 7.6 per cent; Rental, Hiring and Real Estate Services $1.8bn or 7.2 per cent; Health Care and Social Assistance $1.4bn or 5.6 per cent) (CoGG 2013).While these sectors contribute less to gross revenue for the region, the key industries examined in this report provide an important source of wages and income for the region. Within the City of Greater Geelong, Manufacturing contributes 15.6 per cent of the regions wages and salaries, Health Care and Social Assistance 15.0 per cent and Education and Training 11.4 per cent. These three sectors together with Retail Trade represent the major sectors of employment for the CoGG (CoGG 2013).

When comparing output by industry for the G21 Region with that of Victoria as a whole (using REMPLAN data), some key notes of difference can be observed. Again the strong role of Manufacturing in the region's economy is confirmed, with the sector accounting for 38.66 per cent of G21 Region output compared to 25.83 per cent of Victorian output. In contrast, Construction accounts for a greater proportion of Victorian output on a whole (10.62 per cent) than it does in the G21 Region (8.51 per cent), while the next largest industry contributors to output in the G21 Region are more comparable to Victorian levels (Rental, Hiring & Real Estate Services: G21 Region: 7.91 per cent, Victoria 7.32 per cent; Health Care & Social Assistance: G21 Region: 5.34 per cent, Victoria 4.41 per cent).

While manufacturing does still account for a significant part of the region's economy, in particular, in terms of output and value-add (CoGG 2013), it is a sector in decline, particularly in terms of employment within the region, and elsewhere. Thus, there is an understanding that the regional economy is in transition and may be on the cusp of major change. Indeed, with traditional employers in the region such as Alcoa, Ford and Avalon Airport, planning or enacting cuts to their production and/or workforces (Best 2012c), there is an increasing need to identify emerging industries, and to assess future skills and training resources and needs.

4.6 Skill shortages

The City of Greater Geelong (CoGG) Skills Shortages Report (2012b, p. 5) identifies a number of industries that reported skill shortages from 2010 through to 2012. Shortages were mostly reported in the 'Health Care and Social Assistance' sector (41.6 per cent). The data indicates that 76.2 per cent of positions in current shortage are for skilled or semi-skilled occupations, some of which are General Practitioners, Personal Care Assistants, Mechanics and Nurses. It is also anticipated that these shortages will continue in 2013. Sector specific skill shortages and skills gaps will be discussed in more detail in Chapters 6 to 9.

As an avenue for addressing regional skill shortages the CoGG Economic Development Unit, in partnership with the State and federal Government, has a 'Geelong Region Skilled Migration Project', which operates across the CoGG, Surf Coast Shire, Golden Plains Shire, Borough of Queenscliffe and Colac Otway Shire. The Skilled Migration Project provides assistance for the regional business community to source overseas professional if they are unable to fill critical skill shortages from the local labour market (CoGG n.d.).

4.7 Conclusion

The RGA is largely defined numerically by the City of Greater Geelong. Nonetheless, it is an area which adjacent to a relatively large urban area, with employment and related opportunities, namely Ballarat. In addition, there is evidence that a substantial number of employed residences work in Melbourne and its western environs. When at least 20.1 per cent of the employed residents in the RGA work outside the region it is indeed a porous employment region.

There is an almost even gender split across the region in relation to the employed population, but there are important differences between males and females, in relation to place of work, sector, employment status and earnings. Perhaps the most notable is that females are more likely to be employed on a part-time basis and earn less than males, whether in full-time employment or not. While the evidence suggests that males are more likely to live in the region and work outside it, more analysis is required on this subject.

While the population is increasing in the RGA, and there is an expectation that this will continue, trends across the sectors in terms of employment provision are uneven, in terms of their embededness and their prospects. In turn, this has implications for consideration of current and future skills needs.

Chapter 5. Three Plausible Scenarios

The RGA faces uncertain futures. Today, the region is at a crossroads, at a moment of choice about how and under what circumstances the region will develop. Critical to the future is the labour market profile of the RGA.

Concern about the possible futures for the RGA is widespread. The G21 Geelong Region Plan (2007) presents two hypothetical visions for 2050: Scenario 1 – What we want to avoid, and Scenario 2 – What we want to achieve. It notes the danger that the region will not change and will continue to be shaped by 'external factors' thereby not realising its 'full potential' (G21 2007, p. 85).

In the report presented below, three possible and plausible scenarios provide a benchmark for the analysis. They are extreme scenarios, informed by the research. Workshop participants who discussed and informed the scenario development recognised the potentiality of each future. These three scenarios highlight the importance of decisions about the way the region develops. The time is now and it is critical that the people of the region make informed decisions and take control of their future.

5.1 Scenario One – Geelong and its environs: A place for every generation

Six years on from the global financial crisis (GFC), in 2014 the world's financial markets had returned to a state of stability and general confidence. In Victoria, this had a particular impact in bringing a return of healthy growth in superannuation that prompted increasing levels of retirement in the late 2010s by those with sufficient capital and super. The Geelong region, and south to the Bellarine and the Great Ocean Road, saw a disproportionately large increase in the retired population in the second half of the decade, with demand for recreation, leisure, health and lifestyle amenities to suit the specific age demographic. Some of this demand was driven by those with health and wealth, seeking to maximise their retirement pleasure. However, some was driven by those needing specialised healthcare, but with limited funds beyond what was needed for day- to-day basic comforts.

Earlier in the decade, job growth was steady through 2013-5, but the local training sector was not then positioned appropriately to service the demand for new skills, resulting in local workers being trained for jobs that were no longer available. Employers looked to recruit workers from outside the region to meet their needs, with a resultant growth in the younger population with children, but linked to a decline in the post-Year 12 education sector.

Foreign investors took advantage of the growing research and development opportunities related to carbon fibres in the early 2010s, and this grew to embrace the growth in global demand for new uses for natural fibres such as jute in composite materials, as these replaced petro-chemicals in many applications. Initially, growth was based upon a small cluster of innovative businesses using imported materials sourced from Boeing, and focussing on niche market products.

In 2015, a commercial large-scale factory producing carbon fibre threads opened up near the Alcoa site, taking up under-utilised electricity supply to the site. The company, which employed some 600 skilled and semiskilled workers by 2018, had early reservations about making the investment due to concerns about suitable human resources within the region. In the local community, there was also some concern that ownership and much of the value chain of the operation was located offshore. It was recognised, from experience, that such operations were fragile and transferable.

This was shown in 2016 when, with a world market for aluminium that had remained highly competitive and over-provided, Alcoa decided to sell the smelter. However, it managed to secure a buyer who was interested in upgrading part of the facility, but with a downsized workforce. Even then, there was some concern from the company that local skills available were in short supply and might constrain their business plans. Their business case was based upon explicit agreements with Alcoa and Government that enabled them to employ migrant skilled labour. The questions raised about the capacity of local training providers to respond to new market demands relatively quickly became crucial in light of these developments. There was now a very clear perception that the training providers were slow and inflexible and, also, that young workers were no longer interested in taking up jobs in 'dirty' industries where career prospects were questionable.

In late 2016, in response to these pressures and encouraged by State and Federal Governments, both Labor at this time, the local education sector engaged in dramatic renewal and courses were redesigned in order to address the specific needs of the new industries. This included both direct training of suitable employees with technical skills for business within TAFE, nurturing of ‘soft’ skills in the University, and the fostering of relevant research that brought industry and education together in 5th generation business clusters.

In the four years to 2017, there had been concerted effort by various bodies, led by Enterprise Geelong from its inception in 2013, to address the key issue of poor levels of achievement in schools. A two-pronged approach directed the ‘thirty-somethings’ with family backgrounds of inter-generational unemployment into training, whilst their own children were targeted by a new ‘be all you can be’ approach to early development.

By 2016 the region was fully connected to the National Broadband Network and new, small-to-medium service operations were being established to take advantage of local and global connectivity. Also, the decision in 2014 to finally confirm Avalon International Airport with its direct rail links to Melbourne and Geelong was beginning to bear fruit with increased direct flights supporting both industry and tourism. The tourism sector was well served by the new training regime, in which local lobbying had been successful in bringing recognition of specific local needs within national and State policy frameworks.

The research focus on materials technology at Deakin University, linked to the new manufacturing facility for sustainable and lightweight composites found a key customer in Ford. Having struggled through the period to 2014, the car maker had re-established itself in the emerging market for 'green' cars, using a combination of global platforms and supply chains to feed into assembly of a new breed of models with local design and manufacturing input to meet Australian market needs. Deakin University itself was by then established as a key player in the local education and innovation sector through its innovative active learning programs, whilst operating within a global network of providers of high quality online core knowledge.

Early in the 2010s, the State Government supported V/Line's decision to increase the number of services along Melbourne-Marshal line. From late 2013, services operated every 20 minutes at peak times. As a result, a growing number of Geelong workers commuted to Melbourne for work and entertainment, but with the new industrial developments and a resurgent education sector, there was an increased trend for Melbourne-based workers commuting to Geelong for work and, to avoid peak travel, to use the facilities of the lively city centre, easily accessible to and from the railway station.

After years of deliberation and uncertainty, the Government finally endorsed plans for Corio Bay as Melbourne's second port in 2014, killing off Port of Hastings' aspirations and providing vital infrastructure funding and key policy support for private sector investment. Over the period to 2018, the initial water and land-based works enable the first shipments in and out of the new vehicle carrier terminal. By 2022, the vehicle trans-shipment trade had fully transferred to the Bay, with a 100 per cent increase in trade levels from 2012.

In 2023, we see Geelong and its surroundings as a district that offers secure and sustainable employment in new and regenerated industries and in a renewed education sector that embraces schools, TAFE and Deakin University. The city centre is vibrant and caters for all generations, with retail, entertainment and tourist attractions. The new port is busy. The only downside is that the quality of the water and the air is noted to be poor, particularly on the now regular very hot days, due to the level of industrial activity and port traffic. But, the majority of residents see this as a fair trade off for prosperity.

5.2 Scenario Two – Geelong and environs: A place in transition and a transitory population

During the period to 2015, the region saw a dramatic change in demographic, as a result of numerous factors, as follows, but characterised by an ageing population and an outward flow of younger people. As the population aged, government cuts, watering down of the National Disability Insurance Scheme, and restructuring to the health care industry—following the example of New Zealand in the early 2010s—led both to drastically reduced provision for the ageing population and, also, to declining job opportunities in what had been the region's most important service sector in the first decade of the century.

Globally, the fall-out from the GFC ran on through the 2010s, with initial signs of growth in the US economy faltering as the country finally fell off the 'fiscal cliff', China's growth bubble bursting, and Japan's focus on self-preservation precipitating currency war, at the same time as these two countries narrowly avoided real war, but with negative consequences for global confidence and cooperation.

Against this global backdrop, Ford and Alcoa's markets collapsed, government finally decided that enough was enough and refused to provide the requested billions of dollars of support and both closed down their Australian operations virtually overnight. From these major players to small local contractors, the ongoing job loss from the manufacturing sector led to growing disadvantage and unemployment which became very evident on the streets of the CBD around 2014, particularly to tourists who ventured off the ring road on their way to the Great Ocean Road and Bellarine, itself in any case a pretty depressed area of aged residents. To compound matters, continuing uncertainty and volatility in markets had led the Government cancel plans for a second port for Melbourne in 2014, after years of delay and debate about its location. The existing port facilities were then sweated to the limit, with no benefit to the Geelong region.

At the same time, the problems of poor school attainment and inter-generational unemployment grew worse and the failure of Enterprise Geelong to live up to expectations as a new champion of 'joined up government' meant that efforts to address core problems remained fragmented and, to many, appeared as mere sticking plaster on gaping wounds. With increased competition for limited resources, there was a lack of communication, trust, cooperation and coordination between public and private interests across a range of industries, resulting in considerable waste, confusion and

failure to resolve major workforce and skill development challenges and to engage in cooperative strategic planning.

The overall situation presented a major challenge for the region's tourism industry, its higher education sector, for downtown retailers and the hospitality industry, as well as for the real estate market. The city centre resembled a third world country in many respects, but this was dwarfed by the suburbs in which street after street of boarded up and burnt out abandoned houses were to be seen.

In what had appeared a positive step, in late 2013 the State Government had supported V/Line's decision to increase the number of services along the Melbourne-Marshal line to operate at every 30 minutes. However, this led to a growing number of Geelong residents seeking employment in Melbourne, but did not encourage any reciprocal travel into the depressed area.

In the early 2010s, there were continuing cuts to TAFE training and increased competition with private RTOs meant TAFE, group training and private training competed on price for a shrinking body of students. With cost the major driver, employers began to question the quality of training being delivered as 'qualified' workers appeared unable to perform basic tasks. Higher education also struggled with cuts to Federal Government funding, decreased international student enrolments, and local students selecting to study online courses from major US universities and the G8 rather than at regional campuses. Employers gave these certificates much higher credence when based upon industry needs and practices.

In depressed regional, national and global markets that were well connected by technology, potential investors were concerned and other parts of the country and of the world were perceived as performing much better in skills development and offering investment opportunities. Where there had been optimism in 2013 that the emergent carbon fibre materials development cluster, and existing nascent bio-tech and food clusters, would grow and develop, the continued fragmentation and the weaknesses in the education sector meant that they were not 'nourished' and they variously withered or migrated elsewhere.

In 2023, we see Geelong and its surroundings as a region of dereliction and continuing decline. An ageing population is largely without key health care facilities, whilst the young who have skills and determination to succeed in a very difficult world have largely left – most on a permanent basis, and some on a daily commuting basis, kept only by the low cost of housing and ease of transport to Melbourne. The major industries that gave the region is employment and wealth, and that sponsored its major sports team, have long gone and even the famous Geelong Cats are now a mere shadow of their former selves.

5.3 Scenario Three – Geelong and environs: 'The Time is Now! Ten Years On'

The headline above, from the Geelong Advertiser of 26 February 2023, introduces current Mayor of Geelong, Ms Saengdao Suttikul's look back over the last decade, and to the key event of 2013 that was a catalyst for change – then-Mayor, Cr Keith Fagg's official launch of Enterprise Geelong. At the start of 2013, in outlining his initiative, Cr Fagg was quoted in the Geelong Independent of 11 January as:

> "… looking for commercially-savvy people and (stating that) the process to find them is part of the structure that will go to council. There's nothing about individuals yet but my intention is that the board will be skills-based" (*Geelong Independent* 2013).

Many wondered exactly what 'skills bases' would be sought that current or previous initiatives had not embraced, and how these would – or would not – be integrated with this new initiative.

Between this initial vision and the official launch, there had been some fairly negative reports of Geelong's situation. The Geelong Advertiser of 19 February in the same year reported on a forum at Geelong West Town Hall, where a leading economist had stated that:

> "The mining boom is transforming Australia. While it is creating some jobs in mining centres, the high dollar and the drain of skilled labour from other industries is devastating big employers like tourism, agriculture and manufacturing… For cities like Geelong, that means the mining boom delivers a lot more pain than gain" (Lannen 2013).

There was, at that time, great uncertainty about the future of Geelong's major industrial employers, including Ford, Alcoa and Shell. Ford and Alcoa in particular were seen to be very exposed both to poor global trading conditions and to the high Aussie Dollar. Whilst there was some ground for optimism in the emerging fields of materials technology, particularly carbon fibres, and bio-medical technologies, the region was tarred with a reputation for high levels of intergenerational unemployment, low aspiration and a culture in which some youngsters questioned why they would take a lowly paid job in the service sector when they could make more from selling drugs or from burglary.

Whilst the region had seen many initiatives to address issues of poor educational attainment and family dysfunction, and to foster new industries for the information and digital age, these had had limited impact and success. Also, there was concern about an emerging undercurrent of racism as old employment disappeared and international students appeared more numerous and more affluent than the established community. There was a feeling that initiatives happened in isolation of each other, addressing single issues rather than the region in an holistic manner. Some likened these to sticking plasters on each wound as it appeared, but never dealing with the root causes.

It was in the face of these mixed signals that Cr Fagg officially launched Enterprise Geelong in mid-2013. Rather than offering a fanfare of grand aspirations, the somewhat low-key event outlined what appeared to many, on the surface, a bland set of initiatives. However, while some saw not much to celebrate here, others saw a clear vision of a future. They recognised the required cultural shift for the various governmental agencies, educational providers and involved industry partners.

The key focus of Enterprise Geelong was on fostering a transparent, collaborative culture that embraced all stakeholders in strategic action to address issues on the ground, and in the State and Federal parliaments. This was to be done, not from the inward-focused 'this is what we do' perspective that had prevailed until then but, very clearly from an outward-focused 'this is what our citizens and our businesses need' perspective. Here, 'the family' would be treated as a cohesive unit, and agencies would respond proactively to 'family needs', not with reactive service provisions. Also, small business would find a welcoming single point of access to supportive and encouraging entrepreneurial services, rather than multiple barriers of red tape and bureaucracy.

One of the first visible signs of the new approach was the launch of an integrated 'user- focused' agency – but not in the traditional sense of the word – to address issues of the 'fragmented family'. This brought together employers, educators, healthcare sectors, welfare groups, etc. to develop a number of models for family support. These addressed, holistically, early development needs, through teenage maturity and rebellion, parent (and grandparent) re-integration into society, seeing these live stages as intertwined – moving from a 'why bother' to a 'what's possible' culture.

Whilst developing these initiatives was a key step, giving them visibility and making them accessible was crucial. The new groups saw that the Victoria Government web site (http://www.vic.gov.au/) was not hugely informative, particularly on Geelong, but realised that there was NO web portal for Geelong itself! How had this slipped through? With a lead from City of Geelong Council, a user-friendly web portal was quickly set up, following the long-established South Australia model (http://www.sa.gov.au/) – here, over a decade earlier, a joined up exterior had, like most such portals, been set in front of existing service 'silos', but with individual leaders committed to joined up action. This portal linked government and non-governmental services with leisure, recreation and broad information. New and existing residents and businesses now had a 'one-stop shop' window to regional services, events and lifestyle information.

How were these various initiatives funded? The Council and other key players made the most of the region's location on the edge of, but central to the marginal constituency of Corangamite. Whilst the region had played the 'Corangamite card' often, here it was sweated to the maximum to gain investment support for these initiatives in the long and bitter run up to the 2013 Federal election, with its bizarre outcome.

This time was also used successfully to advocate for full electrification of the Marshall- Melbourne rail line, with V/Line being partially privatised in order to bring in the necessary capital in return for a new private sector management structure. By late 2016, the new line linked Geelong to Melbourne via Avalon International Airport every 20 minutes. The Airport was further strengthened in 2017 when Marand secured a defence contract which required them to increase production of components for fighter jets 5-fold. This resulted in substantial job growth in an emerging military-industrial complex centred on Geelong that required highly specialised aviation engineering skills. This defence aviation 'cluster' led to development of a commercial/defence arm for testing military aviation equipment at the Airport. In the second half of the decade, several other clusters emerged drawing on Deakin University research to seed new small business initiatives in the social enterprise and sustainability areas, addressing local issues to meet local needs and providing local opportunity.

Finally, how can we forget the role of the Geelong Cats? In the wake of the 2013 AFL scandals of alleged match fixing and drug abuse across the code, the Cats took a bold initiative to embed themselves firmly in the roll-out of Enterprise Geelong, bringing the new approach to life for those that would benefit from it most over the decade – those that had been marginalised and excluded.

In 2023, we see Geelong as a thriving, exciting and optimistic community of citizens, businesses, education providers and government that has been recognised for setting world-leading standards in new forms of social engagement and governance. The seeds were sown back in 2013 at that low-key launch.

5.4 The question

If these are three different and plausible scenarios, the question is how do we ensure that the Regional Geelong Area will change and develop to realise that 'The Time is Now'? To begin to answer this question, we present a detailed analysis of the regional labour market, in particular three embedded sectors in the RGA economy. This is followed by an analysis of the skills challenges facing the RGA as a whole and the possible ways forward to achieve an inclusive and prosperous future.

Chapter 6. Major Employment Sectors

The five ABS divisions with the highest number of RGA residents employed in 2011, in order of size are:

- Health Care and Social Assistance
- Retail Trade
- Manufacturing
- Construction
- Education and Training

These five divisions account for 55.8 per cent of employment for RGA residents. Both Health Care and Social Assistance and Education and Training are growing employment divisions. While Manufacturing remains an important contributor to the gross regional product, employment levels are falling. The Retail Trade division is a major area of employment and likely to expand, although this largely depends on the population growth and the prosperity of the region. Unlike the other sectors, residents employed in the Construction division are more mobile; generally with a higher proportion working outside the RGA (a more detailed statistical analysis of these five sectors is available in *Briefing Report Two*).

6.1 Health Care and Social Assistance

The RGA has a growing Health Care and Social Assistance sector. In 2011, 15,810 employed residents worked in the sector, an increase of 23.2 per cent since 2006. Further 82.6 per cent of residents (12,883) worked in the region, while 18.5 per cent (2,927) worked outside. This growth is occurring with reference to an ageing population and a range of public health challenges, such as the rise of preventable illness and disease. Existing industry operators are expanding their operations, such as Barwon Health (the region's single largest employer). In part, this expansion is linked to the forward planning that is taking place in relation to the population growth predictions for City of Greater Geelong of 20 per cent by 2021 (Landy 2012a). Nonetheless, it is also due to new investments in the region, such as those proposed in relation to two hospitals in the RGA. Such developments as well as the planned expansion by the major health operator will lead to an on-going demand for medical, nursing, allied health professionals and administrative support staff.

Despite the phenomenal growth in the health sector within the region and beyond over the last few years, it is also a sector that is experiencing and is likely to continue to require an on-going replacement workforce due to its ageing workforce. Over a third of employees in this sector who are resident in the area are aged over 50 years, and therefore there is the strong possibility that it will require some 5,000 replacement workers in the next 10-15 years.

Not surprisingly, given the strong expansion in employment in this sector, shortages are already evident: Health Professionals 2011 – 53; 2012 – 33 and 2013 – 127 and Health and Welfare Support Workers and Carers and Aides: 2011 – 37; 2012 – 34 and 2013 – 35 (City of Greater Geelong 2012b, p. 8). A further dimension to consider is the gendered character of the workforce, with substantially more female employees than males, the tendency for females to be employed part-time rather than full-time, and a disproportionate number of high income male employees in the sector.

Regardless of the current profile of employees within the sector in the region, there will be a growing need to train and recruit additional employees.

6.2 Retail Trade

Retail is a major sector in the overall economy. It accounts for 12.2 per cent of the RGA resident workforce in 2011, with 82.6 per cent working in the RGA. The major occupations in the sector are sales workers and managers, and related occupations. This workforce comprises mainly females, many of whom work part-time.

The retail trade experienced a significant growth period in terms of employment between 2001-2006, overtaking manufacturing as the largest single employment sector for residents in the region but there was a major decline in the number of RGA residents working in the sector by almost 2,500 jobs between 2006 and 2011. This decline is most likely due to the impact of the Global Financial Crisis, uncertainty about the financial future for households in the region and the move to on-line shopping among some segments of the population and sectors within the retail market.

There have been some signs of recovery, and given the population growth projections and plans in place including the redevelopment of the Geelong CBD, retail trade is likely to retain its present role in the RGA, if not expand. Moreover, retail is likely to remain a focus for young, and often female, part-time employment. In this respect, retail is likely to continue to require an expanding and skilled retail workforce in the foreseeable future.

Overall, employment in retail trade is likely to continue to track national trends, with added pressure from the uncertainty facing manufacturing in the RGA. Given these trends and the fact that retail is quite demand responsive, it is a questionable sector as a driver for growth and expansion.

6.3 Manufacturing

As noted, manufacturing has long been the foundation of the regional economy. It still provides local jobs for at least 9,754 residents and accounts for 10,703 workers in total. Given there were some 12,941 RGA residents found to be working in the sector there is a strong likelihood that some of the RGA resident employed in the sector will be working outside the region. Nearly a quarter of male residents in the sector are employed in 'Transport Equipment Manufacturing' and over a sixth (14.1 per cent) in 'Primary Metal and Metal Product Manufacturing' and over a quarter (26.8 per cent) of the female residents in the sector work in 'Food Product Manufacturing' and just under a fifth (19.1 per cent) in 'Textile, Leather, Clothing and Footwear Manufacturing'.

The manufacturing division was the highest single industry contributor to the City of Greater Geelong's gross regional product according to 2012 figures contributing 43 per cent (CoGG 2013). Within the City of Greater Geelong there are some 688 manufacturing companies (City of Greater Geelong 2012b).Major employers include Ford Motor Company, Alcoa (Aluminium and Rolled Products), Shell Refining, Godfrey Hirst and Golden Farms, and a number of these have questions over their futures, with closures and downsizing of major industry players such as Ford Motor Co. More generally, numbers of jobs within the sector have been declining for a number of years, as evident in other regions and locations throughout Australia over the last thirty plus years (Productivity Commission 2003).

In the next few years, the overall number of workers employed in this sector is likely to continue to decline, either because of closures or cut-backs in the region as well as a weakening in manufacturing more generally. Some of the region's largest manufacturers are likely to either reduce or cease their operations. This situation may become worse in years ahead as a consequence of the ageing manufacturing workforce resident in the area. Nonetheless, there is both a push and a pull here. On the one hand, the number of jobs for residents in the sector is declining overall and on the other, as employees take retirement both in the Area and elsewhere a proportion will need to be replaced.

The sector is undergoing change in the region, with mixed prospects for the future. The impacts on workers are not straightforward. While the sector offers declining job opportunities and many are losing their jobs within the sector, job opportunities are opening up for some as replacement workers are needed. This sector experiences skill shortages in the region in certain occupations: 97 positions over 2011/2012, accounting for 14 per cent of overall regional skill shortages (City of Greater Geelong 2011b) and 76 current and anticipated skill shortage positions for the 2012-2013 period, accounting for 13.1 per cent of overall shortages in the region (City of Greater Geelong 2012b). These shortages are 'Automotive and Engineering Trades Workers': 2011 – 10; 2012 – 25 and 2013 – 26 and 'Food Trades Workers': 2011 - 10; 2012 – 9 and 2013 – 12 among others (City of Greater Geelong 2012b). It is also a sector that is changing in technically innovative ways, as illustrated by clean technology and advanced manufacturing initiatives. These possibilities open up the prospect of a re-composition of the workforce in ways that remain unclear at this stage. For these reasons, the training and education of current, incoming and outgoing employees will be vital to the future of the regional economy.

A further complication to patterns of employment in the manufacturing sector is the distribution of workers across large enterprises and small and medium ones. Around 25 per cent of employees in the manufacturing sector are employed in enterprises with a reported 450 or more employees (see Table 26). The remainder are spread through a range of SMEs. This evidence suggests that these enterprises will not necessarily be a source of employment growth, even if labour productivity is improving (Mahmood 2008).

6.4 Construction

The construction industry is a major contributor to total regional production and is a major employer (REMPLAN 2012b). Currently, more than $2 billion worth of major construction projects are under way. This boom is led by the education and health sectors. The top four occupations employed in the sector include labourers, clerical and administrative workers, technicians and trades workers, and managers. This sector is made up mostly of small employers and owner-operators.

While 11,869 residents of the RGA worked in the construction division in 2011, only 6,129 of these also stated that their place of work was within the RGA. RGA residents who work outside the RGA in a known location account for 12.5 per cent (1,486) of the construction labour force. Of the remainder, the majority (20.9 per cent, 2,483) stated 'No fixed address' for their place of work, while a further 9.1 per cent (1,083) of the resident labour force worked in undefined areas. If there is future expansion of construction sites in the RGA, either in public and residential construction then there will be an increased demand for this type of skill. However, such a development is very much dependent on inward investment in the region and it is likely that the currently skilled workforce resident in the area could meet that demand.

The construction sector is diverse, including public and residential construction and related activity. It is the sixth largest employer in the region. Construction is highlighted as a significant growth area in a number of reports, defining it as a "propulsive industry". It may be more accurate to understand construction as important to employment but one that cannot necessarily provide an economic base for the region. It is highly vulnerable to peaks and troughs in the general economy. Nonetheless, the skills covered by the construction industry are likely to undergo some upskilling and reskilling as the economy increasingly moves in a low carbon direction, with the implications this has for the built environment. For this reason attention should be given to the future of this sector, in relation to others and as a set of occupations which will be the focus of skill change.

6.5 Education and Training

The size and composition of the education sector is very much dependent on government policy, even when privately supported. At a school level, this is a sector that is the focus of government attention and support. Moreover, as indicated above, changes in policy can refocus the sector in marked ways. In 2011, the Education and Training sector employed 10,777 people from the region, 8,686 who worked in the RGA and 2,091 who worked outside the region. Moreover, it has long been a sector of strong employment growth (DEECD 2011). Over two thirds of the people employed in this sector are female, with the majority employed in 'Preschool and School Education'.

The sector is expanding. The Department of Education (Barwon South West Region) is the second largest employer in the region, with Deakin University the third largest regional employer. Other major employers in the region are the Catholic Education System and The Gordon. In line with broader sector growth, all these major employers demonstrated growth in FTE staff over 2011 to 2012. Already there are signs of skill shortages in this sector, which is likely to increase over the next few years (City of Greater Geelong 2012b).

A further complication for the analysis of this sector is the failure of sizable numbers of RGA residents to complete a full school education (Best 2012f). The importance of this feature is that schooling is a foundation for the reskilling and upskilling that may take place as the local labour market evolves. If residents do not gain the requisite skills and training for new and emerging industries, it is likely appropriately skilled individuals will be brought into the region (Best 2012f).

It is a reasonable conclusion that there will be further expansion in this sector within the region. Further, if the goal of raising attainment levels is to be met then there is likely to be an increase in numbers employed in the sector.

6.6 Three key employment sectors

Following an analysis of the above five sectors (see *Briefing Report 2*), three were identified as critical for the future of the RGA. They are:

- Manufacturing
- Health Care and Social Assistance
- Education and Training

These three sectors are critical to the future of the region as a production and service economy. They are the definitive sectors of the economy, both in relation to transition and change, as well as in relation to skills capacities, future job opportunities and assisting resident displaced workers.

The reason for focusing the analysis on the three listed sectors is that the RGA's future economic success will be built around its historical and emerging industry strengths, its existing plans and activities for the region and its connections beyond the region. These sectors are embedded in the regional economy more so than other types of industries. While sections of the manufacturing sector are not tied to a particular geography, they are historically defining features of the regional economy. It is important therefore that the three sectors remain at the heart of the regional economy, rather than seeking to parachute in new or replacement industries. An understanding of both the capacities (strengths and limitations of each sector) and their value-adding potential becomes vital. This inter-related production and service-oriented focus enables a consideration of the competition between the sectors for labour, land usage and the use and exploitation of resources. It also provides the framework for a comprehensive analysis of the opportunities for and barriers to investment, job growth, and skill development within each sector. Further, this approach raises important questions relating to the form of governance that will enable a positive future for the region and balances the needs of its diversified industries in a sustainable manner.

The analysis demonstrates two sets of possible developments within the RGA labour market in relation to jobs and skills. First, there is a process of likely job replacement and replenishment in process, which characterises some sectors more than others. Second, some sectors are likely to experience growth and expansion, as a result of sector growth and innovation. Each trend has implications for the assessment of jobs and skills futures. A further development that complicates these two trends is that it is likely that the process of contraction and hence job displacement in some companies in the manufacturing sector will continue. To what degree and through what assistance workers displaced from one sector can be transitioned to take advantage of job opportunities in emerging or more vibrant industries is another consideration. This backward trend in certain sectors has to be factored into the analysis and provides a critical reference for the two trajectories that are in process. Overlaying these possibilities, the resident employed population is split between the regional labour market and beyond, a process of 'metropolitisation' of the region.

The presentation of the analysis is done sequentially according to the following logic.

- Manufacturing: The area has long had manufacturing at the core of the RGA economy. While there are changes underway, which in the medium term could reposition the sector, it remains a core reference. For this reason, manufacturing is dealt with first, as the base line for changes underway.
- Health Care and Social Assistance: This sector is a major area of employment in the RGA as well as the focus of health and social care provision for the population. It is expanding in major ways, with plans agreed to expand in relation to health policy and higher education activity in the RGA.
- Education and Training: The themes addressed by the analysis are brought together via education and training. This Division is not only a major and expanding sector it is also a critical player in the promotion and delivery of qualifications associated with skills, the enhancement of the skills profile in the region and the reskilling of current and displaced workers.

Chapter 7. Manufacturing

The Manufacturing division is defined as including businesses 'engaged in the physical or chemical transformation of materials, substances or components into new products (except agriculture and construction)' (ANZSIC 2006, Revision 1.0). The RGA has a relatively diverse manufacturing base that includes automobile, metal, food and textile manufacturing, chemical and oil refining, timber processing and engineering. The heart of the region's Manufacturing division is found within the City of Greater Geelong. Within the City there are some 688 manufacturing companies (City of Greater Geelong 2012b). This division was the highest single industry contributor to the City of Greater Geelong's gross regional product according to 2012 figures contributing 43 per cent (CoGG 2013).

While manufacturing has historically been the foundation of the RGA economy it current struggles with a number of structural challenges making it difficult for local manufacturers to remain competitive and viable. The high Australian dollar, competition from imported products and offshoring of labour intensive manufacturing processes has contributed to a steady decline in employment in the Manufacturing division over the past decade. It was widely perceived by research participants that the importance of manufacturing to the region's economy and employment would continue to decline. This view is underpinned by a number of developments including Alcoa's announcement in June 2012 that their Geelong plant's future could only be guaranteed until 2014, Ford suggesting they might cease operations at their Geelong engine plant by 2016, Boral's decision to end clinker production and axe 90 jobs at its Waurn Ponds facility in January 2013, and Shell's deciding to sell its Corio refinery in April 2013. Despite these broadly accepted views, manufacturing still accounts for the highest single industry contribution to gross regional product for the Geelong region (AEC Group 2011). While there is plenty to be pessimistic about there are some positive developments occurring within the division (see 7.3 Future Opportunities).

The significant changes occurring within the division are having uneven result for employees across its 16 sub-divisions. These sub-divisions include: food, product manufacturing; beverage and tobacco product manufacturing; textile, leather, clothing and footwear manufacturing; wood product manufacturing; pulp, paper and converted paper product manufacturing; printing; basis chemical and chemical product manufacturing; polymer product manufacturing; non-metallic mineral product manufacturing; primary metal and metal product manufacturing; fabricated metal product manufacturing; transport equipment manufacturing; machinery and equipment manufacturing; and furniture and other manufacturing. As Table 34 highlights, 'Transport Equipment Manufacturing', 'Primary Metal and Metal Product Manufacturing', and 'Food Product Manufacturing' accounting for 43.3 per cent of RGA residents employed in the Division in 2011.

Table 34. RGA Residents Employed in the Manufacturing Division by Sub-Division and Sex, 2011

	Regional Geelong Area					
	Male		**Female**		**Total**	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Transport Equipment Manufacturing	2,180	21.1%	219	8.3%	**2,399**	**18.5%**
Primary Metal and Metal Product Manufacturing	1,453	14.1%	139	5.3%	**1,592**	**12.3%**
Food Product Manufacturing	897	8.7%	702	26.8%	**1,599**	**12.4%**
Textile, Leather, Clothing and Footwear Manufacturing	523	5.1%	501	19.1%	**1,024**	**7.9%**
Manufacturing, nfd	843	8.2%	184	7.0%	**1,027**	**7.9%**
Fabricated Metal Product Manufacturing	714	6.9%	92	3.5%	**806**	**6.2%**
Machinery and Equipment Manufacturing	617	6.0%	135	5.1%	**752**	**5.8%**
Wood Product Manufacturing	657	6.4%	75	2.9%	**732**	**5.7%**
Non-Metallic Mineral Product Manufacturing	664	6.4%	82	3.1%	**746**	**5.8%**
Petroleum and Coal Product Manufacturing	555	5.4%	81	3.1%	**636**	**4.9%**
Basic Chemical and Chemical Product Manufacturing	366	3.5%	110	4.2%	**476**	**3.7%**
Furniture and Other Manufacturing	268	2.6%	58	2.2%	**326**	**2.5%**
Printing (including the Reproduction of Recorded Media)	181	1.8%	101	3.9%	**282**	**2.2%**
Beverage and Tobacco Product Manufacturing	162	1.6%	76	2.9%	**238**	**1.8%**
Polymer Product and Rubber Product Manufacturing	177	1.7%	34	1.3%	**211**	**1.6%**
Pulp, Paper and Converted Paper Product Manufacturing	63	0.6%	34	1.3%	**97**	**0.7%**
Total employed residents	**10,320**	**100.0%**	**2,623**	**100.0%**	**12,943**	**100.0%**

Source: ABS Census of Population and Housing, 2011

These sub-divisions accounted for around 44 per cent of all males and 40 per cent of all females in the division. Overall, far more male than female RGA residents work in this division. Employment in the 'Transport Equipment Manufacturing' sub-division which includes Motor Vehicle and Motor Vehicle Part Manufacturing, has witnessed the most significant decline of the sub-divisions between 2006 and 2011. In contrast, Food Manufacturing increased by 746 jobs and jumped to third place in terms of major employment subdivisions in 2011.

Like other Victorian manufacturing regions (e.g. Ballarat, Bendigo, Latrobe Valley) one of the characteristics of the RGA's manufacturing divisions is that it is dominated by a few large employers whom smaller manufacturing and engineering firms rely upon for business activity. The major employers who dominate these sub-divisions include Ford Motor Company (employing around 700 workers), Alcoa (Aluminium and Rolled Products) (employing 610 workers), Shell Refining (employing 458 workers), Godfrey Hirst (employing 470 workers) and Golden Farms (Turi Foods) (employing 496 workers) (City of Greater Geelong 2011a).

Many of these major manufacturers rely upon inter-organisational networks and partnerships between independent companies for their ongoing operations. In some cases, these inter-organisational relationships have come about through outsourcing and delayering of the business activities of these firms and in other cases they have evolved through the need to secure specialised components and other materials for their operations. This situation has resulted in many of Geelong's small to medium sized (SMEs) manufacturing, engineering and maintenance companies becoming integrated into a supply chain tied to these major manufacturers. The reliance of SMEs in the manufacturing and engineering sector in these major manufacturers varies with some companies having over 60-70 per cent of their business activity dependent upon one major manufacturer (e.g. Shell or Alcoa).

The extent to which the major firms rely on independent local companies varies from one company to another and over time. Ford, for example, at one time relied upon a large number of local auto component companies which supported the development of these firms within the region. With reductions in the scale of work carried out at Geelong's Ford plant and decisions to source auto components from outside the region, the number of local engineering and manufacturing companies integrated into Ford's supply chain has been substantially reduced. The inter-organisational relationships and supply chains tied to Alcoa and Shell, however, are much more extensive. According to some estimates, for every worker employed directly by Alcoa there are 4-5 workers employed by other companies providing inputs and services to Alcoa. These employment multipliers are significant and decisions by Alcoa, Shell and other firms who rely on disaggregated and outsourced business models to reduce their operations or acquire inputs and services from elsewhere will have major ramifications for other companies and jobs in Geelong.

Compared to the much reported job losses that have occurred as a consequence of major firms reducing their respective workforces, the associated job losses from these smaller manufacturing and engineering firms tend to be given little attention and little is known about them. How much these smaller firms are impacted by decisions of larger companies (e.g. Ford, Shell and Alcoa) and how they are responding to changing market conditions has significant skills implications for the division. The following discussion provides a more detailed analysis of the current state of the manufacturing division's labour market. This is followed by a discussion of where opportunities are being identified by employers and industry representatives and the implications of both the challenges and opportunities for future skill and job opportunities within the division. Finally, later sections of this report consider the future skills needs and skill alignment within the manufacturing sector (see 11.2.1 Manufacturing) and the assistance provided to displaced workers (11.3 Assisting Displaced Workers).

7.1 The manufacturing labour market

While employment within the industry has declined significantly over the past two decades, manufacturing remains a significant industry in the region and the skills base of a large section of the regional labour force is connected to it. This Division remains the third largest employer for RGA residents with a relatively small number of workers (918, or 8.6 per cent) residents from outside the region.

7.1.1 Sub-divisions by place of work

Three quarters of the residents of the RGA employed in the Manufacturing division have a place of work within the RGA (9,763, 75.4 per cent), as demonstrated below in Table 35.

Table 35. RGA Residents Employed in the Manufacturing Division by Place of Usual Residence and Place of Work, 2011

	Place of Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Place of Work is RGA	569	49.0%	8,464	78.5%	43	66.2%	687	73.6%	**9,763**	**75.4%**
Place of Work is other LGA	472	40.7%	1,336	12.4%	10	15.4%	168	18.0%	**1,986**	**15.3%**
Place of Work unspecified (VIC)*	23	2.0%	192	1.8%	0	0.0%	17	1.8%	**232**	**1.8%**
Place of Work State, Territory Undefined (VIC)	77	6.6%	605	5.6%	6	9.2%	39	4.2%	**727**	**5.6%**
Place of Work unspecified Other States*	4	0.3%	32	0.3%	6	9.2%	7	0.8%	**49**	**0.4%**
Not Stated	16	1.4%	156	1.4%	0	0.0%	15	1.6%	**187**	**1.4%**
Total Employed Persons	**1,161**	**100.0%**	**10,785**	**100.0%**	**65**	**100.0%**	**933**	**100.0%**	**12,944**	**100.0%**

*Place of Work unspecified includes RGA Residents who stated 'No Fixed Address' and 'Unincorporated areas'

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells

Source: ABS Census of Population and Housing, 2011

Of those residents that work within the RGA, 86.7 per cent (8,464 people) work within the City of Greater Geelong LGA, which is an indication of the locality of many manufacturing businesses. A further 15.3 per cent of RGA residents working in Manufacturing (1,986 employees), work outside the RGA in a known location while 9.2 per cent of RGA residents work in manufacturing but have not specified their place of employment or work in an undefined area; some of these workers may be employed in the RGA.

In 2011, some 1,047 RGA residents working in manufacturing were employed in Greater Melbourne, 396 work in Ballarat and 283 in Wyndham, as displayed below in Table 36.

Table 36. Employed RGA Residents in the Manufacturing Division by Place of Work and Place of Usual Residence, 2011

		Place of Residence									
		Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Total	Place of Work is RGA	573	49.4%	8,463	78.4%	56	94.9%	689	73.9%	9,781	75.6%
	Place of Work is Greater Melbourne	48	4.1%	890	8.2%	0	0.0%	109	11.7%	1,047	8.1%
	Place of Work Ballarat	372	32.1%	16	0.1%	0	0.0%	8	0.9%	396	3.1%
	Place of Work Wyndham	16	1.4%	254	2.4%	0	0.0%	13	1.4%	283	2.2%
	Place of Work Other*	151	13.0%	1,170	10.8%	3	5.1%	113	12.1%	1,437	11.1%
Total Persons, Place of Work		1,160	100.0%	10,793	100.0%	59	100.0%	932	100.0%	12,944	100.0%

*Place of Work Other includes all other areas, 'No fixed address' and 'unincorporated areas'
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

Roughly half of residents from the Golden Plains LGA working in manufacturing work outside the RGA. This may be attributed to Golden Plains' proximity to Ballarat which also has a significant manufacturing sector.

Residents of the RGA that work in manufacturing are spread across the 16 sub-divisions of the industry. The three highest employing sub-divisions for residents of the RGA are 'Transport Equipment Manufacturing' (2,402 or 18.6 per cent of resident employees in manufacturing), 'Food Product Manufacturing' (1,608 or 12,4 per cent) and 'Primary Metal and Metal Product Manufacturing' (1,587 or 12.3 per cent).

As noted above in Table 36, a proportion of RGA residents employed in manufacturing have a place of work outside of the RGA, with the majority commuting to Melbourne. The largest number of RGA residents employed in the Manufacturing division that commute to Melbourne comes from four sub-sectors:

- Transport Equipment Manufacturing: 254 (10.6 per cent of the sub-sector)
- Food and Beverage Manufacturing: 152 (9.5 per cent of the sub-sector)
- Basic Chemical and Chemical Product Manufacturing: 104 (21.9 per cent of the sub-sector)
- Machinery and Equipment Manufacturing sub-sectors: 103 (13.9 per cent of the sub-sector).

Whilst not numerically large, the proportion of RGA residents from a number of other sub-sectors who worked in Greater Melbourne was just under 20 per cent of the sub-sector:

- Printing (including the Reproduction of Recorded Media) (19.6 per cent)
- Beverage and Tobacco Product Manufacturing (17.2 per cent)
- Polymer Product and Rubber Product Manufacturing (18.8 per cent)
- Pulp, Paper and Converted Paper Product Manufacturing (19.4 per cent)

When the RGA is considered as a place of work, manufacturing is relatively self-contained, as indicated in Table 37.

Table 37. All Persons Employed in the RGA in the Manufacturing Division by Place of Work and Place of Usual Residence, 2011

	Place of Work									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Residents of RGA	173	88.3%	9,251	91.1%	16	100.0%	319	96.7%	**9,759**	**91.3%**
Residents of other LGA	23	11.7%	884	8.7%	0	0.0%	11	3.3%	**918**	**8.6%**
Residence unknown*	0	0.0%	17	0.2%	0	0.0%	0	0.0%	**17**	**0.2%**
Total Persons, Place of Work	**196**	**100.0%**	**10,152**	**100.0%**	**16**	**100.0%**	**330**	**100.0%**	**10,694**	**100.0%**

*Residence Unknown includes 'No fixed address' and 'unincorporated areas'
Source: ABS Census of Population and Housing, 2011

In 2011, there were 10,694 manufacturing workers employed in the RGA. The overwhelming majority of these workers also lived in the RGA (91.3 per cent) but there is also a proportion of the workforce that commute to the RGA for employment, 8.6 per cent (918) and a small proportion who work in the RGA from unknown locations, 0.2 per cent. Among the non-RGA residents working in manufacturing located within the RGA 96.3 per cent (884) work in the Greater Geelong area.

The highest proportion of workers commuting into the RGA for manufacturing employment originating from the Greater Melbourne area are employed in the 'Transport Equipment Manufacturing' sub-sector. 'Petroleum and Coal Product Manufacturing' sub-sector. Of the 274 residence of Greater Melbourne working in the RGAs manufacturing division, 86 worked in the 'Transport Equipment Manufacturing' sub-sector and 68 worked in the 'Petroleum and Coal Product Manufacturing' sub-sector.

7.1.2 Educational attainment and employment status

The employed residential population in the Manufacturing division mainly held Certificate qualifications, although a substantial proportion of the division's employees did not hold a Non-School Qualification, as indicated by Table 38.

Table 38. RGA Residents Employed in the Manufacturing Division by Qualification Attainment and Sex, 2006 and 2011

	2006						2011						Difference 2006 and 2011					
	Male		Female		Total		Male Total		Female Total		Total		Male Total		Female Total		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Postgraduate Degree	145	1.2%	34	1.1%	179	1.2%	181	1.8%	34	1.3%	215	1.7%	36	24.8%	0	0.0%	36	20.1%
Graduate Dip / Graduate Ce	68	0.6%	24	0.8%	92	0.6%	83	0.8%	32	1.2%	115	0.9%	15	22.1%	8	33.3%	23	25.0%
Bachelor Degree	886	7.5%	339	11.3%	1,225	8.3%	886	8.6%	269	10.3%	1,155	8.9%	0	0.0%	-70	-20.6%	-70	-5.7%
Advanced Diploma / Diplom	816	6.9%	257	8.6%	1,073	7.3%	769	7.5%	261	10.0%	1,030	8.0%	-47	-5.8%	4	1.6%	-43	-4.0%
Certificate	4,663	39.6%	381	12.7%	5,044	34.1%	4,282	41.5%	413	15.8%	4,695	36.3%	-381	-8.2%	32	8.4%	-349	-6.9%
Inadequately described	131	1.1%	34	1.1%	165	1.1%	71	0.7%	23	0.9%	94	0.7%	-60	-45.8%	-11	-32.4%	-71	-43.0%
Not stated	420	3.6%	130	4.3%	550	3.7%	290	2.8%	95	3.6%	385	3.0%	-130	-31.0%	-35	-26.9%	-165	-30.0%
Not applicable	4,648	39.5%	1,799	60.0%	6,447	43.6%	3,759	36.4%	1,495	57.0%	5,254	40.6%	-889	-19.1%	-304	-16.9%	-1193	-18.5%
Total Count of Qualification	**11,777**	**100.0%**	**2,998**	**100.0%**	**14,775**	**100.0%**	**10,321**	**100.0%**	**2,622**	**100.0%**	**12,943**	**100.0%**	**-1456**	**-12.4%**	**-376**	**-12.5%**	**-1832**	**-12.4%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2006 and 2011

In 2011, the most common Non-School Qualification for RGA residents employed in the Manufacturing division was Certificate Level, held by 36.3 per cent of the total division's workforce. Diplomas and Bachelor Degrees had been attained by around 8 per cent of RGA residents employed within the division, while Graduate Diplomas or Certificates and Postgraduate Degrees were held by just 0.9 per cent and 1.7 per cent respectively. Males with the highest Non-School Qualification at the Certificate level account for the largest portion of this workforce.

Over half of all employed females (57.0 per cent) in the Sector fall into the 'Not applicable' category, suggesting that they do not hold a Non-School Qualification. The comparative portion of male employees is 36.4 per cent, again indicating that employed male residents within the division are more likely than females to hold a Non-School Qualification. Female RGA residents employed in Manufacturing are less likely to hold a Certificate level qualification (15.0 per cent of female employees compared with 41.5 per cent of male employees). Nonetheless, they are more likely than males to hold qualifications, Advanced Diploma/Diploma, Bachelor degree and Graduate Diploma/Graduate Certificate (females – 21.5 per cent and males – 16.9 per cent).

Between 2006 and 2011, RGA residents employed in the Manufacturing division with higher degree qualifications were less vulnerable to job loss than those with a Bachelor degree or lower. When compared to 2006, there has been an increase in those employees with higher qualification levels, for Postgraduate Degree by 36 employees and Graduate Diploma/Certificate by 23 employees resident in the region. However, more generally during the five year period from 2006 there has been around a 5.0 per cent decline in those possessing Certificate, Advanced Diploma/Diploma, and Bachelor Degree qualifications. Further, there have been decreases in the Not Applicable category, the least qualified of employees. Of the 1,832 jobs lost by RGA residents working in the division between the 2006 and 2011 census period, 65 per cent were in the Not Applicable category.

The majority of employed residents in the Manufacturing Division work full-time, although there is a sizeable proportion who work part-time. Significantly 87.2 per cent of male workers employed in the division worked full-time while only 54.2 per cent of female employees resident in the region were employed full-time, Table 39.

Table 39. All Persons Employed in the Manufacturing Division by Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	10,283	87%	1,821	61%	12,104	81.9%	8,997	87.2%	1,422	54.2%	10,419	80.5%	-1286	-13%	-399	-22%	**-1685**	**-13.9%**
Employed, worked part-time	873	7%	1,006	34%	1,879	12.7%	803	7.8%	1,066	40.6%	1,869	14.4%	-70	-8%	60	6%	**-10**	**-0.5%**
Employed, away from work	620	5%	172	6%	792	5.4%	520	5.0%	135	5.1%	655	5.1%	-100	-16%	-37	-22%	**-137**	**-17.3%**
Total employed residents	**11,776**	**100.0%**	**2,999**	**100.0%**	**14,775**	**100.0%**	**10,320**	**100.0%**	**2,623**	**100.0%**	**12,943**	**100.0%**	**-1456**	**-12%**	**-376**	**-13%**	**-1832**	**-12.4%**

Source: ABS Census of Population and Housing, 2006 and 2011

Between 2006 to 2011, there was an overall decline of 12.4 per cent in the number of employees within the Manufacturing division, proportionally equal between male and females. However, there was a 21.9 per cent decrease in female full-time employment between 2006 and 2011. This decline was more evenly distributed for males, across both full-time and part-time employees. This contraction within the manufacturing sector is likely to have particular implications for training and skills development within the sector. Young workers and prime age workers are less likely to take on training for occupations that appear to be in decline and employers have been reluctant to take on apprentices. In general, this sector will need to balance retirement and retrenchment processes with the necessity of retaining or adapting existing skill sets.

7.1.3 Occupations and age

Some occupational categories within the manufacturing division are significantly gendered. Tables 40 and 41 provide the most common occupational categories for male and female workers employed in the manufacturing division in 2011.

