

THE FUTURE WORKFORCE: MELBOURNE'S NORTH

2022-2032

STRATEGIC
SUMMARY



SUPPORTING PARTNERS:



Jobs,
Precincts
and Regions



NORTHERN
Metropolitan
Partnership



LA TROBE
UNIVERSITY



A report for NORTH Link

March 2022

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THE FUTURE WORKFORCE: MELBOURNE'S NORTH 2022-2032

STRATEGIC SUMMARY REPORT

List of contributing organisations to roundtables and interviews

7 Chefs
Advanced Business
Always Time For Cake Melb
Araluen
Austracold
Australia Pacific Airports Corporation
Banyule City Council
Bob McQuillen (NORTH Link Board)
Bolton Clarke
Brite
Brotherhood of St Laurence
Brunswick Industries Association Inc
Caravan Industry Victoria
Central Ranges LLEN
Classica International
Close the Loop
Connect Health
Contemporary Arts Precincts
Corpus Christi Greenvale
Creative Victoria
Darebin City Council
Denim 108 Pty Ltd
Department of Education and Training
Department of Jobs, Precincts and Regions
DHL
District 3429
Dorothy Impey Home
DPV Health
Edlyn Foods
Empirics Data Solutions
FCW Lawyers
Floridia Cheese
Food Inc
Food Pro
Forget Me Not Eatery
Gallery 7six5
Glenroy Bakery
Goonawarra
GOTAFE
Greg O'Brien (NORTH Link Board)
Health Ability
Hume City Council
Hume Whittlesea Local Learning Employment Network (HWLLEN)
IAPA
ICAL International Customs and Logistics Pty Ltd
Independent Software Advisors
Inner North Community Foundation
Inner Northern Local Learning Employment Network (INLLEN)
Integra Systems
Jemena
Kangan Institute

Krash and Co.
La Trobe University
Linc Horton (Chair, NORTH Link Board)
Living Legends
LLEN Group
MAB
Mantra
Marnong Estate
Marshall Street Studios
Melbourne Airport
Melbourne Innovation Centre
Melbourne Market Authority
Melbourne Polytechnic
Mitchell Shire Council
Moreland City Council
Music Victoria
Nationwide Seafood
Naturally Good Products Pty Ltd
NBN Co
Nillumbik Shire Council
NORTH Link
Northern Councils Alliance
Northern Health
Northern Metropolitan Partnership
OCG
Outer Urban Projects
PPHG
Pracademy
Procal Dairy
Quest Apartments
RCA
Repurpose It
Riverlee
Rizo Desserts
RMIT University
Royal Nut Company
Safi
Sealane
Snap Preston
Terra Firma
Textured Concept Foods
The Push
This Undercurrent
Three Blue Ducks
Urbsurf Melbourne
Victoria University
Victorian Skills Authority
Vincent Care
Vision Automotive Technology
Whittlesea City Council
Yarra Valley Water

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Preface

The reports: Strategic Summary report and Evidence report (research and data)

The Future Workforce: Melbourne's North 2022-2032 has been prepared by the National Institute of Economic and Industry Research (NIEIR) as a regional workforce planning analysis that forms part of a broader project “Opening the doors to employment for young people in Melbourne's North” made possible with the support of the Northern Metropolitan Partnership and funding from the Victorian Government. The project relates to the Metropolitan Partnerships Program overseen by the Victorian Government's Department of Jobs, Precincts and Regions' Office of Suburban Development and addresses priorities of the Northern Metropolitan Partnership.

The authors also thank the project delivery Partner, NORTH Link, for their assistance throughout the report, particularly with aspects of research and connecting the NIEIR research team to important organisations and individuals who help shape the Melbourne's North economy.

The report analyses the geographic region of Melbourne's North, which comprises seven Local Government Areas (LGAs) of Banyule, Darebin, Moreland, Nillumbik, Hume, Whittlesea and Mitchell. The region is diverse in its social and economic structure and covers inner, middle and outer suburbs and rural and peri-urban communities.

The regional workforce planning analysis identifies and anticipates future industry, employment, skills and training requirements in the northern region of Melbourne over the ten year period. The report identifies the type of education and training courses, and their accompanying modes of delivery, needed to develop the competencies and skills of the local workforce to meet future business and industry demand.

NIEIR has prepared two reports: a *Strategic Summary Report* which provides key points and recommendations and a comprehensive *Evidence Report* (research and data) that provides the detailed information generated by the project and provides an essential resource for those involved in economic, employment, training and education developments in Melbourne's North.

The key objectives of the reports are to:

- assess the skills needed over next decade in Melbourne's North as the economy adjusts and recovers from COVID-19;

- scope the labour market trends over the next decade in Melbourne's North as the economy adjusts and recovers from COVID-19; and
- assess how the education and training system is supporting industry in that context and to describe what is working, what is not, and how gaps can then be addressed.

Evidence report structure

The main report, the Evidence report is structured around three main sections which analyse:

- Where are we now?
- Where are we heading? and
- What is it likely to look like when we get there?

Methodology

Research

NORTH Link and NIEIR conducted three types of research for the project to build a solid platform of understanding on Melbourne's Northern economy and employment.

NIEIR conducted a series of discussions with key individuals nominated by NORTH Link by telephone or Internet, including education, industry, government and service sector organisations as a core component to informing the report.

NORTH Link and NIEIR conducted a series of seven online industry roundtables which brought together senior individuals across a series of key sectors:

- Food and Beverage Manufacturing;
- Advanced and General Manufacturing;
- Business and Professional Services;
- Health and Community Services;
- Construction and Logistics/Property Development;
- Visitor Economy; and
- Creative Sector.

The detailed findings from the industry roundtables can be found in Chapter 4 of the *Future Workforce: Melbourne's North, Evidence Report*.

Delegates to the industry roundtables were then sent a web based survey that allowed respondents to add further detail if they wished to do so.

The research sought to answer questions like these:

- the occupations which had the fastest employment growth;
- which skill shortages constrained enterprise productivity or at the strategic level which constrained total enterprise employment growth;
- what was done to overcome the skill shortages;
- expected employment growth under current trends;
- skills/occupations that would be in demand under in the future;
- if skill shortages are likely to increase and in which areas; and
- long-term impacts of COVID-19 on workplace development, cohesion and ongoing training.

Modelling component

The regional econometric model developed by NIEIR estimates National Accounts variables for local areas, typically LGAs, using a range of data sources to model the accounts within the constraint of State and National estimates provided by the ABS. The regional Integrated Multi-purpose (IMP) models are used to describe and forecast regional economic activity and to assess the regional impacts of economic trends and policies. The state IMP models, which are based directly on ABS data, are used similarly.

These models provide estimates of state and regional economic activity on both a quarterly and an annual basis. Both sets of models are based upon the detailed ABS state accounts with quarterly updates based on key aggregates. The annual model incorporates a detailed industry disaggregation and input-output structure. The dynamic input-output modelling used in this structure allows for detailed impact assessments to be made which incorporate local effects.