Table 40. RGA Resident Males Employed in the Manufacturing Division by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Automotive and Engineering Trades Workers	1,879	18.2%
2	Machine and Stationary Plant Operators	1,131	11.0%
3	Specialist Managers	1,098	10.6%
4	Factory Process Workers	1,095	10.6%
5	Other Technicians and Trades Workers	749	7.3%
6	Design, Engineering, Science and Transport Professionals	544	5.3%
7	Construction Trades Workers	327	3.2%
8	Mobile Plant Operators	287	2.8%
9	Engineering, ICT and Science Technicians	281	2.7%
10	Electrotechnology and Telecommunications Trades Work	279	2.7%
11	Road and Rail Drivers	204	2.0%
12	Construction and Mining Labourers	202	2.0%
13	Business, Human Resource and Marketing Professionals	198	1.9%
14	Food Trades Workers	166	1.6%
15	Storepersons	164	1.6%
	All others	*1,715*	*16.6%*
	Total	**10,319**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Automotive and Engineering Trades Workers was the top occupation category for males, accounting for 1,878 employees or 18.2 per cent of all male employees; this was not one of the most common fifteen occupational categories for employed female residents (Table 41).

Table 41. RGA Resident Females Employed in the Manufacturing Division by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Factory Process Workers	298	11.4%
2	Machine and Stationary Plant Operators	264	10.1%
3	Sales Assistants and Salespersons	254	9.7%
4	Numerical Clerks	183	7.0%
5	General Clerical Workers	177	6.7%
6	Specialist Managers	170	6.5%
7	Office Managers and Program Administrators	113	4.3%
8	Business, Human Resource and Marketing Professionc	105	4.0%
9	Design, Engineering, Science and Transport Professio	94	3.6%
10	Other Clerical and Administrative Workers	81	3.1%
11	Inquiry Clerks and Receptionists	79	3.0%
12	Other Technicians and Trades Workers	76	2.9%
13	Cleaners and Laundry Workers	69	2.6%
14	Hospitality Workers	62	2.4%
15	Hospitality, Retail and Service Managers	59	2.2%
	All others	*540*	20.6%
	Total	**2,624**	**100.0%**

Source: ABS Census of Population and Housing, 2011

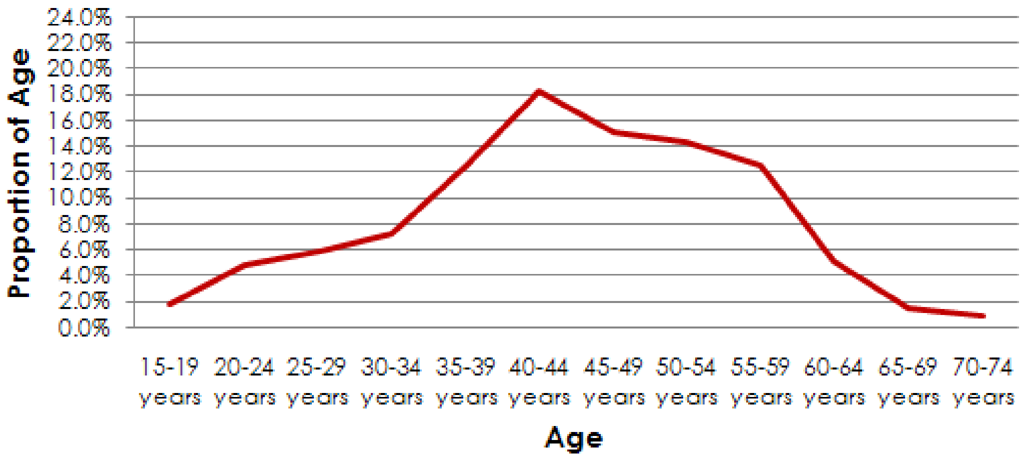
Other occupations commonly employing males but not females are Construction Trades Workers; Mobile Plant Operators; Engineering, ICT and Science Technicians; Electrotechnology and Telecommunications; Road and Rail Drivers; Construction and Mining Labourers; Storepersons; and Food Trades Workers. Likewise, of the most common occupations for females, there were a number that did not appear in the most common occupations for males. These included Sales Assistants and Salespersons; Numerical Clerks; General Clerical Workers; Office Managers and Program Administrators; Other Clerical and Administrative Workers; Inquiry Clerks and Receptionists; Cleaners and Laundry Workers; Hospitality Workers; and Hospitality, Retail and Service Managers.

The skill challenges associated with an ageing workforce was noted by a number of the research participants for this study. In many cases employers have relied upon natural attrition and early retirement as a way to reduce their employment numbers. This has changed the age profile of some organisations and the manufacturing labour market more generally but the ageing workforce still presents challenges for the division. In 2011, 31.6 per cent (4,088 workers) of the RGA residents employed in manufacturing were aged 50 or above. As the following figures illustrate, the age profile of some occupational categories within manufacturing division were significantly different from others.

When considering some of the more specific occupational categories, 'Mechanical Engineering Trades Workers' and 'Construction, Distribution and Production Managers' are where a number of workers are employed. In 2011, 989 RGA residents working in manufacturing were employed as Mechanical Engineering Trades

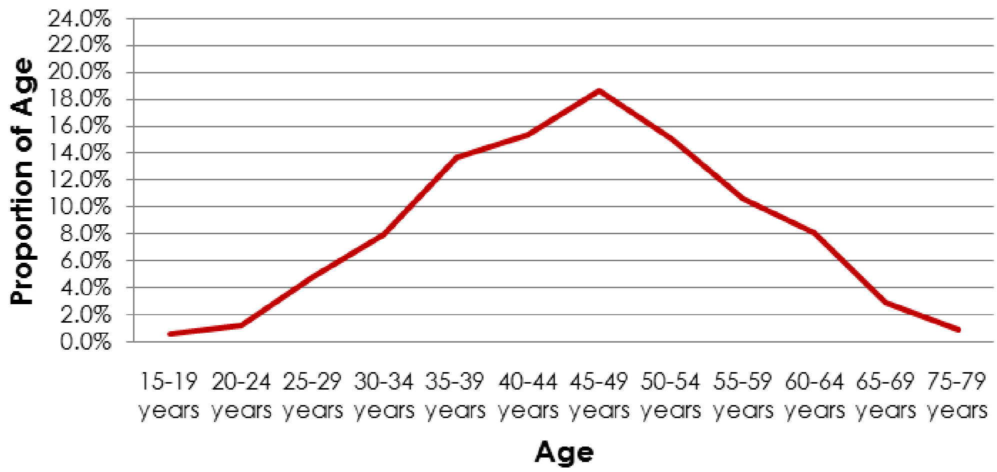
Workers and 885 were employed as Construction, Distribution and Production Managers'. Figures 9 and 10 provide the age distribution of workers employed within these two occupational categories.

Figure 9. RGA Residents Employed as 'Mechanical Engineering Trades Workers' by Proportion of Occupation and Age, 2011



Source: ABS Census of Population and Housing, Place of Usual Residence, 2011

Figure 10. RGA Residents Employed as 'Construction, Distribution and Production Managers' by Proportion of Occupation and Age, 2011



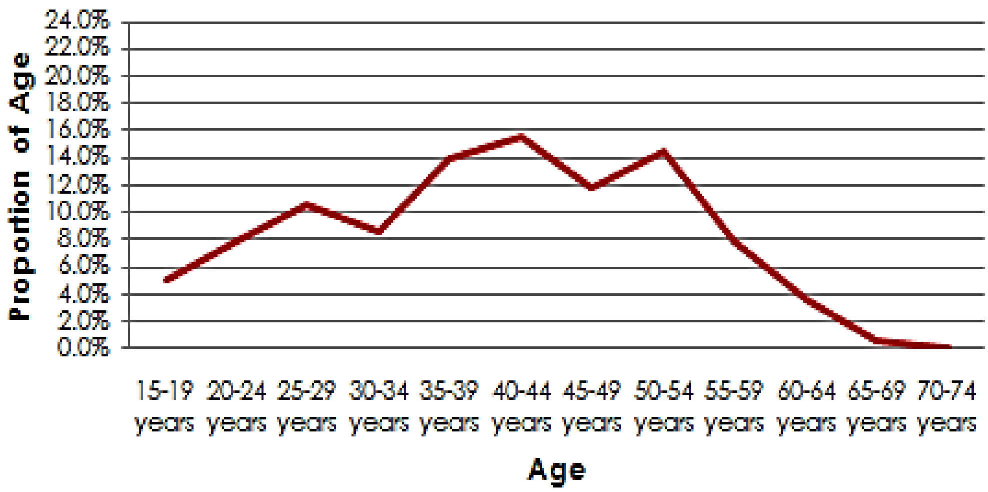
Source: ABS Census of Population and Housing, 2011

In both cases over a third of the sub-sector were over 50 years of age and in both cases there were few young workers found working within the occupational category. First, of the 'Mechanical Engineering Trades Workers' 34.5 per cent of workers were aged 50 years or over. Of particular note in this occupational group is the steep drop-off in workers under the age of 35 years. Second, 37.5 per cent of 'Construction, Distribution and Production Managers' are aged 50 years or over, although the age profile of the occupation does not suggest a dramatic decline in this occupation within the next 5-10 years. Overall, in both cases there appeared to be questions emerging in relation to both recruitment and replenishment.

A similar pattern was evident in a number of other occupational categories, Machine Operators (employing 697 workers), Stationary Plant Operators (employing 572 workers), Miscellaneous Factory Process Workers (employing 398 workers), and 'Miscellaneous Technicians and Trades Workers' (employing 377 workers). Each occupation comprises more than a third of workers 50 years of age or more; in the case of the 'Miscellaneous Technicians and Trades Workers' 41.9 per cent were in this bracket. This latter occupation's age profile has a significant drop-off under the age of 45, and given the relatively higher levels of skill and the longer training times needed for skill replacement this occupation may experience skill shortages over the medium term. In each case, there appeared to be few young workers entering the occupation, suggesting that in time there may be replenishment problems for these occupations. Of course, this also depends on the continued demand for the occupational skill in the RGA. It is also possible that younger workers may currently have the necessary skills but have not currently found employment within these occupations.

Another set of occupations showed different patterns in relation to age distribution. In the case of 'Packers and Product Assemblers', where 582 workers were employed, only 26.6 per cent of the category were 50 years or more and there is evidence of workers entering this occupation at an early age, indicated in Figure 11.

Figure 11. RGA Residents Employed as 'Packers and Product Assemblers' by Proportion of Occupation and Age, 2011

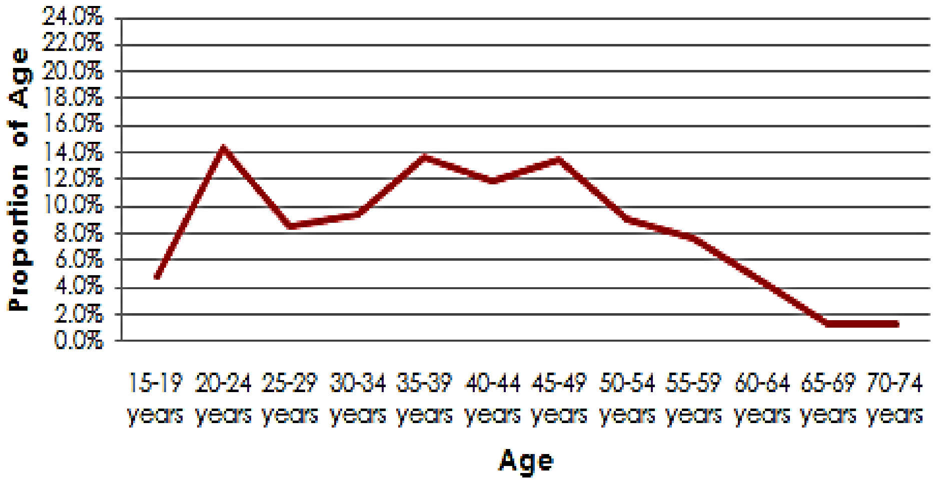


Source: ABS Census of Population and Housing, 2011

Insofar as this occupational category remains in demand in the area, there are no significant replenishment issues here.

In contrast, 'Fabrication Engineering Trades Workers', where some 657 workers were employed, over a third of workers were under the age of 35 years, as indicated in Figure 12.

Figure 12. RGA Residents Employed as 'Fabrication Engineering Trades Workers' by Age, 2011

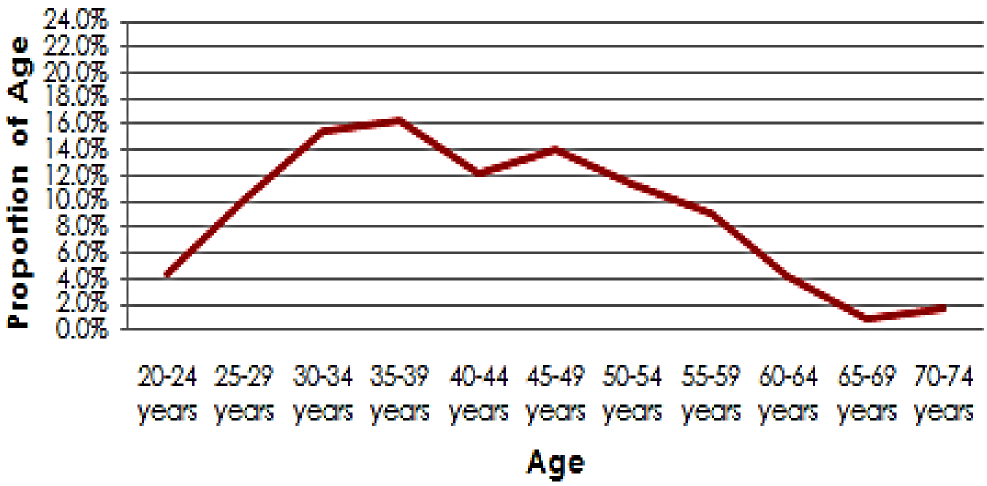


Source: ABS Census of Population and Housing, 2011

It will be important to maintain levels of training within this occupation as it is a relatively skilled occupation that will have ongoing employment opportunities across a number of manufacturing subsectors, including metal, plastic and advanced materials manufacturing.

A similar, but even more marked pattern is evident for 'Engineering Professionals', as indicated in Figure 13.

Figure 13. RGA Residents Employed as 'Engineering Professionals' by Proportion of Occupation and Age, 2011

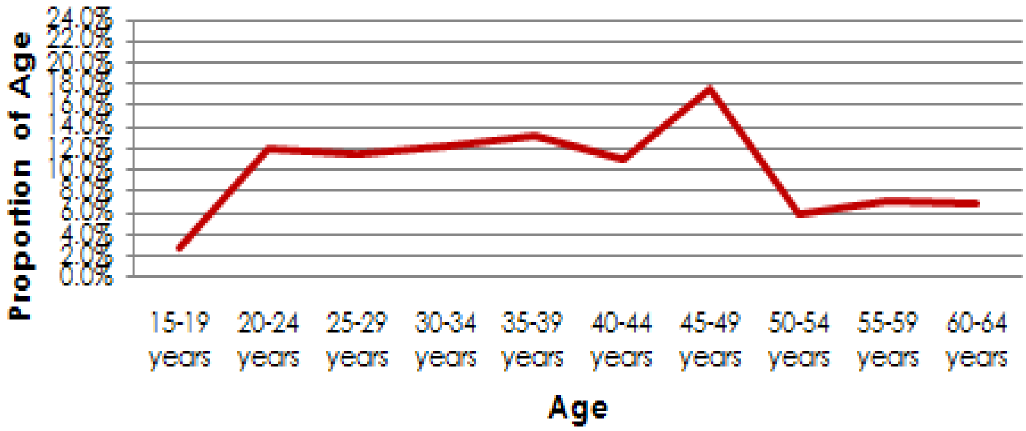


Source: ABS Census of Population and Housing, 2011

In 2011, 425 workers were employed as engineering professionals. A relatively low proportion (27.2 per cent) of these workers were aged 50 years or over while 30.1 per cent were aged less than 35. Engineering professionals are highly skilled, have a long training period and are highly sought after across a range of industries including manufacturing, mining and construction. Such a demand is likely to continue, especially if advanced manufacturing develops and adjustments towards value adding continues.

The most evenly spread occupational category was 'Food Process Workers' where 336 workers were employed. As indicated in Figure 14, while there is a spike in the numbers employed in the 40 – 49 age bracket, 28.6 per cent of the category, only 19.9 per cent of workers in this occupational category are aged 50 years or over.

Figure 14. RGA Residents Employed as 'Food Process Workers' by Proportion of Occupation and Age, 2011



Source: ABS Census of Population and Housing, 2011

While there may not be a problem of replenishment due to retirement for some time, there may be pressure on employers in relation to recruitment as demand for these capacities and competencies increases. In some cases, this is also an occupational category with high turnover and labour recruitment difficulties. The need to replenish the workforce in this particular instance has less to do with age factors than with labour turnover and the nature of the work, which can be less than desirable for many workers.

7.2 Current issues and initiatives

As with other parts of Australia, manufacturing industry in the RGA is undergoing a major transformation, with closures and downsizing of major industry players such as Ford, Shell, Boral, and Alcoa. In some cases, these developments are despite government aid to stem job losses (see *The Herald Sun* 17 November 2012; and Best 2012a). According to the Geelong Manufacturing Council (GMC, 2009) some of the key reasons the manufacturing division is under stress are:

- The high Australian dollar;
- Emergence of global supply chains impacting on cost of goods produced and sold;

- Higher cost of Australian labour and operators;
- Lack of market access from Australia forcing industry to relocate offshore; and
- High infrastructure provision, services, and taxation within Australia.

Manufacturing within the RGA operates within an environment of great uncertainty. Crucial decisions made by the major companies, such as Ford, Alcoa and Shell, are unlikely to take place locally and there will not be a lot local workers and the community can do about these decisions. State and Federal Governments have sought to support these firms through a range of initiatives. Government support for Alcoa to deal with carbon pricing, the high Australian dollar and low aluminium prices and the various government programs to assist the region's auto and auto component industry are obvious examples of attempts to support the established manufacturing base. Indications are, however, that despite the billions of dollars paid out over past decade to Ford and Alcoa they cannot guarantee they will continue production in the region. This situation has contributed to increasing political debate and public commentary about the use of government funds to support what are perceived as inefficient plants, often poorly managed. Nicholas Reece, a former senior advisor to Prime Minister Julia Gillard, for example, remarks:

> Government policy is not Ford's problem. Ford's problems are that it makes big cars that not enough people want to buy, it does not make a small or medium car like other local manufacturers, it has not developed export markets, and its investment decisions are made by Ford HQ in Shanghai and Detroit and priority is given to locations other than Australia (Reece 2013, p. 13).

With a growing public perception within and outside the RGA that many of the multinational owners of Geelong's traditional manufacturing facilities are unwilling to make the necessary changes and investment commitments to make their plants more competitive and less dependent on Government funding, Government support for these manufacturing firms can no longer be guaranteed.

The uncertainty and challenges that these manufacturing companies confront, however, do not necessarily apply to all companies and sub-divisions within the manufacturing industry. Food manufacturing, for example, appears to be less impacted by the pressures on other manufacturers. While employers like Ford and Alcoa in the transport equipment, metals and engineering manufacturing sub-sector, are under increasing pressure and are cutting employment, there may be possibilities to expand sub-sectors like food manufacturing where demand for their products is steady or growing. Production increases, however, may not translate into more employment. Even in some areas of food manufacturing where the introduction of labour saving technologies have proven difficult in the past, advanced manufacturing processes are being embraced by companies at the value-adding end of food processing with little or no additional labour required (STBAOE31).

As outlined in the scenarios for the RGA (see Chapter 5), there are a range of plausible scenarios that could unfold for Geelong's manufacturing future. There is the extreme scenario where Ford, Shell, Alcoa and other major manufacturers close down their Australian operations virtually overnight resulting in massive job losses from the manufacturing sector as smaller engineering and maintenance contractors are forced into bankruptcy. At the other extreme there is a scenario where not only does auto manufacturing, oil refining and mineral processing remain an essential part of Geelong's manufacturing industry but new manufacturing opportunities also emerge in the areas of renewable energy, advanced materials and other advanced manufacturing. Under this scenario, hundreds of new jobs are created and manufacturing continues to underpin a sizable proportion of the Geelong economy. Scenario workshop participants found both these scenarios to be plausible albeit extreme. While it is generally accepted that the manufacturing sector is declining and changing in Geelong with regards to employment and contribution to the Geelong economy and there was much to be pessimistic about, scenario workshop participants and research participants involved in one-on-one interviews also spoke about the opportunities for the industry and acknowledged that a lot of energetic and innovative activity was taking place within the region to revitalise the sector. The Geelong Manufacturing Council (GMC) and the Engineering Network (ENG) are two of the key organisations for developing the industry's future.

The Geelong Manufacturing Council (GMC) was established in 1998 through a partnership between the Australian Chamber of Manufacturers (now the Australian Industry Group), the Geelong Development Board and the City of Greater Geelong. Comprised of some 100 Geelong-base manufacturers, the GMC is a not-for-profit organisation funded by industry members with government funding often supporting specific GMC projects. The GMC maintains an office within the Geelong CBD and holds regular meetings to discuss issues pertaining to manufacturing and how best to assist the sector. In addition to promoting and advocating for the sector, the GMC has supported programs related to innovation, leadership, lean manufacturing and sustainable business practices. According to one GMC representative (STBAOE11), one of the most important aspects of its activities has been in bringing members from a diverse range of manufacturing firms together for networking opportunities. These have enabled the sharing of information and in some cases building of business relationships between local firms that have been mutually beneficial. While the majority of GMC's members are CEOs and representatives from the region's major employers, the region's trade unions, through a representative from Geelong Trades Hall, is also represented on the Council. This has enabled Geelong Trades Hall to better understand the developments occurring within and impacting upon the industry. The confederation also provides strategic input into Council matters related to work and employment matters in the sector, including those related to skills and training.

The Engineering Network Geelong (ENG) is an important initiative within the GMC. The network involves 47 industry members from a diverse range of companies who are capable of designing, procuring, fabricating, project managing and delivering engineered products. Among the Network members are home-grown engineering firms such as Blackwell IXL, large multinationals such as Downer EDI and WorleyParsons as well as Geelong Port and training providers including The Gordon, Gforce Recruitment and Deakin University's School of Engineering. The Network aims to assist the region's engineering companies with developing strategies to capture new market opportunities and diversify business activities (STBAOE30). Along with the GMC, the Network seeks to perform a promotion and advocacy role for engineering firms as well as improve innovation, leadership and sustainable business practices among Geelong's engineering firms. Their ability to generate awareness about and understanding of the types of engineering firms located in Geelong through their various promotional materials (e.g. brochures, website, etc.) was often highlighted as one of ENG's most important roles by research participants. In some cases, these research participants had little or no association with the manufacturing and engineering industry and it was through the promotional work of the ENG that they gained an appreciation of the diversity and significance of engineering to the local economy.

Both the GMC and the ENG have been successful in working with and securing funding from state and federal government agencies and departments to further their goals. The GMC's Green Light Project, for example, which aims to inform and educate Geelong manufacturing firms on ways to develop commercial advantages through more sustainable business strategies, has been underwritten by Sustainable Victoria's Beyond Waste Funding. Unlike other regional areas where government programs often work relatively independently from industry bodies, these programs have operated in partnership with the GMC and ENG. The GMC is a partner organisation with the Federal Government's Enterprise Connect initiative which aims to assist companies in identifying productivity improvements. The collaboration between Enterprise Connect and GMC has enabled the two entities to assist one another and to assist local manufacturers in a more integrated and strategic fashion. Enterprise Connect, for example, maintains a list of manufacturing companies with specialised equipment or expertise that is available for other businesses to use. GMC provides the platform and network to facilitate the dissemination of this information so that it is received by those who might best benefit from it.

The GMC and ENG have maintained that the role played by The Gordon and Deakin University has and will continue to be a major factor in the success of manufacturing in Geelong. The GMC noted in its submission to the Victorian Competition and Efficiency Commission inquiry into manufacturing that:

> the Gordon [TAFE] has invested heavily in training facilities to support manufacturing in the Geelong region while Deakin University has been successful in developing major industry partnerships across a number of areas

of manufacturing research and product development (Geelong Manufacturing Council 2011).

It also emphasised that ongoing competitiveness depends on maintaining these partnerships and key capabilities.

The GMC and ENG have worked closely with Deakin University on issues related to research and development and the commercialisation and transfer of research carried out and owned by Deakin for local industry benefit. The GMC, for example, has worked in collaboration with Deakin's Geelong Technology Precinct to develop new products and market opportunities for GMC members. The recently announced Skilling the Bay Geelong Future Industry Project involving The Gordon, Deakin University, the State Government, local industry and industry networks including the GMC and ENG, is another example of how these partnerships are becoming strengthened in this case through government financial support. The Project involves $500,000 in State Government (Skilling the Bay) funding for a targeted demonstration project involving the transfer of research and development (R&D) from Deakin University. In addition to demonstrating that the transfer of R&D will contribute to local employment opportunities and business opportunities, all applicants seeking funding must show that they will 'collaborate with or form partnerships with industry, industry networks, Deakin University and The Gordon' (Skilling the Bay Geelong Future Industry Project 2012, p. 3).

7.3 Future opportunities

There are several opportunities to maintain, revitalise and diversify the region's manufacturing sector being pursued by local employers, the GMC, the City of Greater Geelong, Deakin University and with the support of all three levels of government. State and Federal governments have demonstrated a commitment to not only assist established industries, like Ford and Alcoa, but also newly emerging manufacturing industries. The three major focal points that have emerged as potentially offering future opportunities for the region's manufacturing industry are Advanced Manufacturing, Clean Technology, and Food Manufacturing. The following discussion highlights some of the opportunities and challenges each confronts and the skill implications associated with them.

7.3.1 Advanced manufacturing

Like other industrialised nations that have witnessed their manufacturing industries and associated jobs relocate to lower labour cost countries in emerging economies, Australia has sought to respond to this situation by pursuing 'advanced manufacturing'. This strategy acknowledges that Australian manufacturing will continue to find it difficult to compete on unit price for manufactured product and that free trade agreements provide little capacity on the part of government to prevent the off-shoring of labour intensive manufacturing processes to lower-wage economies. Given these constraints, advanced manufacturing aims to take advantage of those areas where Australia is perceived to have a competitive advantage. While definitions of 'advanced manufacturing' are not precise, most focus on the use of technology to improve manufactured products and processes. The adoption of modern technologies (e.g. robotics, computer monitoring, laser cutting tools, etc.) are perceived as ways to reduce costs (labour in particular), add value, create customised products and remain competitive. Other key features of advanced manufacturing involve intensive research and development, flexible and lean production techniques, and the use of high performance workforces to deliver business innovation. A broad number of companies and manufacturing sub-divisions fit within this category and could involve anything from an engineering company using 3-D printing for design of manufactured products to a food processor relying on highly automated production processes for the manufacture of value added food products.

Efforts to strengthen advanced manufacturing within the region are supported by GMC, various manufacturers and engineering companies, Deakin University and The Gordon as well as the three levels of Government. One recent example involved co-operation and joint funding arrangements totalling $102.8 million between the Federal Government, Victorian Government, Victorian Centre for Advanced Materials Manufacturing and CSIRO to establish a carbon fibre research facility at Deakin University. The facility is forecast to accommodate up to 300 additional staff and students (CoGG 2011a). Another example is the Geelong Technology Precinct located at Deakin's Waurn Ponds campus which aims to support advanced manufacturing by working in partnership with privately owned innovative companies. Carbon Revolution is one of those companies. This company was started by former Deakin students who developed the technology to produce a one-piece carbon fibre wheel (CR9) for the auto industry. Carbon Revolution, who received funding support from the Australian Government's Green Car Innovation Fund, is currently producing small batches of the carbon fibre wheel for commercial purposes at the Geelong Technology Precinct (Australian Ministry of Industry, Innovation, Science and Tertiary Education 2012; STBMHR24). There is a perception among some research participants that these collaborations will assist the region in attracting additional advanced manufacturing companies such as a major carbon fibre producer (STBUN04, STBAOE19).

The Ford Motor Company has also indicated that the future of Geelong's auto industry is in the research, design and testing of automobiles rather than production. While the company has significantly reduced its workforce in Geelong's engine plant, it has made significant investments and put on additional staff in its Research and Development Centre at the Geelong site. Some workers faced losing their jobs in the engine plant were able to relocate to the Research and Development Centre. The Centre, which employs around 300 workers, is involved in testing as well as carrying out design related work for Ford's global operations (STBEMP05; STBMR26). While trade skills (electricians, auto mechanics, machinists) are still required for some of this work, highly skilled engineers and automobile designers are likely to lead teams of skilled workers on various projects they acquire from Ford's global operations (STBEMP02).

Other recent examples of where advanced manufacturing is becoming more prevalent among Geelong's manufacturers include:

- The design and construction by Geelong companies PM Design and J. Anderson Co. of specialised machinery to make metals lighter, stronger and more pliable (Best 2012d);
- The construction of specialised parts and equipment plant by Marand Precision Engineering for Lockheed Martin (Whalley 2010).

Not everyone supports the drive towards advanced manufacturing. Some long standing manufacturers in the Geelong region are not sure how they will benefit from this push for advanced manufacturing (STBMHR08). For many unions and workers, advanced manufacturing is perceived as a threat. As one union official stated:

> Advanced manufacturing, I see it as a factory run by machines….they design something and they send it to India to get made. But the government here paid for the design, the Rand D and yet they spend all this money. It keeps the company going but not the people (STBUN01).

While this assessment may be overstated, the implications of advanced manufacturing models is that there is likely to be significantly fewer jobs for 'blue collar' workers and an increase in the number of 'white collar' positions. Some workers also perceive that advanced manufacturing companies, particularly those that have recently arrived, tend to bring in highly skilled workers from Melbourne or elsewhere rather than employ or up-skill local workers.

The innovation and creation of sophisticated products and services has been highlighted by commentators as an area of focus for manufacturing firms in developed nations as they are able to compete in global markets based on other factors besides costs (Neely 2009). In general, advanced manufacturing's advantages lie not in the numbers of workers it can absorb, but more in its profitability and quality of skills. Advanced manufacturing is correlated with greater profits and productivity but not necessarily with employment, a global trend (Coleman 2011). It can widen the income and employment gap between educated and unskilled workers, increasing competition for unskilled jobs and actually increasing unemployment (Ingram 2013). The task facing all is whether the social partnership model evident elsewhere in the world (see the attachment to this report, *An International Study of Comparator Cases*) can be developed and refined in the region.

7.3.2 Clean technology

Clean technology is perceived by some manufacturers, local government representatives and unions as a way to revitalise the region's manufacturing industry (STBAOE11, STBMR26, STBAOE15, STBMHR04, STBAOE30). Those advocating for a Clean Technology future see the possibility of revitalising some aspects of the manufacturing and engineering sector through a shift to "green manufacturing", either in terms of using green energy to help make existing manufacturing operations more viable or to create a manufacturing sector that specialises in "green" products (AEC Group 2011). There are a range of activities that are occurring to support this initiative. The decision by the City of Greater Geelong to develop a Low Carbon Growth Plan in 2011 stimulated some of the initial interest in clean technology (Climate Works 2011). The Plan, developed by Climate Works, identified a number of clean technology solutions for reducing emissions in cost effective ways. Unlike some other regions where similar plans have been developed but not acted upon, the City of Greater Geelong and other organisations continue to acknowledge and actively support initiatives proposed in the Plan.

In 2012, the GMC, who is also a strong supporter of clean technology, hosted a Clean Technology Conference which brought together clean technology experts from around the country and internationally, with some 140 delegates. The focus of this conference was on environmental and economic opportunities from bio-mass, waste-to-energy and co-generation, as well as solar, wind and wave power. This initiative was also supported by Enterprise Connect and Future Proofing Geelong. Established in 2011, Future Proofing Geelong is an initiative involving a partnership between EPA Victoria, the City of Greater Geelong, Barwon Water, Deakin University, Committee for Geelong, the GMC and Geelong Chamber of Commerce, that aims to improve environmental and economic outcomes for Geelong. One of the outcomes of the Clean Tech conference was the formation of a Clean Tech Network involving GMC, Future Proofing Geelong, The City of Greater Geelong, Deakin University as well as interested manufacturers. According to one of the network's members, one of the major motivators for the group is not only to have Geelong recognised as a 'Clean Tech' region, but to also assist companies in developing 'clean tech' markets and creating 'clean tech' jobs (STBAOE15; STBAOE11; see also Future Proofing Geelong 2013).

Some of the RGA's companies are making strides in this area. The engineering design company, Austeng, has successfully manufactured an innovatively-designed Ecowhisper wind turbine developed by Renewable Energy Solutions Australia (see austeng.net.au) and are considered local leaders in this field (Twomey 2011). Backwell IXL, which has historically produced auto components and heaters, has also attempted to enter clean tech markets by re-positioning its operation to produce components for the renewable energy sector. In 2012, the company produced components for Australia's first industrial scale solar project. This work provided jobs for some 60 people when there was downturn in some of the company's other operations and showed that RGA companies could become involved in this emerging market. Other companies have sought to develop more environmentally friendly products and reduce their environmental footprints through a range of government supported programs, such as the Sustainable Industry Program and the Clean Energy Future Fund.

The strategy pursued by companies entering the clean tech market is to do so in ways that build upon the strengths of its highly skilled and specialised workforce. Many Clean Technology advocates within the RGA see it as building on an existing base of strong trades, manufacturing and engineering expertise to create a hub for 'sustainability related industries' centred on green manufacturing (Altegis 2009). Not everyone is convinced such a strategy is appropriate for Geelong. As one employer stated:

> I've spent a couple of years in clean tech and any innovations around clean tech that comes to Australia normally gets taken overseas…Everybody wants to do bloody cleantech so you're competing with everybody. There's no natural starting point for clean tech in Geelong, none (STBMHR08).

Natural or not, some employers are attempting to capture opportunities in the emerging market. Such a transition, however, cannot be built on a "business as usual" approach to expansion and involves some risk taking on the part of local companies (for lessons from international cases, see the attachment to this report, *An International Study of Comparator Cases*, particularly section 4.5.4 on Action Centres in Hamilton). Austeng and Backwell IXL are prepared to take this risk. However, it is still too early to determine if these risks will deliver long term benefits or become viable opportunities for these companies. Austeng is finding it difficult to find customers for its EcoWhisper wind generator and at the time of the research Backwell IXL had not secured long-term customers for their solar industry components. In both cases, however, the local companies had demonstrated that they already have the available skills sets to produce products for the emerging 'clean technology' industry (STBMHR04, STBMHR38, STBMHR08).

7.3.3 Food manufacturing

As demonstrated by the employment tables, food manufacturing is one of the RGA's most important manufacturing sub-sectors in terms of jobs. It is a highly diverse sub-sector that includes dairy, meat, poultry, seafood, beverage as well as vegetable and olive oil processing. It is estimated that the food manufacturing subsector contributes $1 billion annually (direct and indirect) to the region's economy with seafood, dairy, meat and poultry sectors making up about 60 per cent of this economic contribution (Geelong Food Co-products Cluster 2012). While historically food manufacturing has not received the level of attention as metal and automobile manufacturing there is a renewed interest and growing support for the sub-sector among local and state governments, the Geelong Chamber of

Commerce, the GMC as well as unions affiliated with the industry (STBUN04; STBTOE30; STBAOE19; STBAOE11, STBUN04, STBAOE5).

The Formation of the Geelong Food Co-products Cluster (GFCC) in 2005 has been an important initiative for the sub-sector. THE GFCC emerged out of a Regional Development Victoria's (RDV) Regional Innovation Clusters Program. While the GFCC seeks to involve all interested parties in food and food processing and food manufacturing, its primary focus is in assisting the sub-sector in identifying new markets and value adding opportunities through the development of co-products. This may involve turning waste or by-products into other commodities (e.g. producing fertilisers out of discarded product from the seafood industry), adding value to current products through further processing or packaging (e.g. developing new recipes to produce specialised processed meat or seafood products), or making better use of inputs (e.g. packaging materials) and outputs (e.g. water, waste heat). Currently, the majority of its work relate to the seafood, dairy, meat and poultry and game sectors. Companies from these food sectors make up a majority of its membership. Other members of the cluster include fertiliser producer Incitec Pivot Ltd, the City of Greater Geelong, the Geelong Chamber of Commerce, the Geelong Agribusiness Unit of National Australia Bank and Victoria University's School of Biomedical and Health Sciences (see http://gfcc.com.au/). Although GFCC does not see itself as an advocacy organisation like GMC, the diversity of organisations involved with the cluster enable it promote the sub-sector and its interests widely (STBAOE31.

The RGA is well positioned to expand its food manufacturing businesses. Unlike other areas of Victoria, where drought and extreme weather conditions are predicted to make the viability of farming and farm businesses more difficult, the areas surrounding Geelong are expected to perform comparatively well. The Geelong port has proven vital for the bulk export of grains including malt barley and wheat as well as fertilisers (STBMHR27). Geelong is well serviced by road to Melbourne and serves as a logistic hub for Western and Northern Victoria with a number of the State's largest road freight food distributers operating out of Geelong. Avalon airport, although not widely used by food manufactures, also opens up possibilities for the export of fresh food products to Asia (STBAOE5).

While food manufacturing appears to be doing comparatively well compared to other sub-sectors of the division it is not immune to the problems impacting on other companies. One example of this difficulty is found in the seafood manufacturing sub-sector. In November 2012, the future of frozen seafood products manufacturer Austrimi Seafood was put into doubt as the company went into voluntary administration. Up until this point, Austrimi was perceived by many as delivering new opportunities for the region's economy and its workers.

Austrimi was originally a subsidiary of the Japan-based multinational Daiichi Chinmi, Inc but was purchased in 2009 by an alliance of regional food companies including Barwon Foods, Mantzaris Fisheries, and Austrimi management team members who planned to expand the business through value adding opportunities. The Geelong Investment and Innovation Fund provided $588,000 to assist the company to purchase value adding equipment needed to expand its operations. While the company did expand, including putting on additional staff, it was short lived. The financial difficulties experienced in 2012, resulting in the loss of some 40+ staff, were blamed on cheaper imported products entering the market (*Geelong Advertiser* 29 November 2012).

Geelong's dairy and meat industries are less vulnerable to these international pressures but they too have witnessed significant change and consolidation in recent years (STBAOE31). Population growth predicted for the RGA may pose additional challenges for some food companies, such as broiler and egg producers, from local residents and town planners. Balancing residential needs and the needs of its food manufacturing businesses will be critical to maintaining the RGA as a food hub.

7.4 Implications for future skill and job opportunities

In many ways the whole spectrum of manufacturing is represented in the RGA. As one interviewee pointed out:

> We go right from cutting up and processing woodchips, which is a very basic form of manufacturing, where there's very little value-adding done here, and the value-adding's done in Asia somewhere, right through to… the capability to design and manufacture a car (STBAOE11).

Along with this broad spectrum of manufacturing has been the development of a broad range of skills from basic (e.g. packing) to highly specialised (e.g. engineering professionals). Some of these skills are formally recognised while others are well developed but not necessarily credentialed (STBEMP02, STDUNUN05; these issues are discussed more fully in section 11.2.1).

7.4.1 Job loss and skill shortages

Jobs in the manufacturing sector are in decline but the decline is uneven with some subs-sectors having experiencing rapid decline (automobile) while others are steady and in a few cases growing (food processing). Generally, companies have sought to manage the negative impacts of employment cuts through natural attrition and non-replacement (STBMHR38), early retirement schemes (STBMR26), enhanced voluntary redundancy schemes (STBEMP03, STBMHR26), or government initiatives such as the Workers in Transition Program (STBAOE03).

It was acknowledged by various companies that recruiting appropriately skilled staff might become a challenge once the economy and business activity picks up and the demand for skilled labour increases (STBMHR08, STBMHR04). Unions also reported that skill shortages were not a problem in the area and that there were plenty of skilled and semi-skilled workers, particularly electricians, boiler makers and even process workers and plant operators, looking for employment. This situation has arisen as a result of major layoffs at Boral, Ford, Alcoa and other manufacturing companies (STBUN09, STBUN05, STBUN03). An additional concern expressed by employers and unions related to the reduction in apprenticeships and traineeships within the division as a result of the downturn in manufacturing activity. It was acknowledged by some employers that they wanted to employ more apprentices but they were no longer able to in the current situation; this was also confirmed by several training providers (STBMHR09, STBMHR25). Given the duration of training required to develop skill competencies this situation could contribute to significant skill challenges in years ahead particularly given the ageing workforce and the division's future workforce replenishment needs.

In many cases, some of the jobs lost and currently at risk are some of the best paid positions in the region. They have underpinned local consumer buying power which supported local retailers and service-based industries. The newly emerging industries are unlikely to pay the sorts of salaries provided by the RGA's large manufacturing industries which will have implications for other industries and the broader regional economy. There is the additional fear among some employers that the region will lose its most skilled workers as they relocate to find work. A newly emerging company raised their particular concerns this way:

> Hopefully they won't all disappear because it's a matter of timeframe for us….potentially these companies [Ford, Shell, Alcoa] will have gone and people have disappeared and we can't afford to lose that skill base (STBMHR24).

While the number of people employed within the Manufacturing division in the RGA has been declining for a number of years, according to the City of Greater Geelong regional employers in the division reported 76 current and anticipated skill shortage positions for the 2012 to 2013 period, accounting for 13.1 per cent of overall shortages in the region (City of Greater Geelong 2012b). In interviews with employers, however, few reported major skill shortage difficulties. These different findings may reflect the different periods in which the data was collected and the further downturn of manufacturing since the City of Geelong survey.

7.4.2 The ageing workforce, young workers and workforce development planning

If there is a rebound in manufacturing employment, the division could face significant skill challenges as older workers retire in large numbers. With a relatively small number of young people entering the training programs where skills are going to be in highest demand in 5-10 years, the flow of new entrants into the labour market will be considerably less than the flow of retirees out of the labour market. In this situation employers may have to create new employment patterns to retain older workers. This strategy, however, is only going to provide a temporary stop-gap measure.

Recruiting young people to the sector may not be easy. According to some participants, young people were less interested in working in the sector than in years past. They often attributed this to the negativity and ongoing job loss associated with the sector that discouraged young people from wanting to pursue a career in the division (STBMHR25). Another employer put it down to the fact that 'Manufacturing just isn't sexy enough' (STBMHR08). A training organisation provided a different view. They felt some young workers were mistreated and poorly supported by employers, which discouraged them from entering the division. In some cases, it was felt that younger apprentices and trainees also confronted difficult situations with older workers who sometimes viewed them as a threat to their job. These conditions were identified as possible reasons that attrition was so high among young apprentices and trainees working within the division (STBMHR25).

The trend, however, appears to be one where young people continue to be attracted to traditional trades (e.g. electrical, construction, boiler making) but hesitant to become involved in other manufacturing occupations (e.g. food trade workers, factory process workers, food technologists, etc.) despite the demand for these skills being relatively high (City of Greater Geelong 2011). More targeted strategies on the part of employers and training providers must be developed to address these specialised skill areas.

At the moment there is little evidence of employers or industry associations formulating workforce development strategies for tackling what could be quite serious skill shortages in years ahead. As one participant stated:

> … they might know that they need somebody…but they'll recruit them when the last one leaves, rather than train one up…they don't have any fall-back options in many cases (STBAOE31).

Efforts to maintain day to day operations and a customer base appear to be overtaking most other concerns. Most employers thought they had very reliable workforces with low labour turnover. It was not uncommon for employers to describe workers employed by their company as providing 15-20 years of service (STBMHR04). For many organisations, this situation would not make workforce planning a priority. Some did acknowledge, however, labour force stability had some drawbacks (e.g. higher labour costs, leave exposure, rigidity to change) (STBMHR11; STBMHR38) and that 'a little bit of new blood wouldn't hurt us as a team' (STBMHHR08).

It is not that employers are doing nothing in relation to training. Some employers, for example, were employing apprentices either directly or through group training companies. These measures, however, did not appear to be carried out as part of a strategic workforce planning process nor was it always clear if the companies intended on employing these workers once they completed their training. There were also mixed views about the need to train younger workers as a way to revitalise the labour market and meet their own individual workforce needs. Some employers expressed a dissatisfaction with the attitude and work ethic of younger recruits and have tended to prefer to recruit workers in their twenties to thirties as a response to undesirable experiences with young workers; not showing up to work on time, frequently absent from work or not having a good work ethic (STBMHR04, STBMHR08).

Others spoke about the importance of conducting attitude and behavioural assessments of young recruits. The view is that young applicants should be better informed about the requirements of the job before they are employed as apprentices, trainees or employees, as a way to reduce unfavourable outcomes for both parties (STBMHR38). The implication is that young workers wanting to find work or an apprenticeship within the division may find it more difficult than it was for previous generations. Early school-levers, many of whom would have found employment in the division in the past, may find gaining access to the sector as employers become more selective in their hiring practices.

7.4.3 Changing skill requirements

As companies make decisions to pursue different avenues to remain viable in a difficult market there are likely skills implications. Employers, who in the past tended to be integrated into supply chains with major employers and could depend upon them to support their businesses, are finding these customers less reliable. In many cases, they are having to compete for parcels of work or projects with these firms or identify other firms and markets to shore up their businesses. One of the skills that many employers identified as underdeveloped but increasingly required by their companies was in the area of project management and contract submission writing; something they felt they needed to become much better at in order to survive (STBMHR11; STBMHR04; see also Mahmood 2007).

A number of the more innovative SME's in the manufacturing sector are seeking to diversify their customer base as a way to remain viable. Offering 'local' engineering and manufacturing 'solutions' to other companies is one of the strategies pursued by these smaller firms. While these companies continue to build upon their expertise and skills base they have to take steps to up-skill their workforce as new products and services are developed and/or project based work is secured. In response to this situation one employer was encouraging their workers to acquire nationally recognised qualifications as a way to upskill the workforce. This involved the employer working closely with a private provider to assess a worker's current knowledge and skills and providing supplementary training where needed (STBHHR08). For another employer, this meant developing new working arrangements, the formation of project teams and rapid up-skilling of some team members. According to the director of the company, the company's workforce under these arrangements has become less 'trade-oriented'; the workforce are more like professional workers in the conduct and knowledge required. It was remarked that the traditional trade divisions that were reinforced by trade certificates and trade union demarcations often made it difficult for the development of innovative multi-skilled project teams which seem to be required for these types of organisations (STBMHR38).

For some companies, offshoring of labour intensive manufacturing processes was being considered as a way to survive what was perceived as an extremely difficult business climate. As one senior manager stated:

> I'm an Australian. I want to see manufacturing here… but if we end up being dragged somewhere else for financial reasons then I know how that works—It just happens. Just make it work (STBMHR24).

In sub-divisions where off-shoring of manufacturing work and/or substitution of labour with new forms of technology is not as easily achieved there will remain a fairly strong demand for unskilled and semi-skilled labour. Some types of metal, concrete and plastic fabrication and food processing (e.g. dairying, meat processing) fit into this category.

Companies who are making decisions to shift away from processing and manufacturing towards design and research and development acknowledged they are going to need a different mix of skill sets. One employer described the change in these terms:

> … we need more project managers… more people to manage work being done in high value engineering low cost centres like China, India… It's really managing that work rather than doing it (STBMHR11).

Professional and white collar positions are likely to be in greater demand than semi-skilled blue collar occupations.

Companies pursuing new opportunities in the advanced materials and clean technology sector hold the view that their skill requirements will not change all that much. Electricians, metal fabricators, technicians and other manufacturing occupations will still be required to perform the type of work found in the RGA's newly emerging manufacturing industries. There was a view, however, that how they performed this work might be different (team-oriented rather than task-oriented) and would involve using different types of materials (e.g. carbon fibre, Nano fibres) and technologies (STBAOE30, STBMHR38). It was commonly held that employees of the more traditional industries (e.g. automobile manufacturing) will have little difficulty in adjusting to the skill requirements of these new industries:

> Skilled trades, mechanical people, electrical people, people that can program a PLC or a CNC machine at Ford of Alcoa can do it just as easily in our plant (STBMHR24).

In some case, these companies had already appointed ex-Ford and ex-Alcoa workers because of their understanding of quality control processes and plant operations. The implication is that in some cases capacities and capabilities held by these workers may be highly sought after for these newly emerging industries.

7.4.4 Training and the training sector

Employers, industry associations, unions and even training providers expressed concerns about changes within the training sector which they felt were jeopardising the future of the manufacturing industry. Some employers complained that recently recruited credentialised workers did not have the skills that they normally expect a person to have with that qualification. There were concerns that the quality of training may be declining. These concerns were typically expressed in relation to those who had received their training with a private provider (STBUN04; STBMHR08; STBMHR25).

Nearly all manufacturing employers expressed concerns about the Victorian government's changes to TAFE funding and the implications of these decisions for skills development in their industry. They perceived the changes to TAFE funding threatened the viability of support programs to students and training programs. A well-supported TAFE sector was perceived by many as critical to meeting the industry's future skill challenges. That being said, it was not uncommon to hear from these same employers that they had chosen private providers over TAFE to help deliver their training needs. These choices by employers also have implications for TAFE's future as student enrolments and training activity is directed away from the TAFE sector.

7.5 Conclusion

The Manufacturing division in the RGA has long provided a base for the overall economy (reflected in the presence of large employers such as Shell, Ford, and Alcoa and associated engineering and manufacturing companies that service these major employers), the number of people employed, and the contribution to the overall economy. While this division is undergoing change, illustrated by the ongoing debate about the automobile industry, oil refinery and aluminium smelter, it is also a division that is changing in technically innovative ways, as demonstrated by clean technology and advanced manufacturing initiatives.

Over the next few years it is likely that the overall numbers employed in this sector will continue to decline, either because of technological change or the employment disruption that results from decisions of some of the region's largest manufacturers either reducing or ceasing their operations. Some sub-divisions, however, may remain stable or grow such as food processing where, in some instances, the substitution of labour with labour saving technologies is not as straightforward as elsewhere. The impact of these changes may be an increasing polarisation in skill requirements between sub-divisions. Large employers in the food processing industry, such as abattoirs and dairies, will continue to employ a large number of unskilled and semi-skilled workers. More traditional 'heavy' industries, such as automobile manufacturing, will concentrate on design, research and development and 'advanced' manufacturing processes that employ fewer workers and depend upon highly skilled and professional workers for much of their activities.

It appears that a number of RGA residents working in the manufacturing division are working for businesses outside the RGA. This may be one of the strategies being adopted by RGA residents as local jobs become increasingly difficult to find. It is a division, however, that also experiences skill shortages in certain occupations. This situation may become worse in years ahead as a consequence of its ageing workforce and natural attrition, or the manner in which manufacturing techniques are changing. For this reason, the training and education of current, incoming and outgoing employees will be vital to the future of manufacturing in the regional economy. The upskilling and attraction of RGA residents who currently work outside the RGA may also be an important initiative, so they are able and willing to take up local jobs in skill shortage areas.

7.6 Considerations

- All levels of government should **continue to strengthen collaboration and partnerships between educations institutions, industries and industry networks through targeted programs and requirements for securing government funding**. Where job creation is one of the key outcomes of a program, union collaboration and representation should also be demonstrated. These requirements will help to strengthen relationships and synergies between relevant parties, better facilitate the growth of existing and emerging industries and generate decent jobs for local community benefit.
- **The GMC and ENG will continue to play a key role in shaping Geelong's Manufacturing and Engineering industry and should continue to be supported by governments, unions and educational institutions.** The work of the manufacturing council and associated engineering network is vital to assisting manufacturing and engineering companies adjust to a difficult market situation. Locating new customers is critical to the survival of many of these companies whose traditional customer base with Alcoa, Ford and Shell can no longer be assured.
- **Employers should continue to be encouraged to offer their workers the opportunities to develop nationally recognised qualifications as a way to upskill or reskill their workforces**. Employers who are considering retrenching workers who are skilled and semi-skilled but do not have formally recognised qualifications must be encouraged to assist workers obtain nationally recognised qualifications through RPL processes, government assistant programs such as Workers in Transition as well as employer supported training.
- **Given the precarious nature of the manufacturing industry in Geelong, continued support for labour adjustment assistance will be needed.** In a situation where another major employer such as Alcoa or Shell were to close

down operations, the type of Federally supported assistance programs put together for automobile and textile workers (including Stream 3 funding and support for labour adjustment officers) may be required.

- **The future of manufacturing in the RGA rests in large part on the SMEs, in relation to the large companies or separately, and they should become a focus in the future development of the division.** Many of Geelong's SME's associated with the manufacturing and engineering industry will continue to struggle with the high Australian dollar, increased imported manufactured products and a decline in purchases from their traditional customers. Support from Enterprise Connect and other State and Federal Government programs will be critical to the success of many of these companies diversifying their customer base, entering new markets and developing the capacity to offer new services and products. In addition, it will be important to consider how SMEs can be drawn into training, particularly apprenticeship programs. There are lessons to be learnt from international experience (see the attachment to this report, *An International Study of Comparator Cases*).
- **An RGA-based National Workforce Development Officer should be appointed, attached to an appropriate Transition Committee, to work with employers and unions to identify workforce needs and promote training towards this end.** The Officer will work on implementing the National Workforce Development Fund (Australian Government 2012). For many of the RGA's manufacturing and engineering companies it is imperative that skills be given more consideration. This imperative is being driven by the industry's ageing workforce, introduction of new technologies, the transitioning economy and changing skill requirements to develop innovative products. It is going to be critical that these employers have a skilled and productive workforce in the pipeline and their existing skills base is strengthened. The Federal Government's National Workforce Development Fund can help to assist employers with these challenges (see Australian Government 2012). An RGA-based National Workforce Development Officer would help to promote the benefits of the fund to local employers and work to encourage employers to take training and workforce planning more seriously.
- Possible growth of emergent industry clusters through linking to existing major organisations were outlined in the scenarios – carbon fibre production drawing upon Alcoa's electricity network and an aviation cluster building on Avalon Airport and existing industries. **Further industry cluster opportunities should be pursued proactively – identifying existing large companies as possible seedbeds, incubators or hosts to emergent businesses, rather than either subsidising them to continue outmoded production or letting them fall over and die.**
- **The Skilling the Bay project should address the possible cleavage between skills possessed (capacities and competencies) and skills required by emerging employment circumstances.** Although initiatives to develop advanced manufacturing provide the sector with opportunities to compete in global markets through innovation and creation of sophisticated products

(not cost), the implications of this in terms of possible widening of the skill and income gap between educated and unskilled workers should be taken into consideration.

Chapter 8. Health Care and Social Assistance

Employees belonging to the Health Care and Social Assistance workforce are those who work for businesses engaged in human health care and social assistance (ANZSIC 2006 Revision 1.0). The division is broken down into four sub-divisions: Hospitals; Medical and Other Health Care Services; Residential Care Services; and Social Assistance Services (ANZSIC 2006 Revision 1.0). The main services provided by the sub-divisions include medical services, pathology and diagnostic imaging services, allied health services, other health care services, aged care and other residential care services, child care services, and other health and social assistance services (ANZSIC 2006 Revision 1.0).

The division is the fifth highest industry contributor to gross revenue in the G21 Area (REMPLAN 2012b) with a regional output of $1.2 billion. It is the second largest industry in terms of wages and salaries paid by businesses and organisations in the larger G21 Region, topped only by manufacturing (REMPLAN 2012c). In 2011, health care and social assistance represented the largest employment division for RGA residents, with 15,811 employees, Table 42.

Table 42. RGA Residents Employed in the Health Care and Social Assistance Division by Sub-division and Sex, 2011

	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Health Care and Social Assistance, nfd	64	2.2%	300	2.3%	**364**	**2.3%**
Hospitals	933	32.3%	4,853	37.6%	**5,786**	**36.6%**
Medical and Other Health Care Services	1,053	36.5%	2,714	21.0%	**3,767**	**23.8%**
Residential Care Services	246	8.5%	2,165	16.8%	**2,411**	**15.2%**
Social Assistance Services	592	20.5%	2,891	22.4%	**3,483**	**22.0%**
Total employed residents	**2,888**	**100.0%**	**12,923**	**100.0%**	**15,811**	**100.0%**

Source: ABS Census of Population and Housing, 2011

About 81 per cent (12,883) of these employees within the division both lived and worked within the RGA. Nationwide, 13,496 health care and social assistance workers reported that their place of work was the RGA, with 4.5 per cent of those working in the RGA commuting from outside the region.

The health care and social assistance division has been identified in a number of reports as a growing employment sector for the RGA at least as far back as 2006. The Department of Education Employment and Workplace Relations (DEEWR) used non-census data from 2006-2011 and identified retail trade, health care and social assistance, and construction as growing areas for the Geelong region. The DEECD 2011 report also identified health care and social assistance as a growing area. Employer surveys regarding skills needs confirm this trend with almost half of all existing and anticipated employment shortages falling within the health care and social assistance sector (CoGG 2011b). Job demand in the division is expected to increase due to the ageing population and increased ratio of dependent elderly.

The broader Barwon South-West region is likely to see a rise in the ratio of retirees to working age people from 1:4 in 2011 to 1:2 in 2026 (Department of Health 2012a, p. 9). Other factors contributing to increased job demand include a new emphasis on primary care and prevention, as well as emerging 'person-centred' or 'consumer-led' models.

When focussing specifically on the RGA, the expansion of existing industry operators, such as Barwon Health accounts for much of the job growth in the division. Barwon Health is the region's single largest employer, with 3,842 employees in 2011. The expansion of Barwon Health is planned to address the 20 per cent population growth predictions for Geelong by 2021, with more than half of this growth expected to be amongst people aged 60 or older, creating an increased demand on health services (Landy 2012a). Nonetheless, uncertainty regarding Federal Government funding to Barwon Health has been reported as a potential threat to both jobs and services at the Geelong Hospital (Best 2012b; Minear 2012).

Job growth in the division may conversely be triggered by new private health care investments occurring in the RGA, such as the proposal by Melbourne-based Epworth HealthCare to establish a 256 bed private hospital with medical teaching programs on the boundary of Deakin University's Waurn Ponds Campus, and the current expansion of St John of God Private Hospital (Linley 2012b). In these respects, demand for medical, nursing, allied health professionals and administrative support staff is likely to remain strong. Service and maintenance industries supporting this division are also likely to experience stable growth. It is possible that there will be competition among private and public hospitals for scarce nursing, doctor, and allied health resources. Some expressed fear that private hospitals will only cater to a particular patient demographic (Scenario Workshop 2 participant).

In addition to the anticipated growth in activity and employment in the hospital sub-division, other areas of the Health Care and Social Assistance division are also expected to expand. The social assistance services (encompassed by the Community Services sub-division in 2006) are some of the fastest growing industries in Australia (ABS 2011b). Figures and interviews suggest that this is also the case for the RGA. Whereas the residential care industry was considered within the Community Services sub-division in 2006, the 2011 census has made a distinct separation between residential care and those services delivered directly in the community and not in a facility. This separation is an important distinction as it points to the increasing relevance of personal carers delivering services right at the home of the consumer. The services provided by these workers are seen as complements to the work already given by family members and volunteers (ABS 2011b). It is expected that greater demands will be exerted on this sub-division due to factors such as an ageing population, increasing participation of women in the workforce (ABS 2011b) and reform policies seeking to address unmet demand for these services.

The most relevant of these initiatives is the shift in the aged care, disability, and mental health industries towards consumer-led or person-centred models. Such new models will change the way services are delivered. Whereas funding used to be directed at a particular facility, it is becoming market driven with individuals able to choose the service provider. The National Disability Insurance Scheme (NDIS) due to be launched in the Barwon Region in mid-2013 is one such initiative. The change to person-centred or individualised funding has been occurring in the disability, aged care and mental health areas (STBMHR15) for some time and the NDIS is likely to add to that trend. Five thousand packages have been identified in the G21 Region and the local NDIS agency will require a staff of at least 80 people by July 1 (STBMHR33-35). In order for providers of NDIS services to market themselves, their staff will need to be qualified as per government requirements. Worker qualifications will likely become mandatory. These developments will have an impact on staffing, education attainment and wages. The magnitude of these impacts remains uncertain. Wages are expected to increase when labour shortages materialise. They are an important incentive for attracting workers into the industry (especially younger ones). But, it is also possible that if current employees work more hours, at least initially, then supply constraints will ease. It is anticipated that local disability service providers will have to expand. Karingal Inc., for example, which currently employs 851 workers) will need to seek in excess of 150 new employees (Best 2012e). A participant in Scenario Workshop 3 confirmed that the care provider that they work for has already commenced recruitment.

One of the most important goals of consumer-led models is to satisfy unmet need and transfer more decision-making power to the client. This will probably translate into greater demand for disability, aged care and mental health services. How these factors will affect demands placed on current workers and the demand and supply of future workers is one of the most important questions currently faced by the health sector in the RGA and Australia as a whole. These demands are likely to affect the entire range of services from traditional attendant care and support staff, to managers, administrator and allied health professionals (Productivity Commission Inquiry Report 2011a) Given that the typical workforce in the sub-division is an older one, and is impeded by high turnover rates and low pay (ABS 2011; Productivity Commission Inquiry Report 2011a), its response to increasing demands may be limited unless strategies to address these issues are undertaken.

8.1 Health care and social assistance labour market

The following labour market analysis of the health care and social assistance division provides an overview of this growing and increasingly important division. Based upon 2006 and 2011 census data the overview provides the context in which the challenges and opportunities for the sector, including those related to skills and training needs, are considered.

8.1.1 Sub-divisions by place of work

Employment in the RGA includes those who live in the RGA and who commute into it. In general, the Health Care and Social Assistance division is reliant on a 'self-contained' skilled workforce to provide essential services from within the RGA.

Numbers relating to residence and place of work are presented below in Table 43.

Amongst 15,812 RGA residents employed in the sector, the largest proportion, 81.5 per cent (or 12,887 persons) work within the RGA. Nonetheless, there is also a significant proportion, 9.3 per cent (1,476) who work in the division but outside the region. Of the LGAs that comprise the RGA, Golden Plains residents are almost equally as likely to work within the division within another LGA (45.9 per cent) as they are to work within the division within the RGA (46.4 per cent). This pattern may be attributed to their proximity to Ballarat, a major regional centre that provides alternative opportunities for employment.

Table 43. RGA Residents Employed in the Health Care and Social Assistance Division by Place of Residence and Place of Work, 2011

	Place of Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Place of Work is RGA	527	46.4%	10,993	84.5%	126	84.0%	1,241	82.1%	**12,887**	81.5%
Place of Work is other LGA	521	45.9%	968	7.4%	14	9.3%	146	9.7%	**1,649**	10.4%
Place of Work unspecified (VIC)*	26	2.3%	302	2.3%	6	4.0%	30	2.0%	**364**	2.3%
Place of Work State, Territory Undefined (VIC)	44	3.9%	512	3.9%	0	0.0%	57	3.8%	**613**	3.9%
Place of Work unspecified Other States*	3	0.3%	31	0.2%	0	0.0%	18	1.2%	**52**	0.3%
Not Stated	14	1.2%	207	1.6%	4	2.7%	20	1.3%	**245**	1.5%
Total Employed Persons	**1,135**	**100.0%**	**13,013**	**100.0%**	**150**	**100.0%**	**1,512**	**100.0%**	**15,810**	**100.0%**

*Place of Work unspecified includes 'No fixed address' and 'unincorporated areas'
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

In 2011, the Hospital, or acute sub-sector, provided 36.5 per cent (5,788 persons) of employment within the sector. The majority of these workers, 84.4 per cent (4,874 persons) are employed within the RGA, Table 44.

Table 44. RGA Residents Employed in Health Care and Social Assistance Division by Place of Work and Place of Usual Residence LGA, 2011

		Place of Residence									
		Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Hospitals	Place of Work is RGA	186	41.2%	4,180	88.0%	48	90.6%	460	88.1%	**4,874**	**84.4%**
	Place of Work is Greater Melbourne	11	2.4%	276	5.8%	5	9.4%	32	6.1%	**324**	**5.6%**
	Place of Work Ballarat	221	49.0%	14	0.3%	0	0.0%	0	0.0%	**235**	**4.1%**
	Place of Work Wyndham	0	0.0%	79	1.7%	0	0.0%	0	0.0%	**79**	**1.4%**
	Place of Work Other*	33	7.3%	203	4.3%	0	0.0%	30	5.7%	**266**	**4.6%**
Subtotal Hospitals		*451*	*39.9%*	*4,752*	*36.5%*	*53*	*36.1%*	*522*	*35.2%*	***5,778***	***36.5%***
Medical and Other Health Care Services	Place of Work is RGA	113	48.1%	2,487	82.3%	25	78.1%	381	79.0%	**3,006**	**79.7%**
	Place of Work is Greater Melbourne	3	1.3%	183	6.1%	0	0.0%	42	8.7%	**228**	**6.0%**
	Place of Work Ballarat	103	43.8%	17	0.6%	0	0.0%	0	0.0%	**120**	**3.2%**
	Place of Work Wyndham	0	0.0%	52	1.7%	0	0.0%	6	1.2%	**58**	**1.5%**
	Place of Work Other*	16	6.8%	284	9.4%	7	21.9%	53	11.0%	**360**	**9.5%**
Subtotal Medical and Other Health Care.		*235*	*20.8%*	*3,023*	*23.2%*	*32*	*21.8%*	*482*	*32.5%*	***3,772***	***23.9%***
Social Assistance Services	Place of Work is RGA	113	43.8%	2,297	78.9%	25	86.2%	212	74.6%	**2,647**	**76.0%**
	Place of Work is Greater Melbourne	5	1.9%	135	4.6%	0	0.0%	21	7.4%	**161**	**4.6%**
	Place of Work Ballarat	96	37.2%	5	0.2%	0	0.0%	0	0.0%	**101**	**2.9%**
	Place of Work Wyndham	0	0.0%	22	0.8%	4	13.8%	3	1.1%	**29**	**0.8%**
	Place of Work Other*	44	17.1%	454	15.6%	0	0.0%	48	16.9%	**546**	**15.7%**
Subtotal Social Assistance Services		*258*	*22.8%*	*2,913*	*22.4%*	*29*	*19.7%*	*284*	*19.2%*	***3,484***	***22.0%***
Residential Care Services	Place of Work is RGA	109	67.3%	1,844	91.2%	30	90.9%	174	89.7%	**2,157**	**89.5%**
	Place of Work is Greater Melbourne	6	3.7%	47	2.3%	3	9.1%	3	1.5%	**59**	**2.4%**
	Place of Work Ballarat	35	21.6%	5	0.2%	0	0.0%	0	0.0%	**40**	**1.7%**
	Place of Work Wyndham	0	0.0%	9	0.4%	0	0.0%	0	0.0%	**9**	**0.4%**
	Place of Work Other*	12	7.4%	117	5.8%	0	0.0%	17	8.8%	**146**	**6.1%**
Subtotal Residential Care Services		*162*	*14.3%*	*2,022*	*15.5%*	*33*	*22.4%*	*194*	*13.1%*	***2,411***	***15.2%***
Health Care and Social Assistance, nfd	Place of Work is RGA	9	37.5%	185	1.4%	0	0.0%	19	1.3%	**213**	**58.0%**
	Place of Work is Greater Melbourne	0	0.0%	23	0.2%	0	0.0%	0	0.0%	**23**	**6.3%**
	Place of Work Ballarat	4	16.7%	0	0.0%	0	0.0%	0	0.0%	**4**	**1.1%**
	Place of Work Wyndham	0	0.0%	6	0.0%	0	0.0%	0	0.0%	**6**	**1.6%**
	Place of Work Other*	11	45.8%	94	0.7%	0	0.0%	16	1.1%	**121**	**33.0%**
Subtotal Health Care and Social Assist.		*24*	*2.1%*	*308*	*2.4%*	*0*	*0.0%*	*35*	*2.4%*	***367***	***2.3%***
Total	**Place of Work is RGA**	**530**	**46.9%**	**10,993**	**84.4%**	**128**	**87.1%**	**1,246**	**84.1%**	12,897	81.6%
	Place of Work is Greater Melbourne	**25**	**2.2%**	**664**	**5.1%**	**8**	**5.4%**	**98**	**6.6%**	795	5.0%
	Place of Work Ballarat	**459**	**40.6%**	**41**	**0.3%**	**0**	**0.0%**	**0**	**0.0%**	500	3.2%
	Place of Work Wyndham	**0**	**0.0%**	**168**	**1.3%**	**4**	**2.7%**	**9**	**0.6%**	181	1.1%
	Place of Work Other*	**116**	**10.3%**	**1,152**	**8.8%**	**7**	**4.8%**	**164**	**11.1%**	1,439	9.1%
Total Persons, Place of Work		**1,130**	**100.0%**	**13,018**	**100.0%**	**147**	**100.0%**	**1,482**	**102.4%**	**15,812**	**100.0%**

*Place of Work Other includes all other areas, 'No fixed address' and 'unincorporated areas'
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

The 'Health Care and Social Assistance, nfd sub-sector has the largest portion of RGA residents working outside the RGA (9 per cent) followed by the 'Social Assistance Services' sub-sector with 8.3 per cent of RGA residents working within the sub-division working outside the RGA. Of the workers commuting out of the RGA, the majority travelled to either the Greater Melbourne area or Ballarat, with a smaller number to Wyndham. Notably, 96 per cent of those commuting to Ballarat within this sub-division are residents of Golden Plains while the bulk of those commuting to Melbourne and Wyndham are residents of the City of Greater Geelong.

Within the Medical and other Health Services subsector, followed closely by Hospitals and Social Assistance Services, the proportion of workers commuting to the Greater Melbourne area is relatively higher than amongst other sectors. This pattern may reflect a more comprehensive set of opportunities in Greater Melbourne including developmental possibilities, such as updating and extending skills. In contrast, fewer residents are likely to work outside the RGA in the residential care services and hospitals sub-sectors, presumably a function of the casualised nature and part-time hours of work within the sub-sector and the associated convenience of living close to the place of work. It may also be the case that earnings levels are a barrier to travelling outside the RGA to work. Hence, the particularly localised nature of the sub-sector may be attributable to a combination of lower skills and a high proportion of women workers who seek to work locally to facilitate their family care responsibilities.

Overall, where RGA residents commute to work it is more likely to be to Greater Melbourne and Ballarat than to Wyndham. In particular, residents of Golden Plains working in the health and social assistance division are almost equally likely to work in Ballarat as in the RGA. While those working in Melbourne or Wyndham are most likely to reside within the City of Greater Geelong. This pattern is likely to be a function of the size of relative labour markets coupled with the concentration of the RGA population on the Melbourne side of the RGA than the Ballarat area and the commuting infrastructure available to residents of the City of Greater Geelong LGA.

When considering the RGA as a place for health care and social assistance work for residents from all areas, the case for a geographically constrained labour market is further illustrated (Table 45).

Table 45. All Persons Employed in the RGA in the Health Care and Social Assistance Division by Place of Work and Place of Usual Residence, 2011

	Place of Work									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Residents of RGA	156	96.9%	12,034	95.6%	171	97.7%	535	93.4%	12,896	95.6%
Residents of other LGA	5	3.1%	541	4.3%	4	2.3%	38	6.6%	588	4.4%
Residence unknown*	0	0.0%	11	0.1%	0	0.0%	0	0.0%	11	0.1%
Total Persons, Place of Work	**161**	**100.0%**	**12,586**	**100.0%**	**175**	**100.0%**	**573**	**100.0%**	**13,495**	**100.0%**

*Residence Unknown includes 'No fixed address' and 'unincorporated areas'
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

In 2011, residents of the RGA filled the overwhelming majority (95.6 per cent) of health and social assistance jobs located within the RGA. There were 588 workers known to commute from other LGAs into the RGA for health care and social assistance employment. Due to skill shortages of nurses (CoGG 2012a), other health professionals and expanding employment in the sector, the self-containment rate of the sector's workers should remain high.

Within the region, almost all of those employed in Health Care and Social Assistance work within the Greater Geelong area, 93.5 per cent (12,609), suggesting that the labour market in this sector is geographically constrained by the major employers in the sector (Table 46).

Table 46. Employed Persons in the Health Care and Social Assistance Division by Place of Usual Residence and Place of Work, 2011

		Place of Work									
		Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Hospitals	Place of Residence is RGA	3	100.0%	4,773	95.4%	0	0.0%	105	88.2%	**4,881**	**95.2%**
	Place of Residence is Greater Melbour	0	0.0%	76	1.5%	0	0.0%	0	0.0%	**76**	**1.5%**
	Place of Residence Ballarat	0	0.0%	19	0.4%	0	0.0%	0	0.0%	**19**	**0.4%**
	Place of Residence Wyndham	0	0.0%	69	1.4%	0	0.0%	0	0.0%	**69**	**1.3%**
	Place of Residence Other*	0	0.0%	68	1.4%	0	0.0%	14	11.8%	**82**	**1.6%**
Subtotal Hospitals		*3*	*1.8%*	*5,005*	*39.7%*	*0*	*0.0%*	*119*	*20.7%*	***5,127***	***37.9%***
Medical and Other Health Care Services	Place of Residence is RGA	48	100.0%	2,718	94.1%	46	92.0%	180	94.2%	**2,992**	**94.2%**
	Place of Residence is Greater Melbour	0	0.0%	94	3.3%	4	8.0%	5	2.6%	**103**	**3.2%**
	Place of Residence Ballarat	0	0.0%	9	0.3%	0	0.0%	0	0.0%	**9**	**0.3%**
	Place of Residence Wyndham	0	0.0%	43	1.5%	0	0.0%	0	0.0%	**43**	**1.4%**
	Place of Residence Other*	0	0.0%	23	0.8%	0	0.0%	6	3.1%	**29**	**0.9%**
Subtotal Medical and Other Health Care.		*48*	*29.4%*	*2,887*	*22.9%*	*50*	*28.9%*	*191*	*33.2%*	***3,176***	***23.5%***
Social Assistance Services	Place of Residence is RGA	41	100.0%	2,469	95.3%	45	100.0%	94	96.9%	**2,649**	**95.5%**
	Place of Residence is Greater Melbour	0	0.0%	45	1.7%	0	0.0%	0	0.0%	**45**	**1.6%**
	Place of Residence Ballarat	0	0.0%	7	0.3%	0	0.0%	3	3.1%	**10**	**0.4%**
	Place of Residence Wyndham	0	0.0%	28	1.1%	0	0.0%	0	0.0%	**28**	**1.0%**
	Place of Residence Other*	0	0.0%	42	1.6%	0	0.0%	0	0.0%	**42**	**1.5%**
Subtotal Social Assistance Services		*41*	*25.2%*	*2,591*	*20.5%*	*45*	*26.0%*	*97*	*16.8%*	***2,774***	***20.5%***
Residential Care Services	Place of Residence is RGA	63	92.6%	1,881	97.7%	75	100.0%	144	92.9%	**2,163**	**97.3%**
	Place of Residence is Greater Melbour	0	0.0%	5	0.3%	0	0.0%	0	0.0%	**5**	**0.2%**
	Place of Residence Ballarat	0	0.0%	3	0.2%	0	0.0%	5	3.2%	**8**	**0.4%**
	Place of Residence Wyndham	0	0.0%	9	0.5%	0	0.0%	0	0.0%	**9**	**0.4%**
	Place of Residence Other*	5	7.4%	28	1.5%	0	0.0%	6	3.9%	**39**	**1.8%**
Subtotal Residential Care Services		*68*	*41.7%*	*1,926*	*15.3%*	*75*	*43.4%*	*155*	*26.9%*	***2,224***	***16.4%***
Health Care and Social Assistance, nfd	Place of Residence is RGA	3	100.0%	200	100.0%	3	0.0%	14	100.0%	**220**	**100.0%**
	Place of Residence is Greater Melbour	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Ballarat	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Wyndham	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Other*	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
Subtotal Health Care and Social Assist.		*3*	*1.8%*	*200*	*1.6%*	*3*	*1.7%*	*14*	*2.4%*	***220***	***1.6%***
Total	**Place of Residence is RGA**	**158**	**96.9%**	**12,041**	**95.5%**	**169**	**97.7%**	**537**	**93.2%**	**12,905**	**95.4%**
	Place of Residence is Greater Melbou	**0**	**0.0%**	**220**	**1.7%**	**4**	**2.3%**	**5**	**0.9%**	**229**	**1.7%**
	Place of Residence Ballarat	**0**	**0.0%**	**38**	**0.3%**	**0**	**0.0%**	**8**	**1.4%**	**46**	**0.3%**
	Place of Residence Wyndham	**0**	**0.0%**	**149**	**1.2%**	**0**	**0.0%**	**0**	**0.0%**	**149**	**1.1%**
	Place of Residence Other*	**5**	**3.1%**	**161**	**1.3%**	**0**	**0.0%**	**26**	**4.5%**	**192**	**1.4%**
Total Persons, Place of Residence		***163***	**100.0%**	***12,609***	**100.0%**	***173***	**100.0%**	***576***	**100.0%**	***13,521***	**100.0%**

*Place of Residence Other includes residents of all other areas, or who stated ‘No fixed address’ and ‘unincorporated areas’

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells

Source: ABS Census of Population and Housing, 2011

Of all persons working within the Health Care and Social Assistance sector in the RGA, 37.9 per cent (5,127) work in ‘Hospitals’ and almost all of those employed in hospitals work in the City of Greater Geelong, 97.6 per cent (5,005). For those who commute into the RGA, most work in the City of Greater Geelong, 92.0 per cent (541) with smaller proportions working in the Surf Coast, Golden Plains and Queenscliffe. Very few workers commute into the region to work in this sector, and those that do are predominantly from the Greater Melbourne area, a mere 1.7 per cent (229). These inward commuters are predominantly employed in Medical and other Health Services or Hospitals. In the residential care services, very few workers from outside the RGA commute into the area for employment supporting the view that this subsector of the industry is particularly localised.

8.1.2 Educational attainment and employment status

The health care and social assistance division comprises a predominantly female workforce. In 2011, over 80 per cent of the division's residential workforce was female. Moreover, females outnumber males in all the composite sub-divisions. Over a third of the workforce were employed in the Health Care and Social Assistance division followed by Medical and Other Health Care Services, just under a quarter of the resident workforce.

The health care and social assistance division is also a highly credentialised division. In 2011, nearly 40 per cent of RGA resident workers employed within the Health Care and Social Assistance division had a bachelor degree or higher tertiary education qualification, as indicated on the next page in Table 47.

The most common level of Non-School Qualification held by residents working within the division in 2011 was Bachelor Degree, held by 28.5 per cent of employees. The next most frequent qualification was Certificate, held by 22.1 per cent of employees, while lesser proportions of the workforce held Advanced Diploma/Diploma (13.8 per cent), Graduate Diploma/Graduate Certificate (6.0 per cent) or Postgraduate Degree (5.1 per cent) qualifications.

RGA resident male employees working within the divisions were proportionally nearly three times as likely as female employees to hold a Postgraduate Degree qualification, and indeed were more likely than females to hold qualifications at all levels, apart from Certificate and Advanced Diploma/Diploma. A larger proportion of the female than male workforce fell into the 'Not Applicable' category, which includes those employees who have not gained a Non-School Qualification.

Between the census periods of 2006 to 2011, there was an increase in the numbers of employees holding qualifications within the division. Of the 3,325 additional positions found in the division between the 2006 and 2011 census periods, there was an increase of 1,081employees possessing Bachelor Degrees, reflecting the overall higher proportion of employees with such a qualification. However as a percentage increase from 2006 figures, the largest growth was the 66.5 per cent increase in employees holding a Postgraduate Degree qualification, up from 489 in 2006 to 814 in 2011.

Health Professionals, who made up the most common occupational category for both genders (5,366 employees), can be assumed to possess degree level (e.g. Registered Nurses) or higher qualifications. Carers and Aides, making up the second largest occupation category, are more likely to hold Certificate level qualifications, or indeed may be able to work in the division without a Non-School Qualification.

Table 47. RGA Residents Employed in the Health Care and Social Assistance Division by Qualification Attainment and Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male Total		Female Total		Total		Male Total		Female Total		Total		Male Total		Female Total		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Postgraduate Degree	229	9.9%	260	2.6%	489	3.9%	322	11.1%	492	3.8%	814	5.1%	93	40.6%	232	89.2%	325	66.5%
Graduate Dip / Graduate Cert	120	5.2%	511	5.0%	631	5.1%	175	6.1%	772	6.0%	947	6.0%	55	45.8%	261	51.1%	316	50.1%
Bachelor Degree	828	35.7%	2,595	25.5%	3,423	27.4%	1,024	35.4%	3,480	26.9%	4,504	28.5%	196	23.7%	885	34.1%	1,081	31.6%
Advanced Diploma / Diploma	258	11.1%	1,389	13.7%	1,647	13.2%	339	11.7%	1,847	14.3%	2,186	13.8%	81	31.4%	458	33.0%	539	32.7%
Certificate	382	16.5%	2,154	21.2%	2,536	20.3%	478	16.5%	3,016	23.3%	3,494	22.1%	96	25.1%	862	40.0%	958	37.8%
Inadequately described	45	1.9%	235	2.3%	280	2.2%	26	0.9%	251	1.9%	277	1.8%	-19	-42.2%	16	6.8%	-3	-1.1%
Not stated	81	3.5%	537	5.3%	618	4.9%	63	2.2%	416	3.2%	479	3.0%	-18	-22.2%	-121	-22.5%	-139	-22.5%
Not applicable	377	16.3%	2,485	24.4%	2,862	22.9%	462	16.0%	2,648	20.5%	3,110	19.7%	85	22.5%	163	6.6%	248	8.7%
Total Count of Qualification	**2,320**	**100.0%**	**10,166**	**100.0%**	**12,486**	**100.0%**	**2,889**	**100.0%**	**12,922**	**100.0%**	**15,811**	**100.0%**	**569**	**24.5%**	**2,756**	**27.1%**	**3,325**	**26.6%**

Source: ABS Census of Population and Housing, 2011

Table 48. RGA Residents Employed in the Health Care and Social Assistance Division by Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male Total		Female Total		Total		Male Total		Female Total		Total		Male Total		Female Total		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Employed, worked full-time	1,639	70.7%	3,620	35.6%	5,259	42.1%	1,895	65.6%	4,526	35.0%	6,422	40.6%	256	15.6%	906	25.0%	**1,163**	**22.1%**
Employed, worked part-time	523	22.6%	5,795	57.0%	6,318	50.6%	810	28.0%	7,392	57.2%	8,202	51.9%	287	54.9%	1,597	27.6%	**1,884**	**29.8%**
Employed, away from work	157	6.8%	752	7.4%	909	7.3%	183	6.3%	1,005	7.8%	1,188	7.5%	26	16.6%	253	33.6%	**279**	**30.7%**
Total employed residents	**2,319**	**100.0%**	**10,167**	**100.0%**	**12,486**	**100.0%**	**2,888**	**100.0%**	**12,923**	**100.0%**	**15,812**	**100.0%**	**569**	**24.5%**	**2,756**	**27.1%**	**3,326**	**26.6%**

Source: ABS Census of Population and Housing, 2006 and 2011

Part-time employment is a feature of the sector, as shown above in Table 48. In the Health Care and Social Assistance division just over 50 per cent of the RGA residents employed within the divisions were employed on a part-time basis in 2011. Two thirds of the males in the division were employed full-time, while just over a third of the females were employed full-time. Since 2006, the proportion of residents employed as full-time and part-time remained relatively constant, although amongst males the growth in part-time employment was stronger than the growth in full-time employment. Not surprisingly, there are significant differences in the weekly income earned by male and female workers.

When considered by gender, a greater proportion of males working in the division were employed full-time (65.6 per cent), than females, (35.0 per cent), and conversely a greater proportion of females, (57.2 per cent) were employed part-time than were males, (28.0 per cent).

Since 2006, there has been sizeable growth in the number of RGA resident employees within the Health Care and Social Assistance division, with 569 more male employees and 2,756 more female employees. The growth was slightly stronger among part-time employees (29.8 per cent) than full-time employees (22.1 per cent). While virtually no change over time was evident in the proportion of female employees working at a full-time or part-time, the proportion of males employed full-time decreased from 70.7 per cent in 2006 to 65.6 per cent in 2011. Further, there was a comparative increase in part-time employment from 22.6 per cent to 28.0 per cent over the same period. These differences contribute to significant differences in the weekly income earned by male and female workers.

8.1.3 Occupations and age

Over half of the RGA resident workforce employed in the Health Care and Social Assistance division in 2011 were aged 45 years and over, as shown in Table 49.

Table 49. RGA Employed Residents in the Health Care and Social Assistance Division by Age Group and Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
15-19 years	25	1.1%	146	1.4%	171	1.4%	37	1.3%	168	1.3%	205	1.3%	12	48.0%	22	15.1%	34	19.9%
20-24 years	110	4.7%	708	7.0%	818	6.6%	135	4.7%	961	7.4%	1,096	6.9%	25	22.7%	253	35.7%	278	34.0%
25-29 years	158	6.8%	869	8.5%	1,027	8.2%	248	8.6%	1,144	8.9%	1,392	8.8%	90	57.0%	275	31.6%	365	35.5%
30-34 years	220	9.5%	1,032	10.2%	1,252	10.0%	244	8.5%	1,131	8.8%	1,375	8.7%	24	10.9%	99	9.6%	123	9.8%
35-39 years	274	11.8%	1,106	10.9%	1,380	11.1%	340	11.8%	1,441	11.1%	1,781	11.3%	66	24.1%	335	30.3%	401	29.1%
40-44 years	330	14.2%	1,520	15.0%	1,850	14.8%	341	11.8%	1,564	12.1%	1,905	12.0%	11	3.3%	44	2.9%	55	3.0%
45-49 years	359	15.5%	1,731	17.0%	2,090	16.7%	376	13.0%	1,968	15.2%	2,344	14.8%	17	4.7%	237	13.7%	254	12.2%
50-54 years	343	14.8%	1,535	15.1%	1,878	15.0%	408	14.1%	1,930	14.9%	2,338	14.8%	65	19.0%	395	25.7%	460	24.5%
55-59 years	261	11.2%	1,028	10.1%	1,289	10.3%	368	12.8%	1,525	11.8%	1,893	12.0%	107	41.0%	497	48.3%	604	46.9%
60-64 years	141	6.1%	383	3.8%	524	4.2%	244	8.5%	848	6.6%	1,092	6.9%	103	73.0%	465	121.4%	568	108.4%
65-69 years	52	2.2%	87	0.9%	139	1.1%	89	3.1%	195	1.5%	284	1.8%	37	71.2%	108	124.1%	145	104.3%
70-74 years	27	1.2%	13	0.1%	40	0.3%	35	1.2%	43	0.3%	78	0.5%	8	29.6%	30	230.8%	38	95.0%
75-79 years	15	0.6%	4	0.0%	19	0.2%	13	0.5%	4	0.0%	17	0.1%	-2	-13.3%	0	0.0%	-2	-10.5%
80-84 years	3	0.1%	0	0.0%	3	0.0%	8	0.3%	3	0.0%	11	0.1%	5	166.7%	3	300.0%	8	266.7%
85-89 years	3	0.1%	3	0.0%	6	0.0%	0	0.0%	0	0.0%	0	0.0%	-3	-100.0%	-3	-100.0%	-6	-100.0%
Total employed residents	**2,321**	**100.0%**	**10,165**	**100.0%**	**12,486**	**100.0%**	**2,886**	**100.0%**	**12,925**	**100.0%**	**15,811**	**100.0%**	**565**	**24.3%**	**2,760**	**27.2%**	**3,325**	**26.6%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2006 and 2011

There was a gain of 1,355 employees aged 55 years and over since 2006. For female workers, the age cohort with the largest proportion of workers was those aged 45-49 years (15.2 per cent or 1,968 employees), closely followed by females aged 50-54 years (14.9 per cent or 1,930 employees). With regard to male employees, the age cohort with the largest proportion of workers was those aged 50-54 years (14.1 per cent or 408 employees). In 2011, 245 female workers and 145 male workers were aged 65 and over. Many of these workers are likely to retire in coming years.

When observing changes over time, the most notable increase both numerically and in terms of a proportion of the workforce occurred in those aged 60-64 years, with a 108.4 per cent growth in the number of employees, up from 524 in 2006 to 1,092 in 2011. Indeed overall there was a doubling of the workforce aged above 60 years, growing from 731 employees in 2006 to 1,482 employees in 2011.

Between 2006 and 2011, there were marked increases across some of the age brackets. For employees aged 20-24 years there was a 34.0 per cent increase in the number of workers employed between 2006 and 2011 and for those aged 25-29 years, there was a 35.5 per cent jump. However in numerical terms this only amounts to 643 more employees aged between 20-29 years in 2011 than in 2006. Hence, what is important to note is that while all those aged under 30 years in 2011 account for just 17.0 per cent (2,693 employees) of the workforce, those aged over 50 years account for 36.1 per cent of employees within the division (5,713 employees).

In short, the division's workforce is aged, with over half aged 45 years or older, a reflection of Australia-wide trends. Australia's health care and social assistance workforce is ageing faster than the non-health workforce (Australian Institute of Health and Welfare 2012) and this is also visible in the RGA's workforce figures. The ageing workforce would theoretically affect both the demand for and supply of health workers. From the supply side, ageing would affect the number of workers reaching retirement. If they are not replaced quickly enough by new workers, it could lead to shortages. From the demand side, an ageing population would increase the demand for age-related health care services. Replacement rates would then need to take both of these factors into account (Australian Institute of Health and Welfare 2012).

Understanding what lies behind the ageing workforce may also point to possible solutions to address the challenges. For example, some industries such as aged care and disability find it particularly hard to recruit young workers. Higher wages, improved career paths and better working conditions could make the industries more palatable to younger people (Productivity Commission Inquiry Report 2011a). For hospitals, attracting younger workers may not be as problematic as having job-ready graduates with adequate training and experience.

In 2011, over half of the 15,811 RGA residents working within the division were employed within two occupational categories: Health Professionals and Carers and Aides, Tables 50 and 51.

Table 50. RGA Resident Males Employed in the Health Care and Social Assistance Division by Most Common (Top 15) Occupations, 2011

		Number	Per cent
1	Health Professionals	1,104	38.3%
2	Carers and Aides	346	12.0%
3	Health and Welfare Support Workers	341	11.8%
4	Legal, Social and Welfare Professionals	140	4.9%
5	Specialist Managers	118	4.1%
6	Engineering, ICT and Science Technicians	90	3.1%
7	Cleaners and Laundry Workers	61	2.1%
8	Inadequately described	48	1.7%
9	Business, Human Resource and Marketing Professionals	45	1.6%
10	Design, Engineering, Science and Transport Professionals	42	1.5%
11	Hospitality, Retail and Service Managers	38	1.3%
12	Factory Process Workers	33	1.1%
13	Office Managers and Program Administrators	32	1.1%
14	Chief Executives, General Managers and Legislators	32	1.1%
15	Other Labourers	32	1.1%
	*All others^*	*384*	*13.3%*
	Total	**2,886**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Table 51. RGA Resident Females Employed in the Health Care and Social Assistance Division by Most Common Occupations (Top 15) Occupation, 2011

		Number	Per cent
1	Health Professionals	4,262	33.0%
2	Carers and Aides	3,179	24.6%
3	Inquiry Clerks and Receptionists	901	7.0%
4	Health and Welfare Support Workers	878	6.8%
5	Legal, Social and Welfare Professionals	541	4.2%
6	Cleaners and Laundry Workers	365	2.8%
7	General Clerical Workers	346	2.7%
8	Food Preparation Assistants	310	2.4%
9	Specialist Managers	278	2.2%
10	Office Managers and Program Administrators	254	2.0%
11	Engineering, ICT and Science Technicians	219	1.7%
12	Business, Human Resource and Marketing Professionals	164	1.3%
13	Numerical Clerks	150	1.2%
14	Food Trades Workers	137	1.1%
15	Personal Assistants and Secretaries	123	1.0%
	*All others^*	*818*	*6.3%*
	Total	**12,925**	**100.0%**

Source: ABS Census of Population and Housing, 2011

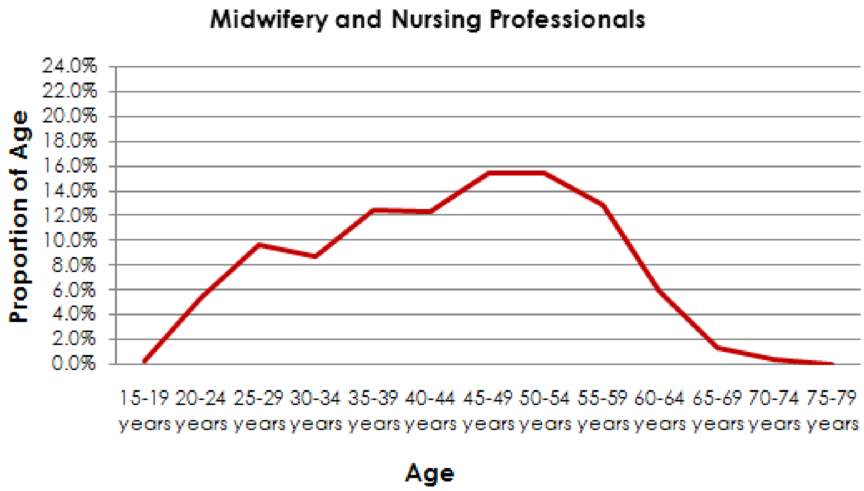
In 2011, close to 40 per cent of male employees within the division worked as Health Professionals, followed by roughly equal percentages employed as Carers and Aides (12.0 per cent) and Health and Welfare Support Workers, including Enrolled Nurses (11.8 per cent). A slightly smaller proportion of the female workforce in the division was employed in the occupation category of Health Professionals (33.0 per cent), but a greater proportion of females than males were employed as Carers and Aides, 24.6 per cent. In numerical terms, females significantly outnumbered males in these three occupational categories, with the most notable distinction being between the 346 male Carers and Aides and 3,179 female Carers and Aides.

Although the numbers are small, some occupational categories that appear in the most common occupations for males in the division do not appear in the female list. These include Design Engineering, Science and Transport Professionals, Hospitality, Retail and Service Managers, Factory Process Workers, and Chief Executives, General Managers and Legislators. Likewise, females were represented in occupational categories that do not appear in the most common occupations for males. These included Inquiry Clerks and Receptionists, General Clerical Workers, Food Preparation Assistants, Numerical Clerks, Food Trades Workers and Personal Assistants and Secretaries. This breakdown suggests that while the bulk of the workforce for both genders were employed in the two main occupational categories, males are more likely to work in managerial, professional or factory process worker roles, while females are more likely to work in clerical or food provision roles.

This analysis is based on the top occupations at a general level of categorisation, so that broad trends can be identified. The next step is to disaggregate the occupational categories further so as to identify particular occupational groups within the broad categories. This further breakdown enables a more precise understanding of the impact of an ageing profile in these sub-categories, thereby enabling possible focus of recruitment and replenishment strategies in this sector.

'Midwifery and Nursing Professionals' is a major sub-category of 'Health Professionals', Figure 15.

Figure 15. RGA Residents Employed as 'Midwifery and Nursing Professionals' by Age, 2011



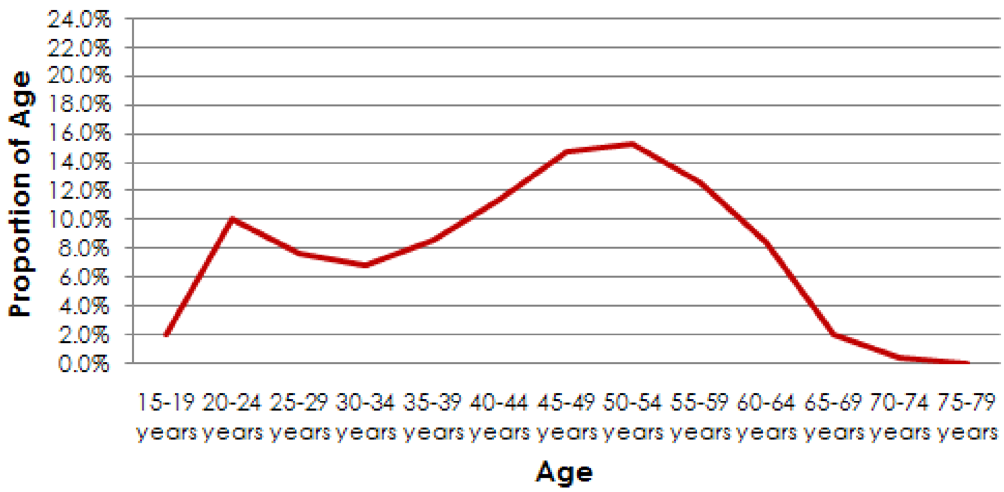
Source: ABS Census of Population and Housing, 2011

In 2011, 3,549 RGA residents were employed as 'Midwifery and Nursing Professionals and 35.8 per cent of these workers were aged 50 years or over. This suggests that over a third of all current employees in this sub-occupational category may consider retirement within the next 5-10 years. Given this profile and in the light of the continued planned expansion of health facilities, health provision and support in RGA, workforce planners should begin to target a range of potential recruits, from older residents considering re-entry into the workforce, displaced workers, and younger residents as well as residents with family responsibilities . Such an approach would need to give consideration to a variety of training and educational approaches, building on existing skills, enabling non-credentialed people to obtain the credentials. The alternative is to bring in workers from outside the region and possibly outside the country. In turn, such a strategy requires support and socialisation in the specific environment of the RGA, including dedicated training programs. A perception about nurses revealed by one of the interviewees is that they tend to stay within the profession only during economic downturns. When economic activity picks up, nurses tend to look for other jobs (STBMHR07).

A second sub-category is that of 'Personal Carers and Assistants'. King and colleagues (2012) report that 84.1 per cent of personal care workers in the aged care workforce in Australia have some form of post-secondary qualification, which is above the national average (King *et al*. 2012, p. 18). They note that since 2007 there has been a substantial increase in the proportion of Personal Care Assistants and Community Care Workers with Certificate IV qualifications (King *et al*. 2012, p. xv). Additionally, they note that the direct care workforce display a strong commitment to training and upskilling, with approximately 25 per cent of the Personal Care Assistant workforce currently studying (King *et al*. 2012, p. 20)

The age profile of these workers within the RGA is as follows, Figure 16.

Figure 16. RGA Residents Employed as 'Personal Carers and Assistants' by Age, 2011



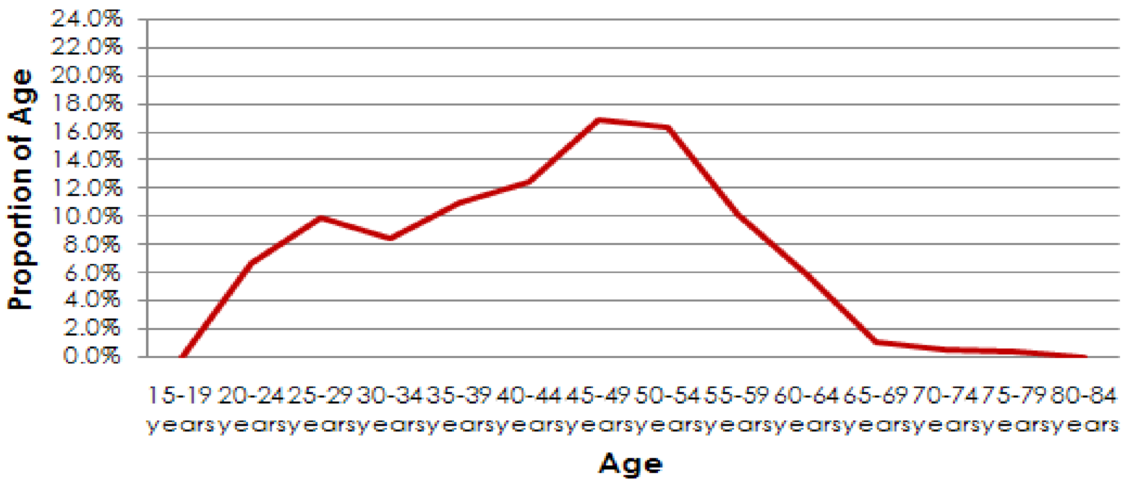
Source: ABS Census of Population and Housing, 2011

In 2011, there were 2,632 RGA residents working as 'Personal Carers and Assistants'. This occupational category also faces a similar situation to nursing and midwifery professionals in that over a third, 38.7 per cent, are aged 50 years or over. It is an occupation that has long been characterised by a large number of older female workers. This occupation does also cater for workers with family responsibilities, in that some care work can be organised around such responsibilities. This is evidenced by STBMHR15 who states that the personal support workers in his organisation who tend to remain on the job for a longer period of time are female, second income earners and 45 years or older.

The Productivity Commission (2011b) has noted that pay in this occupation is particularly low, making it difficult to attract primary income earners and younger workers to the role. These factors present significant replenishment challenges. Increasing wages for the occupation may help employers to attract a broader range of workers. Workforce planning suggests that attention should be given to residents in the RGA who may be willing to take on such work as there is likely to be a relatively continuous process of replenishment in this category, now and into the future.

In 2011, 1,126 RGA residents were employed in the occupational category Health and Welfare Support Workers', Figure 17.

Figure 17. RGA Residents Employed as 'Health and Welfare Support Workers' by Age, 2011



Source: ABS Census of Population and Housing, 2011

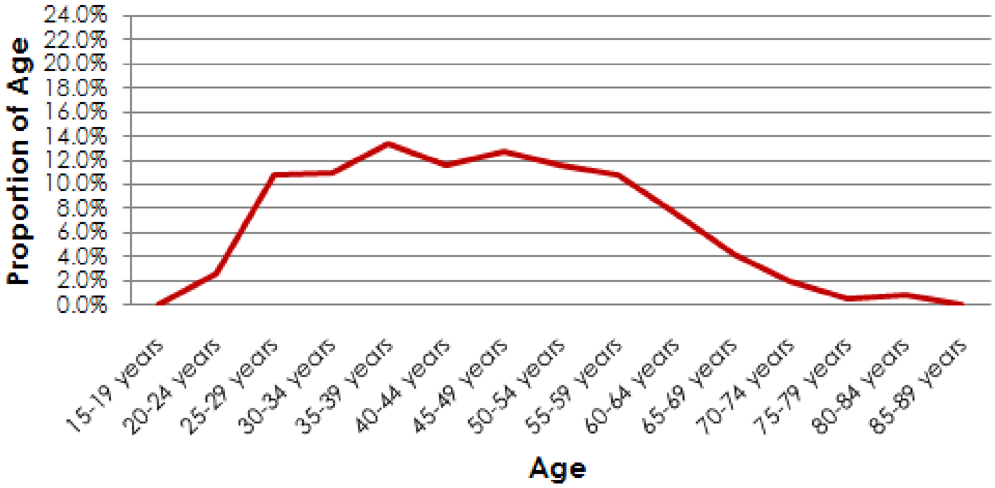
As with other large categories of health related workers, over a third of the workforce is aged 50 years or more, 34.5 per cent of the category. This occupation is notable for its extremely long 'tail' with a small proportion of workers continuing to work up until the age of 75-79. This pattern is not the norm, and the occupation will not be able to rely on the majority of workers continuing in employment until this age.

Other sub-occupational categories all had less than 1,000 employees in the Region. There are, however, some notable patterns amongst these sub-categories. Of the total number of 'Medical Practitioners' (755 RGA residents) and 'Social and Welfare

Professionals' (671 RGA residents) just over a third of the employees were 50 years or over.

The age profile for 'Medical Practitioners' was relatively evenly spread across the age range, with 37.7 per cent aged 50 years or over, and a small number continuing in employment into their 70s and 80s, as indicated in Figure 18.

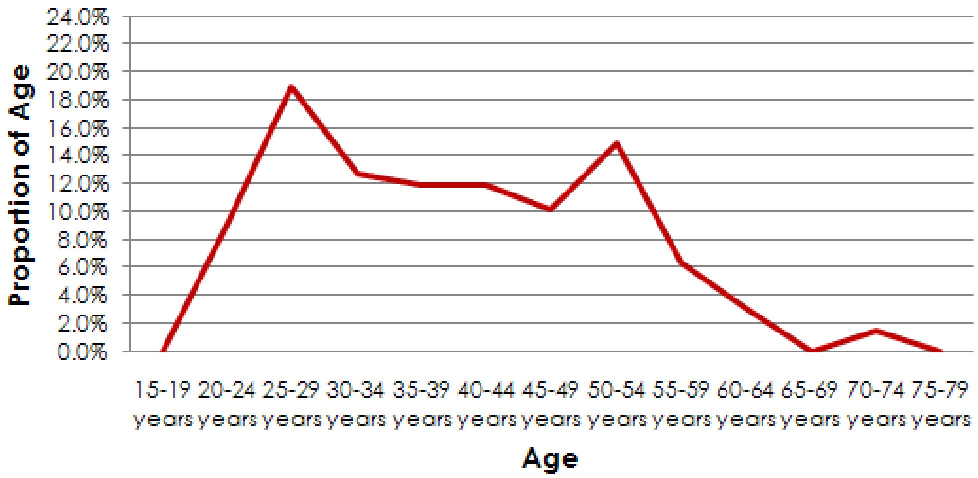
Figure 18. RGA Residents Employed as 'Medical Practitioners' by Age, 2011



Source: ABS Census of Population and Housing, 2011

For the 'Health Diagnostic and Promotion Professionals', only 25.5 per cent were aged 50 years or over. But unlike the other occupational categories, these employees had two peaks in relation to the age profile of the occupation, Figure 19.