An input-output model depicts the inter-industry relations of an economy. It shows how the output of one industry is an input to each other industry. Using a matrix representation of an area's economy, a given input is typically enumerated in the column of an industry and its outputs are enumerated in its corresponding row. This format shows how dependent each industry is on all others in the economy both as customer of their outputs and as supplier of their inputs. These input-output models operate subject to macroeconomic constraints at the national, state and regional levels.

The NIEIR state and regional models contain over 400,000 variables at the local level and provide estimates of:

- population growth;
- dwelling commencements;
- housing stock;
- employment by industry;
- hours worked by industry;
- output by industry;
- investment by industry;
- imports and exports by industry;
- gross regional product; and
- estimated consumption expenditure.

Inputs to these models are continually being refined. The primary data become available at different time intervals, from 5-yearly (Census) to quarterly (Labour Force). These inputs include, but are not necessarily limited to:

- Population Census data (especially for the working population);
- ABS National Accounts (income, expenditure and product);
- ABS State Accounts;
- ABS Labour Force Survey regional employment and hours estimates;
- ATO Income tax estimates by postcode;
- Centrelink payments by postcode;
- Real Estate Institute (state) housing price and rent estimates; and
- ABS Household Expenditure Survey.

Some of these sources (particularly Census, the ATO and Centrelink) provide detailed regional data while others provide survey data which can be related to regions. These latter sources include variables for which good data is available at regional level coupled with variables for which data is not available. Various methodologies are used to impute most likely regional values for the variables for which regional data is not directly available subject to the constraint of the survey data and the known regional variables. Microsimulation is employed in cases where survey unit record files are available.

The occupation model

The occupational model by 86 2-digit ANZSIC industries and 3-digit occupations is used to provide detailed production of occupational demands. The economic and labour market drivers are formed from the corresponding LGA driver outcomes.

Melbourne's North

Planned transformative projects

- Beveridge Intermodal Freight Terminal
- Broadmeadows Revitalisation
- Epping Innovation and Food Export Hub
- La Trobe University City of the Future Redevelopment
- Melbourne Airport Rail
- Melbourne Metro 2
- New Outer North Hospital
- North East Link
- Outer Metropolitan Ring E6 (proposed)
- Suburban Rail Loop

Local government areas

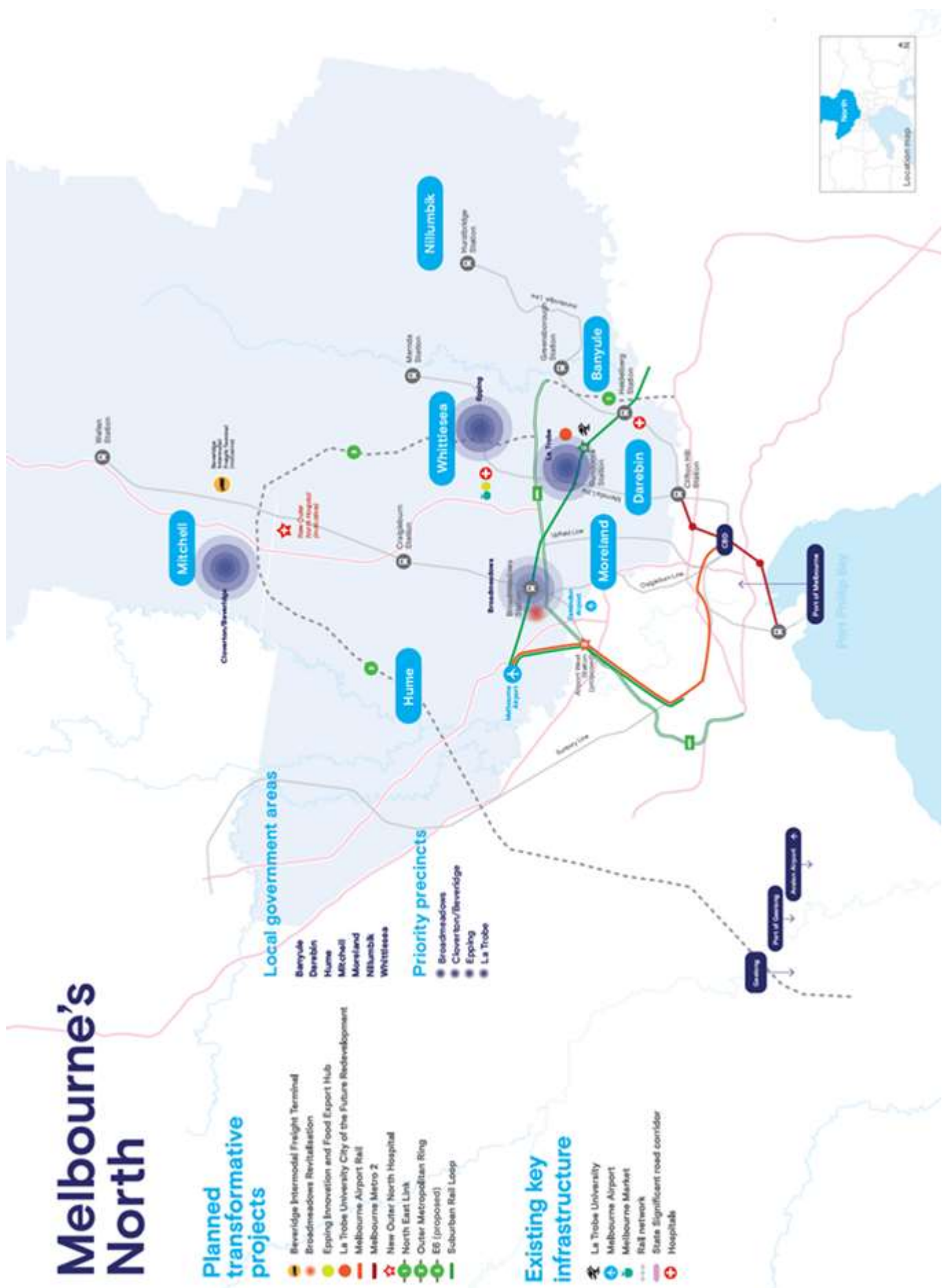
- Banyule
- Darebin
- Hume
- Mitchell
- Moreland
- Nilumbik
- Whittlesea

Priority precincts

- Broadmeadows
- Clayton/Beveridge
- Epping
- La Trobe

Existing key infrastructure

- La Trobe University
- Melbourne Airport
- Melbourne Market
- Rail network
- State Significant road corridor
- Hospitals



Changes since the last report

Melbourne's North population growth rate prior to COVID-19 has been higher than was forecast, which suggests that needs are accelerating and have probably been underestimated. The region was forecast to add 500,000 residents from 2016 to 2036, one-third more than the original forecasts. This is partly because growth rates are increasing in Moreland and Darebin, changing the pattern of need by adding the challenges of coping with increasing densification to those of fast outer area growth.