Figure 19. RGA Residents Employed as 'Health Diagnostic and Promotion Professionals' by Age, 2011



Source: ABS Census of Population and Housing, 2011

In this category 31.6 per cent were aged 25 to 34 years. This double peak age profile is suggestive of an occupation characterised by women's employment, where skilled and credentialed workers are moving in and out of the workforce in relation to assumed childcare responsibilities. Employers may need to consider their work practices to encourage women with caring responsibilities to remain in the workforce during child-rearing years. Such strategies would need to be appropriately supported with training and staff development support.

Striking age profiles were also noted amongst 'Receptionists' (representing 893 RGA residents) and 'Cleaners and Laundry Workers' (representing 430 RGA residents) which had large proportions of the workforce 50 years and over, 43.3 per cent and 56.7 per cent respectively. In part these patterns can be explained by the tendency within these occupational categories to recruit a mature workforce, partly in relation to hours, qualification levels and relatively low pay. In contrast, the 'Child Carers' (822), 'Health Therapy Professionals' (671) and 'Health Diagnostics and Promotion Professionals (364) employees tended to be relatively young, with 14.2 per cent, 17.5 per cent and 25.5 per cent aged 50 years and over respectively.

The age profiles of these occupations suggest that significant training and development will be needed to ensure that the cohort of employees likely to retire in the next 5-10 years does not exacerbate pre-existing problems and thereby underwriting skill shortages within the industry. Further, in relation to workforce planning it is necessary to disaggregate the broader categories and focus on particular occupational sub-sets within the division.

8.2 Current trends

Several factors currently point to continued strong growth in the demand for health care services in the RGA. The National Health Workforce Taskforce (2009) states that factors which affect the demand for the health workforce include demographic trends, burden of disease and service delivery. Population growth in the G21 region is expected to reach 500,000 in the next 30 to 40 years, with much of this growth attributable to population increases projected in the City of Greater Geelong (Department of Health 2012b). High growth scenarios predict that the municipality of Geelong will grow from a current population of 223,050 people to about 333,000 by 2031(Gray 2013). Major developments include Armstrong Creek (60,000), Lara (10,000), Curlewis (12,000), and Ocean Grove (10,000) (Gray 2013). A growing population demands more health services as a result of the likely increasing in the prevalence of illness, incidence of injury and need for preventive care.

Population ageing is another relevant demographic issue identified for the G21 region as whole (Department of Health 2012b). The median age of the G21 region is 39 years. The proportion of G21 residents aged 65 years or older is expected to increase from 16 per cent in 2010 to 21 per cent in 2026 (Department of Health 2012b). The ageing population affects both the supply and demand of workers. As the population ages it demands more health services of a specific nature. Ageing is also a major issue for the health workforce itself. As workers retire, it becomes necessary to replace them with younger workers.

The burden of disease is also linked to increasing demand for health services. Increasing prevalence of chronic conditions requires a greater number of workers in primary health and acute care and it drives demand for a specific type of worker (National Health Workforce Taskforce 2009). Chronic diseases such as diabetes, heart disease, asthma, arthritis and cancer are typical of the burden of disease in the G21 region (Department of Health 2012a).

The demand for health care workers is also affected by where and how health care services are delivered. In the specific case of the RGA, there is a strong trend towards delivery of services in the home, particularly through community care programs. The 'community' is becoming the locus of service delivery. Greater emphasis on primary health and preventive care in order to shorten hospital stays and diminish unnecessary hospital admissions altogether, mean that healthcare-related activities are bound to take place increasingly in homes and communities. The creation of Medicare Locals was one of the first steps in the direction. They are one of the main instruments through which primary healthcare reforms are delivered (CS&HISC 2012). Interviews with hospital representatives indicate that hospital in the home programs are an important up and coming area of service (STBMHR03, STBMHR12). Epworth hospital has mentioned its commitment to be a part of a patient's health continuum with hospital in the home, clinics, and rehabilitation in the home and hospital. An interviewee in Barwon Health identifies community-based, self-managed care as the future direction for the hospital (STBMHR03). Person-centred service models will also shift location from facility to home and increase demand for health care workers with a wide variety of professions and qualifications. Interdisciplinary practice is predicted to become increasingly relevant and sought after as a result of these underlying trends (CS&HISC 2012).

The previous analysis provided a general snapshot of growth trends in the Health Care and Social Assistance sector in the RGA and the types of occupations, qualifications and age profiles of workers in this sector. However, major changes are occurring within the sub-sectors. Major employers in the sub-sectors are also driving and will continue to drive demand for certain types of workers more than others. These changes represent opportunities for new workers with particular skill sets to enter the sectoral workforce and in some cases, a chance for current workers to strengthen their career paths within the sector. An important conclusion is that without a coordinated and planned approach towards workforce development at least at the sub-sectoral level, the availability of workers needed to deliver the required services could become limited in the near future. A good example is social assistance sub-sector which in general requires workers with very similar intangible skills and personality traits such as empathy, interest in working people, relational skills, flexibility, and life experience, to name a few. Industries within the subsector such as disability, aged care, mental health and childcare tend to draw workers from the same labour pool. The combined effect of changes across all sub-sectors could potentially be large (Productivity Commission Inquiry Report 2011a). The following sections present some of more specific challenges and opportunities for the Division's sub-sectors.

8.2.1 Growth trends in hospitals and associated workforce impacts

Population growth and ageing have occasioned considerable expansion of major operators in the acute sector such as Barwon Health, and St. John of God, and entry of a new player, Epworth Hospital. This will translate into a growing need for medical, nursing, allied health professionals, and administrative support staff as well as patient support services.

Registered nurses are the top occupation currently employed in the acute sector, followed by receptionists and midwives, see Table 52.

Table 52. RGA Residents Employed in the Hospitals Sub-division by Occupation and Sex, 2011

		Male		Female		Total	
		Number	Per Cent	Number	Per Cent	Number	Per Cent
1	Registered Nurses	214	23%	2047	42%	**2261**	**39%**
2	Receptionists	0	0%	216	4%	**216**	**4%**
3	Midwives	0	0%	201	4%	**201**	**3%**
4	Nursing Support and Personal Care Workers	57	6%	141	3%	**198**	**3%**
5	Enrolled and Mothercraft Nurses	9	1%	186	4%	**195**	**3%**
6	Generalist Medical Practitioners	80	9%	77	2%	**157**	**3%**
7	Kitchenhands	6	1%	150	3%	**156**	**3%**
8	Nurse Managers	15	2%	140	3%	**155**	**3%**
9	Aged and Disabled Carers	21	2%	134	3%	**155**	**3%**
10	Medical Technicians	54	6%	81	2%	**135**	**2%**
	All other occupations	*476*	*51%*	*1478*	*30%*	**1954**	***34%***
	Total residents employed in Hospitals Sub-Division	**932**	**100%**	**4,851**	**100%**	**5,783**	**100%**

Source: ABS Census of Population and Housing, 2011

Thirty-nine per cent of RGA workers employed in hospitals are registered nurses. Although receptionists and midwives are part of the top three occupations, the percentages of RGA workers employed in these occupations are low, 4 and 3 per cent respectively. In fact, none of the occupations employed in hospitals surpasses 4 per cent except for registered nurses. More than 90 per cent of these nurses are female. As mentioned previously, the arrival of Epworth hospital, plus the expansion of St. John of God and Barwon health will probably have the strongest impact on the demand for registered nurses. However, STBMHR12 indicated that parallel expansion of these three major industry players could result in extreme competition and poaching of staff in some cases. Competition will not be limited to health professionals but could also extend to cleaners, food services, and patient assistants. Interviewees raised concern about the 'preparedness' of the current labour market for this scenario:

> So it's not about that we just need to focus on hanging on to ours, we must accept that some of ours will go, and there have to be enough to go around. So that's an important strategy and that relies on obviously the educational

> institutions enrolling our students to produce at the other end into the labour market (STBMHR03).

And:

> We're –I think we are doing very well with our workforce planning. I still believe it will be challenging, even though – look we've got expressions of interest, but until the hospital's open and they've signed on the dotted line that they will work there, there's always that chance. But it's looking very promising at the moment, but I'm not saying it won't be-it will be a challenge. We've got competition down there. We've got a few hospitals that we need to compete with, definitely (STBMHR12).

This situation raises questions about skill shortages currently and into the future. The majority of Geelong's current skills shortages lie in the Health Care and Social Assistance division. It is estimated that skill shortages in this division made up nearly one half of the existing or anticipated shortages reported by regional employers, – 245 positions of 585, or 41.6 per cent of all shortages (City of Greater Geelong 2012b). In terms of occupation classifications, 33 existing and 127 anticipated positions for Health Professionals were reported, as well as 23 existing and 26 anticipated Carers and Aides positions and 11 existing and 9 anticipated positions for Health and Welfare Support workers. Among the eight most frequently reported occupations currently experiencing skill shortages were General Practitioners, Personal Care Assistants, Enrolled Nurses, Registered Nurses, and Social Workers (City of Greater Geelong 2012b).

These identified skill shortages, however, lie in contrast to anecdotal evidence from some of the interviewees that currently there are too many doctors and too many nurses coming out of training (STBMHR02 and STBMHR07). There is a generalised perception from interviewees working in hospitals that currently there is a glut of health professionals. However, a large proportion of these professionals are not formally experienced (STBMHR12) and in some cases have not been able to do their intern years or get into specialist programs because there are no jobs or roles for them (STBMHR02). Graduates are finding it difficult to gain positions because they lack experience (Allaoui 2012). One of the most important challenges being faced by medical graduates, for example, is the competition for limited intern places.

Although clinical training is an essential component of training and education for health professionals, the supply of clinical placements and supervisors has not kept up with the growth in university places for health professionals (National Health Workforce Taskforce 2009). While the hospital system currently has a limited capacity for training new doctors (AMA Victoria 2013), it is hoped this can be addressed by Epworth Hospital which is linking with Deakin University so that its health graduates will be able to do internships and placements at the hospital (STBMHR12). It may also be necessary to explore the possibility of internships in community based health service delivery including the Active Service Model in home and community care.

The expansion of various area hospitals such as St. John of God hospital (STBMHR07) and Barwon Health, and the first stage of Epworth Hospital, with 200 additional beds (STBMHR12), will contribute to large increases in demand for registered nurses, doctors, and allied health professionals. However, the lack of experience of these professionals will need to be addressed to facilitate their employment. Such educational 'lagoons' are not unique to the RGA; it is a concern for Victoria as a whole (AMA Victoria 2013). In general, the hospital and education systems will need to develop better coordination in order to assure that intern places will be guaranteed for graduates. The Barwon-South Western Clinical Placement Network (CPN) has been established to address the bottleneck in the access to internships across the region. The network includes membership from all health service providers and education providers and aims to support and facilitate clinical education activities in Victoria's south-west (DoHV 2013). Since 2011, the CPN has undertaken a series of projects to improve clinical placement quality and capacity via a focus on students, practice providers, education providers and regional/rural communities (DoHV 2013).

8.2.2 Growth trends in social assistance services and associated workforce impacts

Like hospitals, Social Assistance Services (including aged care, mental health, child care and disability industries) has witnessed considerable growth in demand as the population increases and becomes older. Associated with this growth is likely to be further employment growth across a range of occupational categories. Table 53 shows the number and percentage of RGA residents employed in Social Assistance Services by occupation and sex.

Table 53. RGA Residents Employed in the Social Assistance Services Sub-Division by Ooccupation and Sex, 2011

		Male		Female		Total	
		Number	Per Cent	Number	Per Cent	Number	Per Cent
1	Child Carers	21	4%	788	27%	**809**	**23%**
2	Aged and Disabled Carers	117	20%	644	22%	**761**	**22%**
3	Welfare Support Workers	86	15%	230	8%	**316**	**9%**
4	Welfare, Recreation and Community Arts Workers	21	4%	86	3%	**107**	**3%**
5	Social Workers	15	3%	78	3%	**93**	**3%**
6	Nursing Support and Personal Care Workers	7	1%	78	3%	**85**	**2%**
7	Counsellors	11	2%	64	2%	**75**	**2%**
8	General Clerks	10	2%	61	2%	**71**	**2%**
9	Health and Welfare Services Managers	13	2%	39	1%	**52**	**1%**
10	Child Care Centre Managers	0	0%	50	2%	**50**	**1%**
	All other occupations	*290*	*49%*	*773*	*27%*	**1063**	***31%***
	Total residents employed in Social Assistance Services	**591**	**100%**	**2,891**	**100%**	**3,482**	**100%**

Source: ABS Census of Population and Housing, 2011

This sub-sector stands in contrast with hospitals. Whereas hospitals employ a majority of nurses, the Social Assistance Services is dominated by employment of child carers, aged and disabled carers and welfare support workers. Child Carers and Aged and

Disabled Carers make up the vast majority, with 22 and 23 per cent respectively. None of the other occupations exceed 9 per cent.

The Productivity Commission Inquiry Reports (2011a and b) serve as important references for this section as they have analysed workforce issues in disability and aged care as a result of current policy changes affecting the industries. However, many of their conclusions are generally applicable to the sub-sector (with some differences for childcare) as evidenced by some of the interviews. For example, STBMHR33-35 state that all of these industries compete for very similar labour and in some cases financial resources.

Policy shifts are having major impact on the sub-sector. Interviews and documentation indicate that the Aged Care, Disability, Mental Health and Child Care industries are some of the fastest growing in the RGA and Australia as a whole. Much of this is the result of federal and state reforms for these industries aimed at covering unmet demand and improving service delivery. Demographic trends are also partially responsible. For example, one interviewee stated:

> Well in the healthcare industry there is growth […] So the increase in growth, for instance, in our company has [been] 100 per cent in less than 11 months. So we have doubled in size and yet the company has been going since 1992. But it had a normal 17 per cent to 18 per cent growth rate every year but in the previous 12 months we have gone over 100 per cent…
>
> Again, this is a lot to do with the changes in attitudes with governments. They're giving more funding out there to support the ageing population so there's more available, if you like, for people as well. Maybe it's got to do with the quality of care that we give but there's also more people out there […] If you look at other similar organizations to myself, they are all I'm sure saying very much the same (STBMHR05).

Representatives from a nursing agency that services the RGA further commented on the demand for staff:

> Well I think so, yeah, particularly in the aged care sector. Geelong is huge for that. Out of that 30 sites that we service, three of them hospitals. That just gives you an indication right there that it's definitely an advantage (STBMHR17 & STBMHR18).

Another interviewee noted the growth in particular occupations:

> Yeah, I would-we've been steadily growing as an organization over the years. There have been some areas in the disability area which have not always seen a lot of growth, but there are new programs coming in all the time where there are new staff required. In the entry level type roles, which we would call personal support workers or day service workers or accom[odation] workers, there's been-there would have been substantial growth over the last five to 10 years. We would expect that to just continue on a steady path. Aged care definitely has seen some growth in that area and there's been the skilled

> workforce which are the coordinators, case managers, that type of stuff, there's also been continuous growth for the organization over the last four or five years. I can only see the trend continuing, especially as the population is ageing as well, I think that the aged care in home help work will increase dramatically as well (STMBHR15).

These industries are currently transitioning towards consumer-led or person-centred business models that seek to address unmet need. Whereas previous models used to be centred in a facility where recipients would spend the day and engage in different types of activities, services are now becoming more transient, provided through one-on-one activities in communities (STBMHR15). Funding is also changing accordingly. It used to be directed at a particular facility, but it is now becoming client-based. Individuals are able to design packages through which they can choose the provider of the services. In general, there is a clear transition towards servicing direct client needs and bringing back to service recipients a considerable degree of decision-making power around planning, goals, and funding as well as planning and assessment (STBMHR33-35). Clients will no longer have to adjust to what is available but rather the client will seek what they require.

Some of the most important federal level reforms currently impacting on the sub-sector are the 'Living Longer Living Better' Aged Care reform package implemented July 1, 2012 and the National Disability Insurance Scheme to be implemented July 1, 2013 with a launch site in Geelong. These reforms go hand in hand with the shift towards person-centred models of service delivery. State-level reforms are also trending in this direction (STBMHR15). In childcare, the National Quality Framework (implemented January 1, 2012) will push the industry from one of care industry to one of education and care overseen by a Federal quality and regulatory system. This is having major implications for staff requirements.

Major areas of change for the industry include: a decrease in child to staff ratios, change in minimum qualification requirements and introduction of kindergarten teachers in all years' programs by 2014 (Karvelas 2011). According to Karvelas (2011) it is estimated that by 2016, centres will have to hire one staff member for every five children aged 25-35 months, one carer for every 11 children aged three to school age. Starting January 2014, every childcare worker will have to have at least a Certificate III qualification and every centre will have to employ a four-year, university-trained teacher. There is a need to increase the number of qualified carers to children. In order to meet regulations, licensees need to have access to the staff.

These parallel changes are having and will have major impacts on workforce requirements for these industries. An important challenge is that these industries are all competing for the same type of resource (STBHMHR33-35). Generally, workers in these industries can be divided into two categories (with some variation for the childcare industry):

- A large percentage of aides and carers, also known as support workers (with largely unrecognised skills, particular personality traits, and lower qualification levels).
- Professionals such as doctors, nurses, occupational and speech therapists, and other allied health professionals.

For the first category, although most of the industries are starting to require certificate level qualifications for most workers, there is a perception that technical skills in general can be taught and/or refined. Their values and attitudes and their capacity to relate to others are the workers' most important assets. In the second category of workers, nurses and doctors only work in these industries as a part of wider responsibilities (Productivity Commission Inquiry Report 2011a). Other specialist occupations such as occupational therapists, mental health and disability practitioners, clinicians trained for specific early interventions play a bigger role (Productivity Commission Inquiry Report 2011a).

Currently, there do not appear to be problems recruiting the first type of worker although some employers do appear to be having difficulties in retaining staff (STBMHR05; STBMHR13; Productivity Commission Report 2011a & b). There is frequently a perception amongst employers that there is high turnover within the industry. However, King and colleagues (2012) report that the caring workforce tends to be fairly stable, that most of the turnover relates to initial rejection of the industry by new employees, and that there is some churn between employers, but most workers have a long-term approach to employment within the industry.

Employers also complain that they find it difficult in getting the right person for the right job. There are also issues with getting staff in regional or outlying areas. The skill base is either not available in the area or and current workers are not paid enough to be able to afford to travel to those areas (STBMHR05). These problems may be a consequence of carers not receiving pay or allowances for travel time (despite often having to use their own vehicles), but only for time spent with a client.

The situation with the second category of worker is completely different. Shortages of some skills and professions such as autism assessors and speech pathologists have been identified (STBMHR14; STBMHR33-35). There may be several reasons for this situation. First, as mentioned previously, there are difficulties for health professionals to complete their training and become employable. Second, community-based practice tends to be perceived as less valued than acute-based practice at least for nursing (National Health Workforce Taskforce 2009). Third, the tertiary sector is lagging behind in offering some of the professions required by the growing sub-sector. For example, one informant expressed that her specific organisation is already having difficulties recruiting speech pathologists and partly attributes this to the fact that Deakin does not have a speech pathology school; there are only two universities in Victoria that teach speech pathology (STBMHR14). Others commented that currently there is a waiting list for autism assessments because there are not enough assessors or people with the right qualifications and skills to carry them out

(STBMHR33-35). Fourth, the allied health profession has high attrition rates due to poor career paths, leading workers to move into fields such as management and education (National Health Workforce Taskforce 2009).

7.2.3 Primary health and preventive care as an emerging industry

Efforts to reduce the disease burden in the RGA's population and decrease the length of hospital stays and unnecessary admissions will be drivers in the growth of the primary and preventive health industry. At the moment there is uncertainty around the kind of workforce that should be engaged in it. The National Health Workforce Innovation and Reform Strategic Framework for Action 2011-2015 is an important Australia-wide policy initiative that will have considerable repercussions on the rise of this industry. The Framework's main goal is to increase the sustainability of the health sector by refocusing on wellness, prevention and primary health care. Community need lies at the core of the model. It will require a reconfiguration of the workforce and greater interaction with the education and training sectors to prepare and support this workforce (Department of Health 2012). Translating the policy to the local level will be complicated as it will require an understanding of community needs in terms of primary health and prevention and building a workforce that suits those needs.

Current efforts for defining and understanding what exactly that workforce would look like include the Barwon-South Western Region Health and Wellbeing Workforce Strategy. The workforce is in considerable flux, and new positions such as Nurse Practitioners, have been developed to address existing shortages and bottlenecks in the health system. As noted by the Department of Health:

> While the current curative health workforce is reasonably well-defined there are some new worker roles (eg nurse practitioners, allied health and physician assistants etc). Those involved in the wellbeing, health promotion or preventive health workforce struggle with the development of inclusive definitions (Department of Health 2012, pp. 5-6).

Responsibility for working on the broad social determinants of health and well-being may fall on a wide spectrum of workers (such as but not limited to home and community care workers, maternal and child health workers, youth workers, community development staff, urban and social planners, health protection workers) who may not traditionally be considered as workers of the health sector (Department of Health 2012).

However, until now this focus on primary health and preventive care has not materialised. For example, although Barwon Health's mission is about delivering care as close to the patient as possible ('right care, right time, right place'), all of the activity still tends to be gathered around an acute hospital (STBMHR03). A workforce that corresponds with the change in model towards community-based care is yet to be fully developed (STBMHR03).

8.3 Challenges and opportunities

The challenges faced within this sector, and the opportunities that their resolution can alternatively provide, fall into four main categories.

8.3.1 Ageing and feminisation of the workforce

There are two noteworthy general characteristics of the health workforce in the RGA: its age and gender. These are reflections of Australia-wide trends. As mentioned previously Australia's health workforce is ageing faster than the non-health workforce (Australian Institute of Health and Welfare 2012) and it is also becoming increasingly 'feminised' (National Health Workforce Taskforce 2009). Ageing could be due to several factors such as difficulties in recruiting younger staff and relying on the stock of current staff, 'baby boom' effects, and a trend towards entry into the workforce later in life fuelled by increasing participation of older women in the workforce (Productivity Commission Inquiry Report 2011a). For particular sub-sectors, some of these causes may be more relevant than others. For example, one of the main challenges for some industries within the Social Assistance Subsector, is attracting younger workers. Also, middle-aged and older female workers tend to be more attracted to working in the sub-sector due to their priorities and family situations.

In terms of the predominance of women, the OECD reports that *ceteris paribus*, the supply of medical services falls when female participation in the workforce increases (National Health Workforce Taskforce 2009). Research suggests that women tend to work fewer hours than males especially during child-rearing years and are more likely to retire early (National Health Workforce Taskforce 2009). This situation could mean that the feminisation of the workforce requires a redesign of the delivery of healthcare services and. These strategies need to involve diversification of the workforce and need to better address work/life balance to enable women workers to stay attached to the workforce and increase their hours during child rearing years.

8.3.2 The issue of qualifications

Qualifications are a way of indicating the skills possessed by a worker. However, there are some major issues that have been identified with qualifications that pose important challenges for the health workforce. These issues are:

- The inability for certain professions to be able to complete their training and therefore become employable;
- The desirability of increasing qualifications for some categories of workers in the Social Services and Assistance subsector; and
- The quality of the qualifications obtained.

With respect to the first issue, there are roles that are highly specialised such as doctors, nurses, and allied health professionals for whom formal training, credentials and qualifications are *sine qua non* conditions for employment. The Australian Health Practitioner Regulation Agency plays an important role in regulating and registering health workers, including doctors, nurses, dentists and other allied health professionals (AHPRA 2013). Internships are compulsory for medical graduates who wish to practice medicine. Specialists also require training in their specific field. Following internship, most doctors continue their training as Resident Medical Officers in hospitals, which takes two years. Although medical schools have increasing numbers of graduates, there are shortages in the number of intern places and specialist positions that are a necessary component of a health professional's work readiness. These shortages are not limited to internships, but are becoming a reality of the entire medical training pathway. There are high risks to any hospital, for example, in employing inexperienced nurses in specialty areas (STBMHR12). Without sufficient experience, this limits their employability and therefore their ability to enter the formal workforce. The incorporation into the workforce is not only slow and progressive, it is currently hampered by the bottlenecks described above.. Therefore, although growth has been projected in the demand for health professionals, unless measures are taken to ensure that hospitals have the capacity to train new professionals, skill shortages could become even greater.

The question of whether qualifications should be mandatory for certain workers in particular industries should also be addressed. Although there can be no debate that there are many roles for which formal training and qualifications are necessary to ensure that the lives of patients are not put at risk, there are other roles for which increasing demands for qualification may present more costs than benefits (Productivity Commission Inquiry Report 2011a). Making qualifications mandatory could discourage the entry of adequate workers into the workforce, as for disability and aged care. In the case of the Social Assistance Services sub-division, the ability to attract staff in the disability and aged care industries has been easy because many employers require minimal or no formal qualifications. Workers tend to be selected based on their intangible skills such as empathy, interest in working with people, flexibility and personal experience (Productivity Commission inquiry Report 2011a; STBMHR05; STBMHR14; STBMHR13).

There is a current tendency towards the professionalisation of this section of the workforce by making certification and credentials mandatory (Productivity Commission Inquiry Report 2011a; STBMHR05). This development could have positive impacts in terms of quality of service delivered and improving perceptions about the professionalisation in the sector and career prospects for entrants. Certification and credentials could also result in improved recognition of skills in the sector and therefore valuing of skills and improved pay for workers. Skills recognition, qualifications, career paths and improved pay could also attract a broader range of workers into the sector. Some employers, however, are of the view that greater requirements for certification or credentials may have the opposite effect by deterring possible entrants into the industry. The Productivity Commission Inquiry Report (2011a) suggests a flexible approach towards qualifications and holds that while 'formal training plays an important role in developing a skilled workforce, this should not be compulsory for all employees' (Productivity Commission Inquiry Report 2011a, p. 693).

The implementation of the NDIS will be an important game changer in the disability industry and will generate an important debate as to the desirability of qualifications for its workers. The NDIS will create independent worksites that will require staff who can move through a career program into higher managerial roles (STBMHR33-35). Currently, there are few opportunities for people to learn through theory and practice and work through career structure. The NDIS could have considerable influence on the emergence of career paths within the industry. Significant employment will be required within the NDIS' implementation agency and across the sector of people who have early baseline training through to graduate and postgraduate degrees. Generally, local education and training providers are perceived as doing a fairly good role in delivering appropriate qualifications but there are some areas which some employers felt were being ignored. Deakin University, for example, once had an undergraduate degree in the science of disability, which was stopped several years ago. At a moment when the industry is at the cusp of change, there are no tertiary level qualifications for people who want to study for a career in disability itself (STBMHR33-35).

Service providers in the RGA have different attitudes with respect to formal qualifications. For example, one reported requiring a minimum Certificate III in Disability or Mental Health, as well as specific character traits (STBMHR15). This organisation perceives qualifications as a way of professionalising the industry and guaranteeing a certain level of quality for funding bodies. However, other organisations prefer to recruit "green" workers based on their values and attributes and then train them to the needs of the organisation (STBMHR14).

The quality of qualifications is also an important issue. There is evidence from interviewees that qualifications in many cases are not a guarantee of the skills possessed by the worker to work in the industry. For example, childcare workers are not coming in job ready and additional training must be done (STMHR23). Experienced staff come job ready, whereas Certificate III holders are especially problematic because they need more training to bring them up to a standard of job readiness. Part of the problem could be that there are now a lot of training providers offering Certificate III who tend to push candidates through. Additionally, some students are taking child care subjects in VCAL and are very young, with little life experience.

With respect to care support workers, some RTOs do not have good practical training modules for their Certificate level students (STBMHR17 & STBMHR 18). Many of the graduates that this provider receives have done no more than 40 hours of training, which is little more than a week and does not include practical experience. A few RTOs are good at providing four to six weeks of clinical placements. The clinical placement time is crucial to improve practical skills and obtain hands-on workplace experience. The clinical placement also allows students to evaluate their suitability for the work. Without practical experience the worker is unemployable and a lack of experience may exacerbate turnover issues for employers. Some RTOs have been identified as providing poor quality qualifications and their graduates may be rejected simply because it is believed that they will not have the appropriate skills. As stated:

> This is why you sort of know your training organizations. If they come from certain training organizations, I don't even look at them… I sort of say to them, look, you're better off going to another organization and doing even just another month and doing your actual placement hours. How many placement hours did you do? Oh just over a week. What are we going to do with that?.... It's not enough. I guess these training organizations that do this really annoy me because they don't think about the implications they're going to cause for these people when they finish their course. They don't set them up for success. They really do set them up for failure (STBMHR17 and 18).

The unevenness of training provision and the deficits in work experience are emerging as major problems in the sector.

8.3.3 Pay rates, work conditions and career paths

Earnings, work conditions career paths are important determinants for workers seeking to enter the health workforce. Career pathways have associated rewards that act as an incentive for workers not only to enter the workforce but also to remain in it. Although pay incentives are important and they can be a crucial strategy for attracting and retaining workers, in many instances what motivates workers to remain with a particular employer or industry is something more intangible, such as helping or wanting to be of service to others (Productivity Commission Inquiry Report 2011a). Retention also depends on appropriate training, career paths, flexible work practices and supportive employers, getting good feedback on a regular basis as well as conducive workplace environments (Montague *et al*. 2013; STBMHR33-35).

Although issues of low wages, difficult working conditions (such as short hour shifts and split shifts due to the high level of demand in the early morning and late at night) and dissatisfaction with career pathways are not exclusive to a particular sub-sector or industry, these issues tend to show up more frequently and be more severe in the Social Services Assistance sub-sector.

This is probably one reason why the Social Services Assistance sub-sector has difficulties in attracting young workers, and retaining workers more generally. One informant commented:

> It does not attract people because hours of work are varied and normally first thing in the morning, at night, not during the day, so therefore it doesn't suit single parents. Doesn't suit people who have got kids, it suits – it's on weekends and 365 days of the year. You might be expected to work one hour here, jump in a car, drive, expected to work one hour there and then have a two hour break and then work over here. That's the nature of the funding and it's the nature of the services that clients receive (STBMHR15).

Earnings of full time employees in this sub-sector tend to be below average for full time employees in all industries (ABS 2011). Part-time average weekly earnings are similar to part-time employees in other industries (ABS 2011). There are divergences between what funding bodies expect and what unions demand in terms of pay, the minimum hours of engagement, and span of hours (STBMHR15). This situation highlights the challenges presented by the intersection of funding regulation and employment regulation for both workers and employers (see Charlesworth 2012).

According to some research participants, it is a sub-sector that is not necessarily associated with a career pathway. One research participant stated: 'So they're not necessarily, if you like, looking for a career growth pattern' (STBMHR05). A similar situation was described by another interviewee:

> But for career wise, I often find – I reckon we would have employed – let's say we employed 100 PSWs, personal support workers, last year. I think that your turnover out of that 100 after three years would be 60 per cent. I would doubt whether after three years more than half of them were still doing that type of work (STBMHR15).

This interviewee believed that younger workers do not associate the care work with developing a career, whereas older employees in the sector are more stable, characteristically being females aged in their forties, whose care work income supplements that a male breadwinner's (STBMHR15). These perceptions, however, may not be accurate. Research by King and colleagues (2012) demonstrates that 25 per cent of personal care workers are currently engaged in study (many in Health or management fields) suggesting a significant proportion of workers are looking to move from personal care work into nursing and other occupations.

The nature of the job may also make high attrition rates an inherent characteristic of the industries. The Productivity Commission (2011b) found during consultations with aged care providers that those who reported a low turnover and limited use of temporary staff placed a high value on supporting professional development. However, financial constraints remained an issue in many of them as they must give employees paid time off to undertake education and training activities. One of the problems with current funding models is that they do not build in training time. These factors and features of employment will need to be addressed.

8.3.4 Recruitment opportunities

Employment growth in the Health Care and Social Assistance Division has the possibility of opening up new occupational opportunities for workers displaced from other industries, such as manufacturing. It is unlikely, however, that such a transition is going to be easy or appropriate for all displaced workers. Differences in skill sets, remuneration, working hours and arrangements and other factors may prove significant barriers for some workers. While the primary health and preventive care industry has been identified as an area with major potential for growth, the roles that will be involved in it have yet to be fully defined. It is almost a given, though, that there will be non-traditional roles that will be considered as part of a well-being workforce which workers from other industries will be able and willing to perform. Although growing demands for a great variety of healthcare services will impact the entire sector, opportunities for workers to transition from other sectors tend to be concentrated in specific occupations within sub-sectors and associated industries.

Hospitals are expanding and will demand the traditional health professional and administrative staff normally associated with the industry. However, supporting roles such as patient assistant roles (also known as patient services assistants) engaged in transport, cleaning, and food distribution present the greatest opportunity for workers to transition from other sectors. These roles require certificate level qualifications in Health Services Support and intangible skills such as interpersonal communication, wanting to work with people, teamwork, and time management. Barwon Health has had experience with a worker transition program for four years (STB Focus Group 2). Epworth Hospital has also indicated that part of its workforce will consist of these patient assistant roles (STBMHR12).

There may also be recruitment opportunities in Hospitals (Acute Care), in Aged Care facilities (Rehabilitation and Palliative Care) and in the community health sector. These roles could provide opportunities for workers from other sectors because their emphasis is on 'soft' skills (i.e personality traits, communication, language, personal habits, friendliness) rather than particular sets of hard skills that are specific to an industry. Also, it is possible for mid or late career workers to move into the sector because there is not a long lead-in time for training and there are few formal or institutional barriers to training at this level, as compared to the training times and qualification requirements for doctors and nurses. Given the emphasis on personality traits, however, the main barrier may be workers' own perception of their suitability for the work.

Qualifications may be another barrier for displaced workers. Qualifications such as Certificate III and IV are required by providers. Most providers are also interested in the kinds of values that the worker is able to bring to the workplace. There are opportunities in childcare as currently there are shortages in diploma and degree levels. In the childcare industry, all workers must come in with Certificate III. Although there are experiences in the industry with workers from other backgrounds, all workers must come with that certificate. In some cases, they could be employed casually which will provide experience while they obtain their qualification (STMBHR23).

8.4 Conclusions

Consistent with broader State and national trends, the RGA has a growing Health Care and Social Assistance division, prompted in part by an ageing population and various public health challenges, such as the rise of preventable illness and disease. This means that regardless of the current profile of employees within the division in the region, there will be a growing need to train and recruit additional employees. In this respect, there is likely to be a continued pressure to expand the workforce to meet new challenges and demands as well as to continue servicing current demands.

When considering the age profile of the current workforce, consideration for the bases of recruitment, training and health care provision becomes even more pressing. Over a third of employees are aged over 50 years. This feature of the workforce means that the division potentially requires some 5,000 replacement workers in the next 10-15 years. Such replacements will meet the requirements brought about by retirement or for other causes. One complication to this process derives from the gendered character of the workforce. This factor must also be taken into consideration. There are substantially more female employees than males in this division, and there is a tendency for females to be employed part-time rather than full-time. Furthermore there are a disproportionate number of high income male employees in the division. These are not easy matters to resolve.

Another important issue to consider is what appears to be a potentially large number of RGA residents employed by the sector, working outside the RGA. Considering some of the division's skills shortages described in the introduction, questions that arise include whether any individuals who are working outside the RGA could fill some of the shortages. It may be that consideration will have to be given to the types of incentives necessary for them to come back and work in the RGA.

Demographic trends and policy initiatives are bringing about major shifts for the health workforce in the RGA. The previous section discussed the considerable increases in demand brought about by major demographic trends and important Federal-level reforms. Different sub-sectors will experience these changes in particular ways because of the composition of their workforce. While expanding existing hospitals and the arrival of a new one will have the strongest impact on the demand for registered nurses, the social assistance services subsector will probably experience greater need for personal carers, child carers and aides. In all cases, there must be a strategic approach to workforce development (STBMHR33-35).

As stated previously, at the moment shortages are already being experienced in specialised fields such as speech pathology and autism assessors. There are also problems with the existence of novice health professionals such as nurses who are not able to work because they are unable to carry out clinical placements. There should be more co-ordination at least at the sub-sectoral level, although it is likely that the demand from hospitals and community-based organisations will overlap. It is for this reason that the Community Services and Health Industry Skills Council (CS&HISC) state that although health and community services tend to be viewed as separate worlds with 'strong industry identities' (CS&HISC 2012, p. 5). Increased integration is inevitable and thus the need for greater collaboration at many levels.

Coordination will also involve the education sector as it is responsible for providing and guaranteeing the types of skills required by different types of workers. There is a view that the tertiary sector is behind in terms of offering the kinds of education that fits the direction towards where some of the industries in the sub-sector are headed (STBMHR33-35). One of the most important gaps at the moment is the mismatch between graduates from medical schools and the availability of internship training and Resident Medical Officer positions. This issue has to be resolved so that workers can be employable.

A good example of coordination in the social services and assistance subsector is the GRAND: Geelong and Regional Action Network for Disability subregional network. It represents the interests of the Barwon based disability providers and related community organisations. Agencies share information and work collaboratively in planning, development and provision of disability services in the Geelong region. It received funding out of the first allocation of money from the NDIS Transition Agency to provide a project around induction processes for people entering the service. All are signatories, and they accept that the person who goes through the induction at the chosen provider or their own provider is accepted as a common standard and they are not required to attend and do a manual handling training at a particular provider (e.g. DASSI, Karingal).

Currently there is widespread uncertainty as to what the NDIS will specifically mean for the social services and assistance sub-sector. The pace of change with the NDIS is rapid but the context is not changing rapidly enough. Many organisations are still trying to figure out what it will mean for them in terms of staff requirements and the ability to obtain that staff.

One interviewee mentioned that her organisation still does not know what effects the NDIS will bring but they do expect it to have huge implications (STBMHR14). Another interviewee stated:

> It's hard to know the effect of the NDIS at the moment [.] It is very difficult to know how that will get off, whether it's going to be funded by the government. That's all ifs and the too hard basket so we don't know what the growth is going to be there (STBMHR05).

There should be greater coordination between disability, aged care, mental health, and child care industries because they are all going after the same type of resource (STBMHR33-35). It is likely that the competition between industries will be very strong. Without a comprehensive and coordinated strategy for workforce development, both nationally and locally, the NDIS could potentially lead to labour shortages (Productivity Commission Inquiry Report 2011a; STBMHR33-35).

One good way of approaching the situation is by thinking of the person-centred model as the common denominator in all of these industries. The focus should be on building a skill base around this person-centred model and then specialising depending on the industry and job. The workforce must be trained to work around people, outside a structured environment. Currently the mobility of the workforce is limited.

For service providers, the NDIS means going from one or two sources of guaranteed income around which they are able to plan, to a customer-centred approach in which individuals decide where and how to spend their money. Exploiting earlier relationships with clients will be vital to their success as will be engaging in marketing strategies and quality assurance. Some major non-profit providers in the RGA appear to have adjusted their business models successfully. One has developed a consumer governance framework to involve consumers in their daily decision-making at every level (STBMHR10) while another service provider is already operating within the new business model of individual funding (STBMHR13).

Deakin University and other training providers will play central roles in the creation of the new health workforce. The economy of the RGA will be heavily based on community services. It is vital for education programs to run, from Certificates II, III, IV to diplomas, bachelor's and specialised areas. The barriers that are keeping people out of education and training must be addressed. However, the focus on certification must not become a barrier for entry into employment. Although formal training plays an important role in the development of a skilled workforce, the recommendation is that a flexible approach should be used (Productivity Commission Inquiry Report 2011a, p. 742) in which workers are trained for the particular tasks they will be performing but are not mandated in all occupations to have a minimum level of qualification.

8.5 Considerations

- **Develop and maintain links between training providers and employers and employees in factories that may be closing so that workers will be aware of the opportunities available elsewhere in the labour market and can receive appropriate career advice upon redundancy**.
- Within the Social Assistance Subsector, the aged care, mental health and disability industries draw workers from similar labour markets. There is current growth in demand due to shifts towards person-centred or consumer-led models. Demand for services in these industries will be pushed further with the implementation of the NDIS. This presents a great opportunity for recruiting workers interested in working in these industries particularly as carers and aides. However, attracting workers can be tricky due to low wages, difficult working shifts and limited career paths. **There needs to be a co-ordinated approach between industry stakeholders to come up with a strategy for attracting, training and retaining workers.** Worker shortages could compromise the goals of policies such as the NDIS, which seeks to address unmet need.
- Funding models that rely on individualised service, such as the NDIS, also have implications for staff training and development. Employers will seek to employ fully trained workers where possible, to maximise productivity, and may fail to recognise the importance of allowing time for on-the-job components of training programs. **Training providers will need to work closely with employers to understand the practical skills needed in the workplace to facilitate a better fit of skills to workplaces.** It may be possible to develop joint approaches to training and better integrated traineeships within the sector.
- Primary health, wellness and preventive health approaches are key to addressing chronic illnesses that are expensive to treat and can burden the acute system. Although actions are currently being taken to define the workforce for this rising industry, it does not appear to be a priority. **The emerging preventative health care industry will likely require some traditional health professional roles, but there will also be non-traditional roles that could present opportunities for transitioning workers.** However, there is still too much uncertainty around this topic.
- Evidence suggests that although currently there is a 'glut' of doctors, nurses and allied health professionals, there is an indication that in the near future there will be greater need for these occupations not only in traditional hospital settings, but also in community settings where services are being increasingly delivered. Traditional health professionals tend to see community settings as less desirable than acute ones. This is probably due to limited focus and exposure to non-acute and community-based practice (National Health Workforce Taskforce 2009). **For non-acute and community-based areas of practice to become more attractive, career pathways with associated rewards are crucial.**

- There are major issues with shortages in intern and resident medical officer positions necessary to deliver the required practice and expertise necessary for them to become fully trained. **Initiatives such as the Epworth-Deakin training hospital are a key step in the right direction to solve the issue of intern and resident medical officer position shortages, however smaller hospitals such as St. John of God may require greater incentives so that they too can do their share supporting and employing within the community.**
- In a highly feminised workforce, it may be more difficult to increase demands on current workers as they may be unwilling to work more hours. At the same time, there may be a level of underemployment in the sector, with significant numbers of caring workers looking for more hours of work per week (King *et al*. 2012) **A more in depth look at the incentives currently provided by the sector could point to strategies such as improved job quality and job stability, that would create a more balanced labour force in terms of gender and perhaps make it more responsive to demand pressures.**
- Increasing professionalisation of personal carers and aides (through increased requirements for certification and credentials) in the Social Assistance Services can be useful for improving performance, reducing risks to clients and making the industries within it more attractive to a broader range of younger workers. However, **a flexible approach should be maintained so that people who might lack formal credentials but possess the desired skills (such as empathy, interest in working with people and personal experience) are not deterred from carrying out these care roles** (Productivity Commission Inquiry Report 2011a).
- **An approach that facilitates the development of appropriate pathways into tertiary education for this sector should be developed.** Shortages for high specialised staff specific to the disability industry are already happening. This includes shortages for speech pathologists, autism assessors, mental health and disability practitioners, clinicians trained for specific early interventions to name a few. The implementation of the NDIS will exacerbate these shortages, yet local universities such as Deakin do not offer some of the specialisations required by the industry (STBMHR14). One interviewee mentioned that Deakin University used to run a bachelor's degree in applied science of disability but stopped it (STBMHR33-35). Currently there are no tertiary qualifications for people who want to study a career in disability itself. Significant employment will be required within the agency and across the sector of people who need early baseline training through to a graduate and post-graduate degree and there is a big gap in the middle. Co-ordination with Deakin in this respect could help address these shortages at least in the middle term.
- Evidence suggests the increasing relevance of interdisciplinary practice (CS&HISC 2012). This appears to echo the approach suggested by the NDIS implementation agency for building a general skill base, with specialisation contingent on the industry and job. **The Commonwealth Government, through the Community Services and Health Industry Skills Council, should support the development of an integrated workforce development strategy for the NDIS**

trial in the Barwon Region and the growing aged care sector across the Barwon Region. This needs to be a top priority as the NDIS rollout in Geelong will commence on July 1, 2013. This integrated strategy should be developed through partnership between the State and Federal Departments of Health and Human Services, disability service providers, health providers / agencies and local governments.

Chapter 9. Education and Training

The RGA's education and training institutions are highly regarded for the role they play within the RGA. These institutions are central to the region's future and to address the major challenges associated with a growing population, an ageing workforce, disadvantaged and marginalised populations and industrial transition. The region's education and training institutions provide vital services to the region's children, young people, displaced workers, employers and those in retirement. They have also become some of the region's most important employers.

The Victorian Department of Education and Early Childhood Development (DEECD) singles out 'Education and Training' as a key division for strong employment growth (DEECD 2011). The RGA has a robust and relatively diverse education and training sector. It is estimated that the RGA has 28 Maternal and Child Health Centres, 103 Early Childhood Education Providers, 83 Primary Schools, 34 Secondary Schools, 4 Special Schools, 113 training providers (including TAFE, ACEs and private RTOs) and 3 Higher Education providers of which Deakin University is by far the largest. Many of these institutions are concentrated around the City of Greater Geelong.

The education and training sector is the second largest employment sector behind health care and social assistance. G21 Region data from 2012 showed that the Department of Education (Barwon South West Region) featured as the second largest regional employer, employing the equivalent of 2,975 full-time employees (FTE), an increase by almost 20 per cent between 2011 and 2012. Deakin University (Waurn Ponds and Waterfront Campuses) is the third largest regional employer, with 1,693 FTE in 2012, with an increase of 5.8 per cent since 2011. The numbers employed at Deakin University have almost doubled since 2008. Also featuring as major employers in the region are the Catholic Education System (2012: 950 FTE) and The Gordon (2012: 632 FTE). In line with broader division growth, all these major Education and Training employers demonstrated growth in FTE staff over 2011-2012.

Unlike many other sectors where employment is much more exposed and vulnerable to economic peaks and troughs (e.g. manufacturing, retail and hospitality) employment in the education and training divisions is generally more stable. The largest proportion of employment found within the divisions is found in the public sector through DEECD or large public sector educational institutions such as the Gordon and Deakin University, which have traditionally helped to provide stable employment within the sector. Although some sub-divisions have a high proportion of casualised employment (e.g. higher education and the VET sector, particularly among private RTOs) employment tends to be relatively stable overall.

Recent job cuts and restructuring at The Gordon and Deakin University, however, have highlighted the current volatility of employment within the sector and have raised questions about projected job growth and future employment within some sub-sectors. In addition, over the past two decade the primacy of public sector educational institutions within the division has weakened. In recent years, the introduction of government initiatives aimed at introducing market principles to the sector have contributed to the growth of many private and religious-based education providers and increased competition between public and private sector education and training providers for students as well as government support in some instances. These changes, which will be discussed further in the latter part of the chapter, continue to have profound implications for employment and funding within the sector. This chapter begins with an overview of employment in the education and training sector, which is followed by a discussion of the challenges and opportunities for various sub-sectors and the implications for skill and job demand.

9.1 The education and training labour market

According to the Australian and New Zealand Standard Industrial Classification (ANZSIC 2006, Revision 1.0), the Education and Training division includes units engaged in providing and supporting education and training in a variety of settings, including educational institutions, the workplace, or home. Further, such activity can occur through face-to-face interaction or other means and modes such as correspondence, radio, television, or the internet. Services are provided by specialised units (preschools, schools, technical colleges, training centres, universities) which may be privately or publically owned and operated (ANZSIC 2006, Revision 1.0). There are three key sub-divisions within the major division: Preschool and School Education; Tertiary Education; and Adult, Community and Other Education.

In 2011, 10,777 RGA residents were employed in the Education and Training division. This represented an increase of 1,853 employees from 2006, when 8,924 RGA residents worked in the division. In 2011, the majority (8,686 employees) were employed within the RGA while around a fifth (2,091 employees) worked outside the RGA. Of the 9,197 people who reported that the RGA was their place of work, approximately 5.6 per cent (511 employees), lived outside the region.

The Preschool and School Education subdivision employed the greatest number of RGA residents in 2011, 61.0 per cent (6,575 employees) of all workers in the Education and Training division. Tertiary education was responsible for 27.6 per cent (2,978 employees) of the division's workforce, Table 54.

Table 54. RGA Residents Employed in the Education and Training Division by Sub-Division and Sex, 2011

	Male		**Female**		**Total**	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Education and Training, nfd	62	1.8%	138	1.9%	**200**	**1.9%**
Preschool and School Education	1,764	50.7%	4,811	65.9%	**6,575**	**61.0%**
Tertiary Education	1,253	36.0%	1,725	23.6%	**2,978**	**27.6%**
Adult, Community and Other Education	397	11.4%	626	8.6%	**1,023**	**9.5%**
Total employed residents	**3,476**	**100.0%**	**7,300**	**100.0%**	**10,776**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Of the RGA residents employed in the Education and Training division in 2011, 67.7 per cent were female (7,300 persons) and 32.3 per cent were male (3,476 persons). When compared with the 2006 employment levels, there has been an increase in the number of RGA residents working within the division of 1,852 employees, of whom 70.2 per cent were female (1,301 persons) and 29.8 per cent were male (551 persons).

9.1.1 Sub-divisions by place of work

Most residents of the RGA employed in the Education and Training division also have a place of work within the RGA (80.7 per cent, 8,696), as presented in Table 55.

Table 55. Employed Residents in the Education and Training Division by Place of Usual Residents and LGA, Regional Geelong Area, 2011

	Place of Residence									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Place of Work is RGA	329	50.1%	7,216	82.9%	117	83.0%	1,034	81.5%	**8,696**	80.7%
Place of Work is other LGA	280	42.6%	1,027	11.8%	13	9.2%	156	12.3%	**1,476**	13.7%
Place of Work unspecified (VIC)*	10	1.5%	99	1.1%	0	0.0%	28	2.2%	**137**	1.3%
Place of Work State, Territory Undefined (VIC	29	4.4%	274	3.1%	8	5.7%	43	3.4%	**354**	3.3%
Place of Work unspecified Other States*	3	0.5%	15	0.2%	0	0.0%	3	0.2%	**21**	0.2%
Not Stated	6	0.9%	77	0.9%	3	2.1%	4	0.3%	**90**	0.8%
Total Employed Persons	**657**	**100.0%**	**8,708**	**100.0%**	**141**	**100.0%**	**1,268**	**100.0%**	**10,774**	**100.0%**

*Place of Work unspecified includes RGA Residents who stated ‘No Fixed Address’ and ‘Unincorporated areas’
Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
Source: ABS Census of Population and Housing, 2011

There are, however, differences when considering residents of the four LGAs. In Golden Plains, for example, of the 280 residents employed in the division 42.6 per cent work outside the RGA. This percentage is considerably higher than other LGAs, and may reflect the proximity of Golden Plains to Ballarat and the job opportunities on offer in that locality.

Preschool and School Education is the largest sub-division of the Education and Training division, accounting for 60.8 per cent (6,559) of all RGA residents employed in the sub-sector, Table 56.