Key questions are, how has COVID-19 impacted population growth in terms of the distribution of that growth and in the light of an estimated loss of national population growth (loss of migration) of 700,000 and what share of that will accrue to Melbourne's North? The other trend that needs to be considered is the outflow of residents from Melbourne's North to country Victoria and the rest of Australia, also as a result of COVID-19.

The driving factor has been the fringe growth in the north and the rapid growth from Broadmeadows to the north has been phenomenal. There are other things as well, like a shift in the kind of workforce that Melbourne's North requires, that is, a shift in the occupations that are needed. For example, there are lot more occupations that are in the services industries. There is a corresponding decline in small manufacturing activities. A significant change in occupational demand has been triggered by the growth of the food industry and consequently food manufacturing, food preparation and distribution, including the development of the wholesale markets. There may be a lot more unemployment out there than we really know about, there are a lot of people who have given up looking for work and might end up just doing the odd job here and there.

The longer term changes that COVID-19 has created in the northern economy include working from home, but during the early phases of the pandemic the situation had also narrowed the ambition of many people, making them less optimistic than before. The extent to which people were resigned to the changes that were imposed on them by the pandemic changed peoples' perceptions about work life and about careers.

There has been a great deal of discussion in the media regarding the increasing number of households making the move to regional Victoria. What appears to have occurred is that a significant number of those choosing to make that change, rather than adding to the regional workforce, continue to work for their Melbourne based employer, using a home office and the Internet. The economic benefit, for Mitchell Shire for example, comes through household expenditures on local goods and services. Lifestyle changes, if the COVID-19 forced trend continues, are likely to create growing demand for regional services. Whether the home based regional workforce chooses to

make the shift to local employment will be interesting to watch.

TAFEs are in a better place today than they were in 2015, when the original Future Workforce Report was written, but a lot more needs to be done. We cannot say the same thing for universities, and that is a major problem, particularly the drop in income and the loss of at least some of the highly skilled workforce, is likely to reduce the capacity of universities to integrate more closely with business development in Melbourne's North. What has occurred in relation to universities and the decline in demand for courses over the COVID-19 period, could mean that governments then might be able to modify the funding model even more, and to the further detriment of university education.

There has been a great loss in the number of international students attending on campus. This also impacts the local economy as the students are not spending. International students will come back, the brand is still strong enough, but the universities have a very big job in trying to make sure that the reputation of their programs remains as strong as it has been in the past. Over the next 5 years we might see more stability coming back to the tertiary education sector, but that is still uncertain, depending on COVID-19. One of the consequences of all this might be that universities have greater difficulty than before in attracting young people to university life and education.

The shift to blended learning was accelerated by COVID-19 and many students are finding the change to online learning difficult and not as engaging as face-to-face learning. So the danger is that students lose their energy and enthusiasm for the course they are studying for. This means the courses do not work as well for their post university options.

In terms of progress for Melbourne's North, business developments that reflect the opportunities that computer science and IT can create are lacking in that these processes are not embedded deeply enough and tend to be peripheral, that is, for example, everybody has a website, but the websites are just a very small part of what should be happening.

Melbourne's North appears to have lost some of the small and computer aided fine and cutting edge engineering firms. The North needs to focus on developing engineering skills as well as improving the capacity of TAFEs and universities to create impetus to attract students back to those courses.

International market development opportunities have changed significantly since the original Future Workforce Report, much of it due to COVID-19 and disruption to supply chains. The other significant influence is the deteriorating relationship with China, which is disappointing.

The loss of the automotive manufacturing industry was not timely in that manufacturing companies in Melbourne's

North are missing out from the knowledge diffusion of at least some of the new technologies now evolving in the automotive manufacturing sector overseas.

The opportunities for the region's manufacturing firms include helping to safeguard Australia's strategic requirements by increasing the capacity to manufacture the kinds of products that shortages during the COVID-19 period have highlighted as a significant national weakness. Over the period, firms in Melbourne's North have struggled to add more high-tech jobs, at the same time the residents of Melbourne's North are becoming more highly skilled and highly qualified.

Top line findings – more jobs and higher skills

The *Future Workforce: Melbourne's North 2022 – 2032* report presents a detailed series of findings on which to base future decision making. These have been informed by updated industry consultation, economic modelling and desktop research. Top line findings from this work are presented below, and Figure 1 shows a 7 step employment and skills strategy for Melbourne's North that will facilitate forecast employment growth. Many of the recommendations in the original *Future Workforce: Melbourne's North* report are still relevant today, and have been incorporated into the new reports. The original recommendations include the importance of such things as STEM skills and the ability to think creatively and for the individual to acquire a wide range of skills and to enable flexible working practices across industry sectors.

Education sector

Career education – young people need a “better line of sight” on current jobs and jobs of the future in the region – little relationship between career information imparted at schools and industries of strength in Melbourne's North e.g. food manufacturing, aviation, logistics.

Need for greater school focus on numeracy and literacy, particularly at year 9 level and particularly in areas of disadvantage.

Recognise the central role of TAFE in Melbourne's North in training the future workforce for a growing and skilled economy and enabling that growth – however, TAFE practices need to better align with employer needs.

Universities in Melbourne's North have a central role in place-based research activities, aligned with Melbourne's North industrial strengths – for example, La Trobe University and food and agriculture research. It is therefore extremely important that universities are encouraged and assisted to continue the engagement

with the region which, in the case of Melbourne's North, has developed over the last decade.

Student placement programs such as the Northern Industry Student Placement Program (NISPP) and the North and West Melbourne Data Analytics Hub have been effective in bridging the gap between study and work and should be expanded.

Better connect all levels of education with each other, and then with the needs of local industry to create a more integrated system with improved and better-informed pathways to employment.

The disadvantaged became further disadvantaged during COVID-19 – those students forced to learn online often were sharing computers with family members and lacked home study facilities.

Some TAFE students could not finish their courses during lockdowns as they missed their practical component.

North West Melbourne lacks a technical school – the redeveloped Kangan Institute campus at Broadmeadows would be a good place to co-locate it with redeveloped TAFE facilities focused on health, advanced manufacturing and possibly logistics.

75 per cent of employers consider employability skills to be as important, if not more important, than technical skills.

Education Department needs to elevate employability as a key outcome for secondary and tertiary students.

Micro-credentials versus three-year degrees - employers are seeking longer-term business service relationships with universities and TAFEs where they can supply specific skills on demand – online short courses were popular during COVID-19 lockdowns - as a consequence, universities and TAFEs have a good opportunity to service the workforce upskilling market as well as the new entrant market.

Employment

Focus on job creation: Melbourne's North has less jobs than workers living within the region. This outflow of workers is forecast to continue. For the gap between local jobs and resident workers to be closed, a further 182,000 local jobs would be required by 2031.

Attract industries to Melbourne's North that employ high tech workers by promoting the skills base available in the local area.

Employment programs need to be more granular and targeted at specific industries – for example the NORTH Link/Caravan Industry Victoria/Jobs Victoria Growth Sector Jobs – Caravans program is tailored to the caravan manufacturing sector's needs in filling skills gaps.

Incubators – fostering incubators is a good way of driving innovation and innovative firms and associated skills at the start-up level – statistics show that incubators such as Melbourne Innovation Centre foster employment and also underpin higher business survival rates.

In a time of labour shortages, there should be an emphasis on tapping into pools of under-represented workers, e.g. CALD communities, mature-aged, with tailored programs. Diversity – skills and labour shortages in certain sectors can be addressed in part by hiring from

under-represented sectors such as women and Indigenous communities in traditionally male industries such as manufacturing and construction. The gender differences in skills held in the economy continue to be striking. Explore what opportunities exist in redefining roles in employment and skills development over the next 10 years.

Figure 1: Melbourne's North 7 STEP employment and skills strategy

Employment growth to 2031 will have to come from a range of sectors and pro-active strategies.



Female employment

The female workforce has been more adversely affected during the COVID-19 pandemic with the female share of Victorian total employed falling during the early 2020 and again in late 2021. This structural difference has continued up until recently, where gender employment shares are close to pre-pandemic levels with around 47 per cent employed female. Despite the female share of employment reaching close to parity, females tend to work in more casual/part-time positions with less hours. Two thirds of part time workers are female, while only around a third of all full time workers are female.

The nature of part-time work and the industries that employ many part-time workers (e.g. Retail, Hospitality and Tourism) mean that these workers were more vulnerable to business shut downs during the pandemic. The rate of female underemployment, which is workers that are working fewer hours than desired, increased strongly during 2020 and again during the long lockdown in late 2021. This implies that COVID-19 restrictions led to a higher rate of reduced female hours employed.

While the initial stages of the pandemic led to reduced hours, this turned to disproportionate female job losses throughout 2020. The unemployment rate for females from April 2020 to October 2020 worsened from 6.0 per cent to 8.1 per cent. At the same time, the male unemployment rate improved from 6.2 per cent to 5.8 per cent. In addition, female jobseekers are looking for full-time work at a higher rate than those that are employed in full-time work, which means that many are settling for part-time positions when full-time is preferred.

Labour force participation in the female population continues to be lower than the male population. If the rate of employment was equalised between genders, this could unlock around 62,000 female resident workers in Melbourne's North which could help address current critical workforce shortages. In future, focusing on training for growth occupations and industries will be beneficial for both genders, as detailed in other sections, including professional services (tech-based in particular), and health related occupations. The largest gender industry employment gaps are in male dominated Construction, Transport, Postal and Warehousing and Manufacturing industries, while Health Care and Social Assistance is female dominated. Programs should be designed in encouraging more diverse employment in these industries, starting from secondary school students.

Together, these trends in the Victorian state labour force suggest females are seeking more secure jobs, more full-time positions, and greater hours worked. Melbourne's North initiatives needs to be designed around these goals as industry recovers from COVID-19 disruptions. This could mean helping industries with high levels of

casualisation and part-time employed secure more full-time workers. Conversely, it could mean helping industries that insist on full-time employment employ part-time workers on job shares or other arrangements, or encouraging female employment into occupations and industries where they are underrepresented. Addressing these goals will also help females achieve higher incomes. Initiatives such as the City of Hume and NORTH Link's Women in Leadership pilot program will help promote these goals.

Skills

Continue to address the imbalance between skills demanded by local industry and resident skills. Actions might include attracting businesses with skill requirements in line with local residents such as advanced manufacturing or food process manufacturing, or conversely, encourage established businesses in the region to investigate the benefits to their business from employing high skilled residents locally, rather than see them commute to the CBD. This could include ICT and social media/online marketing specialists, UX designers and so on.

Improve access to and encourage lifelong learning practices among residents, providing opportunities and pathways through training, education and employment with a particular focus on CALD groups.

Entrepreneurialism is a skill that will be more sought after as our economy diversifies – evidence suggests many young people have responded to a more disrupted environment. Programs such as those offered by the Melbourne Innovation Centre and INLLEN should be expanded and supported by Government and the education sector.

Health sector

Cluster potential particularly strong for Health Sector with beneficial economic and employment outcomes. Encourage new health cluster around new Northern Hospital and start planning for the development of the new health cluster workforce.

It can be difficult to attract medical practitioners to live and work in Melbourne's North. Direct information to medical professionals to market attractiveness of Melbourne's North and the educational opportunities for their children.

Some of the Commonwealth incentives to attract doctors to regional areas could be applied to metropolitan regions in need such as Melbourne's North.

Competing sectors within Health and Community Services will drive worker shortage, including nurses. Shortages are more likely to be acute around aged care, mental health and the NDIS, so strategies are required to ensure that employment opportunities in these sub-sectors are promoted and enough people are trained to fill the growing number of positions. In the case of aged care, mental health and NDIS workers, pressure needs to be applied to ensure wages for the lowest paid workers are set at levels that properly reflect the responsibility of the work being done. There is an opportunity to address the evident under-investment in some classes of care and as a result offer more employment positions/occupations to graduates.

Career structure and productivity mindset – industries with a reputation for low pay such as aged care could improve career structures by creating higher paid jobs linked to productivity improvements through skills e.g. digital skills and opportunities around assistive technologies.

ICT

There is a lack of ICT capacity in Melbourne's North business sectors, which is a competitive disadvantage to regions more able to take advantage of modern digitisation and automation, particularly in manufacturing. This presents the risk of jobs relocating to other regions. Better business connections with high tech companies, so that technology can be shared, and improvement of digital skills will prepare Melbourne's North for industry innovation beyond the next ten years.

Many local residents have these skills, but work outside Melbourne's North. Hiring local ICT workers, and initiatives such as NORTH Link's Data Analytics Hub and better integration of the skills available in tertiary sector institutions with the region's businesses.

TAFE teachers may require extra training (and funding for TAFEs) in ICT and working online.

Broadband remains an issue with levels of connectivity, particularly in relation to future business opportunities, medicine, transport systems and the future of online education and training, sometimes not adequate to the task. It remains of high importance that speeds and capacity of the Internet are improved – now that the region is overwhelmingly covered by the NBN, the next step is to encourage further proliferation of NBN's Business Fibre Zones and knowledge of the benefits thereof within these zones.

Industry

The importance of knowledge diffusion and knowledge sharing between industries in Melbourne's North has increased given the global supply chain and general supply issues caused by COVID-19. Policies and innovation that help to retain existing local manufacturing components to avoid hollowing out of the supply chain should be a focus. Construction materials are one such example with the potential to constrain both recovery and growth. Government support for initiatives such as the Melbourne's North Advanced Manufacturing Group is vital.

Enable a business and financial services culture that has the confidence to invest in ideas, plant and equipment that ensure global competitiveness and economies of scale. Private investment will be an important driver of jobs growth in Melbourne's North over the next decade.