Table 56. Employed RGA Residents in the Education and Training Division by Place of Work and Place of Usual Residence, 2011

		Place of Residence									
		Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Preschool and School Education	Place of Work is RGA	215	51.9%	4,553	86.0%	75	89.3%	663	86.4%	5,506	83.9%
	Place of Work is Greater Melbourne	13	3.1%	177	3.3%	6	7.1%	28	3.7%	224	3.4%
	Place of Work Ballarat	146	35.3%	9	0.2%	0	0.0%	4	0.5%	159	2.4%
	Place of Work Wyndham	14	3.4%	314	5.9%	0	0.0%	28	3.7%	356	5.4%
	Place of Work Other*	26	6.3%	241	4.6%	3	3.6%	44	5.7%	314	4.8%
Subtotal Preschool and School Education		*414*	*63.0%*	*5,294*	*61.1%*	*84*	*38.2%*	*767*	*61.4%*	6,559	60.8%
Tertiary Education	Place of Work is RGA	75	45.5%	1,962	80.6%	28	66.7%	258	78.7%	2,323	78.3%
	Place of Work is Greater Melbourne	10	6.1%	291	12.0%	6	14.3%	48	14.6%	355	12.0%
	Place of Work Ballarat	68	41.2%	18	0.7%	0	0.0%	0	0.0%	86	2.9%
	Place of Work Wyndham	5	3.0%	35	1.4%	0	0.0%	8	2.4%	48	1.6%
	Place of Work Other*	7	4.2%	127	5.2%	8	19.0%	14	4.3%	156	5.3%
Subtotal Tertiary Education		*165*	*25.1%*	*2,433*	*28.1%*	*42*	*19.1%*	*328*	*26.2%*	2,968	27.5%
Adult, Community and Other Education	Place of Work is RGA	34	54.0%	595	75.7%	12	63.2%	92	69.7%	733	73.3%
	Place of Work is Greater Melbourne	3	4.8%	50	6.4%	7	36.8%	9	6.8%	69	6.9%
	Place of Work Ballarat	11	17.5%	3	0.4%	0	0.0%	0	0.0%	14	1.4%
	Place of Work Wyndham	0	0.0%	5	0.6%	0	0.0%	11	8.3%	16	1.6%
	Place of Work Other*	15	23.8%	133	16.9%	0	0.0%	20	15.2%	168	16.8%
Subtotal Adult, Community and Other Education		*63*	*9.6%*	*786*	*9.1%*	*19*	*8.6%*	*132*	*10.6%*	1,000	9.3%
Education and Training, nfd	Place of Work is RGA	3	20.0%	110	71.9%	75	100.0%	23	100.0%	211	79.3%
	Place of Work is Greater Melbourne	0	0.0%	9	5.9%	0	0.0%	0	0.0%	9	3.4%
	Place of Work Ballarat	6	40.0%	0	0.0%	0	0.0%	0	0.0%	6	2.3%
	Place of Work Wyndham	3	20.0%	0	0.0%	0	0.0%	0	0.0%	3	1.1%
	Place of Work Other*	3	20.0%	34	22.2%	0	0.0%	0	0.0%	37	13.9%
Subtotal Education and Training, nfd		*15*	*2.3%*	*153*	*1.8%*	*75*	*34.1%*	*23*	*1.8%*	266	2.5%
Total	Place of Work is RGA	327	49.8%	7,220	83.3%	190	86.4%	1,036	82.9%	8,773	81.3%
	Place of Work is Greater Melbourne	26	4.0%	527	6.1%	19	8.6%	85	6.8%	657	6.1%
	Place of Work Ballarat	231	35.2%	30	0.3%	0	0.0%	4	0.3%	265	2.5%
	Place of Work Wyndham	22	3.3%	354	4.1%	0	0.0%	47	3.8%	423	3.9%
	Place of Work Other*	51	7.8%	535	6.2%	11	5.0%	78	6.2%	675	6.3%
Total Persons, Place of Work		657	100.0%	8,666	100.0%	220	100.0%	1,250	100.0%	10,793	100.0%

*Place of Work Other includes all other areas, 'No fixed address' and 'unincorporated areas'

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells

Source: ABS Census of Population and Housing, 2011

The majority, 83.9 per cent, of RGA resident workers in the Preschool and School subdivision are employed within the RGA, with smaller proportions of residents working in Greater Melbourne (3.4 per cent), Ballarat (2.4 per cent) and Wyndham (5.4 per cent). This subsector comprises a particularly localised labour market, probably reflecting the gender distribution of the subsector, with a high proportion of female workers, 75 per cent (see Table 54 above). Given the patterns of family responsibility in most households, these women are likely to work close to home to combine work with caring responsibilities.

The second largest sub-division is Tertiary Education, accounting for 27.5 per cent (2,968) of employees working in the division. In 2011, the majority (81.9 per cent) of workers employed in this sub-sector live in the City of Greater Geelong. Within the Tertiary Education sub-division, the proportion of workers commuting to the Greater Melbourne area is relatively high (12.0 per cent) compared to the other subdivisions (ranging from 3.4 to 6.9 per cent). This pattern suggests that there may not be enough local tertiary jobs within the RGA for the number of workers wishing to enter the sub-sector. The high concentration of education providers, particularly in the secondary to tertiary and VET, in and around the City of Greater Geelong has been noted as an issue of concern in the sector (e.g. SGRLLEN 2011). The higher level of out-commuting in the tertiary education sub-sector may reflect two further factors:

- The higher proportion of men employed in this sub-sector than in Preschool and School Education suggests that such workers may have greater capacity to travel further afield for employment because of household organisation.
- Higher levels of qualifications (graduate and postgraduate qualifications in Tertiary Education) or human capital may justify increased travel outside the RGA to find employment.

Another way of considering employment in the Education and Training division is by looking at the RGA as a place of work, comprised of employees who are residents of the RGA and employees who reside elsewhere, Table 57.

Table 57. All Persons Employed in the RGA in the Education and Training Division by Place of Work and Place of Usual Residence, 2011

	Place of Work									
	Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Residents of RGA	154	68.8%	8,063	95.0%	48	100.0%	426	97.9%	8,691	94.5%
Residents of other LGA	70	31.3%	418	4.9%	0	0.0%	9	2.1%	497	5.4%
Residence unknown*	0	0.0%	10	0.1%	0	0.0%	0	0.0%	10	0.1%
Total Persons, Place of Work	**224**	**100.0%**	**8,491**	**100.0%**	**48**	**100.0%**	**435**	**100.0%**	**9,198**	**100.0%**

*Place of Residence Unknown includes persons who stated ‘No fixed address’ and ‘unincorporated areas’
Source: ABS Census of Population and Housing, 2011

Altogether, 9,198 people are employed in Education and Training division workplaces within the RGA, irrespective of their place of residence. Residents of the RGA whose place of work is also the RGA make up the largest proportion of the workforce at 94.5 per cent (8,691) but there is also a proportion of the workforce who commute to the RGA for employment, 5.4 per cent (507). This further highlights the self-containment of the division’s labour market.

As demonstrated in Table 58 below, when looking at all employees in the RGA regardless of their place of residence, differences can again be observed between the Education and Training subdivisions.

Table 58. Employed Persons in the Education and Training Sector by Place of Usual Residence and Place of Work, 2011

		Place of Work									
		Golden Plains		Greater Geelong		Queenscliffe		Surf Coast		Total	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Preschool and School Education	Place of Residence is RGA	126	63.6%	5,016	97.2%	44	0.0%	321	98.2%	**5,507**	**96.1%**
	Place of Residence is Greater Melbourne	0	0.0%	49	0.9%	0	0.0%	0	0.0%	**49**	**0.9%**
	Place of Residence Ballarat	62	31.3%	12	0.2%	0	0.0%	0	0.0%	**74**	**1.3%**
	Place of Residence Wyndham	0	0.0%	44	0.9%	0	0.0%	0	0.0%	**44**	**0.8%**
	Place of Residence Other*	10	5.1%	40	0.8%	0	0.0%	6	1.8%	**56**	**1.0%**
Subtotal Preschool and School Education		*198*	*86.1%*	*5,161*	*61.0%*	*44*	*86.3%*	*327*	*75.2%*	***5,730***	***62.4%***
Tertiary Education	Place of Residence is RGA	3	100.0%	2,303	91.8%	0	0.0%	25	100.0%	**2,331**	**91.9%**
	Place of Residence is Greater Melbourne	0	0.0%	133	5.3%	0	0.0%	0	0.0%	**133**	**5.2%**
	Place of Residence Ballarat	0	0.0%	6	0.2%	0	0.0%	0	0.0%	**6**	**0.2%**
	Place of Residence Wyndham	0	0.0%	55	2.2%	0	0.0%	0	0.0%	**55**	**2.2%**
	Place of Residence Other*	0	0.0%	12	0.5%	0	0.0%	0	0.0%	**12**	**0.5%**
Subtotal Tertiary Education		*3*	*1.3%*	*2,509*	*29.7%*	*0*	*0.0%*	*25*	*5.7%*	***2,537***	***27.6%***
Adult, Community and Other Education	Place of Residence is RGA	22	84.6%	625	94.1%	7	100.0%	72	94.7%	**726**	**93.9%**
	Place of Residence is Greater Melbourne	0	0.0%	24	3.6%	0	0.0%	0	0.0%	**24**	**3.1%**
	Place of Residence Ballarat	4	15.4%	0	0.0%	0	0.0%	0	0.0%	**4**	**0.5%**
	Place of Residence Wyndham	0	0.0%	6	0.9%	0	0.0%	0	0.0%	**6**	**0.8%**
	Place of Residence Other*	0	0.0%	9	1.4%	0	0.0%	4	5.3%	**13**	**1.7%**
Subtotal Adult, Community and Other Education		*26*	*11.3%*	*664*	*7.8%*	*7*	*13.7%*	*76*	*17.5%*	***773***	***8.4%***
Education and Training, nfd	Place of Residence is RGA	3	100.0%	127	100.0%	0	0.0%	7	100.0%	**137**	**100.0%**
	Place of Residence is Greater Melbourne	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Ballarat	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Wyndham	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
	Place of Residence Other*	0	0.0%	0	0.0%	0	0.0%	0	0.0%	**0**	**0.0%**
Subtotal Education and Training, nfd		*3*	*1.3%*	*127*	*1.5%*	*0*	*0.0%*	*7*	*1.6%*	***137***	***1.5%***
Total	**Place of Residence is RGA**	154	**67.0%**	8,071	**95.4%**	51	**100.0%**	425	**97.7%**	8,701	**94.8%**
	Place of Residence is Greater Melbourne	0	**0.0%**	206	**2.4%**	0	**0.0%**	0	**0.0%**	206	**2.2%**
	Place of Residence Ballarat	66	**28.7%**	18	**0.2%**	0	**0.0%**	0	**0.0%**	84	**0.9%**
	Place of Residence Wyndham	0	**0.0%**	105	**1.2%**	0	**0.0%**	0	**0.0%**	105	**1.1%**
	Place of Residence Other*	10	**4.3%**	61	**0.7%**	0	**0.0%**	10	**2.3%**	81	**0.9%**
Total Persons, Place of Residence		**230**	**100.0%**	**8,461**	**100.0%**	**51**	**100.0%**	**435**	**100.0%**	**9,177**	**100.0%**

Note: Cells in this table have been randomly adjusted to avoid the release of confidential data. No reliance should be placed on small cells
*Place of Residence Other includes persons who stated 'No fixed address' and 'unincorporated areas'
Source: ABS Census of Population and Housing, 2011

When considering the RGA as a place of work, the Preschool and School Education sub-division has the highest proportion of employees resident in the RGA, 96.1 per cent (5,507). In contrast, the Tertiary Education subdivision has the lowest proportion of employees resident in the RGA, 91.9 per cent (2,331).

While the actual number of inward commuters is relatively small in the Education and Training division (a total of 395 employees) the highest proportion reside in Greater Melbourne 52.2 per cent or 206 employees). Employees in the Tertiary Education subdivision who reside in Greater Melbourne account for the highest proportionate (5.2 per cent) and numerical (133 employees) composition of residents employed in the sector from outside of the RGA. It should be noted that while only 133 residents of Greater Melbourne commute into the RGA for employment within the tertiary subsector, 355 residents commute out of the RGA to Greater Melbourne for employment in the tertiary sub-sector.

9.1.2 Education attainment and employment status

The dominant education attainment level for RGA residents employed in the 'Education and Training' division in 2011 was undergraduate degree, held by 38.1 per cent of male and 38.8 per cent of female employees as evidenced in Table 59 on the next page.

Smaller but broadly comparable proportions of the overall workforce in the division held other non-school qualifications (Certificates, Advanced Diploma/Diploma, Graduate Diploma/Graduate Certificates, Postgraduate Degree). Nonetheless, some gender differences can be noted. While 17.1 per cent of male Education and Training employees held Postgraduate Degree qualifications, the proportion of female employees holding this level of qualification was nearly half as many (9.4 per cent). When changes over time are considered, it should be noted that the proportion of females holding Postgraduate Degree qualifications increased substantially, up by 300 employees, or an increase of 78.3 per cent. The comparable change for male employees was much less, up by 168 employees, or an increase of 39.3 per cent.

Table 59. RGA Residents Employed in the Education and Training Division by Qualification Attainment and Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male		Female		Total		Male		Female		Total		Male		Female		2006 - 2011	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Postgraduate Degree	428	14.6%	383	6.4%	811	9.1%	596	17.1%	683	9.4%	1,279	11.9%	168	39.3%	300	78.3%	468	57.7%
Graduate Dip / Graduate Cert	296	10.1%	632	10.5%	928	10.4%	317	9.1%	810	11.1%	1,127	10.5%	21	7.1%	178	28.2%	199	21.4%
Bachelor Degree	1,164	39.8%	2,336	38.9%	3,500	39.2%	1,323	38.1%	2,829	38.8%	4,152	38.5%	159	13.7%	493	21.1%	652	18.6%
Advanced Diploma / Diploma	392	13.4%	825	13.8%	1,217	13.6%	423	12.2%	1,013	13.9%	1,436	13.3%	31	7.9%	188	22.8%	219	18.0%
Certificate	270	9.2%	470	7.8%	740	8.3%	382	11.0%	715	9.8%	1,097	10.2%	112	41.5%	245	52.1%	357	48.2%
Inadequately described	43	1.5%	76	1.3%	119	1.3%	32	0.9%	45	0.6%	77	0.7%	-11	-25.6%	-31	-40.8%	-42	-35.3%
Not stated	44	1.5%	154	2.6%	198	2.2%	37	1.1%	120	1.6%	157	1.5%	-7	-15.9%	-34	-22.1%	-41	-20.7%
Not applicable	289	9.9%	1,122	18.7%	1,411	15.8%	366	10.5%	1,085	14.9%	1,451	13.5%	77	26.6%	-37	-3.3%	40	2.8%
Total Count of Qualification	**2,926**	**100.0%**	**5,998**	**100.0%**	**8,924**	**100.0%**	**3,476**	**100.0%**	**7,300**	**100.0%**	**10,776**	**100.0%**	**550**	**18.8%**	**1,302**	**21.7%**	**1,852**	**20.8%**

Source: ABS Census of Population and Housing, 2006 and 2011

Table 60. RGA Residents Employed in the Education and Training Division and Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Employed, worked full-time	2,186	74.8%	3,097	51.6%	5,283	59.2%	2,497	71.8%	3,643	49.9%	6,141	57.0%	311	14.2%	546	17.6%	858	16.2%
Employed, worked part-time	613	21.0%	2,570	42.8%	3,183	35.7%	854	24.6%	3,275	44.9%	4,129	38.3%	241	39.3%	705	27.4%	946	29.7%
Employed, away from work	124	4.2%	334	5.6%	458	5.1%	125	3.6%	382	5.2%	507	4.7%	1	0.8%	48	14.4%	49	10.7%
Total employed residents	**2,923**	**100.0%**	**6,001**	**100.0%**	**8,924**	**100.0%**	**3,476**	**100.0%**	**7,300**	**100.0%**	**10,777**	**100.0%**	**553**	**18.9%**	**1,299**	**21.6%**	**1,853**	**20.8%**

Source: ABS Census of Population and Housing, 2006 and 2011

The Education and Teaching division has a sizeable part-time workforce, as shown in Table 60 on the previous page.

In 2011, 57.0 per cent of RGA residents employed in the 'Education and Training' Division were classified as working full-time, having worked more than 35 hours in the week prior to the Census, while 38.3 per cent of employees worked part-time (<35 hours). While both sexes were more likely to work full-time than part-time, there was a much higher proportion of male employees (71.8 per cent) working full-time than females (49.9 per cent). With regard to part-time work, females (3,275 employees or 44.9 per cent) were over-represented compared to males (854 or 24.6 per cent) both numerically and as a proportion of their section of the workforce.

When compared to 2006 Census figures, the 20.8 per cent growth in RGA residents employed in the 'Education and Training' division involved both full-time and part-time employment growth, although part-time employment grew more rapidly (up 29.7 per cent compared with a 16.2 per cent increase of full-time employees). While overall the growth in male employment in the division (up 553 employees, or an increase of 18.9 per cent) was proportionally and numerically smaller than for female employees (up 1,299 employees, or an increase of 21.6 per cent), the largest proportional increase in the workforce between 2006 to 2011 was for part-time male employees (up 39.3 per cent). This growth, however, was from a low starting point number and men's part-time employment remains relatively low in absolute numbers.

9.1.3 Occupations and age

A major concern for the region, in terms of workforce development, is the ageing workforce. The data shows that the majority (51.1 per cent) of RGA residents employed in the Education and Training division are over 45 years of age, Table 61.

Table 61. RGA Residents Employed in the Education and Training Division by Age Group and Sex, 2006 and 2011

	2006						2011						Difference 2006 - 2011					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
15-19 years	34	1.2%	57	1.0%	91	1.0%	59	1.7%	103	1.4%	162	1.5%	25	73.5%	46	80.7%	71	78.0%
20-24 years	147	5.0%	316	5.3%	463	5.2%	180	5.2%	377	5.2%	557	5.2%	33	22.4%	61	19.3%	94	20.3%
25-29 years	228	7.8%	545	9.1%	773	8.7%	261	7.5%	735	10.1%	996	9.2%	33	14.5%	190	34.9%	223	28.8%
30-34 years	283	9.7%	520	8.7%	803	9.0%	366	10.5%	671	9.2%	1037	9.6%	83	29.3%	151	29.0%	234	29.1%
35-39 years	277	9.5%	663	11.1%	940	10.5%	401	11.5%	792	10.8%	1193	11.1%	124	44.8%	129	19.5%	253	26.9%
40-44 years	330	11.3%	856	14.3%	1186	13.3%	381	11.0%	934	12.8%	1315	12.2%	51	15.5%	78	9.1%	129	10.9%
45-49 years	465	15.9%	1096	18.3%	1561	17.5%	424	12.2%	1043	14.3%	1467	13.6%	-41	-8.8%	-53	-4.8%	-94	-6.0%
50-54 years	528	18.0%	1112	18.5%	1640	18.4%	500	14.4%	1170	16.0%	1670	15.5%	-28	-5.3%	58	5.2%	30	1.8%
55-59 years	394	13.5%	590	9.8%	984	11.0%	462	13.3%	936	12.8%	1398	13.0%	68	17.3%	346	58.6%	414	42.1%
60-64 years	173	5.9%	195	3.3%	368	4.1%	294	8.5%	422	5.8%	716	6.6%	121	69.9%	227	116.4%	348	94.6%
65-69 years	48	1.6%	37	0.6%	85	1.0%	114	3.3%	96	1.3%	210	1.9%	66	137.5%	59	159.5%	125	147.1%
70-74 years	14	0.5%	7	0.1%	21	0.2%	23	0.7%	18	0.2%	41	0.4%	9	64.3%	11	157.1%	20	95.2%
75-79 years	5	0.2%	4	0.1%	9	0.1%	8	0.2%	3	0.0%	11	0.1%	3	60.0%	-1	-25.0%	2	22.2%
80-84 years	0	0.0%	0	0.0%	0	0.0%	3	0.1%	0	0.0%	3	0.0%	3	300.0%	0	0.0%	3	300.0%
Total	**2,926**	**100.0%**	**5,998**	**100.0%**	**8,924**	**100.0%**	**3,476**	**100.0%**	**7,300**	**100.0%**	**10,776**	**100.0%**	**550**	**18.8%**	**1,302**	**21.7%**	**1,852**	**20.8%**

Source: ABS Census of Population and Housing, 2006 and 2011

In 2011, the most common age group for RGA residents employed in the Education and Training Division for both sexes was 50-54 years (1,669 employees or 15.9 per cent). While a steep decline can be observed from the number of employees aged 55-59 years (1398 employees) to the number of those aged 60-64 years (716 employees), a small number of RGA residents were older (265 employees or 2.5 per cent were aged 65 and above). Given the age profile, it is likely that many of these workers will retire and will need to be replaced in coming years if demand for education and training services continues to grow as expected.

Between 2006 to 2011, there was an observable proportional increase across all age brackets from 15 to 44 years, a slight decrease in the proportions aged 45 to 49 years (-6.0 per cent), and a sharp increase in numbers aged 50 plus (up 50.9 per cent or 942 persons). In 2011, 4,049 employed RGA residents in the division were 50 years or older. If the division continues to expand, then this age profile underwrites the importance of planning and preparing for replacement as well as expansion.

The most common occupations in the Education and Training division are distributed differently, according to the sex of the workers, Tables 62 and 63.

Table 62. RGA Males Employed in the Education and Training Division by Most Common Occupation, 2011

		Number	Per cent
1	Education Professionals	1,935	55.7%
2	Specialist Managers	271	7.8%
3	ICT Professionals	142	4.1%
4	Sports and Personal Service Workers	136	3.9%
5	Engineering, ICT and Science Technicians	112	3.2%
6	Business, Human Resource and Marketing Professiona	95	2.7%
7	Skilled Animal and Horticultural Workers	72	2.1%
8	Carers and Aides	63	1.8%
9	Professionals nfd	62	1.8%
10	Design, Engineering, Science and Transport Professior	50	1.4%
11	Inadequately described	47	1.4%
12	Hospitality, Retail and Service Managers	43	1.2%
13	Other Labourers	43	1.2%
14	Legal, Social and Welfare Professionals	36	1.0%
15	General Clerical Workers	35	1.0%
	All others	333	9.6%
	Total	**3,475**	**100.0%**

Source: ABS Census of Population and Housing, 2011

Table 63. RGA Females Employed in the Education and Training Division by Most Common Occupation, 2011

		Number	Per cent
1	Education Professionals	3,840	52.6%
2	Carers and Aides	885	12.1%
3	General Clerical Workers	341	4.7%
4	Specialist Managers	305	4.2%
5	Business, Human Resource and Marketing Professior	210	2.9%
6	Office Managers and Program Administrators	199	2.7%
7	Sports and Personal Service Workers	170	2.3%
8	Numerical Clerks	141	1.9%
9	Legal, Social and Welfare Professionals	125	1.7%
10	Inquiry Clerks and Receptionists	101	1.4%
11	Personal Assistants and Secretaries	99	1.4%
12	Professionals nfd	86	1.2%
13	Health Professionals	81	1.1%
14	Engineering, ICT and Science Technicians	77	1.1%
15	Other Clerical and Administrative Workers	76	1.0%
	All others	565	7.7%
	Total	**7,301**	**100.0%**

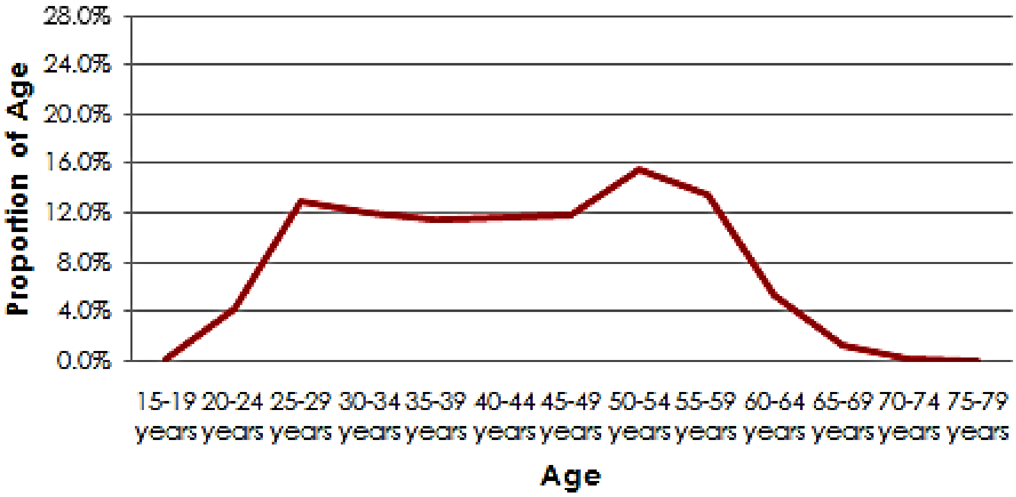
Source: ABS Census of Population and Housing, 2011

When considering the top 15 occupations held by RGA residents employed in the Education and Training division in 2011, the most common occupation for both males and females was 'Education Professionals', accounting for over 50 per cent of each sex. Broadly comparable proportions of both males and females in the division were employed in some occupations including 'Business, Human Resource and Marketing Professionals' (2.7 per cent of male employees and 2.9 per cent of female employees) and 'Legal, Social and Welfare Professionals' (1.0 per cent of male employees, 1.7 per cent of female employees). However in other occupations listed among the top 15 there were more notable gender disparities, most obviously 'Carers and Aides' (1.8 per cent of male employees and 12.1 per cent of female employees), but also 'Specialist Managers' (7.8 per cent of male employees and 4.2 per cent of female employees) and 'General Clerical Workers' (1.0 per cent of male employees and 4.7 per cent of female employees).

Given that the Education and Training division is growing within the RGA with the expansion of existing education providers and the establishment of additional private RTOs, the impact of the age profiles of workers may have implications for training and skills development within the division. If the top ten occupations are examined then the pattern of change in relation to the age profile can be determined.

The pattern for school teachers is one that suggests there is an organised process of retirement, and recruitment in place, often decided outside the RGA, Figure 20.

Figure 20. RGA Residents Employed as 'School Teachers' by Proportion of Occupation and Age, 2011

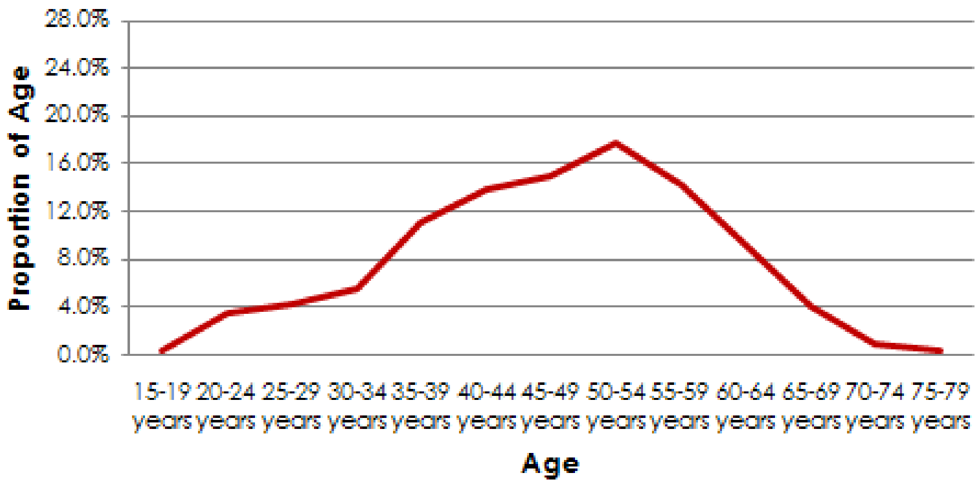


Source: ABS Census of Population and Housing 2011

In 2011, there were 4,377 RGA residents employed as school teachers. Over a third (35.8 per cent) of workers employed as 'School Teachers' were aged 50 years or over. The age profile of workers between 25 and 49 years is relatively even but only 17.2 per cent were 29 years or younger. This profile presents significant challenges for this occupational category.

A different pattern is evident in the Tertiary sub-sector, reflecting different workforce planning arrangements, Figure 21.

Figure 21. Residents Employed as 'Tertiary Education Teachers' by Proportion of Occupation and Age, Regional Geelong Area, 2011



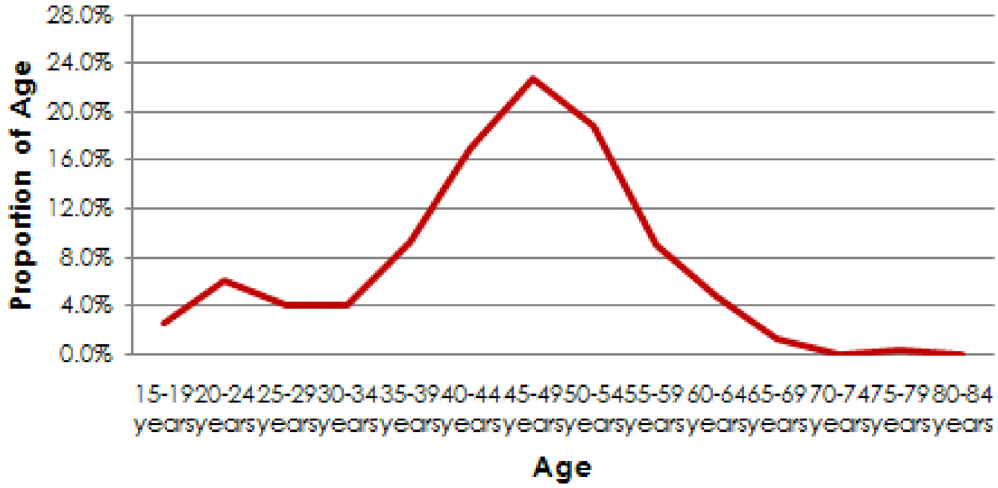
Source: ABS Census of Population and Housing, 2011

In 2011, 1050 RGA residents were employed as 'Tertiary Education Teachers'. Nearly half (46.5 per cent) of those employed as 'Tertiary Education Teachers' were aged

50 years or over. A further 39.8 per cent of this workforce is in the age bracket, 35 to 49 years. This profile suggests that the institutions in this sector will have a replenishment problem in the next 5-10 years.

The third largest category, 'Education Aides' (741) shows a distinctive pattern, Figure 22.

Figure 22. Residents Employed as 'Education Aides' by Proportion of Occupation and Age, Regional Geelong Area, 2011



Source: ABS Census of Population and Housing, 2011

In 2011, 741 RGA residents were employed as 'Education Aides'. Over a third (34.2 per cent) of the RGA residents employed as 'Education Aides' were aged 50 years or over and only 12.7 per cent were 29 years old or younger. Unless there is a plan for continuous replenishment, this sub-sector is likely to experience significant skill shortages in the next 10 years.

Examining the age structures of other key occupations within the Education and Training sector, we observe a range of patterns with varying implications for workforce planning. Amongst 'Education, Health and Welfare Services Managers, 57.2 per cent (211) are aged over 50 years. Different patterns are found amongst 'General Clerks' 72.1 per cent (230), in the age bracket, 35 to 60 years and in the case of 'Accounting Clerks and Bookkeepers', 93.2 per cent (130) in the bracket 40 to 64 years. The other key occupations either had an even spread or were weighted towards a younger age bracket: 'Social and Welfare Professionals' – 71.9 per cent (110) aged 35 to 64 years and Miscellaneous Education Professionals' – 65.1 per cent (235) in the 30 to 59 age bracket. There was also a group of occupations weighted toward a younger age bracket: 'Child Carers' – 58.8 per cent in the age bracket 15 to 34 years (113); 'Sports and Fitness Workers' – 34.6 per cent (89) between 15 and 24 years and 54.2 per cent (114) between 25 and 54 years, reflecting the character of employment in these sub-sectors.

9.2 Current trends and implications

As the analysis above indicates, the Education and Training division has become an important employer in the region. Nonetheless, it is an employment division that is characterised by significant growth projections, grounded in population expansion and the changing composition of employment across all the major sectors, including construction, retail, tourism and transport. Moreover, it is possible that growth could also be spurred by current reform in the childcare industry, which is in transition to becoming a component of the early childhood education sector. The education and training division has an ageing workforce, although the implications of this are not clear cut. Further it is a division where there are signs of job shortage. Of note, shortages had become evident in the City of Greater Geelong where in 2012, 5.8 per cent of current and anticipated skill shortages were located within this division (City of Greater Geelong 2012a).

Much of the consideration about this division focuses on the fact that it has an ageing workforce. Research participants noted that this factor presents significant challenges. A representative of an RTO stated:

> … certainly we've got an aging workforce….. the population is aging, so we know. So from that perspective, is it a worry… (STBMHR20).

The acceleration of baby-boomers deciding to retire is likely to provide much needed job opportunities for some of the region's younger workers. In some cases, these retirements may also open up opportunities for mid to late-career employees working in other industries to transition into a teaching occupation (e.g. a trades person deciding to become a trainer).

But it is important to consider the ageing workforce within the context of an expanding demand for employees within the division. In this respect it is a division with employment opportunities, through retirements and through the expansion in the overall number of jobs within the division. Such observations are confirmed by sector stakeholders who suggest that the sector will continue to grow as new providers are established and existing ones expand. The region's anticipated population growth and increased need for educational provision are the key drivers of this employment growth. Already expansions are evident in relation to both Deakin University and The Gordon campuses, the increasing number of private RTOs entering the region and the increasing student enrolments at some of the RGA's primary and secondary schools.

These developments have contributed to optimism about the division's future. One respondent summed up in the following terms:

> Another big growth area is actually what's actually happening - so, yes, I mean, there's always growth in schools. We've certainly seen deficit in older areas in schools, but then there's this huge growth area now around Torquay -

> the big growth corridor now from Grovedale through to Torquay, which includes the Armstrong Creek and all of that kind of stuff. So, there'll be at least four new schools. We've got growth in all the coastal areas, so we're not seeing deficit in any of those schools (STBUN07).

While the focus here is on schooling, similar patterns of expansion are evident in the broader division. The challenge facing the division is then how to facilitate and enable the increase in employment that is likely to come over the next few years. There is a possibility that the majority of these new employees will be recruited from outside the RGA, rather than from within. The reasons for this trajectory include the qualification requirements of teaching and research staff as well as the limited capacity within the RGA to provide these suitably qualified staff. Such a process might therefore translate into a marginal benefit for the RGA's own unemployment profile. Nonetheless, it is also necessary to consider the broader range of employment opportunities that may be generated for support and other specialist vocational occupations in the division. In this respect, there may be the possibility of substantial recruitment from within the RGA.

The following sections provide a more thorough examination of the prevailing employment trends in the various sub-sectors, the challenges experienced with regard to skills, jobs and general sustainability of the sector as employer.

9.2.1 Trends in preschool, primary and secondary education

The Preschool and School subdivision is the largest provider of employment in the Education and Training division, and the majority of those employed are drawn directly from the region. Providers in this category are divided between Government Schools, Catholic Schools and Independent Schools. The Government Schools constitute the largest providers in terms of student enrolment, followed by Catholic and Independent schools.

9.2.1.1 Growth in the labour force

Population growth projections for the City of Greater Geelong anticipate an increase of approximately 75,000 persons to 120,000 by 2031. By, by 2021 the estimated number of public and private primary and secondary school places will each increase by between 2,500 to 3,700 places from the current 18,900 (Essential Economics 2012, p. 102). This expansion will necessitate an increased labour force in the division, as well as additional infrastructure.

There is some evidence to suggest that job growth may be more likely in the private rather than public sector. For instance, plans have been announced to build new Catholic schools in the region in response to 'growing demand for Catholic education' (*Geelong Advertiser* 2011b). There is also a broader State and national trend towards increased enrolments in independent and Catholic schools compared with the Government school intake (Tomazin 2013). Furthermore, while new housing developments, such as Armstrong Creek, include plans and zoned land for the building of schools, it is reported that:

> … [the DEECD] will not commence building schools until the specified student enrolment is assured in a proposed school's vicinity (450 students on-going for a primary school, 1,100 students on-going for a secondary school) (Research Futures 2011, p. 3).

It is likely that privately funded schools are not constrained in the same manner and may choose to establish themselves earlier in such suburban areas.

Conversely, there are areas where changing socio-demographics and the different degrees of educational engagement in some areas can lead to declining student enrolment and the reorganisation of school facilities and infrastructure. As one interviewee noted, loss of staff or school closures can result from decreases in numbers of enrolled students:

> When all the schools amalgamated out at Northern Bay - so, that was two secondary colleges and five primary schools, so they've amalgamated to Northern Bay College with this regeneration … now, the most of the student group is down in the primary area, and the reason for amalgamating was that there was this absolute haemorrhage of students at the secondary area to maintain the students there and offer them what they needed in the region (STBUN07).

So changing patterns of enrolment, as well as steps taken to address the provision of adequate educational resources for the twenty-first century can also result in amalgamations and a repositioning of education facilities and resources in particular areas. These developments are also likely to have implications for staffing levels and skill (competencies) requirements.

Overall, the different patterns of development and provision of education facilities impacts on the distribution of the teaching workforce in different areas. As stated:

> Hence it was noted that the teaching labour force may be differentially distributed throughout the RGA, in response to growing demands in some newly developing areas (in the growth corridor from Grovedale through to Torquay, including Armstrong Creek) and stagnation in others (STBUN07).

While the impact on numbers is unclear, it can be expected that in the context of an expanding population base as well as the changing requirements in relation to the competencies and teaching skills that are required over time that the workforce is likely to expand, from time to time relocate within the region and require on-going professional development (a feature that is already in place across the State, as well as in the RGA).

9.2.1.2 Training and competencies

Comprising over 50 per cent of the Education and Training labour force in the RGA, Education Professionals usually possess undergraduate degrees or higher levels of qualification. The presence of Deakin University and its offerings of pre-service (Bachelor of Education and Bachelor of Early Childhood Education) and postgraduate qualifications (Graduate Diploma in Primary Education, Graduate Diploma of Education in Applied Learning, Master of Teaching) assist in the continued supply of qualified professionals for the sector. These courses reportedly attract local RGA residents as well as students for the surrounding regions, extending as far as the South Australia-Victoria border.

Educators, such as Deakin University, respond to the skills demands of a changing teaching labour force, whether it be through shifts in technology, fields of specialisation, or legislative change. One example is the increased professionalisation of early childhood education, with policy developments a response to the considerable research findings about child development. This prompted Deakin University to introduce the Bachelor of Early Childhood Education and to promote the development of pathways from the VET sector, so as to meet the demands for a growing labour force qualified in early childhood education (STBAOE29). Similarly, the post-graduate education degree offered in Applied Learning is in part a response to the growing demand for teachers skilled in VCAL and VET (STBAOE29).

Questions of skills shortages were also raised in terms of unfulfilled demand for school teachers with the capabilities to teach Maths and Science. It is recognised within the RGA that it is important to attract 'people who have that as their base, as opposed to a PE teacher who might teach Maths, for example' (STBAOE29). However it was also noted that attracting graduates from non-education disciplines (such as with science/maths degrees) can be a challenge. This difficulty is often attributed to the comparatively lower earning potential and work conditions in the school sub-sector. Even where school holiday breaks are presented as positive benefit, it is also acknowledged that in practice teaching graduates quickly come to the recognition 'there's no such thing as a 38-hour week' in this sub-sector (STBUN07).

9.2.1.3 Age profile of teaching workforce

While 35.8 per cent of RGA workers employed as 'School Teachers' are aged 50 years or over, there is a relatively even profile aged between 25 and 49 years. Nonetheless, the predominance of higher aged teachers is seen as a potential problem over the next decade or two, although in contradictory ways.

On one hand, older teachers bring the benefit of possessing experience and skills learned through years of employment; however on the other it was suggested that they may lack crucial competencies. As stated:

> Some of them are very good teachers but some are probably not so good unfortunately. So replacing them - a lot of the principals in the region talk about a certain percentage of their staff, for example, who they might like to invigorate, or if those staff moved on they would want to attract people to replace them (STBAOE29).

The dilemma is to achieve a balance between the retention of ability and competency as well as providing the basis for replenishment and renewal. It is important to recognise that this is not just a question of replacement and replenishment but also the process whereby all teachers receive professional development as part of the 'teaching career'. On the latter, developing and promoting such capabilities range from the technical (in terms of ICT competency (STBMHR36), or familiarity with the contemporary VCAL/VET system (STBAOE29)), to more tacit qualities (associated with engaging students at all ages in a rewarding and beneficial learning experience). The latter may appear to be less amenable to training initiatives, although research suggests that such staff development can be facilitated by appropriate educational institutions, such as the TAFE and higher education (on knowledge development, sharing and use involving schools and tertiary education institutions, see Cornelissen *et al*., 2011).

So, at one end of the age spectrum there are teachers who are likely to stay on, although as the profile indicates this is likely to lead to replenishment and replacement over the next decade. Key respondents (STBMHR22; STBAOE29; STBUN07) reported that many older teachers are holding on to employment for as long as possible, a trend amplified by the Global Financial Crisis, which discouraged early retirement. It is possible that when these older teachers finally retire, the graduates currently seeking opportunities will have moved into different occupations or industries. Furthermore, a continued failure in securing jobs by recent graduates may discourage enrolment in teaching related university programs.

But questions can also be raised at the other end of the age spectrum. In relation to teachers who continue to work into their sixties, an interviewee reported the following challenge:

> It's the energy. It's not that they're not fantastic teachers, and it's not that they're not really wise and have that great experience, but it's the energy. It's not just the energy of dealing with the kids, it's the energy of dealing with the bureaucracy as well (STBUN07).

In contrast, newly qualified teachers are entering the labour market and not finding it easy to obtain employment for a number of reasons.

It would seem that there is a current glut in the supply of qualified teachers, with educational bodies contributing to this by continuing to take enrolments:

> … there's just no jobs, apparently there's an over-supply of primary teachers. But Deakin require - and other universities I presume, will fill their quota of primary teaching places students just for whatever reason (STBAOE28).

Discussing this situation with regard to jobs for fresh graduates in the School and Preschool subdivisions one interviewee put it thus:

> In this area, I have a lot of people say to me that they're just out of college and they can't get in, and the contract system is really - is palpably difficult to navigate and get past… So, yes, there are a lot of young people knocking at - lot of young grads knocking at the door in this area… (STBUN07).

Students emerging from undergraduate degrees were reportedly less able to immediately enter into secure employment in the Education and Training division than were graduates pursuing post-graduate degrees, many of whom were already employed in the division but furthering their skills (STBAOE29). Interestingly, however, there was a geographic divide to this, with many people enrolled in the postgraduate courses at Deakin University in Geelong coming from beyond the region, and concurrently a lesser proportion of teachers in the Geelong region completing higher qualifications (STBAOE29). The porosity of the RGA labour and training market was noted by another interviewee, who mentioned encouraging young teaching graduates from the RGA to consider travelling or relocating for employment, either to Greater Melbourne or elsewhere in Victoria; however she noted that this was not always a feasible prospect for families with young children (STBUN07).

Overall, the age profile means that there is likely to be some degree of churn in the sector over the next decade. In addition, there is a particularly strong likelihood that the demand for teaching staff in pre-school, primary and secondary schools in the RGA will increase. The supply of such qualified staff will continue to be met by Deakin University and universities outside the RGA. In time a balance between supply and demand is likely to be achieved, as arrangements for training, education and recruitment stand at present.

9.2.1.4 Being a teacher

The quality and training of future school teachers, within and beyond the RGA, is an ongoing topic of consideration. One ongoing debate focuses on the professional basis of the teaching workforce (Australian Insitute for Teaching and School Leadership, 2011; see also, STBAOE29). Further, there is also debate about increasing rather than decreasing entry scores for education degrees (Preiss & Butt 2013). The point here is that a teaching workforce requires the capacity to not only teach discipline and subjects but also provide advice and guidance in relevant ways. This dimension of the teaching profile has implications for the composition of the workforce and on-going training.

For those coming into the profession, the concern is with their preparedness for the job. As noted:

> It's always really hard, and there is constant, constant discussion and work about, what do pre-service teachers need?' (STUBUN07).

This interviewee suggested that it was vital to develop the requisite skills for teachers from the outset. The potential for ongoing mentoring and training was also discussed when graduate teachers enter the labour force without requisite skills (STBUN07).

Complementing this concern, there is also an on-going concern to update and extend the competency base of teachers. This concern might be with the acquisition of new expertise, such as the Catholic Education Office funding teacher training about carbon management (STBMHR19). Such measures have implications for the training on offer within the sector, for staff within the sector.

A third dimension involves the recruitment of staff from outside the conventional recruitment routes, although routes that have longstanding precedent in relation to vocationally related education in schools and like institutions in the sector. As noted there is some prospect for transferal of employees from other industries into teaching jobs in the RGA (on questions around this possibility, see Currie and McCollow 2002). For instance, in relation to the RGA, in the context of displacement in companies such as Shell, Alcoa and Ford, qualified staff could be brought into the teaching of trades, thus meeting shortages in technical education teaching (noted by respondent STBAOE29). Examples of somewhat similar skills transfers were given by a principal from the RGA, who discussed the trades backgrounds of two school employees who were teaching technical subjects at the VCE level (STBMHR19). The changing nature of employment and industry may inhibit these transfers, for as another School Principal noted:

> … a number of my - the trade teachers moved into teaching after they'd done their trade and no university qualification. That pathway no longer exists for trade teachers (STBMHR26).

Describing those cases where transfers from trades to teaching had occurred, a Principal explained:

> these are guys that have got some really excellent technical skills, but also some academic background and really like being part of the place' (STBMHR19).

The reference to 'liking being part of the place' is perhaps an important consideration. While technical skills and capacities are important, the personal element of teaching as an occupation is also important. As this interviewee explained:

> I think people go into education for the same reasons that they've mostly always gone in - because they're really, really attracted to education. They've often had good experiences themselves, as in through the schools. But there's familial reasons, or they're attracted to working with younger children, or whatever it is. I think that that vocationalism of education hasn't changed (STBUN07).

Viewing education as a vocation brings into emphasis the non-technical skills required of a teacher, suggesting a need for personal qualities such as empathy and understanding.

The skills and labour force transitions occurring in the broader RGA context can be challenging for teachers, who are expected to be able to promote the future employability of students. One School Principal described the difficulty of advising students about their future pathways when:

> … it's not something you learn in teacher training.... A teacher is caught up in what they're doing on a daily basis and they don't necessarily have the scope to scan the landscape, predict 20 years in advance. You're often playing catch up (STBMHR36).

While support comes via the GRLLEN and other further education providers, such as The Gordon or Deakin University, School Principals reported frustration:

> [with] the amount of guesswork that we do around really potential future areas for flourishing employment. I think so much of it is a guess' (STBMHR19).

On the one hand, examples were given of cases when teachers can utilise their knowledge of specialised fields identified as strategic for the future, for instance expertise in advanced technologies, Chinese language, or low-carbon futures. However, on the other, staff need competencies in the provision of foundational, transferable skills to ensure the resilience of students to cope with uncertain futures. To illustrate:

> So to me you run the risk as a school if you're constantly trying to educate kids based on what you're predicting is going to be the future. It's like playing the stock market. You're messing with kid's lives on the basis of your best guessing. So I think in a sense schools have to come back to and stay with really solid core skills (STBMHR36).

Nonetheless, market demands encourage competiveness between schools, which are in part judged by the community according to their ability to offer pathways and careers to students. This has reportedly encouraged schools to invest in greater training for teaching staff to 'to actually understand and be able to advise students in the area' ((STBMHR36 and STBMHR36).

9.2.2 Trends in Vocational Education and Training

Geelong's VET providers bear the immediate responsibility for designing and delivering training programs for developing skills directly required by industry employers. In performing this role, they have to develop the environment where industry skills requirements are appropriately matched with employment and career development requirements of Secondary School completers. The aim is to produce an effective workforce that will enhance the region's economic productivity. The region has a total of 113 providers (including TAFE, Private RTOs and ACE's) offering VET. Whereas some are relatively small and highly specialised in their industry training focus, e.g. the First Aid Training Company, Hand-Brake Turn, Geelong Aviation and Flight Training, Geelong Children Services Training, Flexible Advanced Creative Training Solutions, L.P. Communications, Lifeline, Victoria Fitness Academy, others have a much broader training focus, providing a diversity of training programs to satisfy the skills needs of a wider variety of employers. The largest VET organisation is the Gordon Institute TAFE providing the largest range of vocationally relevant courses.

9.2.2.1 The VET system

The RGA's VET providers, while under State jurisdiction, are part of what has become a highly complex and multi-layered Australian vocational training system bought about through labour market and industry reforms over the last two decades. Some of the most significant changes came in 1996 with the introduction of New Apprenticeships. These measures combined apprenticeships and traineeships and introduced a raft of changes to the VET sector. Changes included increased and expanded subsidies for employers (Cully 2006, p. 6); User Choice legislation, which provided subsidies for Registered Training Organisations (RTOs) and expanded the training system to include private RTOs and Group Training Organisations (GTOs); and New Apprenticeship Centres to act as sign-up and support agencies.

The result of these changes has been the development of a:

> vast institutional apparatus of industry bodies, training packages and resource developers, New Apprenticeship Centres and accreditation authorities … to support the functioning of the system' (Cully 2006, p.12).

This multi-player set of arrangements are overseen by the Commonwealth Government (through the Department of Education Science and Training — DEST) and the eight State and Territory Training Authorities, with input from industry and educational bodies, by way of legislation, administration and funding. The system comprises Registered Training Organisations — including both for and not for profit Group Training Organisations, individual for and not for profit private training organisations, State and Commonwealth funded TAFEs and schools; Australian (formerly "New") Apprenticeship Centres (AACs), brokers, industry bodies, employers and the apprentices/trainees. Other interested parties include unions and community organisations. Cully (2006, p. 12) describes this arrangement as 'a quasi-market for the delivery of training services … which [is] … primarily geared towards meeting employer needs'. Nonetheless, as indicated throughout the report the way these relations play out in practice is more complicated than the quotation suggests.

One of the features of this new apprenticeship system was funding for AACs. These centres are private organisations designed to be 'one-stop shops' funded by the Commonwealth Government to provide a range of apprenticeship services. These include:

> … information, administration services and support to employers and Australian Apprentices and assisting with the signing of training contracts … [and administration] of employer incentives, scholarships, and income support payments (Commonwealth of Australia 2007).

Some commentary on the system view the potential overlap and in ownership and control in relation the centres and their functions as problematic (McDowell *et al*., 2011). AACs, for example, may be managed by RTOs or GTOs, while private employment services may set up as RTOs. Further, employers may form their own RTOs, develop their own training packages and conduct their own training. In some cases effectively a single company may serve as all three — the AAC, RTO and employer. In the case of the RGA, some private RTOs and GTOs perform multiple roles. They also may serve as providers under Job Services Australia (JSA). These are a network of organisations funded by the Australian Government to provide employment services to job seekers and employers. They are a mix of large, medium and small, for-profit and not-for-profit organisations that deliver services and support for job seekers and employers. Under this model, the viability and ability of the AACs to appoint staff is tied to securing and maintaining various government contracts to deliver employment and training services. While there is an expectation that the different roles these providers perform as an AAC, RTO or jobs services provider operate in overlapping ways where JSAs or AACs may operate in informal ways as recruiting facilities for the training side of the business (STBMHR09; STBMHR25).

The continued capacity of the sector as a key employer is often determined by forces beyond the administrative borders of the RGA This feature is reflected in the division of responsibilities between the State and Commonwealth Governments, through such mechanisms as subsidies, commencement and completion and other bonuses, user choice funding to training organisations, as well as more directly through funding of educational organisations, policy interventions and administration. Specific areas of State and Territory responsibility include: quality of training and training products; registration of training agreements; registration and auditing of RTOs and GTOs; Workcover exemption; payment of training bonuses; and monitoring of User Choice funding (OTTE 2006, p. 7).

Funding decisions are determinant. The decision by the Victorian Government to make $300 million in cuts to the Victorian public TAFE system in its May 2012 budget is one recent example. The Gordon lost $16.4 million in state government funding and as part of the budget cuts and was forced to drop 27 courses and lay off over 70 equivalent full-time teaching and management positions including an unknown number of fixed-term and sessional teachers (*Geelong Advertiser* 15 November 2012).

The impact of such external influences goes beyond immediate redundancies and retrenchment. All TAFE institutions are going through a phase of adjustment in terms of the numbers of programs and courses they can run within the available funding and the number of students they can accommodate in any given year. The implications for the future of the entire sector are a reduced and trimmed-down program structure, a consolidation of roles and reduction of overall staffing. As one respondent stated:

> So fairly significant changes and as a result of that we have fundamentally changed our organisational structure, so we took out a couple of layers of management. So we don't have directors in the organisation anymore and we have merged a number of management roles together, and we've also looked at both the admin support and the teaching teams. So it's been across the board, fairly radical change (STBMHR20).

The perception of such changes has to be placed in the context of the funding arrangements that define what publically funded bodies can do. As stated by another:

> … the funding model makes it very tricky too because the funding model is very much - our source of funding is purely with the students. So the students bring the funding…and I guess just in our own workforce planning, this is why at the moment we're really focused on the enrolments because the enrolments will determine our staffing. (STBMHR20)

Such a focus detracts from creating an alignment between supply and demand in relation to creating a symbiotic relation between qualifications and skills requirements focused on VET. The problem is that the current set of arrangements place pressure on educational bodies to focus almost exclusively on supply, with implications for the division as an employer.

9.2.2.2 Displacement and VET

The VET sub-sector has historically provided job opportunities for qualified trades people to supplement their incomes while working within a trade or in some cases the opportunity for them to move into a teaching profession full-time. Mid-career and late-career workers from a range of occupations (e.g. traditional trades, social welfare, hospitality, aged care, etc.) have often pursued the option of becoming a VET trainer after years of working in a profession. It is a sub-sector which some displaced workers from the manufacturing sector have recently considered looking for employment so they can pass on their knowledge and skills to others (STBEMP01). In many cases, TAFE positions are the most desired due to the institution's reputation and better pay and conditions.