Manufacturing sub-sectors in Melbourne's North could do more to promote the employment and career opportunities in their industry to school and tertiary students.

The visitor economy in Melbourne's North has enormous potential and requires further State Government support to elevate it

Young workers

Over the next 10 years young people will need to be encouraged into different industries as demand for jobs changes under the new economic environment.

Growth industries that could be promoted to young people include Health and Social Assistance, Transport, Advanced Manufacturing, Logistics, Postal and Warehousing. Young people may also need to seek higher skilled training than in previous years to move into more professional career pathways to train for more digital and information-based careers.

Vocational mentoring is a major gap in the region – less advantaged young people tend to have less access to vocational mentors in their networks – further support to expand initiatives such as the Inner Northern LLEN's Vocational Mentoring Exchange would be positive.

Supply chains

Supply chain efficiency will be improved by lifting knowledge intensity and hence value added of Melbourne's North production (damaged to some degree by the closure of the automotive manufacturing sector) and improving access to exporting firms to high value markets. These changes raise demand for higher skills

and improved productivity and have the potential to increase employment.

Continue to improve linkages between Melbourne's North firms, conduits are NORTH Link, the Melbourne's North Food Group and the Advanced Manufacturing Group.

Attract exporting businesses with good local catchment supply chain linkages and increase knowledge intensity of local production.

Connectors

Industry groups such as NORTH Link play a vital role in bringing different sectors together for collaborative conversations, in this case industry, education, health and local government – this is beginning to be replicated at industry sector level by NORTH Link's Melbourne's North Food Group and the Melbourne's North Advanced Manufacturing Group, as well as the North and West Melbourne Data Analytics Hub.

The LLENs are well positioned to undertake work at the higher level, particularly given the breadth of network connections and the many years of accumulated relationship and the expertise that has been developed across the LLEN regions.

Co-locating industry on campus to accelerate growth *"La Trobe's Research and Innovation Precinct is a nexus of large and small business, world class research institutes and a thriving university culture. All backed by university and state investment into Melbourne's North to create a thriving University City of the Future."* Co-locating in the Precinct gives business partners easy and facilitated access to a wide range of specialist facilities, laboratories and infrastructure.

Clusters

Continue to protect Melbourne Airport 24-hour status.

Accelerate key precinct developments as follows.

- Fast track the Melbourne Food Innovation and Export Hub development adjoining Melbourne Wholesale Market.
- Fast track the development of the Beveridge Intermodal Freight Terminal.
- Elevate La Trobe University's status as Australia's major hub for food and agriculture research with the potential investment by La Trobe University and the CSIRO, as well as the potential for the wider La Trobe National Employment and Innovation Cluster (La Trobe NEIC).

- Broadmeadows Revitalisation – continue to invest in town centre and Kangan Institute redevelopment to supply TAFE-educated workforce in advanced manufacturing, logistics and health and community services. Resolve planning for new hospital in Melbourne's North.
- In these instances, Government approvals and investment will be vital to trigger significant private sector investment, some of which is waiting for Government approvals.
- It's time to invest in Melbourne's North – the report shows a long-term relative lack of investment in capital stock in Melbourne's North, much of it public investment, *vis a vis* other regions of Melbourne.
- Commonwealth and State Governments can work together to bring out the potential of Melbourne's North with local government and the private sector via initiatives such as the proposed City Deal for Melbourne's North and West.

Government

An important role for Local Government, probably more important since COVID-19, is connecting community and industry. This is a particularly important role when it comes to working with young people in the community and minority or disadvantaged groups. Targeting areas of local disadvantage for special projects does and can help to break the generational cycle of disadvantage e.g. Banyule City Council program targeted at employing disadvantaged communities.

Local Government can and does contribute to shaping local industry and employment strategies. This is achieved by ensuring those things under direct council control, including planning, land use, open spaces, amenity, sustainability of built form and contemporary waste management strategies, contribute to helping industry grow and to access an increasingly skilled local workforce.

Industry, local government and State Government to work together to assist quality of regional development planning.

Strategic funding by the Victorian Government under its Government's Victorian Industry Fund will enable the La Trobe University to continue working in partnership with CSIRO and State Government towards the establishment of the Australian Food Innovation Centre (AFIC). Designed in collaboration with industry, CSIRO and La Trobe, this development will create a new national agrifood facility, to support the growth of agri-food businesses and help develop the State's advanced manufacturing capability.

Pillars of growth

The four pillars of growth are central to future strategic planning in Melbourne's North.

- skills;
- capital;
- knowledge creation; and
- supply chain connectivity.

Workplaces

Workplaces are changing and remote working and blended versions thereof are changing the utilisation of commercial buildings. A detailed investigation of what these changes mean for planning future communities, physical workplace and educational building stock, needs to occur so these changes, beyond the scope of this report, are fully understood.

Demonstrated vulnerability of some groups of workers to both economic shock and risk of exposure to the pandemic. Strategies required to help mitigate risk for this group of workers. Hume in particular has suffered from this serious issue.

Addressing disadvantage

Broadmeadows has access to several growth industries within Hume (C) that can provide opportunity for disadvantaged residents to obtain employment and improve their circumstances including:

- Transport and Logistics;
- Health Care and Social Assistance; and
- Professional, Scientific and Technical Services.

A technical school at Broadmeadows as part of the Kangan Institute's redevelopment and broader Broadmeadows revitalisation would help address disadvantage.

For Heidelberg West, the current composition of the local industry skews more toward higher skilled work, which acts as a barrier for those seeking entry into the workforce from a lower qualification background. This means that either transport links may need to be improved for local workers to find suitable work, or workers will need to be retrained or upskilled for growth industries and occupations within the region.

Poor public transport links within the region reinforce disadvantage, particularly in terms of making journeys to work difficult.

NORTH Link

Since 1995, NORTH Link has made a significant contribution to Melbourne's North by strengthening regional partnerships, doing so by enabling the connections between industry, education, health and local government. NORTH Link initiatives include assisting to highlight the importance of research and by taking a leading role in advocacy on behalf of the region, as well as encouraging industry connectors such as the Melbourne's North Food Group, Melbourne's North Advanced Manufacturing Group, North and West Melbourne Data Analytics Hub, NISSP and other employment programs, including for the caravan industry.

The role of philanthropy

Opportunities to build on the vision of philanthropists can be a powerful driver of research and development. One recent example, La Trobe University became the beneficiary of one of Australia's largest single donations to a tertiary education provider, receiving \$45 million for its life-changing research into autism. The significant gift was made by the late Olga Tennison – a compassionate Brisbane-born philanthropist with a life-long interest in autism, sparked by a family connection. VC Professor Dewar says, *"If a university's research is impactful enough, and aligns with the passions of a donor – as it did in this case – it can lead to quite extraordinary outcomes."*

Capability statement: Melbourne's North

- Strength in delivering training and education services which are well connected to local industry needs through the region's Universities and TAFEs, including in the La Trobe National Employment and Innovation Cluster (NEIC), which is one of only seven NEICs in Melbourne.
- Transport connections include Melbourne Airport, Melbourne Wholesale Market and freight and logistics networks enabling efficient market access around Australia and overseas, with further initiatives towards continual improvement which include the development of the Beveridge Intermodal Freight Terminal.
- Melbourne's North location in the greater metropolitan area gives access in all directions, to and from the rest of Melbourne, Victoria, interstate and overseas.
- Industry sector clusters that are strategically important and include the food and beverage industry, advanced manufacturing, health and community services, education and distribution and logistics.
- Availability of skilled workers: Melbourne's North communities have increasingly invested in skills development with highly skilled residents employed both within the north and across Greater Melbourne.
- Seven local governments that have the capacity to identify a range of differing local needs that nuance the regions cultures, a strong creative sector and continue to improve the amenity of their LGAs for the people that live there.
- Melbourne's North is recognised for its established practice of working as a region, which adds strength to future planning in its constituent parts. Connecting people to jobs, connecting schools, universities and TAFEs, connecting these to industry, dealing with future challenges, all these things are enhanced by this practice.
- The intellectual capacity to address the future, its opportunities and threats, makes Melbourne's North a great place to invest in.
- The relative availability of industrial land and its relative affordability creates a competitive advantage for businesses that invest in Melbourne's North.
- The cultural diversity of the region makes Melbourne's North a great place to live and to share ideas and cultures.
- A natural environment that includes undulating topography with river and creek corridors, a good basis for visitor economy activity.
- Melbourne's North has demonstrated agility in dealing with COVID-19 and other major shocks to its economy in recent years. This capacity to adjust and plan as a region, places Melbourne's North in a strong position to adjust to future changes and shocks which are likely to include technology based changes, a shift from public to private capital investments because of financial constraints on government and the need to fill gaps in local supply chains hollowed out by previous policies.
- Melbourne's North key industries of construction, transport and logistics, and manufacturing give the region employment strengths in occupations related to machinery operators and drivers, and technicians and trades. While there are also many employment opportunities for community and personal services workers.

1. Introduction

1.1 Melbourne's North

Pre COVID-19, Melbourne was among the fastest growing cities of its size in the developed world. One in five Melbournians live in Melbourne's North, or around one million people. From 2006 to 2016 the region added almost 200,000 people, which represented a faster growth rate than for the city as whole. The pre COVID-19 projections showed that, by 2036, the regional population was projected to rise to around 1.5 million (DELWP 2019), about 100,000 larger than Adelaide today and half a million more than in the region at present. COVID-19 may have slowed that growth because of the very significant slowing of international migration, while at the same time COVID-19 caused some city residents to reflect on lifestyle opportunities outside of the city and relocate to regional Australia.

All LGAs within Melbourne's North suffered a loss in employment during the second quarter of 2020. However, for most regions, employment levels have continued to recover on both an industry and resident basis.

The most important industries within Melbourne's North in terms of both high economic output and employment are:

- Health Care and Social Assistance;
- Manufacturing;
- Construction; and
- Transport, Postal and Warehousing.

In 2021, a number of sectors returned to near pre-pandemic levels of employment and economic output. Employment growth was the fastest in:

- Retail Trade;
- Transport, Postal and Warehousing;
- Financial and Insurance Services;
- Public Administration and Safety; and
- Education and Training.

1.2 Melbourne's North competitive strengths

The Northern Horizons report (NORTH Link/NIEIR), which we reference in this report, identified the competitive strengths and weaknesses of Melbourne's North as being the following.

Strengths

- La Trobe National Employment and Innovation Cluster (NEIC), which is one of only seven NEICs in Melbourne.
- Melbourne Airport.
- The food and beverage industry.
- The established practice of working as a region.
- The region's freight and logistics networks.
- Industrial land availability and affordability.
- Cultural diversity.
- Undulating topography with river and creek corridors.
- Location in Melbourne, with access in all directions, to/from the rest of Melbourne, Victoria and interstate.

Weaknesses

- A shortage of major clusters.
- Poor connectivity to other parts of Melbourne, especially by circumferential public transport and also within the region, particularly East-West.
- The historically low socio-economic status of much (but not all) of the region. Reflecting this, the region has few elite private schools.
- There is a growing mismatch between resident skills and local job opportunities, resulting in outbound commuting.
- Gaps in regional supply chains, including research and innovation that lead to loss of regional value adding opportunities.
- The tourism base is weak.
- In many parts of the region, particularly inner areas, there is a shortage of open space and canopy cover.

Melbourne's North has a larger workforce living within the region than there are local jobs available. The hours worked from jobs located within the region are around 31 per cent less than the hours worked by people who live in the North. This means that local residents are currently dependent on the commuter infrastructure network to access employment.

Improved travel times by road or public transport will allow greater access to employment opportunities, not only for people living in Melbourne's North, but for

residents outside the region who would benefit from greater access to jobs in the North.

In its 2017-18 *State of the Regions* report (NIEIR/ALGA) NIEIR defined the four pillars of productivity growth as:

- skills;
- capital;
- knowledge creation; and
- supply chain connectivity.

Productivity growth should be matched by growth in demand, which at the regional level is a far from being an automatic process. In today's context in Melbourne's North, this means a skilled workforce in the areas of marketing and sales, social media, logistics and market development. By maximising the opportunities from the four pillars of productivity growth, then the greater the value of production per hour worked. That means a greater amount of wealth available for distribution to the people who contribute to that value – working people of all grades of skill, managers and financiers, as well as those who own the capital of business enterprises. It is self-evident that productivity growth underlies income growth. The analysis found that there was an opportunity to improve productivity outcomes in Melbourne's North by working on improvements on the pillars, the greatest benefit accruing to the outer regions of Melbourne's North.

NIEIR's latest economic modelling and projections are based on actualised data to end Q2 2021, a period which takes into account most of the COVID-19 impacts, thereafter, post Q2 2021, the economic projections are calculated using NIEIR's economic modelling systems.

The latest analysis shows that the planning of the last two decades has resulted in some successes, despite the ravages of COVID-19. We should recognise the strength of the region over the last 20 years and longer as the capacity the region has shown to work together to address the complex changes that have impacted the Melbourne's North economy. These impacts include rapid population growth, the global financial crisis (GFC), the loss of the automotive manufacturing sector, climate change and associated costs, rapid changes in technology and markets and in recent times, the changes forced on the economy and workplaces by COVID-19.

In saying this, we should also recognise the importance of the organisations and agencies who have facilitated these connections, including the willingness of local governments over the previous decades in Melbourne's North, to address 'northern issues' together and beyond their own individual boundaries., driven largely by organisations such as NORTH Link and the Northern Councils Alliance. The efforts of the education and health sectors have also had positive results and this progression needs to continue. All of these things together chart the

pathway to the future and a growing prosperity for Melbourne's North and the people who live there.