One difficulty facing the sector is its reliance on externally provided funding. As noted government decisions in the tertiary sector can be determinant. When staff are displaced from employers, such as the Gordon there is limited alternative employment in the RGA. Such workers struggle to find employment with many hoping to be eventually redeployed by the Gordon. One teacher retrenched by the Gordon in November stated:

> For me, at the moment I'll go down that redeployment pathway because I don't know where else to go in Geelong (*Geelong Advertiser* 15 November 2012).

Some displaced workers from the TAFE sector have moved to other RTOs in the RGA (STBUN07). Such a move means a significant reduction in pay and most likely a move into highly insecure and casual working arrangements. One respondent employed with a private RTO stated:

> There's a lot of sessionals in the industry, so they might work one day for this RTO and another two days for this RTO. They might work in industry and then do a little bit of training or teaching on the side, and it depends - I think it depends on the structure of the RTO, too. For us, because we're part of a bigger organisation and because of our HR processes, it's quite difficult for us to put people on full-time, because it means a new position has to be created (STBAOE23).

Thus for displaced teachers or for workers from other industries who want to purse a training career the job market tends to be one dominated by short-term and insecure employment arrangements. This situation is likely to remain a significant barrier for achieving the aspiration of addressing skills demands in flexible and quality ways.

9.2.2.3 VET trainers' skills

Some employers raised concerns about the quality of training occurring within the VET sector. For some it was perceived as a consequence of 'dodgy' RTOs who were more motivated by profit than delivering quality training while others saw it as a problem of the teaching skills of the trainer, their pathway into becoming a trainer and the comparatively low salaries they receive (STBMHR 17; STBMHR 18; STBMHR 38) As one manufacturer stated:

> The TAFE teachers are paid less than tradesmen…You get the crappy end of the people teaching trades which is, you're actually trying to get - we should be having the BAs and the PhDs teaching the kids not washed out tradesmen (STBMHR 38).

Another respondent employed by a private RTO with a long history of working within the training field felt one of the major problems was the poor quality of training of the trainers. They noted:

> Really good trainers are hard to find. Okay trainers are fairly easy to find. Really bad trainers are really easy to find, and I think that comes from the five-day Certificate IV in Training and Assessment courses, because there's a lot of them. Yes, there's a lot of people that have been through them (STBAOE 23).

One of the major problems with the quality of training appears to be structural and is driven by increased competition between providers who in some instances are competing on cost rather quality. At the same time, students, displaced workers, employers may also making training decisions on the basis of the cost. Such arrangements do not work in the long-term interest of workers. Often they are seen by potential employers as accredited but without adequate competencies and therefore unemployable. These problems are not new and it has been demonstrated that profit motives and the immense competitive pressures do influence private training providers to cut corners when it comes to delivering quality training programs (see McDowell *et al*., 2011). As Schofield points out:

> a provider strategy that competes on price alone and which revolves around delivering low-cost, self-paced training supported by a large cohort of inadequately trained, inexperienced, mobile and casual trainers is unlikely to lead to the development of high-level skills within enterprises (Schofield 2001, p. 256).

Thus, while providing better 'training for the trainers', as suggested by a scenario workshop participant, may help to address quality issues, the problem may be much deeper and require more structural change. The danger is that if competition on the basis of cost goes unaddressed high quality training organisations that provide decent jobs, will not be able to operate.

9.2.3 Trends in higher education

Three main providers, including Deakin University, University of Ballarat, and the Marcus Oldham College, provide Higher Education within the RGA. Of these three, Deakin is the largest with a singular focus on Higher Education programs. The University of Ballarat offers a dual-Higher Education and VET experience. The Marcus Oldham College is smaller and more specialised, with a focus in agriculture and related courses. As the major higher education provider in the RGA, Deakin University occupies a potential major position as a regionally focused and based university, located within the RGA.

9.2.3.1 Deakin University

Deakin University was established in the 1970 to provide for the university needs of the Greater Geelong region and western Victoria. Today, Deakin University occupies an important position as the most significant provider of higher education in the region and with respect to the scope of its training facilities and programs, student numbers and research activities. While there was uncertainty about its principal location in the 1990s, it acquired the waterfront wool stores and adjacent buildings and built the Geelong Waterfront Campus. The 1990s was a decade when the University reviewed its location, at Warn Ponds, on the waterfront and in Melbourne. While Melbourne (the Burwood campus) became the focus for undergraduate study, and particularly for international students, the Geelong area remained a key dimension of the University mission, formally as a regionally based university.

In the 2000s Deakin University committed to its Technology Precinct, a strategy to make the University a national focus for research excellence. The precinct has been developed over the last 8 years to provide 11,000m^2 research and commercial facilities, in addition to its biotechnology and other research capabilities. It houses the Institute for Frontier Materials (IFM), Centre for Intelligent Systems Research (CISR) and Centre for Biotechnology and Interdisciplinary Sciences (BioDeakin) The second stage of this development is the Health Precinct at Waurn Ponds Campus that will include:

- Deakin Regional Community Health Hub (REACH)
- Molecular and Medical Research Strategic Research Centre

Like other Australian universities, Deakin University has established multiple campuses, with the Melbourne-based Burwood campus being Deakin's largest campus outside the Geelong region. Deakin University today has over 42,000 students, half of whom study at its Burwood campus in Melbourne. Staffing patterns also reflected this development, Tables 64 and 65.

Table 64. Deakin University, Academic Staff, 2011

	2009	2010	2011
Total	**3,031**	**3,166**	**3,350**
Percentage change	10.9%	4.5%	5.8%

Campus	**2009**	**2010**	**2011**
Melbourne Burwood Campus	1,163	1,184	1,296
Geelong Waurn Ponds Campus	765	794	856
Geelong Waterfront Campus	432	433	439
Warrnambool Campus	123	126	129

Note: Staff figures by campus exclude casuals
Source: Deakin University, *Deakin at a Glance 2011*

Table 65. Deakin University Staff, 2011

Staff type	2009	2010	2011
Academic staff	1,389	1,446	1,562
General staff	1,642	1,720	1,788

Source: Deakin University, *Deakin at a Glance 2011*

Of note, in relation to staffing and focus, research at the university is beginning to be predominantly based in the RGA. As noted:

> For the first time ever, in 2011, Waurn Ponds earned more research money than Burwood. Last year, 2012, it absolutely wiped the floor with Burwood. Now where will the ascendancy go? My view is we will maintain Burwood at 25,000 students and we will grow Geelong to 25,000 students (STBMHR32).

In terms of composition, Deakin University's overall student population is roughly divided into 40 per cent domestic and 60 per cent international. The majority of international students are located at the Burwood Campus. These enrolments are a key part of the financial basis of the university, as is the developing research profile at Waurn Ponds.

Universities increasingly have been assessed against performance indicators in relation to their research activities. In these circumstances, there is pressure to increase the quality of their research, from both national and international sources. For these reasons, universities in Australia have embarked on processes of increasing their research activities and performance. Universities that have hitherto been focussed more on teaching, have begun to focus on research, as is the case with Deakin University. As a result, it has embarked on a major drive to improve its research credentials.

Increasingly, universities have come to rely on student fees, international full-fee paying students, externally funded research and business ventures locally and internationally. Increased inter-university competition for local and international students and research funding have led universities to pursue different types of business models and educational products.

Deakin University is in the midst of carrying out significant changes to the way it conducts both teaching and research. Such developments point to a shift in the way in which teaching work is done, with implications for training and reskilling existing staff. The aim is for the university to become a research and scholarship led university. For many universities, including Deakin, such developments have staffing implications, not just in terms of the work done but also in terms or recruitment.

When it comes to teaching, the most significant change of recent is the move towards more on-line delivery referred to as 'Cloud Learning'. 'Cloud learning' involves the introduction of more technology-based curriculum development, delivery and assessment. Staff are being expected to become 'cloud teachers' and are being expected to incorporate social media, videos, and internet-based materials into their teaching. This development is altering the sorts of skills required by teaching and administrative staff. As noted by one research participant:

> In terms of skills in ICT, I think that's something that has led a big part of changes in the last five years across all sectors. If you take higher ed, for example, what Deakin and probably like many other universities, but from our perspective what Deakin's going through is putting a huge demand on our higher educators' knowledge in terms of ICT. So their skill base - it's a huge learning curve at the moment across the whole university, so the academic staff and the administrative staff. They're all upskilling in using Cloud and Cloud learning and even the speak, the language of what Cloud is (STBAOE29).

The overall implications of such developments are unclear. On the one hand, the work of teaching changes and staff benefit in terms of teaching interest and research opportunity. As noted by another informant:

> I'd say in five years' time what does a lecturer look like, it's a mix of techo, a mentor, an assessor, someone who just sets assessment and scales against it, a work placement person, coaches, admissions people...(STBMHR32)

Nonetheless, on the other hand, some staff are anxious about these changes. As stated:

> [For] Deakin to really compete against the G8 [Group of 8], they need to get a larger slice of the research funding from the federal government… at the moment they are driving their staff to produce more and more research output and measurable output such as journal publications. That means that those people that don't get published, particularly in the old A and A* era of category journals are looked upon in disfavour and in fact Deakin is going through a process of managing those people out (STBUN08).

These changes have significant implications for the skills the university requires and the types of staff it recruits.

Some worry that this move to 'Cloud learning' may also contribute to less need for staff and possibly job loss and displacement. One research participant noted:

> Well the university's got plans to actually grow… So they're expecting that they will increase student enrolments and therefore there should be a growth in employment I suppose for academic and general staff…. But alongside the projected growth, unfortunately is a reduction in staff as the university plans to move most of its delivery to online… and the consequence of that is that you'll need less academic staff (STBUN08).

The feeling among some staff is that Deakin will lay-off teaching focussed staff and recruit research active ones (STBEMP08; STBEMP09). Nonetheless, there is no sign at present of this taking place.

But, it is important to note that these developments take place in the context where the University has become an active partner in the rebirth of the waterfront in the

City of Greater Geelong, and the focus on Waurn Ponds as a research centre and site. Of note, the objective in relation to planning is to develop the Waterfront as a learning destination for the RGA student residents and beyond. As stated:

> We think we're in a reasonably saturated market in Geelong itself. The reason why we've invested in the waterfront is to be the honey pot at the end of the train line for the western corridor. So fastest growing population. Is it going to happen next year? We have no idea. The next few years? Maybe. In the next five? It might start looking promising. In the next 10? We, yeah, think absolutely (STBAOE19).

The staffing implications of such developments, on the waterfront and at Waurn Ponds mean that in relation to research expertise and teaching skills the RGA is likely to be the beneficiary of inward migration as the university recruits not only from the region, from the State from the nation, and increasingly internationally, As stated:

> In terms of the higher ed sector I don't think we've probably had much trouble attracting people, yeah. We've got - people teaching in the university are probably just like any other university people. You'll see as well, global sort of environment and people from everywhere, internationally, nationally, all over the place (STBAOE29).

Such sources of recruitment are evident in all major research universities across the country, and in other countries around the world.

In tertiary education, it is commonly understood that not many young people are taking up higher degree programs (PhDs) with the intention of becoming academics. Consequently there is a replenishment problem which could partly explain the ageing profile and could also explain why a larger proportion of the tertiary education workforce (21.8 per cent) is drawn from outside the region.

Deakin appears to be aware of the skills challenges and is seeking to increase the research skills and capacities of it staff. In some cases this involves encouraging many of those who have not yet completed a PhD to do so. As one research participant stated:

> ... we're also rebuilding our higher ed qualifications, because it's another way of putting more capacity into our people. We're a part of the employment of people in the higher ed sector, a big part of that obviously and by building programs that meet that vision of higher education, we're looking to put more capacity in our own people (STBAOE29).

It would appear that this ambition is being realised. As noted by one key informant:

> We have 70 per cent of the market share in Geelong. That's it. The people who don't come to us are going to Melbourne University, often they've got high ATARs from Geelong Grammar and are going to do science or arts or medicine. It used to be medicine. If they're going to Monash, they're going for

> medicine. If they're coming to RMIT, they're going to … design courses. So we have market share (STBMHR32).

There are, however, some constraints that are beyond the University's control. Some of the region's young academic achievers leave the region soon after finishing high school typically taking up university offers in Melbourne. In other cases, the secondary institutions encourage VET and vocationally related avenues rather than higher education.

9.3 Conclusion

The Education and Training division has particular importance in relation to the future of the region. Education policy and provision will be vital for improving education attainment rates and enabling successful transitions to alternative industries, practices, or generations of workers. The division is also a major employer in the RGA and it is a reasonable conclusion that there will continue to be expanded employment in the division to meet increased demand. Continued growth of the division, will rely on the continuity of funding arrangements and related policy approaches as well as revenue generation, particularly in relation to higher education. Currently, there is a relatively high degree of flux in relation to funding and policy approaches towards various sub-divisions. Whereas it is highlighted as one of the key growth sectors with implications for increased employment in the region, the data also shows that recent developments and decisions, which lie outside the region, determine the sector's direction. Thus, fluctuations in international student numbers, changing funding policies by State and Federal governments and the success of the research precincts will impact on the future employment capacity of the sector.

Thus, while the statistics indicate that between 2006 and 2011 there was an increase of 1,853 jobs in the region. While there have been a loss of jobs recently in the tertiary sector, the long term indications are that in the next five, ten and fifteen years there is likely to be significant increase in demand for education posts. The sector, just like many others in the region and beyond, is characterised by an increasingly ageing workforce profile. With the majority of school and tertiary teachers aged 50 years and above, many employers are likely to experience skills shortages as older employees retire. This problem is compounded by an observed regional underachievement and low rates of secondary-tertiary student progression. Replenishment of the core workforce is therefore going to be a major challenge.

It is likely that some institutions, Deakin University in particular, will bring in skilled labour from outside the region to meets its skill criteria. In this respect, as the University continues to expand its research base and as the teaching programs are located on the Waterfront, it is possible that the University will acquire an even more prominent role as an attractive employer. Alongside these developments is a concurrent increase in demand for general staff, and with planned workforce programs it is highly likely that staff will be recruited from the region.

This division occupies a critical position in assisting other industries and organisations in meeting the technological and human resource challenges underway in the region. As other sectors are recomposed and change their focus, then the 'Education and Training' Division will come to occupy a pivotal place in the future that is unfolding. Its capacity to respond to these changes will greatly determine the future economic prosperity of the region. The VET sector is particularly important in delivering the skills for many of the region's growing occupations, including aged care, personal care workers, construction trades, retail and hospitality. Delivering high quality training requires attracting high qualified and competent teaching staff. An increasing reliance on short-term, casual appointments among VET providers in response to funding cuts and competitive pressures will make it difficult to maintain high quality teaching staff. Adequate resourcing and improved oversight of the quality of training being delivered within the sub-sector will be critical to delivering necessary education and training outcomes for the region.

9.4 Considerations

- **Workforce planning for the sector is becoming pressing in terms of replenishment and expansion, suggesting that policy makers within the RGA, in conjunction with State and Commonwealth departments, should implement strategic workforce development plans for the sector as a matter of urgency.** The pressures for such an initiative are broadly two fold. First, given the ageing workforce and population projections for the RGA workforce, planning is critical across the whole gamut of education and training provision. It is apparent that many of the sub-divisions have ageing workforces and in the context of population projections, this will have to be addressed along with recruitment for new positions as more schools and related facilities are built. Second, this is a region where important initiatives are in place for expansion in the Health and Social Assistance division and in sections of Manufacturing. Given these developments it is likely that in the next five to ten years, there will be a substantial increase in demand for particular groups of workers, for example in the disability area and in sections of advanced manufacturing. This is likely to increase the demand for education and training to facilitate recruitment from the RGA, rather than from outside.
- **The other side of the age profile is the situation and prospects for young workers and here there is a need to formulate carefully crafted pathways into and within the division by the major education bodies (schools) and tertiary organisations, such as The Gordon and Deakin University.** Educational training institutions, which are responsible for assisting in the development of a skilled workforce for other industries, must work to develop the appropriate skills of young people for future employment in its own division. Already there are proto-pathways in place, particularly around the

Centre for Advanced Design in Engineering Training (CADET), a partnership between secondary, vocational and tertiary bodies. This is complemented by the pathway VET arrangements developed within secondary schools and between schools and The Gordon. Such developments have important implications for skills within the division; skilled staff will need to be in place able to work with the young, conduct out-reach work to encourage engagement, develop engaging sessions and programs for the young. Such capabilities are not innate and can be learnt and refined with appropriate staff development programs.

- **There is a prospect of recruitment into the division, particularly in relation to VET teaching but also more broadly, of displaced employees from other divisions, particularly manufacturing; targeted programs and support to enable transition should be developed by educational providers with support from government.** As noted elsewhere, there is precedent for such mobility, but usually as a one-off approach. Where there has been displacement of people with relevant capacities and capabilities a proactive step to address such transition would have benefit for those who are displaced and for the educational bodies and students. This type of practical experience, focused in an appropriate pedagogic way has been shown to benefit the learning process (Kirby 2000). These processes of staff development can also be extended to current staff in relation to further staff development (Currie & McCollow 2002; McDowell *et al*. 2011).
- **Attention should be given to wages and conditions of employment within the division by appropriate representatives of employers and workers, with the intention of addressing the implications of staff redevelopment, workloads and stability of employment.** Staffing levels, wages and conditions of employment are difficult and often contested matters in the tertiary and vocational educations sub-divisions, and are usually dealt with outside the RGA. Employers within the sector, particularly those within the VET and higher education sub-sectors, must address growing casualisation of their workforces. While casualisation addresses short-term financial goals it is likely to lead to long-term negative outcomes as the sector is no longer perceived as offering high quality work and stable career prospects.
- **Measures should be put in place by the State government to ensure RTO compliance with regulations relating to quality.** The quality of trainers and the factors contributing to a decline in the quality of training staff is an issue that needs to be examined more closely. Is it a case of a lack of available trainers, a lack of sufficient pay to attract quality trainers or an over reliance on casual and part-time trainers among some RTOs and group training companies which is contributing to less than desirable outcomes? The answer to this question is critical.
- Deakin University is the third largest employer in the RGA; moreover it is critical for the proposed 'Skilling the Bay' program, taking the lead in research related development in advanced manufacturing, health and well-being and food provision and sustainability, as well as a range of other more diverse

research projects and programs**. In view of the importance of tertiary education, Deakin University, together with The Gordon should consider the promotion of staff exchange pathways to develop a proactive way of further embedding these two key bodies in the RGA as the lead teaching and research bodies, while retaining the desirable division of responsibility for further and higher education.** Both institutions are critical for future developments in the RGA as independent educational bodies.

Chapter 10. International lessons

De-industrialisation and associated job loss, an ageing workforce, the emergence of new service-based industries and population growth present significant employment and skills challenges for the RGA. These experiences, however, are not unusual and can be found within any number of regional areas in advanced industrialised countries. This chapter considers developments in regional areas outside Australia and the lessons that emerge from attempts to address similar regional circumstances as those within the RGA. These key lessons have a direct bearing on an understanding of the future of the RGA and approaches to assisting the region in its transition and skills challenges.

10.1 Introduction

The international case study research focuses on three regions that have experienced varying and uneven levels of success in responding to industrial and employment change:

- Eire (Ireland),
- The South Wales Valleys, United Kingdom
- Hamilton, Canada.

The following questions inform the study:

- What has happened to demand for specific skills and jobs in countries where labour market changes and worker displacement has occurred?
- How can international experience best inform the approach to be adopted in the Geelong region?
- What can international experience tell us about the merits of specific recommendations in response to changing industry and skill needs identified in the RGA context?

10.2 Case Rationales

Each of the three selected case studies presents us with evidence on the different ways in which the labour market change might be managed, and the implications for employment and skills development within a region. The Eire case study represents a national case study that has important lessons for the regional level, whereas the South Wales Valleys and Ontario (Hamilton) regions represent cases that deal with more localised responses to change and in this way provide a closer match to the case of the RGA. The precise rationale for each case is discussed below, before summary thematic findings are presented.

10.2.1 Eire

The case of Eire (Ireland) was deemed a salient choice for inclusion for three principal reasons.

First, the Irish case demonstrates the way that government sponsored projects to develop a skills focused program can be developed. Prior to the economic downturn of 2008, the country had experienced rapid economic growth and the skills of the workforce have consistently been identified as a major contributor to that growth. The revamping of the apprenticeship system in 1992 towards a European, regulated and standards-based model, facilitated by institutionalised social partnership at the national level, was a highly significant step towards active intervention in skills/workforce development policy. Thereafter, the creation of a knowledge economy, based on high value-added and innovative activities and the concomitant upskilling of the workforce, have been major policy goals since the late 1990s onwards. Moreover, the focus of government-sponsored Continuing Vocational Education and Training (CVET) schemes was re-directed at this time, from a former emphasis on the unemployed to training those in work, to maintain employability and job-security (Barry, 2007). As such, strategy, policy and practical measures around workforce development and CVET aimed at effecting this transition are relevant and of interest. Moreover, some aspects of these initiatives have potential utility in terms of a model to emulate.

Second, there are lessons in the ways in which skills policies remain central in the context of economic downturn. Crucially, In Eire there have been some fairly innovative approaches to maintaining jobs and skills. An examination of these measures might prove to be of utility when considering strategies in regions where there is a prospect of redundancies and retrenchment, as is the case in the RGA.

Third, there are similarities between economic activities in Eire and the Geelong region, as well as some shared demographic characteristics. With regard to the former, Irish policy makers have encouraged the development of an export-focused manufacturing sector over past decades (albeit principally through Foreign Direct Investment - FDI). However, the country's reliance on manufacturing is diminishing, with attendant growth in the service sector (also export-focused). In 2010, the proportion of jobs accounted for by the manufacturing sector stood at 11.4 per cent (CEDEFOP, 2011). Despite a drop of 1.3 per cent in service sector employment in 2010, services continues to account for the majority (over two-thirds) of employment in Ireland. The construction sector was also a major contributor to the Irish economy, although this has been significantly impacted by the economic downturn.

With regard to demographic similarities, another similarity between Eire and the Geelong region is the fact that both have experienced population growth. Moreover, both have above-average numbers of low skilled workers in the labour force. The centrality of publicly promoted CVET initiatives is thus of importance in lessons for the Regional Geelong Area – encompassing training within enterprises, occupational and general skills training provided by public training and educational institutions, as well as education and training initiatives for persons who are unemployed and who have been made redundant.

10.2.2 The South Wales Valleys

The South Wales Valleys region is an appropriate focus of study for five reasons.

First, in the context of devolution of specific powers to the Welsh Government in 1999 (extended subsequently), the UK has been actively promoting and pursuing invigorated skills agenda for over two decades, with skills policy and practices repeatedly advocated as a cornerstone of national economic competitiveness and ultimately social well-being and inclusiveness. The transition to a knowledge economy, based on high value-added and innovative activities and upskilling of the workforce, have been major policy goals of successive UK governments since the election of the Labour Government in 1997 (*cf.* Stedward 2003; Keep *et al.* 2006; Clough 2007). Even before this, there were some significant changes to the skills system (not all positive), with the creation of the National Vocational Qualification (NVQ) system and the introduction of National Training Targets in the late 1980s (e.g. Clough 2007).

These initiatives on skills have been implemented in Wales. For instance the establishment of the Sector Skills Councils and the Union Learning Fund have been taken on board in Wales, under a number of program and initiatives, albeit under slightly different guises than their English counterparts. However, in addition to the institutions and practices that are common to both the UK and Wales, many functions around skills and training policy have been devolved to the level of the Welsh Government and a number of distinct responses have emerged. Nonetheless, the Welsh Assembly Government has similarly emphasised the importance of developing an integrated response to transitioning from an economy based on heavy industry to one based on knowledge and innovation, and the need for combining policy on skills, employment and business development in order to make such a transition. In the RGA, the knowledge economy is perceived by a range of development actors as the way forward for the region with Deakin University seen as performing a central role.

Second, Wales, and the Valleys in particular, was also considered to be a relevant focus of study, given that it has been the focus of a number of regeneration initiatives for many years (e.g. CAG 2005). The region has experienced sustained deindustrialisation, as its core primary industries of coal mining, steel production and metals processing have declined. Successive regeneration initiatives focused on attracting FDI in manufacturing, light industry and services. In the late 1970s, up until the 1990s, Wales attracted an above average share of UK FDI in the manufacturing sector and the majority of this was located in the Valleys region (Brooksbank *et al.* 2001; Cooke 2004; CAG 2005; Parhi 2011; Pickernell 2011). Indeed, manufacturing still accounts for a large proportion (27 per cent) of Wales's Gross Value Added (GVA) and employment, as is the case in the RGA.

The dependence on FDI (as opposed to the cultivation of indigenous business and SMEs) for regional revitalisation has attracted much criticism for failing to provide sustained employment in the region. As in the RGA case, there has been a significant decline in the Welsh manufacturing industry and an associated growth in services over the last decade (e.g. StatsWales 2010). Nevertheless, in common with much employment in manufacturing, many of the jobs created in the service sector (such as call centre jobs in the banking and finance) are low skill and poorly paid. There is also a strong reliance on public sector employment in the region, another analogy with the RGA context (e.g. Drinkwater *et al*. 2011). However, the failures of regeneration initiatives have led to a change in policy approach recently, and a shift in emphasis toward indigenous growth might be of value in the assessment of the RGA.

Third, a further similarity with the RGA situation is that Wales retains an automotive sector, which has been described as the 'mainstay of its manufacturing industry' and 'the most active sector in the region' (Parhi 2011, p. 4). Ford opened a greenfield engine plant at Bridgend in 1978 and this was followed by acquisitions and/or greenfield investments by several companies (e.g. Calsonic, Valeo, Robert Bosch, Trico, Matsui, Gillette). The region evolved into a principal centre of automotive components production in Europe, much of which was located in the Valleys region. However, in the past decade in particular, there have been several waves of plant closures, relocation to lower cost regions and significant downsizing (Parhi 2011), experiences which are common to the RGA.

A fourth (demographic) feature of the Valleys area shared with the RGA is that there are relatively large numbers of people with low skills/no qualifications in Wales (an average of 15 per cent). Moreover, these levels increase sharply in the Valleys region (Blaenau Gwent – 21.6 per cent; Caerphilly – 23 per cent; Merthyr Tydfil – 21.9 per cent, Rhondda Cynon Taff – 18.9 per cent; see ONS 2012). The Welsh Government has stated policy objectives of 'driving economic development across Wales' through the establishment of a knowledge economy and the cultivation of a culture of lifelong learning. Improving skills/qualification levels through enhanced educational and training provision has been identified as a principal policy goal (Welsh Assembly Government 2008). Specifically, the Welsh Government has recognised that the Heads to the Valleys region 'has special… skills needs' which require amelioration (WAG 2005). Even before this statement, elements of successive regeneration initiatives in the area have been focused on training the workforce (e.g. Brooksbank *et al*. 2001; Rees & Stroud 2004; CAG 2005). Indeed, some progress has been made in recent years on this measure, and such successes should be examined (e.g. Brooksbank *et al*. 2001; Drinkwater *et al*. 2011). Between 2001 and 2008, the proportion of working-age adults in Wales with no qualifications had fallen by six percentage points, and there had been a seven percentage point increase in the proportion with qualifications at National Qualifications Framework level 2 and above (WAG 2008).

Finally, as in the Irish case, there have been some innovative job creation and skills-based responses to the economic crisis in Wales, approaches that are distinctive to Wales and that were not implemented on a UK-wide basis. An examination of these measures might also prove to be useful in the face of redundancies, and the ensuing need for retrenchment, an experience repeated in the RGA.

10.2.3 Hamilton, Ontario – Canada

The case of Hamilton, which is located in the Canadian province of Ontario, was chosen for five reasons, particularly on the basis of some potentially useful employment policies and skills practices.

First, it may be that there are similarities between the two urban areas, Hamilton and the City of Greater Geelong, that lead to instructive lessons between the two. As in the Irish and Welsh cases, the federal government has launched a number of strategy documents which emphasise the need for a transition to a knowledge economy. This step is regarded as an essential transformation for the future of Hamilton. First, there is a widening productivity gap between Canadian workplaces and those of competitor nations, a gap that is attributed in large part to lack of development of the skills of the workforce (e.g. Brisbois & Saunders 2005). There is a growing body of evidence that points to skills deficits across the workforce, a situation which is predicted to worsen given Canada's ageing workforce and the impending retirement of the so-called 'baby boomer' generation (e.g. Belanger & Hart 2012; Watt & Gagnon 2009). Moreover, as is the case in some areas of the RGA, there are extensive literacy and numeracy problems in the Canadian workforce (e.g. Myers & de Broucker 2008; CCL 2011).

Second, the Canadian case raises important relevant questions about multi-level government. Such problems have intensified policy makers' calls for extensive upskilling and the cultivation of a pan-Canadian lifelong learning culture. However, some critics have argued that the response to these skills challenges has been complicated by the matter of jurisdiction for education and training in Canada (e.g. Gibb & Walker 2011). Canada, like Australia, is a federal state where responsibility is divided between the federal and provincial governments and entrenched in the constitution. As responsibility for education and training fall under provincial jurisdiction, this causes particular challenges for the federal government in implementing policy related to these areas (e.g. Howlett & Ramesh 2003). Cornford's (2009) analysis of lifelong learning policy in Australia highlighted some key overlaps with Canadian federal policy. Thus, an analysis of federal and provincial skills policy and practice within Canada was deemed to be an apposite focus of study, given that there may be analogies with the Australian context.

Third, Canada has experienced similar global challenges in relation to its economy, as has happened within Australia. Within Canada, exhortations by policy makers to move to higher value-added activity and concomitantly upskill the workforce are also being driven by the erosion of some historic competitive advantage that Canada has enjoyed, namely its currency. This advantage traditionally has allowed its exports to be competitively priced. However, the resource boom in recent years has led to a sharp appreciation of the Canadian dollar, meaning that the country is less able to compete on the basis of low costs. Canada's manufacturing sector has also been affected by low-cost competition from China in particular, as well as an associated increase in input costs resulting from the commodity boom (Francis 2008; Baldwin & MacDonald 2011).

These macro-developments have been reflected in the decline of some manufacturing sectors over the 2000s (with automotive firms being affected), a trend that was exacerbated by the economic downturn of 2008. The automotive manufacturing sector is Canada's largest manufacturing sector, accounting for almost 2 per cent of Canada's GDP ($17.7 billion), and 25 per cent of total Canadian merchandise exports. Specifically, automotive manufacturing (and manufacturing in general) is a key economic activity in Ontario and the province is home to five of the world's top automakers as well as more than three hundred components manufacturers (Government of Ontario 2012). The sector employs 88,000 workers, who produced 2.1 million vehicles in 2011. Goods production accounts for 24 per cent of its GDP (of which manufacturing accounts for 15 per cent and the remaining 9 per cent derived from primary industries).

Fourth, as with Australia, the Canadian economy is marked by an influential export-focused primary sector. The primary sector is still an important one in Canada, in particular the logging and oil industries. Some 4 per cent of Canadians are employed in primary industries and these account for 6.2 per cent of GDP. Canada produces and exports many natural resources such as gold, nickel, uranium, diamonds and lead. Several of Canada's largest companies are based in natural resource industries, such as EnCana, Cameco, Goldcorp and Barrick Gold. There are also many secondary and service industries that are directly linked to the primary ones. For instance, one of Canada's largest manufacturing industries is the pulp and paper sector, which is directly linked to the logging industry. The reliance on natural resources has several effects on the Canadian economy and Canadian society. While manufacturing and service industries are easy to standardise, natural resources vary greatly by region. This means that different economic structures have developed in each region of Canada, contributing to Canada's strong regionalism.

Fifth, the selection of Hamilton, a city within Ontario, allows a comparison of strategies to deal with a decline in manufacturing. Ontario is heavily dependent on international exports of manufactured products - over 76 per cent of all goods and services exported from Ontario are manufactured products (CEM 2009). In Hamilton, key sectors include advanced manufacturing, including automotive assembly and components, life sciences, clean-technology, steel production and food processing

(Invest in Hamilton 2012). This reliance on manufacturing activity, and automotive production specifically, means that there are obvious analogies with the RGA context. Ontario has implemented a number of policies and initiatives aimed at maintaining and transforming its manufacturing sector (including a focus on green innovation in its automotive sector), in addition to the skills initiatives that have been implemented in the region. Specifically, there have been some effective approaches to 'downside adjustment' in the automotive sector, focused on helping redundant workers upskill/reskill and find alternative employment. An analysis of these measures might prove useful in informing practice in the RGA, where similar circumstances are being experienced.

10.3 Key findings and themes

The findings from these case studies highlight the ways many regions face similar problems and experiences to those in the RGA. Finding remedies for the negative social and economic impacts of industrial decline and change is difficult.

Overall, it is evident that a cohesive and integrated approach to skills development has beneficial impacts, although across the cases there is an unevenness in effect. One theme running through the three cases is that multi-level social partnerships are a key condition for success. Such partnerships involve cooperation and collaboration between different levels of government, between public and private sectors, and across industry sectors and companies. An important aspect is a positive and forward looking relationship between educational bodies as providers and the other organisations and bodies that make up a region. Where trade unions and related voluntary associations are part of policy formulation and implementation a more comprehensive and focused outcome is often evident. In these cases, the outcomes have a depth to them that is otherwise absent. Thus there is a possibility that policy development enables the alignment of education and training with skills needs and requirements.

10.3.1 The Importance of a strong skills base

Confronted with industry decline, economic diversification is important to regional revitalisation but is not easily achieved. A feature of the three cases is that the absence of a strong and stable skills base undermines transition, even in situations where the economy is diversified. Amongst other things, it may become difficult to attract inward investment.

- In Hamilton, a diversified economy (significant and diverse manufacturing base, and large service sector) has been undermined by slow response to increasing competition (e.g. increasing skill levels, developing innovation within the regional economy).

- Ireland developed on the basis of Foreign Direct Investment into a fairly diverse economy (across construction, manufacturing and services), but was undermined by an uneven skills base and vulnerability to recession.
- The South Wales Valleys region has struggled to diversify economically, with factors such as geographic location, infrastructure and low skills levels making high-end inward investment difficult; any investment that has been attracted has tended to move on, drawn by cheaper labour and production costs elsewhere. Programs aimed at developing locally-led responses to industrial decline have proved to be patchy and uncoordinated.

Governments have addressed regional difficulties in the context of job availability, reskilling for job outcomes and policies addressing disadvantage. The evidence suggests that in general, governments have not done enough to address these issues or promoted a concerted effort to remedy the broader issues surrounding a negative cycle of economic disadvantage. However, it must be noted that these economic regions would undoubtedly be worse off if no government strategies had been put in place.

10.3.2 Skills approaches

Regional revitalisation is built upon well-developed and implemented training and education schemes, which have multi-stakeholder involvement including education and training bodies, business, government, unions, and NGOs. The case of Ireland is based on the development of a northern European (i.e. German) dual VET system, thereby facilitating skills transition and up-skilling – albeit unevenly. One consequence is that many in the workforce were in a position to take up emerging opportunities. This example highlights the role of government educational policies in generating the skills necessary for structural change. The other cases place emphasis on skills, but in incoherent and uneven ways. Levels of social partnership are low, with training usually left to employers and private providers, who – respectively – tackle skill issues in unsystematic ways and operate on limited contracts that usually leave workers with few formally recognised transferable skills. The outcome is limits on the ease with which such regions can shift to high skills, high wage, value added economic and employment strategies – particularly with regard to a low carbon economy.

Tackling basic skills is essential, but means more than merely providing opportunities. Wider economic inequalities also need to be systematically addressed, in parallel with basic skills provision – the former are often the basis of poor dispositions towards learning opportunities. There is often a divide between tactics specifically targeted at the low-skilled/disadvantaged/those made redundant, and other tactics which aim to upskill a region in its entirety. One further consideration is to not simply focus on supply of qualifications (as a proxy for skills) and in this way qualifications for qualifications sake. It is important that there is a link between skills supply and demand and ensuring qualifications have *clear* routes and pathways to employment and further and higher education opportunities.

10.3.3 Successful training initiatives

These cases have shown evidence of success in developing apprenticeship schemes (e.g. high completion rates and robust quality of learning). They entailed a multi-stakeholder approach with training and education providers and local government/states working with businesses and their representatives to identify local training needs and then tailoring this training to the local economy, or sector.

Union organisations have been crucial to the development of the VET system in Ireland, and the ITUC has developed a number of independent training initiatives. In Wales, the Union Learning Fund has been effective in tackling basic skills deficits.

A sectoral focus can also foster success in workplace development programs, particularly where a range of stakeholders are involved in identification of sectoral needs. Such a focus is evident across all three cases, although a more flexible and employer-driven (as opposed to state-driven) approach is found in the Irish SkillsNets program. The latter has the benefit of allowing small businesses to pool resources. However, state-driven approaches allow for the incorporation of articulated skill needs into qualification frameworks.

10.3.4 Job availability

The upskilling of regions must reflect the employment opportunities being developed within the region. The capacity to build and attract job opportunities depends not just on the development of the right skills, but also on job availability as well as the type of jobs/work on offer. This feature reinforces the observation that there is a mutually reinforcing relationship between infrastructural resourcing and the development of capacities in relation to jobs and skills.

The loss of FDI has led to increased policy focus on the cultivation of the indigenous industrial base, the encouragement of entrepreneurial activity and by association, the growth of the SME base. There is a wealth of evidence to suggest that small firms are disinclined to invest in skills development and indeed, pursue 'high road' approaches to work organisation and human resource management in general. This highlights the need to stimulate employer demand for advanced skills, re-organise work design and organisational structures accordingly to fully exploit the advantages of such 'high road' approaches. Such measures are recognised to some extent in the provision of specific leadership and management training programs (encompassing training on work organisation and people management) available in both Eire and Wales.

Moreover, the relationship between industry and government and educational institutions is important if there is to be successful change and transition. The need to build successful linkages between these systems will continue to be highly significant, given the increasing emphasis on targeting funding and efforts onto growth sectors and attempts to move the industrial base to higher value-added, research and development (R&D) intensive activity, focused on innovation and commercialisation of that innovation. To effect such transition, there will need to be integration and coherence across a range of policies, initiatives and practices, encompassing skills development, R&D incentives, the cultivation of industry-academia partnerships as well as investment in and active promotion of publicly funded R&D infrastructure.

10.3.5 Multi-level state policies and practices

Planned multi-level state policies and practices with coherence across a range of areas (e.g. regional development, education policy, investment strategy, etc.) is a critical ingredient to regional revitalisation. But, one weakness with many approaches is that they have not involved a planned comprehensive policy approach to displacement and economic regeneration (apart from the occasions where national initiatives were developed). Many programs were formulated and implemented at a regional level because local government/provincial states are responsible for economic development. Although this approach has tended to produce some relatively successful outcomes, it has resulted in uneven development and variable successes. The explanation for this inconsistency and unevenness is that appropriate comprehensive and inclusive policies were not in implemented.

Conversely, as the Canadian and South Wales Valleys cases might imply, it could be argued that provincial governments might be better placed to understand local needs and, on this basis, provide more tailored and appropriate skills responses. In particular, this might be the case within nations that are geographically vast with much economic and demographic diversity across different regions, such as Canada and Australia.

10.3.6 Conditions for transitional change

There are, then, a complex set of conditions for transitional change. On the one hand, change is rooted in the specific profile of local economies, and the associated skills and jobs arrangements in localities and regions. Initiatives involve a cluster of agencies and organisations, including regional governance bodies, local authorities, employer and trade union organisations, locally based groups and educational and training bodies. On the other hand, such arrangements are often incoherently organised and structured (tending to be overlapping, repetitious, minimalist, *ad hoc* and stop-gap) in the absence of grounded governance arrangements and the lack of nationally supported and resourced financial and infrastructure arrangements. Where regions face transitions away from old style manufacturing, there is evidence of steps being taken to transition to higher-value added, growth sectors in general. It is important that VET systems are able to respond swiftly and that appropriate skills for novel and emergent sectors are incorporated into provision.

10.4 Implications for Regional Geelong Area

The international cases raise important and challenging questions for the approach taken to address the current skills profile of the Region Geelong Area, the labour market trends and the transition to a prosperous future. The analysis identified five key findings:

1. Many countries and regions face similar problems and experiences to those of the Regional Geelong Area.
2. Most regions have struggled to remedy the negative effects of decline and closure of major industries.
3. Regions often struggle to diversify economically.
4. Government action and involvement (federal, state and regional) is uneven but is critical to positive outcomes.
5. The implications are:
    a. Appropriate job transfer depends on both skills and opportunity;
    b. Employment adjustment depends on multi-level government involvement working with regional stakeholders;
    c. Training provision for the disconnected requires specialist courses in a variety of modes (vocational training must incorporate comprehensive programs of general education to encourage flexibility, mobility and transferability between sectors as opportunities emerge);
    d. The upskilling of regions must reflect the employment opportunities being developed within the region; supply must reflect demand; and
    e. Sustainability must be built into opportunities developed within the region

10.5 Conditions for success

Three key conditions for success can be identified from this analysis that have direct implications for the way in which skills development and transition might be addressed:

10.5.1 Social Partnership

The need for holistic, multi-agency and partnership-based responses to skills-based transition emerges as an important feature for success. In general, partnership approaches:

> facilitate new alliances and ways of understanding and reacting to problems' and can lead to innovation through overcoming the inherent compartmentalisation of issues inside the domains of separate bodies and agencies (Geddes 1998 p. 22).

10.5.5.1 Partners

With specific reference to skills, the involvement of unions and employers' organisations ensures that operational knowledge is embedded into the skills system. This increases the relevance and applicability of the system and subsequent provision. Collaborative social partnerships are thus well-placed to identify current skill and qualification needs, as well as anticipating new developments. The provision of such expert input not only ensures relevance, but should also stimulate responsive and adaptable VET systems. In particular, labour unions bring important perspectives on skills gaps and moreover, advance employees' interests for high quality training that support mobility and progression in the labour market. As such, they have an interest in the promotion of more innovative, high skill business models that support better job quality. In this way, skill development processes can be beneficial to both workers and enterprises.

The case studies provide instances of partnership working at national levels, both in the cases of institutionalised national partnership in Eire and the Welsh Government's Economic Summits, which were held in the wake of the global financial crisis. Eire's national partnership was originally borne out of crisis in the 1980s but the more recent downturn led to its demise. However, the partnership and the official representation of labour across the range of state skills bodies has played a crucial role in effecting successful upskilling programs in the Republic. Attempts by the Canadian federal government to instigate national and regional partnership-based skills forums, such as the Labour Force Development Boards and the Workplace Partners Panel, have been fraught with difficulties and the existence of such bodies was limited in duration.

Sectoral partnerships have been evident in both the Canadian and Welsh cases, although these have been recently replaced with employer bodies in the former and the latter are 'employer-led' with minimal labour representation. Perhaps the most successful partnerships have been achieved at the local level, within Hamilton. Here, the Workforce Planning Board and the Skilled Trades Apprentices Council demonstrate effective and enduring partnership working.

The cases reveal that it is not easy to embed and institutionalise partnership working, particularly where there is a history of non-collaboration and antagonism between employers and unions, as is often the case in liberal market economies. However, the potential benefits of social partnership (as demonstrated by the successes of such processes in producing high quality, relevant and adaptable VET in a number of northern European countries) mean that attempts to institutionalise such partnership and achieve desired synergies at various levels should continue to be pursued.

10.5.5.2 Further steps

Within the RGA, there is the foundation for such development, although further steps are required to realise the potential.

First the area has long been the focus of state initiated policies and practices. This is evident by the role of both the Commonwealth and State government in working with key organisations and major employers in the region. Often such policies are cast in the context of deindustrialisation and the importance of retaining the presence of the major employers in the area, such as the resource-based and manufacturing enterprises that have long provided the base to the regional economy.

Second, the local authorities in the RGA play important roles in focusing and promoting economic development in the region. *The RGA* is relatively self-contained, with a high level of occupational gender segregation and pockets of poverty and employment disadvantage. The residential workforce has an age profile that is somewhat hollowed-out with higher proportions of young workers and older workers. This profile is not unusual in well-established manufacturing areas elsewhere in the world. More importantly, when the profiles of the three international areas are compared with the Regional Geelong Area it would appear that the RGA is in a comparatively advantageous position in that it has a porous employment boundary, unlike, for example, the Welsh Valley region. While the RGA has a relatively self-contained residential workforce, there is evidence of considerable inward investment on the basis of a *de facto* social partnership between Higher Education, Further Education, Health, and particularly State and Commonwealth governments. What is distinct in the RGA is the relative lack of capacity of local government compared with the British, Canadian and the Counties in Ireland. Elsewhere, this level of political administration has a stronger resource base, at least in relation to economic development. Nonetheless, the RGA, defined as such for the purposes of the study, could be transformed into a coherent economic development unit, if the four (or five if Colac Otway is included) municipal areas delegated capacity to promote economic development to an RGA authority, along the lines of the Cradle Coast Authority in Tasmania (see www.cradlecoast.com) or the Illawarra region in New South Wales (see www.illawarra.com.au and www.sclc.com.au). Such a body could be both a recipient of state support (State and Commonwealth), a focus for inward investment to the region and promote regional economic and social development including skills enhancement.

Third, there are a number of important representational and related interest groups who have given voice to RGA concerns. These include the G21 Regional Alliance, Enterprise Geelong, Committee for Geelong, Geelong Manufacturing Council, Future Proofing Geelong, Geelong Trades Hall Council and a range of industry bodies, unions and community organisations. Boundary matters may cause complications and need to be addressed; for instance the G21 covers five LGAs, while other bodies are City of Greater Geelong specific, such as Enterprise Geelong. Nonetheless, these organisations have the capacity to work together and develop a focused approach to the development and promotion of targeted measures within the RGA.

There is the potential for the business clusters and the unions and union confederation to work together on specific projects, as already happens. The Construction, Forestry, Mining and Energy Union (CFMEU), Australian Manufacturing Workers Union (AMWU), and Australian Workers' Union (AWU) have all had a role in advocating for government support packages for companies threatening closure or job losses in the region, and facilitating transition strategies and training packages for displaced workers, for instance at Ford (Gough 2012), Alcoa (ABC News 2012), and Boral (Linley 2012a).

These activities are complemented by Future Proofing Geelong, a partnership program between the City of Greater Geelong Council, the Environmental Protection Authority Victoria, Barwon Water, Deakin University, Committee for Geelong, Geelong Manufacturing Council and Geelong Chamber of Commerce 'to promote and support new and existing initiatives that seek to improve environmental outcomes for Geelong; making it an economically productive, vibrant and liveable city' (http://www.futureproofinggeelong.com/item.aspx?id=1)

Thus, important examples of social partnership are already active within the RGA.

10.5.2 Targeted and focused projects

The second lesson from the international case studies is that the activity should be targeted. Focused policies and practices are a critical condition for success. It should be noted that overall ttackling basic skills is essential, but means more than merely providing opportunities. Wider economic inequalities also need to be systematically addressed, in parallel with basic skills provision – the former are often the basis of poor dispositions towards learning opportunities. There is often a divide between tactics specifically targeted at the low-skilled/disadvantaged/those made redundant, and other tactics which aim to upskill a region in its entirety. One further consideration is to not simply focus on supply (of qualifications) and qualifications for qualifications sake. The links between supply and demand are crucial. It is necessary to ensure that qualifications have clear routes and pathways to employment and further and higher education opportunities.

These general points notwithstanding, those initiatives that showed evidence of success where the purpose was to enhance apprenticeships. The case of funded Action Centres between 2007 and 2011 in Ontario and Hamilton city in particular provide a stark example of what is possible (see section 4.5.4 Action Centres in the attachment to this report, *An International Study of Comparator Cases*). The outcomes resulted in high completion rates and robust quality of learning and entailed multi-stakeholder approaches. Training and education providers and local government/states worked with businesses and their representatives to identify local training needs and then tailoring this training to the local economy, or sector. Moreover, as illustrated union involvement was crucial to the success of the project. More broadly this type of partnership was beneficial with the development of the VET system in Ireland, and ITUC has developed a number of independent training initiatives. In Wales, the Union Learning Fund has been effective in tackling basic skills deficits.

A sectoral focus can also foster success in workplace development programs, particularly where a range of stakeholders are involved in identification of sectoral needs. Such a focus is evident across all three cases, although a more flexible and employer (as opposed to state) driven approach is found in the Irish SkillsNets program. The latter has the benefit of allowing small businesses to pool resources. However, state-driven approaches allow for the incorporation of articulated skill needs into qualification frameworks.

10.5.3 Informed multi-level governance

The key point that comes from the International cases is the fundamental importance of effective articulation and co-ordination between different levels of governance. This could facilitate the sharing of successful initiatives and approaches across areas where these might be applicable and of salience (OECD 2002). However, flexibility of approach is essential within regions and localities, as well as access to the capabilities and resources necessary to tailor practices to suit local needs.

Moreover, it is essential that such practices are informed by and involve many actors, including research and practitioner expertise. It is important that such activity should involve and be informed by appropriately researched and documented material as well as with an awareness of best practice elsewhere. This aspect has been a feature of each of the international cases, and there is evidence that similar procedures are followed in Australia, although unevenly. One problem that afflicts the development of such policy is the reinvention and repetition of advice and guidance to inform policy development, reflected in some cases by numerous policy statements and commissioned reports.

These patterns are played out in relation to the RGA sectors examined in the present report:

10.5.3.1 Manufacturing

Manufacturing in the RGA is in transition, as in other regions in the world, as well as the three cases. There are twin processes of deindustrialisation and the indications of reindustrialisation taking place. As established multinational capital goes elsewhere, in Australia and often off-shore (oil refining), public services acquire a renewed significance, in hospitals, universities, human services, departments of education, and local government. In these circumstances the RGA has experienced rounds of worker displacement, an erosion of the youth labour market, particularly in the manufacturing sector, and a growth in service work in retail, information technologies and people services. This has significant implications for the education sector as a provider of education and dedicated learning in relation to skills acquisition and reskilling. It presents the opportunity of transforming low or semi-skilled jobs into career opportunities with higher income possibilities for those engaged in them.

Much policy attention has focused on manufacturing in the RGA, and particularly the City of Greater Geelong. This has involved promotion by the State and Commonwealth governments of policies of support for transition, as well as the facilitation of inward investment, via the development of infrastructure, but with uneven results and outcomes. In such initiatives there is a danger that the residential workforce can be by-passed, creating a polarised employment profile in the region

The three international cases are instructive. The Canadian case is especially instructive because the State government developed and promoted the Hamilton Skilled Trades Apprenticeship Program (HSTAC) (see http://www.hstac.ca). The HSTAC was formed in 2000, out of the Hamilton Co-op Apprenticeship Pilot Project, a consortium comprising employers, a union, a further education college and State government department (covering colleges and universities). The consortium agreed wage rates and hiring procedures, involving a program of apprenticeship training and employment. Initially SMEs took on formal responsibility for the apprenticeship from the consortium (similar to group training companies in Australia) after a period of socialisation and induction (see Centre for Workplace Skills, 2011 and McDowell *et al*., 2011). The pilot resulted in approximately 300 apprentices in the steel industry in the Greater Hamilton region, most of whom completed their apprenticeships, and it provided a model for others. Unfortunately, the global financial crisis impacted on the steel industry and the program was suspended. Still, other local employers provided work placements. With government support, the Hamilton Apprenticeship Consortium proposal was developed from the pilot program, where arrangements were made to enable the apprentices to have work placements, without placing heavy financial commitments on SMEs. Work placements are typically four to twelve months in duration, but are not a commitment for full time employment. The purpose is to enable the employer to learn of the benefits of apprenticeships. The wider objective is to transfer the sponsorship to the employer, who is then eligible for other government tax credits and benefits. One outcome is improved completion rates. Educational bodies are on the Council, reviewing and advising on the Curriculum. A similar scheme was introduced in Eire in 2009, the employer-based redundant apprentice rotation scheme. By bringing the relevant stakeholders together, the specific course content and hands-on experience were aligned. With a better appreciation of the curriculum, employers can then tailor their work placement experience with the apprentice's knowledge and skills.

In Wales, the establishment of the Welsh Assembly Government (WAG) in 1999, signalled a focused approach to regeneration, with skills at its core. The new government moved away from exogenous strategies, towards more endogenous and entrepreneurship-centred approaches. Spending on qualifications and skills/human capital development comprised 66.38 per cent of the WAG budget between 2007 and 2011, indicating the importance of the approach to this government. The latest iteration targets specific sectors: the creative industries; ICT; energy and environment, advanced material and manufacturing, life sciences and financial and professional services. Like the Regional Geelong Area, Wales, and the Welsh Valleys historically are manufacturing and resource industry based. Further, in the development of the policies and programs increasing emphasis is placed on education, including the establishment of research centres to expand higher education research capacity and support the commercialisation of research.