The new analysis shows structural improvements in Melbourne's North economy:

- Melbourne's North has closed, or significantly reduced, many of the structural gaps with its peer region in the rest of Melbourne (excluding the central LGAs, that is, Melbourne City and its immediate surrounding LGAs);
- the stand out result is that total labour productivity or GDP per hour worked has gone from 91 per cent of peer region levels in 2001 to 100 per cent in 2021. There has been a steady improvement over the last 20 years and the region is now on par with Western, Southern and Eastern Melbourne, which all have similar levels of total labour productivity;
- in 2021 the production of health and education services per capita of population within Melbourne's North was similar to its peer regions of Melbourne; and
- Melbourne's North has maintained its superiority in international exports as a per cent of GDP at a 20 per cent margin above its peers, while interregional exports, as a per cent of GDP, are the same as the Melbourne peer region.

More, however, needs to be done as equivalence in structural indicators is not enough to allow Melbourne's North to catch up to its peers. While the GDP per capita of working age population in Melbourne's North has improved over the last 25 years, in 2021 it remained 17 per cent below the Melbourne peer region indicator. This result had a number of adverse consequences for Melbourne's North in 2021:

- industry hours of work in Melbourne's North per capita of working age population was 17 per cent below the Melbourne peer region;
- usual resident hours of work per capita of working age population was 5 per cent below the Melbourne peer indicator;
- these shortfalls suggest a "locked in" additional unemployment rate/under-employment rate of 5 percentage points when compared to the Melbourne peer region;
- in terms of living standards, this resulted in per capita consumption expenditure in 2021 which was 11 per cent or \$4,700 per capita below the Melbourne peer region;
- the economic projections suggest that, in 2023, when the household saving ratios return to 'normal', that the household savings ratio for Melbourne's North will be 4 per cent below the Melbourne peer region but this may well change as interest rates increase; and

- the capital stock installed in Melbourne's North when measured by per capita of working age population relative to the Melbourne peer region has not improved over the last 25 years and as a result lags the Melbourne peer region by 14 per cent. The projections show that if Melbourne's North is to reduce the unemployment rate differential, the capital stock will have to increase by \$16,500 per capita of the working age population by 2040. To achieve this there will have to be a shift from public sector investment to business investment.

The key problem for Melbourne's North, although a lot has been done, is that while the infrastructure and business capital stock expanded by 130 per cent over the last 20 years, this was not enough to compensate for the fact the its population growth was faster than the Melbourne peer region. This trend will continue into the future.

Over the last 20 years, the working age population in Melbourne's North has grown by 0.3 per cent per annum faster than the Melbourne peer region and, despite Victorian population growth falling from the last 20 year average of 1.8 per cent per annum, to 1.0 per cent per annum, over the next 20 years, the growth in the working age population in Melbourne's North when compared to the Melbourne peer region will still be 0.2 per cent per annum higher. Given this ongoing differential, the comparison between Melbourne's North and its Melbourne peer region should be measured in terms of per capita of the working age population. When this is done:

- international exports per capita are similar in Melbourne's North and the Melbourne peer region; and
- this is not the case for interregional exports where a gap between Melbourne's North and the Melbourne peer region is \$7,400 per capita of working age population. \$4,000 of this difference can be explained by Melbourne's North under-performance in the professional services and scientific industry sectors and computer systems and administrative services industry sectors.

These findings, yet again, point to the importance of continually improving the availability of skills in Melbourne's North and the importance of education and training in creating the skills as a prime instrument for improving Melbourne's North economic outcomes over the next decade.

1.3 The impacts of COVID-19

COVID-19 created a period of rapid change. It also laid bare the vulnerabilities and disadvantage that are evident in parts of Melbourne's North, doing so in both the student

population and the workforce. For the professional services workforce, work continued, but largely from home and via communication on the Internet. Essential workers were exposed to higher risks and in some LGAs in Melbourne's North, where the resident workforce was far more vulnerable, unemployment rates rose quickly. The gig economy continued to grow as demand for online deliveries surged during the pandemic.

From an educational point of view, students who did not have the private space to study from home and access to the NBN and a personal computer, had significant difficulties in continuing their studies. Female workers were more vulnerable to losing their jobs and in the earlier phases of the pandemic, young people found it even harder to find employment.

The LGAs most severely affected by higher unemployment because of COVID-19, were Hume City Council and City of Whittlesea because of the vulnerability of unskilled and casual workers. The LGAs most severely affected by slower recovery from COVID-19 impacts in average quarterly GRP growth, were the inner regions of Banyule City Council (1.3 per cent) Moreland City Council (1.1 per cent) and Darebin City Council (1.1 per cent) where the creative economy struggled to recover.

There were significant reversals too, the loyalty to employers that was a feature of the early phase of the pandemic, with workers remaining in their jobs, has now changed, with around one in five workers seeking new jobs or reviewing their lifestyle options. Female employment bounced back strongly and more opportunities became available for younger workers. What the pandemic has done is to expose structural features that are weaknesses in the economy and has brought forward those changes that would have happened anyway at some point over the next 10 to 15 years.

For students and workers, the Internet became more important as a pathway to completing study and work. While the Internet held up during peak demand there needs to be a change in thinking about standards. The question, are download speeds of 50 Mbps and upload speeds of 20 Mbps really adequate in a contemporary learning and business environment? The answer to that question is no and the efficiency of the system as a whole needs continual improvement across the region.

What was also evident throughout the period was that disadvantage really did matter. During the worst phases of the pandemic, the disadvantaged were hit the hardest, with illness and with unemployment. The climb back to pre-pandemic circumstances is going to be much harder for workers coming from disadvantaged cohorts and levels of disengagement for disadvantaged young people are likely to remain far higher and for far longer than those of the well-connected and advantaged young. This applies to both study and work.

There are mixed messages regarding two changes brought about by the pandemic, these are working from home and online learning. While some people embrace the idea of working from home, many workers are also eager to return to the office and engage with colleagues. It is also evident from discussions with education and training providers, that while online and blended learning represents the future, it suits some students and some courses, but not others. The younger cohort at TAFE have shown a preference for face-to-face learning and being with fellow students. Again advantage and disadvantage play a significant role here. Enrolment data for residents of Melbourne's North during the lead up to and earlier phases of the pandemic show decline, it appears the older the age group the greater the decline in enrolments.

What has also become increasingly evident is that COVID-19 has provided an opportunity, doing so through necessity, to look closely at ways of improving educational delivery. A key component of this is better connecting all levels of education with each other, and then with the needs local industry. So we are talking about a more integrated system with improved and better informed pathways to employment.

There is also a need to properly recognise the importance of the organisations in Melbourne's North who are assisting these connection processes and to ensure their funding and role is properly adequate and well defined, so as to produce the best possible outcomes. Initiatives include Structured Workplace Learning (SWL), Northern Industry Student Placement Program (NISPP), Jobs Victoria Employment Network (JVEN) and Vocational Mentoring Exchange (VME).