Thus, in the Wales case, there is evidence of some mutual reinforcement of skills development in relation to economic renewal. Through apprenticeship schemes and union learning initiatives (involving the formal recognition of union learning representatives) skills targets are being met and essential skills deficiencies at workplace level are beginning to be addressed. The economic downturn also prompted some distinctive skills-based responses from the Welsh Government, funding for skills training for redundant workers, wage subsidies for employers who took on redundant workers, funded skills training for workers put on short-time working and wage subsidies to employers. Attention and financial support is also given for high level and new technology training. Within the Valleys region specifically, the Welsh Government is funding a range of training programs for those with low skills in the labour force, as well as two 'green skills' training programs.

These various programs mesh with possibilities and a number of initiatives in the process of development in the RGA. In the case of manufacturing, governments everywhere have taken steps to support transition, and the evidence suggests that where such support is targeted towards employment transition and skills development and involves a number of participants – government, employers, unions, educational bodies – the outcomes can be impressive. The lesson is not only to seek to minimise the social impacts in the immediate term but also lay in a highly focused way the foundation for skills development in the emerging manufacturing industries.

10.5.3.2 Health Care and Social Assistance

Worldwide, there is a general trend of deindustrialisation in the majority of developed nations and some developing ones. One of the definitions of deindustrialisation is the process by which services obtain an increasing share of employment as compared to the share of manufacturing in the economy. The reasons for deindustrialisation in the developed world are varied. Rowthorn and Ramaswamy (1997) list some of the most important reasons for this trend: relative differences in productivity growth between manufacturing and services; changes in trade balance (manufacture imports); decline in manufacturing investment; and consumers' shift of expenditure in favour of services (Engel's law). Lucarelli (2011) categorises deindustrialisation into two types: positive and negative. Positive deindustrialisation is the result of high productivity growth rates in manufacturing due to technological advances. Negative deindustrialisation on the other hand is a symptom of industrial decline and is characterised by the absorption of labour shed by manufacturing in low wage services with high levels of casualised, low productive service employment (Lucarelli 2011).

The relative importance of these factors in the case of the RGA is up for debate and analysis. Given Lucarelli's categorisation, one could argue that the RGA is currently undergoing a process of negative deindustrialisation, as the traditional manufacturing base of the region is being challenged by changes in the trade balance and a strong currency. Labour is moving into more casualised jobs with relatively lower wages. However, the important issue is that the workforce is moving towards the services sector and this is has important workforce implications due to the varied nature of work and skills within services.

Rowthorn and Ramaswamy (1997) argue that the ability of the services sector to continue absorbing labour from the manufacturing sector will depend to a large extent on its productivity growth rate, namely. its ability to produce more with fewer workers. They contend that personal services like medical care are not subject to standardisation or mass production techniques like those in manufacturing, making it very likely that they experience slower productivity growth rates. However, the nature of work in medical care will impact on the ability of workers to organise and to bargain for better wages and working conditions. Services lack the standardised work offered by manufacturing, making these environments less prone to unionisation. Greater wage differentials are expected since services show greater skill variations among industries within the sector and a 'one size fits all' wage bargaining system may not be appropriate for this particular sector (Rowthorn & Ramaswamy 1997). This discussion is especially relevant in the case of the RGA where the Health and Social Assistance Services sector offers some of the strongest job growth in the regional economy.

Governments around the globe are attempting to address the implications of such developments. In Wales, and the Welsh Valleys in particular, three points can be made about health and social assistance.

First, the health and social assistance sector is a major and expanding contributor to regional GDP, much like in the RGA. This feature is very evident in the Welsh Valley's former resource and manufacturing based economy, which in the last three decades has been transformed, with the government closure of coal mines in the 1980s and the end of steel production and related activities in the late 1990s and early 2000s. With these shifts in the economic base of the region, particular health related activities have been the focus of economic development, with the promotion by governments and public bodies of bio-economic activity and advanced health technologies. In the latter instance, the policies and practices involved education and health as well as inward investment. The implications for absorbing labour shed from the manufacturing sector into these new activities are unclear.

Second, it has long been recognised that there is an interrelationship between health and poverty. This relationship points to the way that poverty is both a cause and a consequence of poor health. In a mutually reinforcing way, health and well-being become concerns in localities such as the RGA and Welsh Valleys region. In this respect, successive governments at every level have focused on this link and developed policies accordingly. Obviously, such measures have implications for the demand for skilled workers in this area, as well as the promotion of education and learning in these disadvantaged areas. The Welsh Government has taken steps to promote a link between health practices and policy.

Third, there is a growing demand for health and social assistance workers in the three cases, as well as in Australia, and specifically in the RGA. Such shortages derive from the major socio-demographic changes taking place in most OECD countries, with ageing populations, technical developments in health care and the socialisation of age care, particularly evident in Canada, and Hamilton. With the promotion of health related production, such as bio economic activity, advanced health technologies and pharmaceutical research in Ontario province, the demand for particular skills is opening up. Of note, these developments in health production related activities are the outcome of social partnerships between employers, governments and education bodies, particularly in relation to research.

Lessons for the RGA with regards to the growing share of employment taken up by services in the regional economy:

1. Deindustrialisation is a current reality for the developed world and many countries in the developing world. Whereas some authors view deindustrialisation as an inevitable outcome of healthy economic development, the result of high productivity growth in manufacturing and a shift of consumption expenditures in favour of services (such as Rowthorn and

Ramaswamy 1997), other authors are less sanguine and suggest that deindustrialisation characterised by absorption of labour into casualised, lower paid jobs is a cause for concern (Lucarelli 2011). The implications of basing development on services should be understood if better living standards are to be achieved.

2. In the case of the RGA, evidence tends to support the argument that the region is in a phase of industrial decline, at least in terms of traditional or heavy industry, and that a percentage of labour currently shed by manufacturing is being absorbed by lower paid, casualised jobs in social assistance services. Improving the types of jobs offered by the sub-sector should be an area of work.
3. Since medical care industries are less prone to standardisation and mass production, it can be expected that productivity growth will remain relatively low and that worker demand will continue. Industries that have a high potential for standardisation are more likely to exhibit high productivity growth rates and therefore demand less workers. This should be taken into consideration when promoting industries that are amenable to standardisation or technological progress. There appears to be a trade-off between productivity and worker demand.
4. The low wages and difficult work conditions encountered by workers in social assistance services are not surprising. The varied nature of work in services is an obstacle to organisation and makes unionisation less likely than in manufacturing. Workers find it difficult to bargain and exercise strength in numbers. These issues cannot be overlooked if services-based development of the RGA is to deliver better living standards to its inhabitants. Adequate representation of these vulnerable workers in forums discussing skills development and training should be a priority area.
5. Although wage differentials are expected due to the variation in types and levels of skills found in services, including the Health Care and Social Assistance sector, wages in the social assistance services are low in comparison to other industries. Although 'one size fits all' centralised wage bargaining systems may not appropriately address these skill variations, this should not be a justification to maintain low wages.

10.5.3.3 Education and Training

The education and training sector is a major employer within the RGA, as well as a provider of skills. As an employer it is likely to expand over the next decade, at a school level, but also in the tertiary sector and pre-school areas. A feature of the education and training sector is that many decisions that relate to staffing levels within the sector are taken outside the RGA, although with reference to the RGA. The current workforce profile is predominantly ageing and there is likely to be a replenishment problem leading to shortages in the next few years.

The international cases demonstrate the importance of a well provisioned and supported educational sector in areas undergoing transition from an industrial past to a recomposed industrial and service future. In the case of Ireland, attention was given to developing policies for a national and active approach to enhancing apprenticeship arrangements, involving employers, unions and educational bodies. Similar initiatives are evident in both Canada and South Wales. In each case the requirement and limitation was a well-resourced and active educational sector able to meet the demands of school education, tertiary education and especially in the Irish case a focus on 'Learning for Life', with support from a National Training Fund and the involvement of unions via learning representation (also developed in the United Kingdom). The target in Ireland is to raise the figure of 7 per cent of adults participating in continuous learning in 2007 to the EU target of 13 per cent of adults during a year.

The implementation of an integrated education and training program is critical to address the changes underway in the RGA. These include skills shortages, replacement workforce, assisting displaced and disadvantaged workers and the entry of young workers into the labour market. These target populations were evident in each of the international cases. Governments, at the national and provincial levels developed and formulated policies aimed at addressing the problems of underachieving school populations as well as the consequences of economic transition in the context of deindustrialisation and increasingly internationalised production and consumption practices. In Ireland, for example, a vibrant economy until the late 2000s, the 'Celtic Tiger', a comprehensive approach to apprenticeship training was promoted, based on a social partnership approach. Similar approaches were evident in Hamilton, Ontario. In each case, improved outcomes were achieved via programs that had a commitment from employers, unions, educational bodies and state departments and agencies. Of note, these initiatives in Ontario were aimed at removing some of the barriers to SME involvement in apprenticeship schemes by removing a specific obligation on these employers to commit and contribute from the outset; rather the approach was based on example and incremental involvement.

Of note, the international cases demonstrate the importance of policies and practices that involve research and related educational activity. It is clear that research and development provides an opportunity in a number of cases to enable the implementation of policies associated with advanced manufacturing, biotechnology, food sustainability, health and wellbeing. But, such measures should be surrounded by social partnerships that enable appropriate skills training to be implemented. While not easy steps, as the international cases illustrate, it nevertheless would seem to be an appropriate objective to pursue in the RGA over the next few or more years.

10.6 Final Considerations

Each international case involves a focus on displaced workers, a recognition that the processes of apprenticeship and training programs cannot be organised as in the past, and a willingness to experiment with moves to differently based economies, whether a move to a service-based economy or extending manufacturing bases to include 'green' and low carbon production processes. In each case, government support was critical, at the different levels of engagement as well as in relation to a range of partners in the process, including locally-based employers, particularly SMEs, unions as partners giving voice to worker concerns and aspirations and educational and related bodies. While there is no one way to orchestrate this type of transformation, the principle of social partnership is fundamental in each case.

The problem for the RGA is that governments' policies are not always in synchronisation and complementary, and there are many voices in the region, with different degrees of involvement and prominence. Who speaks on behalf of the region becomes a critically important question for regions to resolve when confronted with development challenges. Parochialism and vested interests often prove to be major barriers to resolving these issues and progressing. As the next chapter highlights, integrated social partnerships involved in developing and implementing locally designed and owned strategies for promoting employment growth and skills formation must be a major priority.

Chapter 11. Towards an Integrated Skills Partnership Approach

Policy makers at all three levels of government recognise that the RGA is confronting and will continue to face significant social and economic challenges. As discussed throughout this report, these challenges include de-industrialisation and significant job loss within the manufacturing sector, firms struggling to respond to new market situations and remain viable, an ageing workforce and predicted skill shortages in some areas, pockets of socioeconomic disadvantage as well as general educational underachievement. At the same time, the RGA is projected to have significant population growth which will present its own particular challenges. More positively but nevertheless a challenge, there are indications of job growth in the health care and social assistance sector and sections of advanced manufacturing; however the appropriately skilled workforce may not necessarily be available.

As lessons from international experiences highlight, developing appropriate and effective responses to these complex issues and challenges is not easy although there is considerable evidence that some degree of success can be achieved through an integrated partnership approach involving employers, industry bodies, unions, educational and training organisations and government agencies. In this final chapter we consider the role of skills development and education and training providers working in partnership with others to address three major challenges: addressing the region's future skills needs, assisting displaced workers, and finding solutions to socioeconomic disadvantage.

We argue that while skill development is critical it will not resolve the region's major problems. Other avenues, including regional and industrial planning, must be carried out in conjunction with targeted skills programs, as is evident from the international cases (summarised in Chapter 10 and available in *An International Study of Comparator Cases: Attachment to Final Report*). This approach, we argue, will better ensure that the supply of skills developed are really needed but also that the skills once created are not wasted; that they are used in productive and effective ways as the region undergoes significant transition.

11.1 The skill market in the RGA

The DEECD *Regional Training Profile* assists examination of the training market within the RGA. The report provides overview data for the Barwon South West Region, while more detailed regional analysis is provided for the 'Geelong and Surrounds' area and some figures appear to be particular to the G21 region. The Geelong and Surrounds area includes the Colac-Otway, Greater Geelong, Queenscliffe and Surf Coast LGAs, differing from the designated RGA as defined within this project, but also from the Barwon-South West and the G21 designations used within the Regional

Training Profile. This may impede direct comparison of this data with other data sets used throughout the report.

Numerically, Geelong and Surrounds is the largest government subsidised training market outside of Metropolitan Melbourne with 62,500 enrolments or 45,200 students in 2012 (DEECD 2013).

There are 136 providers delivering government subsidised training across the region, 103 of these are private providers, while 30 are Adult and Community Education (ACE) providers. There has been strong growth in the number of providers since the implementation of training market reforms in 2008, with greatest growth arising from private providers, as shown in Table 66.

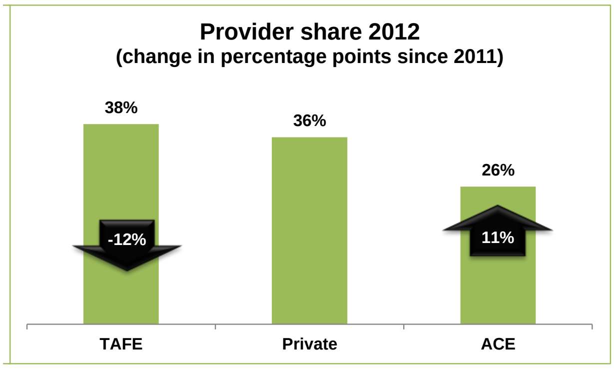
Table 66. Vocational Training Providers by Provider Type, Government Subsidised, Barwon South West Region

Delivery Location - Region	Provider type	2008	2009	2010	2011	2012	% change 2008-2012	% change 2011-2012
Barwon South West	ACE	29	26	26	27	30	3%	11%
	PRIV	29	50	56	73	103	255%	41%
	TAFE	4	4	4	4	3	-25%	-25%
Barwon South West Sub-total		**62**	**80**	**86**	**104**	**136**	**119%**	**31%**

Source: DEECD, Vocational Training: Victoria's Regional Report, 2013

Although TAFE provision continues to account for the majority of enrolments in 2012, private RTOs have increased their enrolments by 32 per cent between 2011 and 2012, from 11,500 to 15,200 and there has been significant growth in enrolments with ACE providers from 4,900 in 2011 to 11,200 in 2012. As a result, TAFE has lost 12 per cent of its market share, while ACE has increased its share by 11 per cent and private providers have remained relatively steady (DEECD 2013).

Figure 23. Vocational training provider market share 2012 and change from 2011, Barwon South Region



Source: DEECD, Vocational Training: Victoria's Regional Report, 2013

Training activity across the Barwon South Region is concentrated in the Greater Geelong area, which accounts for 98 per cent of all government subsidised vocational training enrolments in 2012, with 94 providers delivering training in the LGA.

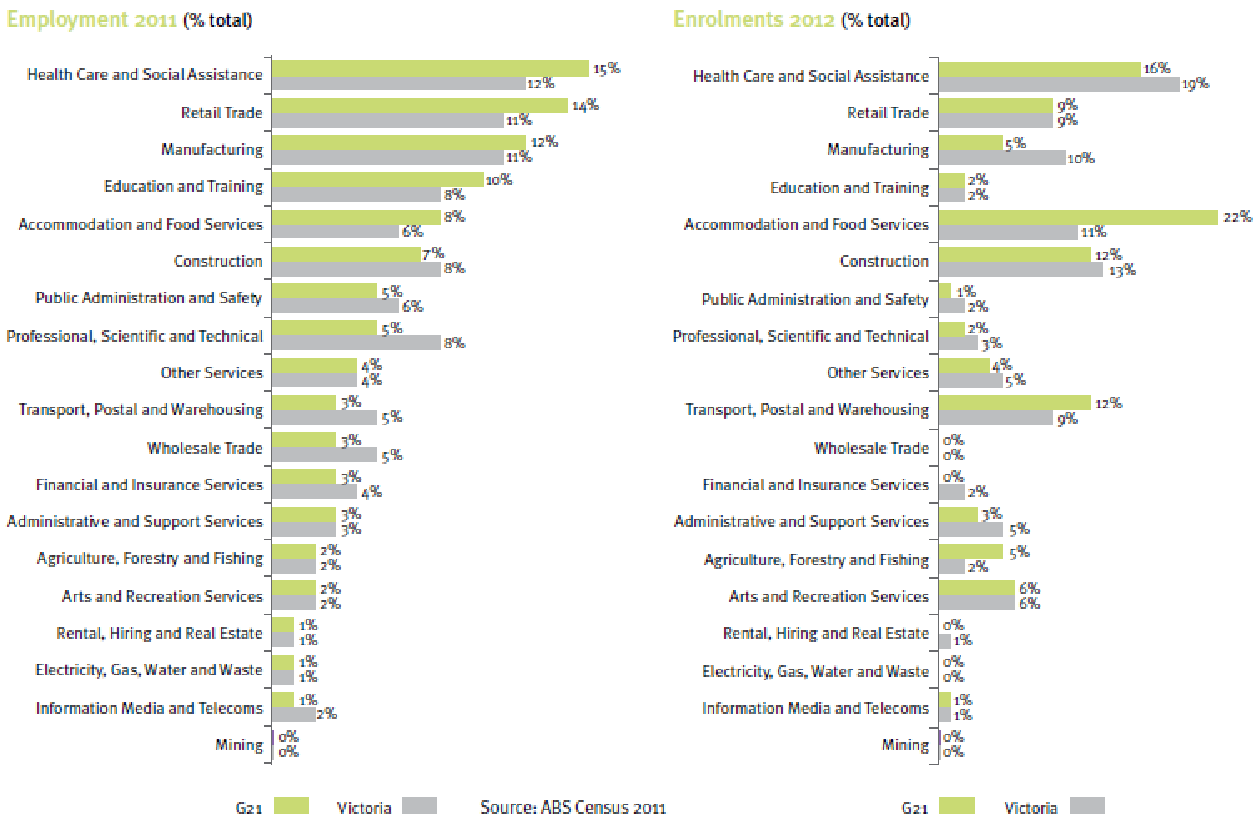
Table 67. Training delivery by LGA, Barwon South Region

Local Government Area	Enrolments 2012	% change 2011-2012	Number of providers 2012	% change 2011-2012	Student participation rate %
Colac-Otway (S)	900	4%	19	46%	16%
Greater Geelong (C)	41,800	31%	94	49%	17%
Queenscliffe (B)	10	67%	3	0%	11%
Surf Coast (S)	30	175%	11	83%	13%

Note: The scope of data in this table is limited to enrolments in nationally recognised and accredited qualifications at Certificate I level and above (i.e. excludes module only delivery). Data may therefore not correspond exactly with the summary tables above which include all training.
Source: DEECD, Vocational Training: Victoria's Regional Report, 2013

The Barwon South Region has a strong student participation rate at 17 per cent on average across the area. While the high participation rate and continued growth in enrolments is encouraging, the misalignment between industry employment share and enrolments by industry as shown in Figure 24 below is of concern.

Figure 24. Industry Share of Employment and Vocational Training, Geelong and Surrounds, 2011

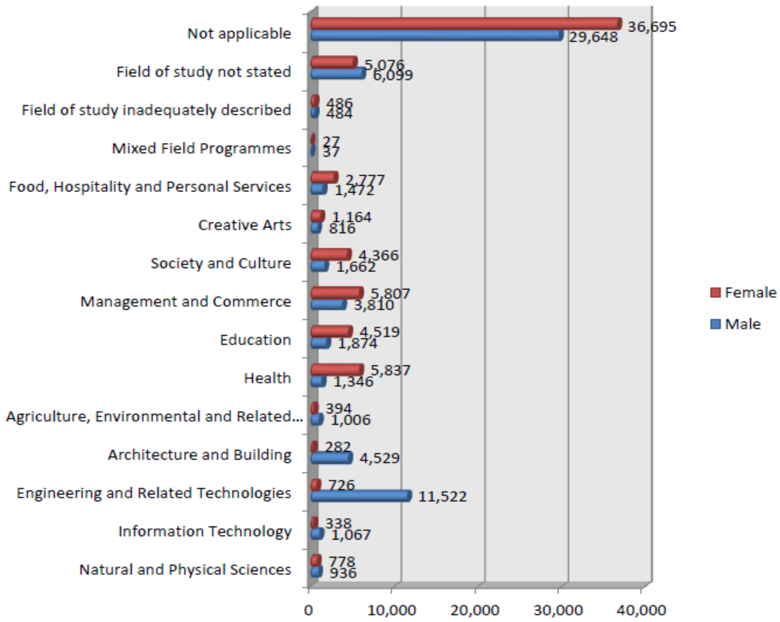


Source: DEECD, Vocational Training: Victoria's Regional Report, 2013

Training in manufacturing has attracted only 5 per cent (1,800) enrolments within the region in 2012, despite being the largest contributor to the gross regional product. There were 5,500 enrolments in Health Care and Social Assistance related courses in the region in 2012 representing 19 per cent of all enrolments. In particular, courses aligning with Child Care Workers, Aged or Disabled Carers and Pharmacy Sales Assistants were popular.

The GRLLEN *Environmental Scan Update* (2012) shows the gender representation by field of study for persons from the City of Greater Geelong. This data shows males are more likely to study in engineering, architecture, and Information technology fields of study whereas females are overrepresented in arts, education, health and management fields of study (Figure 25, below)(GRLLEN 2012).

Figure 25. Enrolments by Field of Study, City of Greater Geelong, 2011



Source: GRLLEN Environmental Scan Update, March 2012

Whilst the GRLLEN area is not directly comparable with the DEECD 'Geelong and Surrounds' data, it is, in this instance, particular to Greater Geelong LGA which has the largest proportion of VET enrolments within the DEECD designated region.

Figure 26 below shows the five most common qualification levels and field of enrolments for the region. These courses accounted for 28 per cent of all government subsidised enrolments in the Geelong and Surrounds area.

Figure 26. Top Qualifications of Enrolments, Geelong and Surrounds, 2012

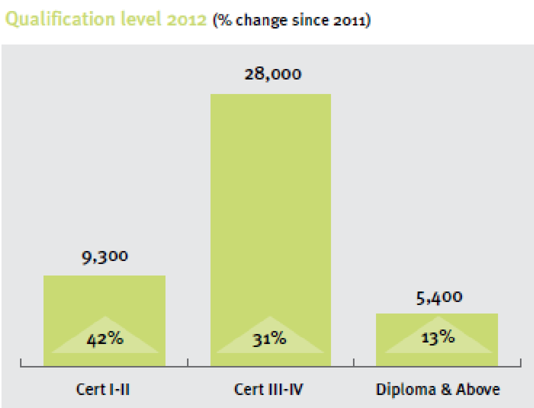
Top qualifications	2012
Certificate III in Hospitality	3971
Certificate III in Driving Operations	2376
Certificate II in Hospitality	2327
Certificate III in Community Pharmacy	1746
Certificate I in Vocational Preparation	1538

Source: GRLLEN Environmental Scan Update, March 2012

As noted previously the Geelong and Surrounding area has lower levels of educational attainment than the Victorian average with 39 per cent of the workforce holding no post-school qualifications, and 24 per cent with higher education qualifications, compared to the Victorian average of 30 per cent.

However, a higher proportion of the workforce are qualified at Certificates III-IV than the state average (24 per cent, compared to 20 per cent), and there has been a 31 per cent increase in enrolments in qualifications at this level between 2011 and 2012 (overall Victorian average was 27 per cent). Certificate I and Certificate II studies experienced the largest proportional increase in enrolments with a 42 per cent increase in 2012 (DEECD 2013), as shown below in Figure 27.

Figure 27. Qualifications Level of Enrolments, Geelong and Surrounds, 2012



Source: GRLLEN Environmental Scan Update, March 2012

As the following discussion about skills alignment highlights the increase in enrolments at the 'Foundation' level, Certificate I and II does not necessarily mean there is an industry demand for low skilled labour in the Geelong and Surrounds area.

11.2 Future skill needs and skills alignment

Aligning skill supply with skill demand is a challenge which education and training providers are trying to address. To date, however, their approach has tended to be a fairly narrow skill supply approach. The notion that education and training providers can simply provide skills and qualifications, without considering the demand for and use of these skills, is no longer credible (see Buchanan *et al*. 2009; also see the evidence of international approaches provided in the *Attachment to Final Report*). With increases in the cost of education and training, job outcomes are becoming much more critical for many students. Some who participated in the research indicated concerns with the merits of education for the sake of education, arguing the financial debts incurred for tertiary education are a disincentive if there is no job at the end of it:

> We've educated our young people to say go in to debt for an education because it's an investment in your future. At the end of it they come out and you've got engineers working as baristas, and you've got teachers working in fast food outlets. I think we're on the edge of saying education has become giant Ponzi scheme, and at some stage kids are just going to say, "why would I pay all this money for an education that's not going to give me a job in the end?" (Scenario Workshop 2 participant).

Aligning skill supply with skill demand requires a much more proactive and innovative education and training sector that involves other industry and sectoral actors (e.g. employers, industry associations, unions). It also requires that regional development actors and agencies assist with regeneration and job stimulus This more inclusive approach to skill considerations needs to monitor trends within the labour market (particularly the need for replacement workers), the education and training market as well as how skills are being used and sourced (for examples internationally, see the attachment to this report, *An International Study of Comparator Cases*).

To what degree the region is able to meet future skill demand depends on a range of factors and employer strategies:

- A sufficient number of individuals commencing and completing training in the areas where skills are going to be in demand;
- Preparing the region for effective industrial transition by developing new, appropriate and adequate skills for emerging industries;
- The ability of employers to encourage older workers to delay retirement and continue working;
- The capacity to 'buy-in' skilled labour located outside the region; and/or
- The capacity of employers to introduce organisational and technological changes that will reduce their dependence on skilled and semi-skilled labour.

Evidence of employers seeking to retain retiring staff, recruiting staff from outside the region and introducing organisational and technological change as a way to address skill challenges was found across the three principal sectors.

Employers, however, were not always sure if the supply of skilled labour coming into their industries from local training providers was sufficient. For some the concern had less to do with the number of people entering training than the quality of the skills of those who were 'qualified'. Very few employers had developed workforce development plans nor was there much evidence of industry workforce development strategies. The only significant attempt that we could find of an industry seeking to identify and better understand future skills needs was contained in the workforce development strategy being initiated by the health and social assistance service sector. Many employers and indeed employer and industry associations acknowledged that they are confronting a situation where a sizable percentage of their workforce will be retiring in 5-10 years and that it would prove challenging for them to replace these workers. At the same time, however, they also acknowledge that they have not developed strategies or plans for addressing this issue.

For many employers, there was little consideration of how the offerings of training providers impacted upon their ability or inability to recruit new staff. Exceptions occurred in sectors where there was a close association between employers and training providers, developing training relationships over the long term (such as in nursing). These associated employers were acutely aware of the training occurring among the training providers with whom they worked. Such cases, however, were exceptional rather than the rule.

For most SME's there was limited engagement with training providers and where it did occur it was *ad hoc*. These employers occasionally worked with a group training provider for the placement of a worker, or a private RTO for upskilling of staff or some other short-term training requirement. They would frequently discuss using different training providers for different purposes and/or reasons (e.g. expense, flexibility in training options, specialisation and reputation of the provider). Moreover, they had a limited awareness or gave insignificant consideration to the broader training market that was responsible for developing skills for their industry. They did not have much awareness or give this issue significant consideration. This situation must change if skill supply, skill demand and skill usage are to become better aligned.

As discussed in Chapter 9, VET and higher education providers are under significant pressure to operate as market-oriented 'business' units. Employer decisions to 'shop' around for training providers generates a certain volatility in the training market as training providers look to deliver training in ways that will attract employers and thus prove most lucrative. In many cases, the RGA's training providers also compete with Melbourne-based providers for business among the region's employers. These factors contribute to a situation where the local demand for and supply of training is not straightforward or easily coordinated, and can vary significantly between industries. The risk is that the quality of training may suffer and the skills that are promoted may be too narrowly defined, inappropriate or not used.

Changes in government policy towards the training sector have impacted on training programs. The recent contraction in funding for TAFEs and moves towards a more market-based funding model, further complicate the training market and alignment of training provision with future training needs. In 2012, there were 113 providers delivering training in the G21 Region, with TAFE responsible for 38 per cent and private RTOs 36 per cent of enrolments (DEECD 2013). The result is an uneven and inconsistent alignment between skills provision and skill needs. In some cases, there is a fairly close alignment between skills provision and future skill demands. In other cases, there are over enrolments in some skill areas with little job prospects for those that complete their training while for yet other areas there is a demand but limited provision. This latter situation may be because training providers are either unable to offer a course (e.g. too expensive and little return on training investment) or individuals are not interested in taking up these courses despite high job prospects (e.g. carpet laying).

The relationship between training provision and future skill demand is therefore shaped by complex social and economic processes resulting in various outcomes. Hence, determining future skill demands (for reasons discussed above and throughout the report), is not an exact science and is subject to economic fluctuations, decisions made by employers, workers, students. Government policy decisions add a further complexity to this process. In the following sections we outline some of the particular challenges that apply for aligning skill provision and future skill demand for the three sectors. Drawing on evidence from the RGA, and with reference to the international cases, we present the case for social partnership and a more collaborative approach to overcome future skill challenges. To begin, the following section highlights some of the trends in training enrolments across the three sectors, and their alignment with future skill demand.

11.2.1 Manufacturing

Manufacturing highlights some of the major challenges in aligning skills provision and future skills demand. While manufacturing is Geelong's third largest employer it only attracted 5 per cent (1,842) of the G21's regional course enrolments in 2012 (DEECD 2013). Accommodation and Food Services, Health Care and Social Assistance, Transport, Postal and Warehousing, Construction, Retail Trade Arts and Recreation Services all had larger course enrolments than Manufacturing.

At the current rate, training uptake for the manufacturing sector appears insufficient to meet future skill demand. Unlike many of the other industries with larger enrolments, the sector has a higher percentage of older workers contributing to more urgent workforce replenishment demands. However, the downturn in the number of manufacturing jobs and ongoing retrenchments within the sector may mean that future skill demand may be met. The era of large employers dominating the RGA's manufacturing industry is rapidly coming to a close; the future for the region's manufacturing employment is likely to be among the SME's. For many of these organisations, if they can 'grow' their business, the skill sets of workers who have been employed by one of the large manufacturers (i.e. Ford, Alcoa, Shell) are attractive and may offer redeployment opportunities.

Many of those who have been recently displaced from the sector, however, have tended to be older workers who have taken early retirement. This feature means that the negative social and personal impacts of job losses from displacement are reduced but it nonetheless represents significant skill loss from the sector, which may be needed for sector reinvigoration. If, for example, there is a resurgence in manufacturing activity as a result of growth in the economy or a large manufacturer decides to set up operations within the region, the industry is likely to struggle with skill shortages in the longer term. If governments are successful in attracting a major manufacturer to the region, such as for the emerging carbon-fibre sub-sector, there will be a much greater urgency to stimulate the training uptake in this sector.

Stimulating the training uptake in manufacturing in the current environment is not easy. Continual job losses and company closures within the sector do not make it an attractive area for many people considering a vocation. Many of the sector's employers are struggling to retain current staffing levels let alone putting on trainees and apprentices. As is typically the case, apprentices are some of the first to be let go when employers confront hard-times (a factor recognised in the international cases, see the attachment to this report, *An International Study of Comparator Cases*). While employers, unions and training organisations are conscious of the fact that the downturn in apprentice numbers in some trade areas is problematic in the longer term they are also cognisant that many qualified trades people are currently out of work.

In such an environment, skills shortages are not given priority. For employers, workforce development plans are secondary to simply keeping their existing workers employed and remaining in business. In such an environment, there is an important role for industry associations such as the GMC to play in monitoring the industry's current and future skill needs and maintaining discussions with employers and training providers about these requirements. It is through these larger industry associations that SMEs can be encouraged to focus on skill and workforce development matters so that skill alignment can be pursued in meaningful fashions for all parties. One measure evident elsewhere in the world is to promote policies and practices that take the pressure off SMEs to make an immediate decision to sponsor apprentices and to create the support structures that encourage a positive approach by SMEs to apprentice training (see the attachment to this report, *An International Study of Comparator Cases*).

11.2.2 Health Care and Social Assistance

The community services and health industries are expanding and undergoing change, away from functional specialisms. Moves towards interdisciplinary practice and the promotion of generalist roles can create a situation where the demand for skills in this sector is not dissimilar to the skills required by other sectors. It is possible that employers within a range of sectors will compete for the same type of skill set. Without a coordinated strategy for workforce development, competition between sub-sectors within the industry could lead to skill shortages and unfavourable outcomes for the health care and social assistance sector as a whole. This aspect is a particular concern in relation to the implementation of the NDIS program. People who are able to work in community settings, especially in regional, rural and remote areas will become especially scarce and possibly valuable.

In general, the alignment of employment opportunity and course enrolments within the Health Care and Social Assistance sector appears to be working. Health Care and Social Assistance represents the largest employment sector in the RGA and course enrolments in 2012 reflected this importance. In 2012, Health Care and Social Assistance represented the second highest sector for course enrolments in the G21 region; only Accommodation and Food Services accounted for a higher proportion of overall enrolments (DEECD 2013). In the G21 region in 2012, there were 5,504 enrolments in Health Care and Social Assistance related course. Courses aligned with occupations in Child Care, Aged Care, Disability Care and Pharmacy Sales Assistants made up a large proportion of these enrolments (DEECD 2012).

One way of ensuring an alignment is that VET and Higher Education become more integrated and connected. Such a move would create a continuum of delivery as identified by this interviewee:

> Because of that growth [in devolved person-centred health care centres]…there will be a significant increase in demand for staff who then can move through a career program, into higher levels of management. Supervisors, manager-management teams and then through a process… The thing that assists current services to being particularly out there in a community-based sector is that we have a reasonable level of staff who provide direct care and support to people with a disability but there's very, very few opportunities for people to actually learn through theory and practice, what [is actually needed] to become a supervisor and manager, and actually work their [way] up through a career structure (STBMHR33-35).

Evidence suggests there is high demand for carers and aides, as well as allied health professionals in highly specialised areas, such as speech pathology, Asperger assessment, and occupational therapy. It is therefore likely many of those currently enrolled will find work in these occupations upon completion of their qualifications. However, these highly specialised areas are also those in which training deficits are evident. While there is a perception that local training providers, including Deakin University, are not delivering the specialised courses that are required to meet future skill requirements in these specialised areas, there is nonetheless the prospect that such programs could be developed.

Issues of quality and consistency must also be dealt with so that the required connections between the sector and education and training yield the needed outcomes. Community services are still plagued by sub-optimal training quality and consistency (CS&HISC 2012; Productivity Commission Inquiry Report 2011a). This seemed to be especially true for the nursing profession and child care services in the RGA.

A growing area of concern for the division is the attractiveness of community-delivered health and social assistance services for younger workers. Attracting younger workers is one of the main strategies necessary to address the problem of the ageing workforce. Chapter 8.3.1 discussed the causes and possible solutions for replenishing the workforce with a younger stock of workers. Although the local economy will be defined to a significant extent by community-services, careers around these services are usually 'not in [the] radar' (STBMHR36) of younger students. The kinds of intangible skills that are necessary to be successful in the delivery of health and social assistance services at the community level revolve around empathy, caring for others, communication and collaboration skills. Still, such skills are not on curricula; nor are the young necessarily interested in developing these skills, or at least that is an adult perception of youth attitudes:

> One of the big employment areas into the future they keep saying will be aged care... I can tell you that there's no 15 year old who wants to go into

> aged care. So it's really hard. There's no subject you could teach at school that would encourage students or directly lead them in to aged care. You have to teach kids to care about others and to be empathetic and then they might end up in aged care. I mean you look at - okay what subjects teach empathy? They're things that a number of people would dismiss these days (STBMHR36).

Moreover, careers in community services are not easy to promote among young people:

> It's an especially difficult career to articulate to young people, because-this is going to sound horrible-young people don't want to look after old people. They want to be young. To-for-and I would suggest that it's quite difficult to entice young people into that industry. People often come into it through different pathways through their life or later in their life, rather than 'I'm an 18 year old [and] I can see that as a destination for me'. That's quite a difficult concept to get over. However, I think that just saying it is not enough. I think that young people and the community need to see what the work is (STBMHR37).

These skills are, however, a key component of a broader set of skills referred to as 'employability skills' which are taught at many schools, in Years 9 and 10 in particular (STBMHR37). The question is how to promote and develop an uptake of such skills, leading to careers in the Health and Social Assistance sector.

As with the RGA's other sectors, future skill demand in this sector will be shaped by a range of factors. According to the Community Services & Health Industry Skills Council (CS & HISC 2012) skills development in the Health Care and Social Assistance sector will be highly influenced by the shift towards person-centred models and the increasing emphasis on primary care and preventive health services. It is important to understand that although social assistance services and health have strong, separate industry identities, population health approaches and person-centred models are inevitably driving them towards more integration and hence a greater need for collaboration. Workforce development is one of the areas where collaboration between the range of sectors in the RGA will be vital in order to assure improved services and health outcomes for the population as a whole. The effectiveness of sectoral reforms hinges to a large extent on the ability to obtain the workers with the right skills and competences to deliver the required services. If the goal is to satisfy unmet demand, then access to workers with the right characteristics will be vital to accomplishing this goal, especially in industries that revolve around attending to and understanding people's complex needs and aspirations.

Maintaining the current employment growth in the health sector in years ahead largely depends upon stable government funding and decision-making. Management decisions by the region's large hospitals regarding employment and organisational issues are also likely to play a major role in shaping future skill demand and the attractiveness of the sector for those considering career options. Barwon

Health, for example, currently maintains a reasonably integrated business model and has not gone down the path of many other health regions which have outsourced many of their operations. If Barwon Health or any of the other hospital bodies in the region and particularly the City of Greater Geelong, were to divest of some of their current activities, there would likely be significant job and skill implications.

Job growth in other sub-sectors, such as disability, aged and community care, are also heavily dependent upon government initiatives and funding arrangements. The exact level of funding and number of packages that the NDIS will grant are big determinants of employment growth in that industry. In some cases, new government programs or changes in criteria to secure government funding has meant alterations in the skill requirements for some organisations. For many SMEs in the Health and Social Assistance sector, the cost associated with these new skill requirements can be prohibitive and prevent them from capturing market opportunities and putting on additional workers. The National Workforce Development Fund has been vital for upgrading qualifications for some workers in aged care and disability:

> But on top of that, this year for instance, I obtained the National Workforce Development Fund. So I had staff who had a Cert III in Aged or HACC but I also had a growing Disability division and they did not have that experience in disability. You know, the ones that wanted to had the ability to have funded training for Cert IV in five subjects of the core subjects of disability (STBMHR05).

As has been demonstrated in the manufacturing chapter, these sorts of program are an important part of both 'growing' jobs for the region and meeting future skill needs.

11.2.3 Education and Training

Job opportunities in the education and training division are likely to be strong in the years ahead. It is a sector in which employment has expanded significantly between the 2006 and 2011 census periods but it is also one faced with an ageing workforce in which large numbers of replacement workers will be needed in the next 5-10 years. With The Gordon, Deakin University and other education and training providers located within the region and offering courses designed to prepare people for teaching careers in early childhood education, primary and secondary schools and the VET training sector meeting the skills demand for the division should not be difficult to meet. In some cases, there appears to be an oversupply of qualified teachers and trainers within the region as a result of a range of factors including, the relative ease in acquiring VET training certificates, the popularity of teaching degrees, teachers and trainers delaying retirement and recent jobs cuts and freezes on appointments among some of the region's major employers.

The size and composition of the education sector is very much dependent on government policy, even when privately supported. The decision by the Victorian Government to make $300 million in cuts to the Victorian public TAFE system in its May 2012 budget and its negative impacts on employment within this sub-sector is one recent example. Expected Commonwealth government funding cuts to higher education over the next couple of years are likely to have a similar impact on the higher education sub-sector. Nonetheless, the increased need for education and training services within the region as population growth continues, matched with large numbers of retiring workers, are likely to offset these barriers to employment in the long-run.

The work of a teacher is both challenging and rewarding. School teachers working in communities with significant levels of disadvantage confront additional challenges in engaging students and improving educational outcomes. The nature of work within the sector is also changing. In some cases it is becoming more insecure as full-time work is replaced with temporary teaching positions among some organisations. The demands for workers to become much more 'IT savvy' and student-centred in their teaching approaches has meant adjustments and changes to the skills profile of some staff. Within the higher education sub-sector, there is the additional expectation that teaching staff become much more research-oriented and academically qualified as well as broadening teaching learning skills. Of all the sub-sectors, the higher education sub-sector will find it the most challenging to find candidates with the desired skill profiles (such as research expertise) within the RGA. Recruitment of skilled labour from outside the region for academic positions is therefore likely. As employers, however, the region's education and training sector hire a range of non-teaching staff including administrators, IT specialists, project managers, accountants, marketing and public relations specialists, counsellors, and other professional staff. The demand for these occupations is likely to remain strong within the division and qualified RGA residents are likely to fill them. While many of these occupations do not easily align with the skills of workers displaced from the manufacturing sector there are re-training opportunities that could be explored for certain categories of workers, such as administrative and support staff, accountants, and managers. In addition, there may be opportunities for displaced trades persons to re-train to become trade trainers with private RTOs or The Gordon. Such job pathways into the sector are likely to become more common as the sector expands.

The education and training division must move in tandem with the reforms that are currently occurring in all sectors. Vocational education and training is critical to resolving some of these dilemmas. As stated, 'Workforce innovation must be matched by innovation in education and training sector supply' (CS&HISC 2012, p. 13). Currently there is a lag between the education/training and health and social assistance services divisions (interviews throughout the sector). Such a lag could be detrimental to the effective implementation of sectoral reforms. However, one way of addressing possible shortages across sectors is achievable if the sectors themselves become more integrated and develop inter-sector-wide strategies for workforce development. These strategies would identify the types of skills, experience and qualifications workers must possess in order to achieve over-arching goals and objectives within the sector. As indicated in the international case studies, education and training is critical to ensure the necessary supply of workers. The Barwon-South Western Region Health and Well-being Workforce, for example, is one such strategy. But, this is the only such initiative found in this sector.

This Division occupies a critical position in assisting other industries and organisations in meeting the technological and human resource challenges underway in the region. If residents do not gain the requisite skills and training for new and emerging industries, it is likely appropriately skilled individuals will be brought into the region (Best 2012f). Delivering high quality training requires high qualified and competent teaching staff. Among some sub-sectors salary levels may be a barrier to securing and maintaining quality staff. According to one report, TAFE teachers currently earn just over $50,000 at graduate level compared with just under $57,000 for school teachers (see *The Age* 28 April 2013, p. 5). An increasing reliance on short-term, casual appointments among VET providers in response to funding cuts and competitive pressures will make it difficult to maintain high quality teaching staff. Adequate resourcing and improved oversight of the quality of training being delivered within the sub-sector will be critical to deliver necessary education and training outcomes for the region.

The assessment of future skill needs and skill alignments, within sectors and across sectors requires a consideration of those populations within the region where there is potential skill supply, so as to meet the unfolding demand outlined above. There are three principal populations that should be targeted, first, displaced workers and those in transition; second, the socio-economic disadvantaged areas in the region; and third, and overlapping in part with the second population, the significant degree of educational underachievement in the region. As the international cases demonstrate, unless potential supply is identified and targeted in relation to demand then it is unlikely that a successful skills policy and program will be or can be developed.

11.3 Assisting Displaced Workers

For the past three decades, Geelong has experienced considerable industry and employment change. Major changes in the wool, rope, textile, automobile and auto-component and smelting industries over this period have contributed to a general feeling among Geelong residents that it is a region that must adjust to change and develop appropriate measures to manage transition and mitigate against negative social impacts. One of the areas where the region appears to have learned from past experiences is in providing support for displaced workers.

The hardship experienced by workers following company closures or major industrial restructuring is well documented (AFL-CIO 1995; Bluestone & Harrison 1982; Haas

1985; Hanson 2009; Milkman 1997). Job loss, like divorce or death of a close family member, is often considered a 'life transition' event (McKee-Ryan & Kinicki 2002), with mental health and stress related impacts (see Artazcoz, Benach, Borrell & Cortez 2004; Vosler & Page-Adams 1996; Price, Nam Coi & Vinokur 2002).

Job loss experiences, however, have been documented to be more stressful or difficult to adjust to for some individuals and groups (e.g. young versus older workers, men versus women). Differences in personality traits, coping strategies, support networks, socio-economic positions and personal circumstances are common factors identified to explain differential vulnerabilities and experiences among individual displaced workers (see Wheaton 1990). A worker's pre-job loss attitude, job involvement, job satisfaction and engagement have also been identified as significant individual characteristics shaping a displaced worker's attitude to and experience of job loss (see Latack & Dozier 1986).

Interviews, for example, with Geelong's recently retrenched workers highlighted both the stress associated with job loss and the uncertainty of finding appropriate alternative jobs in the area. As illustrated by the international studies (see the attachment to this report, *An International Study of Comparator Cases*) such life transition moments can sometimes be dealt with individually, with a person's household in support, but often not. These moments underline the importance of employer and state sponsored assistance for these workers in finding employment.

These experiences, however, must be understood within the context of the local labour market and the prospects of a worker with particular skills finding employment. In regional areas, such as that of the Regional Geelong Area, the prospects of displaced workers obtaining similar or other types of work can be challenging (illustrated extensively in the international cases, see *An International Study of Comparator Cases*). The RGA is in the midst of significant industrial and economic adjustment where the demand for occupational categories and types of skilled labour is changing.

11.3.1 Support Services for Retrenched Workers

Depending upon a worker's circumstances, there are a range of support services funded by Federal and State government programs available for retrenched workers. At the state level, the Victorian Government's Training Guarantee and Workers in Transition Program are the major assistance programs. The Victorian Training offers eligible employees subsidised training places in an accredited course with an approved training provider if they are seeking a qualification higher than any qualification they already hold while Workers in Transition, which requires employer participation, enables workers to access subsidised training without consideration of certificate level or previous qualifications (for other examples see the Canada case in the attachment to this report, *An International Study of Comparator Cases*). The primary objective of these various programs is to ensure workers made redundant will receive immediate assistance to help them get back into the workforce. Since 2009, most of government assistance programs for displaced workers have been administered through Job Services Australia (JSA). Funded by the Australian Government, JSAs are private and community based organisations contracted by the Australian Government through the Department of Education, Employment and Workplace Relations to deliver employment services to unemployed job seekers as well as help employers find staff.

When it comes to support for retrenched workers, there are three primary categories or streams of support services that workers can access. Stream One services provide workers basic support ranging from assistance in creating a resume and help in finding work through a JSA through to assistance with writing job applications, career planning and help with interview techniques. Stream Two services allow workers to access more intensive services focused on vocational and non-vocational needs and aimed at improving employability. Some of these additional support measures include:

- Career advice;
- Skills assessment;
- Education and training referrals;
- IT support and stationary support to help with job applications;
- Financial support for the purchase of basic computer courses, heavy vehicle licenses, work uniforms and safety boots.

Stream Three services represent the most intensive support services made available to retrenched workers. Under Stream Three services, retrenched workers are granted access to Stream One and Stream Two support services with additional support including:

- Access to fully-subsidised training places;
- Subsidised employment placements (i.e. wage subsidies) aimed at making these workers more competitive in the labour market;
- Relocation assistance to help workers find jobs in new localities; and
- English language and other basic education courses.

Stream Three funding has primarily been associated with labour adjustment packages provided to retrenched workers in the Textile, Clothing and Footwear industries in the late 1980s and the Automobile and Auto Components industry in more recent times. Unions representing workers in these industries strongly argued that due to the accelerated job losses from these sectors and the characteristics of the workers being displaced (e.g. many being older workers without nationally recognised qualifications) displaced workers would find it exceptionally difficult to re-establish themselves in the labour market without significant support (Webber *et al*. 1996; STBUN04 2013). Unlike Stream One and Stream Two funding, which has typically only been accessible to retrenched workers after a specified period searching for work, Stream Three recipients have been able to access the services immediately upon retrenchment. In addition, because Stream Three funding has most commonly been part of industry adjustment packages all categories of workers have been eligible for assistance including managers, professional and administrative staff.

The Textile, Clothing and Footwear Labour Adjustment Package and the Automotive Industry Structural Adjustment Program have also provided funding support for dedicated labour adjustment officers whose role is to provide intensive support and assistance to retrenched work through a case management approach over a two year period. These labour adjustment officers have performed a vital role in bringing together the respective parties (employers, training providers, jobs services providers, Federal and State Government departments)to ensure retrenched workers are provided the best level of information regarding the assistance available to them. This information includes Centrelink entitlements, re-training opportunities, upskilling, and how to get qualifications formally recognised. This coordinated approach is now firmly embedded in programs such as the Victorian Government's Workers in Transition Program where all participating workers are provided with a government subsidised training place (for other examples of such partnership approaches, see the attachment to this report *An International Study of Comparator Cases*). In some cases, the labour adjustment officers have been able to work with employers prior to actual retrenchments to facilitate RPL and the credentialising of employee skills in order to improve worker employability. According to one labour adjustment officer, this has been one of the most important roles they have performed (STBUN06).

The Textile, Clothing and Footwear Labour Adjustment Package and the Automotive Industry Structural Adjustment Program have provided a coordinated response to retrenchment and redundancy in these industries. They are models for providing the training and support needed by retrenched workers to shift from declining employment in these sectors to new jobs in other sectors of the economy. It is fairly common to find ex-textile workers and ex-auto industry workers employed in a range of other sectors including education and training and health and community services (Interviews 2013). While this success is to be applauded, it cannot be attributed solely to Stream Three funding nor to the dedicated work of labour adjustment officers. Moreover, not all retrenched workers from these sectors have made a successful or stress-free transition. The findings do suggest, however, that many of these workers would have been considerably worse off if this level of support were not available to them (a similar finding is evident in international research, see *An International Study of Comparator Cases*). It is also likely that firms who now employ ex-textile and ex-auto industry employees also benefited from these programs which enabled them to secure highly dedicated and capable staff while off-setting the costs of re-training these workers.

Of note, the career aspirations and choices of retrenched workers are not straightforward (STBEMP02; STBEMP03; STBEMP04; STBEMP06; STBMHR26; STBUN05;

STBUN06). For many there is a desire to remain in the 'trade' while for others the support provided under these programs enabled them to pursue new career avenues; some chose to re-train for entirely different occupations (e.g. clerical, age care) while others pursed self-employment opportunities. Often these choices reflected the life stages of the workers; highly physical 'factory' work, for example, was no longer desirable for some late career workers. Without Stream Three funding support, these choices would have been significantly constrained. These findings also suggest that responses to redundancy need to be tailored to an individual's particular situation while cognisant of industry and occupational skill demands within local and regional labour markets.

In most cases, workers who are retrenched are only able to access Stream One or Stream Two services. The tax-funded costs for supporting Stream Three assistance for retrenched workers are not insignificant. These costs have been one of the major criticisms of continued support for such labour market interventions (see Webber *et al.* 1996). It is debatable if all categories of workers should be entitled to the full level of assistance provided under these programs. When a major company closes not all workers are going to be in the same labour market situation. Those with professional or nationally recognised qualifications will be much better placed than those who are skilled and semi-skilled but have no recognised qualifications. Some workers will also have the ability to better provide for their own re-training opportunities. The introduction of means-testing is one way to overcome some of these limitations.

There are additional ways to support displaced workers that do not appear to be taking place in the region. A dedicated Worker Transition Centre for assisting displaced workers and their household members is one such initiative. There are many examples around the world of such centres, although most were established after closure and mass displacement (for a range of examples, see the attachment to this report, *An International Study of Comparator Cases*, particularly the Hamilton case, where a major union has taken the lead in establishing such centres, for displaced automobile workers). Evidence demonstrates that these centres play a positive role in facilitating and enabling transition for the benefit of both employers and employees. In addition, such centres often act as a broker for training programs, working positively with training providers. Further, such centres are *de facto* skills centres, not only facilitating the transfer to like jobs but also preparing workers for transfer to different sectors and/or occupations.

The region's unions have advocated establishing such a Centre in for a number of years. As one union representative stated:

> We wanted a shop set up in conjunction with Gordon TAFE and Centrelink…we wanted someone that could liaise with three levels of government in terms of who was getting grant money and we wanted someone from the Manufacturing Council or the Chamber of Commerce who could liaise with all the bosses as to secretly when you're sacking people and laying off et cetera, et cetera.….it was all going to be done in

> confidence so that it didn't become a political football every time and the idea was that any boss coming to Geelong could say we're coming to Geelong and need 50 people with this skill set…the one stop shop, would be able to say well this is coming up, this is coming up, this is coming up. These are the people that are available. There's this federal funding that can retrain those people for you, et cetera, et cetera and have it organised, planned almost (STBUN04).

Given the ongoing restructuring and continued job losses within the region, the urgency in establishing such a Centre remains. Such a Centre would provide a local coordinated approach to dealing with ongoing job losses. Depending upon available funding and support the Centre could perform a range of roles including the provision of expert advice and assistance (including mental health support) to displaced workers to help them to gain access to meaningful long-term work. At the same time, the Centre could assist employers with acquiring skilled workers.

11.4 Socioeconomic disadvantage

While Geelong appears to have learned from a history of dealing with company closures and large-scale job losses, the same cannot be said for its response to the long-term unemployed and disadvantaged groups. Although the RGA compares relatively well with Victorian averages for employment and unemployment, there are notable pockets of geographically-bounded, socio-economic disadvantage that fall well below these averages. The Draft G21 Economic Development Strategy (AEC Group 2012) highlights the importance of addressing disadvantage in order for the Geelong region to prosper. In particular, it emphasises the need to build "worker capabilities" for those in "low-income and low skill categories", as well as the need to identify and overcome barriers to employment and training for those in disadvantaged and remote areas.

The Victorian Department of Planning and Community Development (DPCD 2011) identifies three main issues that are currently compounding the issue of socio-economic disadvantage in these areas:

1. The appearance of new "skilled jobs" where currently there is "unskilled labour";
2. The changing population composition and related restructuring of businesses; and
3. Rising house prices.

These developments effectively lock those on lower wages into areas with low service availability and less economic opportunity (DPCD 2011).

With regard to the RGA, the areas of Corio/Norlane and Wittington are singled-out in a number of reports as suffering from significant disadvantage in terms of lower educational attainment, higher unemployment and reliance on government support (AEC Group 2011; Altegis 2009; DPCD 2011). While the unemployment rate in March 2011 for the RGA as a whole (6.2 per cent) was slightly higher than the national unemployment rate (5.1 per cent), unemployment rates were higher again within the Statistical Local Areas (SLAs) of Corio-Inner (10.4 per cent) and Greater Geelong (7.3 per cent) (DEEWR 2011). Corio and Norlane-North Shore are also identified as having a higher proportion of one-parent families, residents born outside Australia, and residents employed in the vulnerable manufacturing sector and/or lower skilled occupations than in the City of Greater Geelong (Researching Futures 2009, p. 46).

Further, the 3214 postcode, which encompasses Corio and Norlane-North Shore, has among the highest levels of domestic violence, unemployment and prison admissions of all Victorian suburbs (Researching Futures 2009, p. 69). In combination, these factors suggest some residents of these areas face particular vulnerabilities, with patterns of intergenerational disadvantage reported (STBAOE13; Uniting Care 2008). To illustrate, terming the situation a 'tragedy', an interviewee presented a view that educational disadvantage was closely linked to economic disadvantage over a long period of time:

> The tragedy for Geelong, it seems to me is there's suburbs like Corio or Norlane where there's generational unemployment (STBMHR19).

Other interviewees reported the following forms of disadvantage as creating barriers to training and employment for residents of the RGA:

- Mental illness and low self-esteem;
- Low education attainment;
- Caring duties (for children, parents or other family members);
- Disability;
- The drug/police checks required to work in some businesses; and
- Reliance on public transport, which may not run at the times required for shift work or is subject to delays (STBAOE13; STBAOE23).

Another interviewee discussed how residents from cultural and linguistically diverse backgrounds may face barriers to employment, in part due to language difficulties, but also because of prejudice:

> We've had, you know some Sudanese men working for us [as personal care workers] who are fantastic workers, but these people [the aged care clients] are terrified of them because they've not experienced them before. You know "what's this – coming into my house? (STBMHR10)

This suggests that even with the requisite skills and qualifications some residents may face barriers to participating in the labour market in the roles they have chosen.

While not all of Corio/Norlane and Wittington's socio-economic problems will be resolved through a skills policy framework, improving the skills of its residents are important steps in the process. Those entering the labour market without formalised education or training will be subject to fluctuations in demand for unskilled/low skilled labour, and will often be locked out of higher skilled occupations. It was reported in one of the Scenario Workshops that according to the data their organisation had collated:

> … 35 per cent of the kids in this region go to the university, 35 per cent go into the VET area and the rest of them choose the open labour market… [for those] going into the open labour market with no ongoing connection to education and training, that's where the unemployment figures are really impacting. (Scenario Workshop 1 participant).

Transitions from unemployment to employment, or back into education and training after a period of disengagement, may require intensive support, particularly for those experiencing the barriers indicated above. Interviewees reported the use of alternative training tactics to improve education and employment engagement for socioeconomically disadvantaged residents, emphasising the benefits of hands-on learning, small-group training, workplace visits and intensive support from Job Service Assistance providers (STBAOE13; STBMHR10; STBAOE21; STBAOE22).

More generally, various agencies and support groups operate in the RGA to provide assistance to those in need, including the Smith Family, Brotherhood of St Laurence, Salvation Army and Uniting Care Geelong (Uniting Care 2008, p. 10). Furthermore, region-wide strategies to counter the issues discussed here are drawn together under the G21 Health and Wellbeing Pillar Priority Project titled 'Addressing Disadvantage'.

Challenges remain however, and some participants have wondered at the efficacy of the interventions:

> In fact, we're getting more youth unemployment and we're getting - it's going the other way and yet we're putting so much intervention measures in place. We've got so many committees set up to address one thing or another thing. But the social fabric in that part of our population, it's not improving (Scenario Workshop 2 participant).

Elsewhere it has been noted that organisations have become limited in their ability to proactively plan and support families in need in the region. Reasons include the multifaceted nature of disadvantage, whereby intergenerational disengagement with education and employment is compounded by the decline in the traditional economic base of the region, as well as more general rises in living costs (Uniting Care 2008, p. 25). As observed in the Scenario Workshops, the challenge was expressed in terms of how to proactively set aspirations for an 8-year old whilst dealing reactively with a 30-year old with no future.

Addressing structural problems within the local job market is critical to addressing regional disadvantage. If the number of secure, decent jobs particularly among unskilled and semi-skilled occupations is not increased socio-economic disadvantage will remain. As one provider of services and education/employment assistance for disadvantaged residents noted, while there are recognised skills shortages in hospitality, the nature of hospitality employment may not be compatible with the needs of their clients because many of the jobs are highly casualised and poorly paid:

> … it doesn't fit this community as well because of its different shifts and they're often casual and so they can't build up an economic stability with that sort of position unless someone else in the home has more of a more secure permanent job (STBAOE13).

The casualisation of the labour force and difficulty that some residents face in moving from casual to permanent employment has flow on effects, for example in terms of ability to access loans or save money (STBAOE13). This aspect is often a feature of low paid occupations, such as personal care workers in disability or aged care (STBMHR10).

A degree of pragmatism is necessary in determining the training and employment that would be suitable for those who have never been in the workforce/the long-term unemployed/those with low levels of education attainment. As stated:

> … when we looked at those skills gaps, transport and logistics was one of those, there's certainly a range of jobs that our people fit into if they are trained and skilled into those roles. Aged care and hospitality… So we weren't necessarily thinking that we needed to place people in advanced manufacturing (STBAOE14).

The hope is that entering employment via lower skilled occupations can be a stepping stone to more highly skilled positions in the future (STBAOE13).

An important consideration for future research and education/employment interventions should be the aspirations of potential workers themselves. It must also be noted that low skilled work is not in and of itself a bad thing; such work needs to be done and can indeed be desirable to different people at different times in their lives. What is imperative is improving work conditions, such as rates of pay, hours and flexibility of employment, job security and social status afforded such occupations.

As a final note, the Scenario Workshop discussions suggested that the negative perceptions and social stigma attached to certain suburbs in the RGA can obscure more positive developments, such as the region's advancing technology and research activities. Again, a balance must be sought between promoting positive futures and dealing with the ongoing reality of persistent, though not intractable, socioeconomic disadvantage.

11.5 Educational underachievement

The issue of educational underachievement in the RGA can be seen as related to geo-locational disadvantage, in terms of physical access to good quality institutions and facilities, as well as broader facets of socio-economic disadvantage, as touched on above. Socioeconomic status is associated with an individual's ability and aspiration to complete post-compulsory education and training. Relatedly, and perhaps as a consequence, there is a high attrition rate across the RGA, particularly with many Year-12 graduates failing to proceed to Higher and Further Education (GRLLEN 2011). Instead, many Year-12 completers seek employment as casual workers in retail, labouring and administration. This outcome has implications for skills replenishment and future skills demands in the RGA.

With regard to locational disadvantage, there is a varied and uneven distribution of education and training institutions across the region. Most post-secondary institutions are concentrated in the City of Greater Geelong. As a result, some places within the region are disadvantaged in relation to access, as are some of the poorer districts within the city boundaries.

As has been indicated in a number of previous reports, insufficient coverage and the poor quality of public transport within the RGA has a detrimental effect on the education and employment opportunities (AEC Group 2012; Altegis 2009; G21 2012a). This problem is amplified in areas of socioeconomic disadvantage, where jobseekers have indicated that not having a car or valid driver's licence impedes their ability to gain employment (Altegis 2009). Additionally, there are insufficient public transport services to some of the key centres for education and jobs, such as the Geelong CBD and the expanding Waurn Ponds Campus of Deakin University (AEC Group 2012, p. 7). Plans to make public transport infrastructure and services readily available in the new, "green", urban housing development of Armstrong Creek, to the south of Geelong City, are an important step towards addressing transport challenges in a sustainable manner. However there has been some critique that residents will arrive in the area before the public transport services (*Geelong Advertiser* 2011a). The success of new developments, such as Armstrong Creek and the Geelong Ring Road Employment Precinct, will in part rely on their ability to provide residents with transport connections to education, employment and health services (RACV 2012, p. 22).

Elsewhere it has been noted that the Norlane-North Shore area scores particularly poorly on education indexes, including Year 12 completion rates, post-compulsory education, and uptake of accredited adult education courses (Researching Futures 2009, p. 6). Indeed, overall the RGA population (36.3 per cent) has lower than State-average (42.0 per cent) levels of Year 12 completion (ABS 2011).

Given these lower rates of attainment in the Geelong region, it is not surprising that there are also lower levels of participation in tertiary education, particularly at university-level (BSWEAP 2011b). Just over a third (36.5 per cent) of the resident population in the RGA have completed a vocational, higher or postgraduate education qualification, and while this is comparable to Victoria wide rates (36.8 per cent), it is more likely that for residents in the RGA this will be a Certificate level qualification (16.4 per cent) than is the case for Victoria as a whole (13.3 per cent) (ABS 2011). It is not clear whether this profile is a reflection of the recruitment strategies of the dominant industries in the RGA and/or whether residents with Certificate level qualifications are beneficiaries of government training initiatives over the last few years.

11.5.1 Factors contributing to educational underachievement

A number of factors may contribute to educational underachievement within the region. One part of the explanation may lie with past and current aspirations. As observed by an interviewee, 'I guess another part of our culture historically, I reckon, has been academic under-performance' (STBMHR19). Low aspirations were identified as a disincentive to educational aspirations:

> 'We're saying to them, you need to change, you need to train, you need to get a job. But they're quite comfortable in the way they're living' (Scenario Workshop 2).

Low aspirations were reported as more likely in children whose family members had low levels of educational attainment. For others, aspirations to work in one of the pivotal businesses, such as Ford or Alcoa, as their parents had done was inhibited by the downturns experienced in the manufacturing sector:

> … when you talk to the people that have lived here all their life, they'll talk historically that maybe their parent or their grandparent worked for one of those large companies years ago, and that that's what they were aspiring to do but there's been no openings for them (STBAOE13).

It should also be noted that the low aspiration of youth is not necessarily due to parents' lack of ambition for their children, but may be due to a lack of knowledge about what options are available:

> I think parents want to understand, but there's so many changes from when they had to go through it, as well - that they get just as lost as some of the young people, as well (STBAOE22).

The sometimes rapid pace of change in industry and skills requirements mean parents can be challenged in knowing how to advise their children.

Teachers too were mentioned as sometimes being challenged in this respect. They may lack exposure to diverse workforces because of their direct pathways from high school to university teaching qualifications then back into the classroom. Or it may simply be because '… they're just so overwhelmed with the things they must do these days, that some things fall through the cracks' (STBAOE21).

The failure to intervene early is also a factor in ongoing educational underachievement among some groups of students. The need to intervene early was noted by one service provider in the Scenario Workshops:

> It's not only talking about what intervention should I put in to place, but it's when should we intervene. I think one of the problems with our low attainment rate is that we're intervening too late. It's no good trying to raise aspirations in Year 10. You've got to be starting in primary school and building up aspirations as time goes by (Scenario Workshop 2).

However as observed elsewhere, the barriers to education can be material as much as mental. As Uniting Care (2008, p. 23) state, the costs associated with schooling (such as uniforms, materials, camp/excursion costs, and extracurricular activities) can undermine the notion of "free education" provision in the public system.

School education providers indicated that financial disadvantage affects a large number of young people whose parents are unable to provide for their education beyond the compulsory stage. As explained by an official at one of the major secondary schools in the region, these are '… families who come to us or are referred to us who are in significant financial hardship' (STBMHR19). They are families who are unable to afford secondary school fees even though, as explained by the official, 'they are very low'. The official goes on to explain the crippling extent of the problem of financial incapacity. In addition to the fee component, the students would require assistance with '… the levies and the books and the uniforms because they haven't got anything' (STBMHR19).

The data also indicate that even after completing secondary school, through bursaries and other sources of financial support, the problem continues to undermine the capacity to proceed on a skills and career path. It may be an inability to pay for course fees, training equipment as well as set-up expenses, especially for those who wish to establish a trade career. As the official observes below, even with apprenticeships, the problem is still undiminished:

> An apprenticeship in the first year as an apprentice plumber you might earn $220. You need tools, you need a car, you need work gear, uniform and there's no way you can do that if you haven't got some significant support behind you (STBMHR19).

Such demands can be determinate and thus limiting for some.

11.5.2 Initiatives to address educational disadvantage and underachievement

There are various strategies aimed at improving regional education attainment levels and addressing socioeconomic disadvantage. These measures demonstrate awareness and engagement with the above challenges, often involving calls to improve lifelong learning as well as engagement with education from a young age

(Researching Futures 2009; GRLLEN 2012). Initiatives to address educational disadvantage and underachievement are predominantly focused on the secondary school level. This approach is based on the view that it is at this stage that the strongest foundation for employability skills is laid. The claim is that it is at this life stage that successful further education and training, and immediate or eventual employability is based.

11.5.2.1 The Role of Secondary School Providers

Recent initiatives at the secondary school level focus on completion, progression and employability. The strategy has been to encourage many students to complete year 12 and progress to further education and training pathways. However, in recognition of the high numbers of non-progression (post-year 12) structures are being put in place to ensure that those who fail to progress are, nonetheless equipped with basic and essential employability skills to enable them find jobs. The strategy in the region has been to utilise Secondary School education as the point of concentrated effort to initiate young people into productive working life through VET-related training initiatives.

A number of initiatives have been implemented. The key initiatives include an introduction of VET in secondary schools. Labelled Vocational Education and Training in Schools (VETiS) the policy has two aims. First, VETiS is tied to the Victorian Certificate of Applied Learning (VCAL) in schools, which is offered to years 11 and 12 students. It provides them with essential practical work-related skills and experience. Thus, year 12 completers are offered accredited certification, which they can use to seek employment or further training.

Second, in addition to the earlier stated intention of inculcating essential employability skills at an early stage, these programs also provide an early introduction to VET. The purpose is to encourage more year-12 completers to proceed to further training by introducing multiple pathways for post-compulsory education and training. An illustration from one secondary school is:

> We've an extensive VCAL and VET program… So yeah, I guess our non-academic students, we've tended to guide them into VCAL. …We're just trying to channel the boys into the right pathway for them. For some of them that's the vocational area (STBMHR19).

This initiative is more evident in government schools, with limited participation so far from Catholic and Independent schools:

> We've now got all but one of the government funded secondary schools in the region - so I think there's about 16 schools - who are members of the program. We've got a couple of Catholic schools. We've got another Catholic school who's expressed an interest and a couple of the independents are just starting to say we're interested in exploring this more (STBAOE02).

This pattern of engagement with the policy is in line with the observation that educational disadvantage is experienced more in government secondary schools than the other two categories.

Nevertheless, the overall objective has been to bring together all the different categories of providers into a concerted effort to address disadvantage and improve completion, performance and employability. To this end, a large number of secondary schools in the region have established working relations with each other as well as with VET providers, with a key focus on VETiS. For example:

> We've had some very cooperative relationships with The Gordon over the years in the VET for our schools program and we'd probably be a very strong client of theirs in terms of numbers (STBMHR19).

These relations are also viewed as important because the schools cultivate their students' interests in relation to the courses that are offered at the VET institutions. Thus, there is a healthy and symbiotic relationship between the schools and the VET RTOs.

It is not just the VET institutions that schools seek to link up with to broaden the outlook and experience of students. Another school official described their relationship with Deakin University in similar terms – healthy and symbiotic:

> …because we have had a long, fairly close relationship [with Deakin University] probably because of our proximity, we're fairly close. We would be one of their main feeder schools [ex] students going there (STBAOE28).

Furthermore, to enhance their individual capacity to introduce VET skills and pathways to students at the secondary school level, a few schools have registered as RTOs in their own right and enhanced their VET programs:

> See we were delivering VET and we were - originally we had significant numbers of kids going to Gordon wanting to do IT and multi-media and we said well, hey we could probably do that here because we have teachers who can do it, we have computers in the place (STBAOE28).

This step means that they are less dependent of external collaborators like The Gordon and are able to determine the skills content in their programs in direct relation to their perception of students' needs.

Another school, which is not registered as an RTO has nevertheless established a Trade Training Centre within its precinct to enhance their delivery of VET programs under the VETiS initiative:

> We have recently got funding for a trade training centre….So I guess part of the opportunity of having our own trade training centre is to be able to run some courses that we staff and can probably run more cost effectively than we're currently paying (STBMHR19).

A second initiative is the Post-Compulsory Change Project under which Secondary Schools are encouraged to form partnerships to support each other in a variety of ways. Changes in culture and organisation are intended to enhance the teaching capabilities of the teaching staff in the region and influence change in the attitudes of learners towards post-compulsory education and training. The ultimate aim is to create an environment that encourages higher retention of Year 12 completers in further education and training and improve educational achievement in the region generally. This project should, it is assumed, encourage the growth of a broad base of appropriate industry skills for the region. As part of this collaborative (partnership) initiative, The Gordon Institute has set aside Wednesday afternoon during which year 11 and 12 students from schools all over the region attend VET orientation sessions related to particular trades, such as building and construction.

The Big Brother/Big Sister mentoring program is another initiative developed by Barwon Youth. The program is intended for disengaged youth, particularly Secondary School completers. It is meant to encourage them to remain in the education and training system and pursue the pathways available to Higher Education and VET. As one interviewee who manages VET programs in one of the secondary schools in the region explained:

> Ten years ago when I was doing this job everybody did VCE, all you did was talk to the Year 10 students about what subject you were going to do in Year 11 and 12. But now they've got VCAL, you've got School-based Apprenticeships; you've got VET. It's very diverse (STBAOE28).

The purpose is to provide sufficient education options to ensure minimum exclusion.

11.5.2.2 Barriers to implementing VETiS initiatives

The above initiatives have been designed to equip young people with employability skills as well as reduce attrition. In achieving the first objective, the providers seek to respond to areas of employment growth as highlighted in the initial section of this chapter. Some of the areas that have been identified as employment growth sectors include aged-care, nursing, retail and construction. Although traditional manufacturing is in decline, some sub-sectors (e.g. food manufacturing) are growing and there will continue to be a need for the skills associated with these areas. As discussed in the manufacturing chapter, there is also evidence that a new form of manufacturing and engineering is emerging in the region which builds upon existing skills sets.

The main challenges highlighted by secondary school providers include historical occupational prejudices and well as declining preference for some traditional occupations on the part of young school leavers. To illustrate, one school official described a key challenge that schools are facing in implementing their VETiS programs as how to sell nursing and aged-care programs to boys:

> One of the things that will be offered there will be Allied Health because we're trying to encourage more of our boys into that area. We feel they have the right prerequisites to do it and then for a lot of them, things like nursing are just not on their radar. It's not a traditional boy's area and yet we would see that as an enormous growth area in terms of the region (STBMHR19).

At the same time, they are trying to encourage more girls to venture into engineering and manufacturing training programs in anticipation of jobs in emerging industries:

> For the girls, we're trying to offer tasters to encourage the girls into traditional trades…. Hopefully, things like Carbon Management going forward - see that as an area where there's some potential in terms of employment opportunities …We thought if we are going to be innovative, if we're looking at building and construction we've got to look at sustainable building. So one of the ways that we've looked at that is if girls in Year 9 are not necessarily going to interested in coming up and hammering timber. Some of them might, but if we could set up a sort of very rough laboratory where we, in a sense, illustrated the benefits of double glazing and… (STBMHR19).

Furthermore, evidence indicates a decline in young people's preference for traditional trades and manufacturing jobs. These jobs are no longer viewed as 'sexy' or as attractive as jobs for example in the IT area. As an interviewee indicated, this type of preference is a concern for the education and training sector in relation to developing needed skills for some sectors:

> Because it doesn't matter how much money the State and Federal Governments throw at training places, if your kids and their parents don't see these as sexy industries... (STBAOE02)

The problem for the region is that the VET programs continue to promote training in areas where job prospects are low and/or make decisions with regards to skills provisions without fully understanding the labour market and particular skills requirements.

According to one NCVER study, for VET students who were unemployed prior to training over 50 per cent remained unemployed or outside the labour force upon completion of their studies (NCVER 2008). There may be multiple reasons for this outcome including insufficient number of jobs for the training they received, the jobs are undesirable, or there are other barriers to employment (e.g. discrimination, limited transportation, caring duties, lack of motivation and ambition, etc.). It is important that individual and broader structural barriers to employment be understood when developing interventions (including those which focus on education and training) to address them.

These issues highlight the complex challenges of addressing educational underachievement and meeting future skills demands. It will require innovative thinking and engagement on the part of employers, industry leaders and education and training providers to resolve some of these difficult questions (as illustrated in some of the international cases, see *An International Study of Comparator Cases*).

11.6 Critical conditions for change and development

There are three critical conditions for change and development in the RGA, to realise the ambition that the 'Time is Now', with a skills transition at the heart of the scenario. They are social partnership, targeted policy and practice and informed policy making.

First, the analysis suggests that some form of partnership approach to skills development and implementation is necessary for successful outcomes. There tends to be a general agreement amongst many in the region that if the intention is to address the region's future skill challenges then messages from key stakeholders must be consistent and united.

> So if, for instance, this Skilling the Bay Project comes up with Geelong's industry future lies fundamentally in things like high technology, nanotechnology, advanced manufacturing, health industry, other construction and transport logistics, and things like that. If that's where the conclusion of where we need to push harder, what should the messages look like that are delivered from City Hall, from the tertiary institutions, from the careers advisors here into school programs? Where are the programs that talk consistently about Geelong's future, not about Geelong's present? (STBMHR37)

To achieve such consistency it is necessary that the key participants in the region in relation to skills policies and economic transition must work together. Already there are key bodies in the region undertaking such steps, such as G21 and the Advanced Manufacturing Alliance, as well as the local councils and the City of Greater Geelong. But, more than this form of cooperation it is also the case that some forms of cooperation are partial and relatively underdeveloped. Hence, a number of groups tend to have a limited involvement in the transition processes; for example the union confederation and the locality based organisations like Northern Futures. Moreover, there are limited means to achieve a single voice in relation to outside decision-makers such as the State and Commonwealth governments. The evidence throughout the analysis is that these steps are important, especially to provide the leverage that may be necessary to achieve change.

Internationally, it is evident that this type of cohesive and integrated approach to skills development is critical. While there is an unevenness across the cases, when examined over time, it is clear that multi-level social partnerships are a key condition for success. It is important that there is cooperation and collaboration between different levels of government, between sectors, and with educational bodies including research institutions, as well as unions and associate locally-based development and support groups. Where such relationships have been developed then there is a greater likelihood of comprehensive but focused outcomes

Second and related, focused policies and practices are a critical condition for success. This aspect is clear from the relative success of the VET initiatives and schooling in relation to educational achievement. Building on the collaborative relations that are evident between the schools, the TAFE and RTOs and the Higher Education sector it is possible that the basis for an alignment of education and training with skills needs and requirements can be laid. Such programs are evident internationally and where they are implemented in a collaborative and inclusive way there is evidence of success. If the targeted apprenticeship measures involving inclusive partnerships in Ontario, Canada are an indicator then apprentice retention and SME involvement can be achieved in a way that is not yet apparent in the Geelong region. Equally where major unions have taken steps to establish inclusive advice centres (in Hamilton, Canada and South Wales), targeted at particular sets of workers, such as automobile workers, then the foundation for job placement and reskilling can be laid.

Third, steps towards skill policies and programs benefit from informed policy-making, in relation to both skill demands and skill supply. Such measures require an understanding of the employment trajectories underway in relation to sectors and sub-sectors, as well as the skill profiles of residents with the region. Perhaps the most difficult step as indicated above is to achieve an alignment between skill needs and skill profiles and supply. Such objectives require the recognition of the way the regional economy is displaying growth in the health sector and sections of advance manufacturing. In turn, government support and intervention, in a targeted and responsive way to the concerns and requirements of the region, is critical. It is also important that the government works with the major players that make up the social partnerships, in order to enable such policies and practices to be realised. This is the challenge facing the region.

11.7 Conclusion

The region confronts significant skill challenges associated with an ageing workforce, displaced workers, youth unemployment, disadvantaged communities, and the need to cater for the demands from new and emerging industries. Skills are often perceived as the key driver of regional prosperity and addressing social and economic problems: anti-social behaviour, welfare dependency, low levels of intergenerational mobility, poverty, widening income inequality, lack of innovation among firms, and weak overall economic performance of the region (see Keep & Mayhew 2010). As the international case studies illustrate, skills are only one part of the solution. While appropriate skill development is critical, particularly for those industries where jobs opportunities are greatest, it will not resolve the region's major problems. Such a step also requires other social and economic development processes, including regional and industrial planning. Indeed such planning should be carried out in conjunction with targeted skills programs. Development of skills must also be done in relation to questions about the need and deployment of these skills so that skills once created are not wasted but used in productive and effective ways.

Identifying and developing clear priorities and coordinated action that will assist in job creation and attracting investments must done in coordinated ways that involve education and training providers with due consideration of skill requirements. One of the lessons to emerge from the international case studies is that these approaches are more likely to result in longer-term outcomes for the region, its employers and workers.

Regional actors and education providers must envision ways to break cycles of unemployment–poor financial capacity, poor financial capacity–academic exclusion, academic exclusion–unemployment. For those who fail to progress to post-compulsory education pathways, the system must find ways of enabling them to comprise a productive workforce and break the cycles of disadvantage. The additional challenge for the education and training sector is to try and ensure that large numbers of secondary school students successfully complete year 12 and the majority, if not all, progress on to higher education or VET pathways so as to acquire essential employability skills. While the relationship between qualifications and employability is strong it has been shown that qualifications do not necessarily result in positive job outcomes.

Gone are the days when early school leavers could expect to land a secure and comparatively well paid job in one of the region's traditional industries. The jobs that are increasingly available are short-term and casual. Even among highly skilled occupations (e.g. nurses, lecturers, trainers) permanent full-time work is not easily acquired. The notion that skills can shift people out of poverty or a bad job is increasingly challenged by a labour market in which the number of secure and well-paid jobs are declining. In order to shift people out of socio-economic disadvantage the number of good jobs must grow. One of the central aims of Skilling the Bay must therefore be on building an economy based on a skilled workforce in decent jobs. This will require the region to develop a high road regional development strategy.

11.8 Considerations

In consideration of the possible futures for the RGA over the next decade, the report draws attention to three critical dimensions to inform skills and labour force development. They are:

1. Social partnership
2. Targeted and focused projects
3. Informed multi-level governance.

These three aspects inform the sectoral analyses above and the assessment of the RGA as a whole. Presented below are general considerations for the region, as well as more specific considerations on how to assist displaced workers and facilitate skills and training provision via an education and training led approach.

11.8.1 General Considerations

- **The RGA should be transformed into a coherent economic development unit, comprising the four (or five if Colac Otway is included) municipal areas with delegated capacity (including funding on a per capita basis) to promote economic development as an RGA authority.** Such a body would enable a co-ordinated and coherent approach to economic development in the region to be promoted. Building on the features of integration and relative residential self-containment in relation to employment, an authority could voice the concerns of the region and plan integrated policy and related activity. Compared with the three international areas, the RGA is in an advantageous position. As a region whose economy and production base is undergoing transition, there is need to urgently review skills requirements and the infrastructure and pathways to develop them. Whereas the imminent transition and the need for a re-thinking of the skills base is acknowledged in various key reports, there is no clear road-map on how to go about developing new, adequate and appropriate skills.
- **Changing skill and labour market conditions matched with an ageing workforce requires the policy makers to develop and implement a 'Next Generation' Workforce Development Strategy.** This should involve inclusive strategic planning involving major industry actors, training providers, institutions of higher education, local and state government representatives and trade unions, in which workforce development activities are integrated with economic development activities. Regional success in the future will depend upon sound workforce development practices and institutional support for education and training. Policies on skills acquisition, skills recognition and upskilling should be premised on the understanding of socio-demographics of the workforce and the organisational design of these sectors. Such a strategy could assist with aligning industry needs and community and worker expectations regarding skills and job and training quality.
- **A workforce development plan (as a practical implementation of the Workforce Development Strategy) should be developed for the RGA by an RGA Authority, involving a social partnership of governments, employers, unions and educational bodies to facilitate workers in transition.** Such measures are in place in international situations, which are similar to that of the RGA, with political and economic arrangements that are comparable. As noted throughout the report the elements for such partnerships are already in place in the RGA but they now should be focused in precise ways, at a workplace level and in localities, but under the umbrella of an RGA set of

arrangements. Skill development and enhancement must be part of industry and regional development processes.

- **The focus of policy on skill supply considerations should be made in relation to both skill demand and skill usage and involve partnerships between education providers and employers and unions, and should be a practical implementation of the Workforce Development Plan and Strategy.** Simply boosting skill supply is not going to deliver positive outcomes for workers, employers or the regional economy. Thus skill development programs need to be locally initiated and focused involving 'clusters' of relevant organisations that share or depend upon similar types of labour competencies and capacities.
- **Policy makers and industry associations should assist firms and clusters of firms to do more to make workforce and skill related issues a higher priority, but in ways that they help themselves to resolve them.** Examples in relation to apprenticeship schemes are evident from the international cases and particularly the Action Centres in Hamilton (see attachment to this report, *An International Study of Comparator Cases*). Addressing structural problems within the local job market is critical to addressing regional disadvantage. If the number of the secure, decent jobs particularly among unskilled and semi-skilled occupations is not increased socio-economic disadvantage will remain and the ability to recruit qualified staff will remain difficult.

11.8.2 Displaced workers

- **Job creation and/or jobs providing opportunities for displaced workers must be a major consideration of any government support for private enterprises seeking to relocate and/or expand their operations in the RGA.** Clearly there are companies that require similar skills sets to those held by workers being displaced from the region's major traditional manufacturers. In cases where government support is requested, either through GIFF or other funding arrangements, these types of companies should be strongly encouraged to take on displaced workers.
- **The establishment of a Worker Transition Centre must be given priority. This Centre should involve unions, the Gordon, Centrelink, industry and employer associations and relevant Federal and State government departments.** Evidence demonstrates that these centres play a positive role in facilitating and enabling transition to take place for the benefit of both employers and employees through not only facilitating the transfer to like jobs but also preparing workers for transfer to different sectors and/or occupations.
- **The Workers in Transition Program needs to be better promoted across all sectors including education and health and community services.** There appears to be an assumption among some employers in non-manufacturing sectors that workers do not require worker in transition assistance (see Assistance and Training chapter).

- **In situations where employers plan to retrench large numbers of workers, they should be encouraged to support RPL processes for their workforce ahead of the actual redundancies.** This process will enable workers to more easily acquire formally recognised qualifications prior to finding themselves redundant and thus improve their chances of finding new employment. Workers without nationally recognised qualifications need to be better educated by unions and employers about the importance of RPL and 'gap training' as a way to acquire nationally-recognised qualifications in areas where job prospects are likely.
- **Eligibility for subsidised training places should be means-tested on the basis of an individual's ability to pay for re-training.** Existing qualifications should not exclude workers from being eligible for subsidised training. Moreover, with increases in TAFE fees for many courses, and possibly across other training bodies, subsidies for training places will need to be increased to cover additional costs.

11.8.3 Skills and Training

- **In order to have a sufficient replacement workforce a number of barriers must be addressed including low rates of educational attainment, high attrition among trainees/apprentices, social and geographical education and training inequities, and discrimination among employers.** While skill shortages are not a current problem for the region this is likely to change in years ahead as large numbers of the region's ageing workforce begin to retire.
- The RGA is a region in transition not only in economic and industrial terms but also in terms of cultural transition. It is becoming a more ethnically diverse with a multicultural population than in years past. Like the industrial transition, the cultural transition must be carefully managed. There is evidence of tensions between recent arrivals and the dominant white Australian community. **Such tensions within the community should be acknowledged and addressed by policy leaders in ways that all benefit from economic opportunities and tensions and divisions are minimised.**
- **Ongoing monitoring of training outcomes needs to continue taking into account the quality of training, employer and worker perceptions of the quality of training and the success of securing a job following the completion of formal training**. There is increased financial pressure for workers to obtain work following the completion of their training. There is anecdotal evidence that many people who have finished studying or training have struggled to find full-time work, leading to a cycle of casual or irregular employment. This raises questions of whether the training they have received is the problem (i.e. it is not making them employable) or if it is a reflection of a broader problem of limited job opportunities. Ongoing monitoring of the local job and labour market and employment outcomes following the completion of training is therefore required. A more informed understanding of the local labour market

and where future jobs are likely to be located should enable JSAs, Centrelink and career advisors to better inform young people and disadvantaged workers about the training programs that are more likely to result in improved job prospects.

11.8.4 Education and Training Provision

- **A standing committee, based on the 'Skilling the Bay' program steering committee should be founded to identify pathway activity, promote institutional links, seek funding, and promote policy in relation to integrated learning and training initiatives.** One initiative that should be considered is the development of a resourced Training Organisation committee to encourage complementary programs across the providers. One of the unfortunate consequences of the shifting funding arrangements in recent times is to create a chaotic and unplanned development of the sector, in relation to assumed demand and supply. There is no alternative to planned and coordinated arrangements if training and learning in the region is to thrive and adapt.
- **As indicated, targeted and focused programs should be developed in relation to apprenticeships, pathways from schools into the workforce, and for the movement of displaced workers into other jobs, in the same sector or others.** The basis for such programs is already evident in the RGA. The next step is to develop these programs so that they are broadly supported and have clear processes of involvement and accountability. This should consider:
    - Training for replenishment
    - Training for new jobs
    - Training for the unemployed and reintroduction into the economy
- The international evidence is clear on the value of such procedures and policies.
- **The provision of education programs in relation to skills development and usage requires informed policy**. The next step in the process of developing these programs is to conduct research relating to the pathways centred on training providers. Further research is therefore called for to:
    - Examine the capacity of the region's education and training sector to develop the required skills base for the region's economic transition to emerging industries
    - Examine the extent of the education sector's collaboration with key stakeholders, i.e., employers, unions and government, in the process of ensuring adequacy and relevance of skills developed
    - Assess the appropriateness of existing training programs in Higher Education and VET to meet the current and future skills needs for the region
    - Examine the social-economic factors influencing the situation of low-uptake of Higher Education and VET pathways by year 12 completers.

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Appendix : Full Interview Schedules

Interview schedule 1: Employer/management/human relations

PART 1 THE INDUSTRY AND PRODUCTION

Q.1. What changes are likely to take place in the industry over the next five years? Probe: Ownership [state, municipal, national, international] implications for skills development)

Q.2. How are these changes likely to impact on this company?

Q.3. What steps should the company take to address these changes?

PART 2 THE COMPANY - STRUCTURE

Q.1. What are the business activities covered by the company?

Q.2. How many people are employed at the company?

Q.3. Can you give me an indication of the broad occupational categories (definition) within the company and how many are employed in each category? (Begin with the manager/use the language of the country of origin)

a. Managers
b. Professional and technical (excl. managers)
c. Administrative
d. Sales
e. Clerical
f. Trades (electricians, servicing, maintenance, distribution)
g. Trainees:
h. Graduate
i. Apprenticeships/traineeships
j. Other
k. Other occupations (please specify)

Q.5. What proportion of the workforce in this area of the company are:

Women ? From ethnic categories (define)?

Q.6. What proportion of the workforce in division/company:-

Are over fifty years old ? Are under thirty years old ? Ask for more details

Q.7. What proportion of the workforce in your area are registered as disabled?

Q.8. What percentage of the workforce is:

a. Permanent (No.s/%)
b. Fixed term
c. Temporary
d. Labour Hire
e. Casual
f. Other (specifiy)
g. Nb: what sort of change in f-t to p-t numbers over time – is p-t used in conjunction with traineeships/apprenticeships

Q.9. What percentage of the workforce are under awards, enterprise agreements or individual contracts:

a. Awards
b. Enterprise agreements
c. Individual contracts

Q.10. Have people been recruited over the last 12 months? In what occupational areas?

Q.11. What change do you expect to see in employee numbers over the next 5 years? Distinguish by occupational category.

Q.12. Is sub-contracting/out-sourcing a feature of the occupational profile. If so please provide details.

PART 3 SKILLS PROFILES and SKILL REQUIREMENTS

Q.1. Would you please describe the skills profile of the company by broad occupational category.

Q.2. Please give me an indication of the qualifications that are required of each of the broad occupational categories you have identified. (for example for a technician, an electrician)

Q.3. Are you aware of any particular difficulties in attracting people with the right skills into the industry (refers to skill deficiencies)?

Q.4. Have the skills required changed over the last five years (refers to skill needs)?

Q.5. What changes in skills requirements (if any) are likely to occur over the next five
years?

Q.6. How are these requirements likely to be met over the next five years?

Q.7. Do you experience any problems in recruiting for particular occupational categories in the company (eg. by qualifications)?

Q.8. Are there specific qualifications, which your company is lacking? For each gap, is that gap having or is likely to have a significant impact on your business with specific examples.

Q.9. Are there other sets of more general skills that you require of your employees? (for example team working, communication skills, time keeping etc)? For which occupational categories are these skills required?

Q.10 Does the age profile of your current workforce matter?

PART 4 TRAINING

Q.1. Does the company see a benefit in training for its workers? If so what are those benefits and if not what are the disincentives?

Q2 What training is offered by the company? On average how many hours per month is allocated to training?

Q.2. Are employees in the company/ plant funded to do discrete BLOCKS of training? (That is, a whole training course or package that is delivered in a single, uninterrupted block of one week or more).

a. What types of training would be done in this way? Can you give me some examples and indicate the length of training? (Refer to on-line or face-to–face or both)

b. For which occupational categories is this type of training?

c. Where does this type of training usually take place?

d. Is the training delivered by company trainers or out-sourced to another provider, like a college or industry association?

e. Is the training done in work time?

Q.3. Does the company fund and organise day release training for any of the employees?

a. What types of training would be done in this way? Can you give me some examples and indicate the length of training?

b. For which occupational categories is this type of training?

c. Where does this type of training usually take place?

d. Is the training delivered by the company's own trainers or out-sourced to another provider, like a college or industry association?

e. Is the training done in work time?

Q.4. Do any of the employees do on the job training ?

a. What types of training would be done in this way? Can you give me some examples and indicate the length of training?

b. For which occupational categories is this type of training?

c. Is the training delivered by the company's own trainers or out-sourced to another provider, like a college or industry association?

Q.5. Do any of the training programmes that the company funds and organises, lead to a nationally recognised qualification? Please give me some examples.

Q.6. Are individuals limited in any way to the amount and type of training that they do? For example, are individual employees allowed a certain amount of hours per year or a certain amount of funding each year?

Q.7. Can you give me a copy of your training plans and training schedule?

Q.8. Are there any financial (or other) incentives for employees to enrol on training programmes?

PART 5 FUTURE DEVELOPMENTS

Q.1. Is it possible that the changes that are occurring in the sector, will lead to changes in the occupational categories that we have been discussing over the next five years? ten years? In what ways?

Q.2. Will these changes alter your skills profile? (for example, will you need more or less multi, semi, unskilled workers?)

Q.3. Are the credential/qualification requirements likely to change over the next five years? In what ways?

Q.4. Is it likely that you will have more or less need for people with other generic skills over the next five years? Can you give me an example?

Q.5. Do you think that changes in the industry over the next five years will have an impact on the nature of your workforce? For example:

a. Will changes in the production process affect the gender, age, disability and ethnic background profile of your workforce?

b. Will changes in the organisation of work affect the gender, age, disability and ethnic background profile of your workforce?

c. Will changes in the credential and skill requirements affect the gender, age, disability and ethnic profile of your workforce?

d. Will the ageing of the workforce affect the profile of your workplace?

Q.6. Do you think the company will have to change the nature of its training strategies over the next five years in order to meet the demands of the changing sector? In what ways do you think your training strategies would need to change in order to meet the needs of:

a. existing employees and their development

b. future employees (apprenticeships, traineeships, graduates)

Q.7. Do you think that the mode of training will need to be changed or is likely to change? (For example from trainer/group to on-line learning). Why?

Q.8. Do you think that outside agencies like schools, colleges, TAFE, universities and other training providers are equipping individuals with the skills and qualifications that are required by the sector?

Q.9. What could outside agencies do in order to help you meet the demands of the sector more effectively in terms of:

a. re-skilling and up-skilling existing employees

b. training and qualifying future employees

Q.10. Is there anything that the state could or should do to assist training needs?

Q.11. What is the major difficulty that your company is likely to face over the next five /ten years in realising its skills requirements?

Q.12. Is the company likely to meet its skill requirements over the next five/ten years?

Q.13. Is there anything else that you would like to add?

THANK YOU

Interview schedule 2: Union representatives

PART 1 UNION

Q.1. What kinds of workers (occupational position) do you represent?

Q.2. How many members do you represent in the industry?

Q.3. Does the union have any particular responsibility for education and training?

Q.4. How does the union deal with questions relating to education and training within the industry?

Q4 What steps can the union take to address changes which might take place in the industry?

PART 2 THE INDUSTRY AND PRODUCTION

Q.1. What changes are likely to take place in the industry over the next five/ten years?

Q.2. How are these changes likely to impact on this industry?

Q.3. What steps should the industry take to address these changes?

PART 3 SKILLS PROFILES AND SKILL REQUIREMENTS

Q.1 Have the skills required by the industry changed over the last five years?

Q.2. How are these requirements likely to be met over the next five/ten years? (probe)

Q.3. What changes in skills requirements are likely to occur over the next five/ten years?

(probe)

Q.4. Have there been any problems in recruiting for particular occupational categories within the industry?

Q.5. Have people been recruited over the last 12 months? In what occupational areas?

Q.6. What change do you expect to see in employee numbers over the next five/ten years? Distinguish by occupational category.

Q.7. Are there specific qualifications, which your industry is lacking? For each gap, is that gap having or is likely to have a significant impact on the industry with specific examples.

PART 4 TRAINING

Q.1. How would you describe the training by the industry available to your members in the industry?

Q.2. What modes of training are available for your members/ (eg. On-site training, Day release, Block release and so forth)?

Q.3. Are you aware of any particular difficulties in attracting people with the right skills and qualifications into the industry?

Q.4. Are you aware of any problems in the industry in relation to skills training and re-training (eg. Number of programmes available)? Please give me some examples.

Q.5. Are there particular issues that come up relating to disability, gender, age or ethnicity and skills and training? If so, please explain with examples and dates.

Q.6. Do you have particular policies regarding these issues? If so, how were these policies developed? Who was involved and when? Is it possible to have copies of any policies you have?

Q.7. What, if any, have been the main successes for your union in the industry in relation to skills and training over the last five years?

Q.8. Have you experienced any particular difficulties in relation to the issues of skills and training over the last five years? If so, please explain with examples and dates.

Q.9. What do you think will be the training requirements for power industry workers for the next five/ten years? How should this training be delivered?

Q10 What types of training might be needed in a "Just Transition" from coal to a clean energy future?

Q.10 Should the employer offer incentives (financial or otherwise) for employees to enrol on training schemes? If so, what should they be?

Q.11. Does the Union have any view about provisions for the proportion of trainees/apprentices to skilled workers?

Interview schedule 3: Employees

PART 1 WORKFORCE

Q.1. Please give me a skills profile of the workforce (for example what proportion of your workforce are skilled, multi-skilled, semi-skilled and unskilled)?

Q.2. Please give me an indication of the qualifications that are required of each of the broad occupational categories you have identified. (for example for a technician, a team leader, a team member)

Q.3. Are there sets of more generic skills that you require of your employees? (for example team working, communication skills, time keeping etc)? For which occupational categories are these generic skills required?

Q.4. Has the skills profile changed over the last five years and in what ways?

Q.5. Describe any changes that have taken place in the organisation of work over the last five years, and what implications this may have for skills required.

PART 2 SKILLS PROFILE AND REQUIREMENTS

Q.1. How important are qualifications for jobs in the company? (Examples)

Q.2. Are qualifications an outcome of promotion and/or a condition for promotion?

Q.3. In the light of the changes, which are occurring in the sector, what are the skills (and qualifications) requirements likely to be over the next 5/10 years?

Q.4. What, if any, is the relationship between qualifications and jobs in this company/industry?

Q.5. Do you feel that your current skills would help you find work in other industries/sectors?

Q6 Is there a particular industry sector which attracts you for future job opportunities? (Ie health, agriculture, forestry, food processing, tourism, own business, other?)

PART 3 TRAINING

Q.1 Do you benefit from participating in training? If so why/why not?

Q2 What training takes place in the plant and how is it done? Can you give some examples of training you have undertaken?

Q.2. Who normally conducts this training? (Can you give some examples)

Q.3. Is there an opportunity to do training off-site? If so, where, with whom? Have any of you taken part in this type of training (examples)

Q.4. Is it difficult/easy to get on training courses? What are the procedures? Who decides?

Q.5. Are you satisfied with the training that you have received since you began work here ? Why? Why not?

Q.6. Is there any other training that you think would be useful to you in your current jobs? What is this training? How could it be delivered? Why is it important?

Q.7. What changes are beginning to happen in your areas of work, which may affect your training needs?

Q.8. Is the union involved in assisting you with your training and educational requirements? Please give examples.

Q.9. By what mode would you prefer this training to be provided?

a. Away from work at a college?

b. At the workplace through on-line programmes in the open learning centre?

c. On-the-job training

d. By any other mode?

Q.10. What type of training would help you develop skills that are recognised by other employers?

PART 3 FUTURE DEVELOPMENTS

Q.1. Is it possible that the changes, which are occurring in the sector, will lead to changes in the occupational categories in the company? What kinds of jobs will there be?

Q.2. What do you think are the likely changes in the power industry over the next 5/ 10 years?

Q.3. Will these changes alter the skills profile in the company? (for example, will you need more or less multi, semi, unskilled workers?)

Q.4. Are the credential/qualification requirements of the company likely to change? In what ways?

Q.5. Is it likely that you will have more or less need for people with other generic skills? Can you give me an example?

Q.6. Do you think that changes in the industry will have an impact on the nature of the workforce? For example:

a. Will changes in the production process affect the gender, age, disability and ethnic background profile of the workforce?

b. Will changes in the organisation of work affect the gender, age, disability and ethnic background profile of the workforce?

c. Will changes in the credential and skill requirements affect the gender, age, disability and ethnic profile of the workforce?

Q.7. Do you think the company will have to change the nature of their training strategies in order to meet the demands of the changing sector? In what ways do you think the training strategies would need to change in order to meet the needs of:

a. existing employees and their development

b. future employees (apprenticeships, graduates)

Q.8. Are there any other points that you would like to make?

THANK YOU

Interview schedule 4: Employees (focus groups)

Group Questions

Q.1 How would you describe the skills required for your jobs?

Q.2. How would you describe your own skills?

Q.3. How important are qualifications for meeting skills requirements for your jobs?

Q.4. How important are qualifications for your job? (Examples)

Q.5. In the light of the changes which are occurring in the sector, what skills do you think you will require?

Q.6. In the light of the changes which are occurring in the sector, what further skills training do you think would be appropriate for you?

Q.7. What training takes place and how is it done? Can you give some examples of training you have undertaken?

Q.8. Is there any other training that you think would be useful to you in your current jobs? What is this training? How could it be delivered? Why is it important?

Q.9. What changes are beginning to happen in your areas of work, which may affect your training needs?

Q.10. Is the union involved in assisting you with your training and educational requirements? Please give examples.

Q.11. By what mode would you prefer this training to be provided?

a. Off the job?

b. On the job?

c. By any other mode?

Q.12. Do you think your skills are transferable to other industries? If yes, what?

Q.13. What type of training would help you develop skills that are recognised by other employers?

Q.14. Are there any other points that you would like to make?

Q.15. Have you ever considered applying for other jobs? (if yes, please explain)

Q.16. Do you think you might need to consider other jobs in the future? (If yes, please explain). If so what training might you require?

Interview Schedule 5: Agencies/organisations/expert interview

PART 1 FUTURE DEVELOPMENTS

Q.1. Is it possible that the changes that are occurring in the sector, will lead to changes in the occupational categories that we have been discussing over the next five/10 years? In what ways?

Q.2. Will these changes alter the skills profile of the sector? (for example, will there be a need for more or less multi, semi, unskilled workers?)

Q.3. Are the credential/qualification requirements likely to change over the next five years? In what ways?

Q.4. Is it likely that the sector will have more or less need for people with other generic skills over the next five years (eg. Communication, leadership, problem solving)? Can you give me an example?

Q.5. Do you think that changes in the industry over the next five years will have an impact on the nature of the sector workforce? For example:

a. Will changes in the production process affect the gender, age, disability and ethnic background profile of the workforce?

b. Will changes in the organisation of work affect the gender, age, disability and ethnic background profile of the workforce?

c. Will changes in the credential and skill requirements affect the gender, age, disability and ethnic profile of the workforce?

Q.6. Do you think companies will have to change the nature of their training strategies over the next five years in order to meet the demands of the changing sector? In what ways do you think your training strategies would need to change in order to meet the needs of:

a. existing employees and their development

b. future employees (apprenticeships, graduates)

Q.7. Do you think that the prevailing modes of training will need to be changed or are likely to change over the next five years? Why?

Q.8. Do you think that outside agencies like schools, TAFE, universities and other training providers are equipping individuals with the skills and qualifications that are required by the sector?

Q.9. What could outside agencies do in order to help meet the demands of the sector more effectively in terms of:

a. re-skilling and up-skilling existing employees

b. training and qualifying future employees

Q.10. What is the major difficulty that companies are likely to face over the next five/10 years in realising their skills requirements?

Q.11. How successful do you think companies are likely to be in meeting their skills requirements over the next five/10 years?

Q.12. Is there anything else that you would like to add?

PART 2 SKILLS PROFILES and SKILL REQUIREMENTS

Q.1. Have the skills required in the sector changed over the last five years? If so, how?

Q.2. What changes in skills requirements are likely to occur over the next five/10 years?

(probe)

Q.3. How are these requirements likely to be met over the next five years? (probe)

Q.4. What should be the role of employers in meeting changing skills needs and gaps?

Q.5. What should be the role of the state in meeting changing skills needs and gaps?

Q.6. Is there a role for employees in meeting changing skills needs and gaps? If so, what and how?

Q.7. Is there a role for trade unions in meeting changing skills needs and gaps? If so, what and how?

PART 3 TRAINING

Q.1. Who should provide the training to meet changing skills needs and gaps?

Q.2. How should training be provided to meet these changing skills needs and gaps and by whom?

Q.3. What should be the role of the employer in the training provision to meet the changing skills needs and gap?

Q.4. Is there a role for trade unions in providing training to meet the changing skills needs and gap?

Skilling the Bay – Geelong Regional Labour Market Profile

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