This has been a particularly difficult period for the universities in Melbourne's North because of the impact of the pandemic on international student numbers. Universities in the region have a central role in place-based research activities, aligned with Melbourne's North industrial strengths. It is therefore extremely important that universities are encouraged and assisted to continue the engagement with the region which, in the case of Melbourne's North, has developed over the last decade.

TAFEs are now charting a new course and appear, COVID-19 aside, to be on a pathway of improvement in terms of their role, structure and relationships within the education and training system and these changes are described in this report. COVID-19 has created a roadblock in terms of TAFE course completions because students have not been able to attend the work placements that allow them to complete their courses. The danger here is that a lag in the training system, when combined with the forecast exodus of a COVID-19 stressed workforce, particularly marked in some sectors such as health, is likely to exacerbate worker shortages over the next couple of years. The pandemic has also highlighted the opportunities for short courses, micro-credentialing and vocational mentoring and other innovations.

While Melbourne's North residents are more highly qualified than before, TAFEs, along with their university counterparts, are central to upskilling the regions workforce, particularly in those disadvantaged groups and localities in Melbourne's North, and hence central to providing a workforce with the capacity and skills to grow the region's economy and employment prospects.

For the TAFE sector, the following factors will help build future success beyond the COVID-19 period.

- A fairer funding model that takes into account the wraparound services and supports public TAFEs provide.
- Policy changes which support the TAFE network to operate more nimbly and collaboratively.
- Digital literacy support for TAFE teachers who have had to adapt their delivery throughout COVID-19, and for many of whom, a blended delivery model will now become the new normal.
- Access to more frequent and granular (regional) employment data and projections, so that TAFEs can better align their course offering to demand and growth, including better tracking of the employment paths of graduating students.
- Better connections and a curriculum designed and delivered in concert with industry.
- Investing in up-to-date campus facilities.
- Closer relationships with industry around student placements, industry course co-design and delivering the micro-credentials industries are wanting.
- Cloe observation and support for innovations, such as Melbourne Polytechnic's support for the Food Inc incubator.

1.3.1 Diversity

Melbourne's North is an ethnically diverse region and the percentage of residents who speak a language other than English at home is greater than the Victorian average. However, this does not apply in three of the region's seven constituent LGAs – Mitchell, Nillumbik and Banyule. Among the four relatively polyglot LGAs, European languages other than English are widely spoken in Darebin, Moreland and Whittlesea, while the languages of South West Asia (Turkish, Arabic and others) are prominent in Hume, with some spread into Moreland and Whittlesea. South Asian languages are relatively common in Whittlesea and Hume. Whittlesea is the only LGA in Melbourne's North where the proportion of residents speaking a South-East Asian language (Indonesian etc.) is above Victorian average, and Darebin is the sole LGA in the region where the proportion speaking an East Asian language (Chinese,

Japanese, Korean) is above Victorian average. Very few residents speak African, Australian indigenous or Pacific languages. Insofar as it is an economic advantage to speak the language of Australia's major trading partners, the ethnic diversity of Melbourne's North is not particularly advantageous. It may also hinder the recognition of professional and trade qualifications gained overseas. However, the diversity of cultural heritage should provide artistic and culinary background to the development of industries such as food processing. For those workers who speak a language other than English at home there is some evidence in the data that shows that these workers can be working in an occupation that is below their qualification and skill level. This may mean that this group finds it harder to find employment for which they are qualified when compared to their monolingual English speaking peers.

The region should look to embrace a culturally diverse, age diverse workforce, including older workers and to use the under-utilised skills available in the employment catchment as a way to address worker shortages, so as to maximise on the opportunities that diversity brings. This should be buttressed by government programs that target specific under-represented groups with tailored support as well as specific industries.

1.3.2 Education, training and research

Two things, which are of major significance, have occurred since the original workforce report was published in 2015, universities have been impacted by COVID-19 and this has significant implications for the capacity of universities to engage and contribute as deeply and broadly with their immediate geographic region as we had all hoped a few years ago. So there will be a rebuilding period as the universities in Melbourne's North adjust to changed circumstances. It remains of critical importance that the universities continue their local engagement activities with local industry in research and high-level education in those industry sectors which are critical to the economic development of Melbourne's North. The second thing that has happened is that progress has been made in rebuilding the public TAFE sector and signs are that public VET strategies in Victoria have improved. That is not to say that the TAFE sector has not suffered from the impact of COVID-19, it has, and particularly due to the complications of delivering hands on subjects and retaining students, not enthused by online learning.

The importance of the relationship between education, training, research and industry has again been sharpened by COVID-19, worker and skill shortages. The solution is a more cohesive system that communicates and integrates pathways and opportunities for skilled employment more effectively. The quality and relevance of what is being delivered by education and training providers is core to the success of the education and training system and to the

participation of employers who sometimes express concerns about the ability of training providers to meet their needs.

1.3.3 Employment, MACs and NEICs

The growth of employment in Melbourne's North is influenced by a variety of government policies, most obviously by Commonwealth macroeconomic policies but also by Commonwealth policies on the finance of services such as education, aged care and disability support and by Commonwealth regulation of telecommunications. Commonwealth policies on service delivery are discussed and the importance of telecommunications is emphasised when discussing industry prospects. The Victorian government influences employment growth through its administration of the major area services (chiefly school education, health and welfare services and justice services including police) and through its controls over infrastructure investment and its direct investments in roads and public transport. The State endeavours to coordinate public sector infrastructure investment with private sector location-specific investment through strategic plans, which are in part implemented through decisions on State investment and in part by incorporation into land-use planning administered primarily by local government.

In *Plan Melbourne* the Victorian government has recognised the La Trobe Employment and Innovation Cluster (NEIC) as an activity centre of national significance. In addition to La Trobe University, this cluster includes the RMIT at Bundoora and the Heidelberg hospitals. Melbourne Airport is ranked as a Major Activity Centre but the wholesale market is not ranked, presumably because it is regarded as a specialised facility.

1.3.4 Innovation measure: Hi-tech/hi-income employment

The Evidence Report analyses how hi-tech and hi-income employment have changed since the year 2000 for selected industry sub-sectors in two regions; Melbourne's North and the combined region of Melbourne's North and West, and where significant synergies between the two regions are increasingly important to both. The research indicates that there is an excess in the workforce of hi-tech and hi-income residents in Melbourne's North and Melbourne's North and West combined regions when compared to hi-tech and hi-income jobs available locally, significant numbers of workers travel outside the two regions for employment.

It is also evident that Melbourne's North continues to lag Greater Melbourne employment patterns in terms of the share of locally available jobs in Professional, Scientific and

Technical Services and Computer Systems Design and Related Services. The positive side of this story is that the residents of Melbourne's North can provide the skills and knowledge required in both hi-tech and hi-income employment for future growth in Melbourne's North industries. Better ways of connecting highly skilled locals to local jobs should be investigated. In 2020, the share of hi-tech jobs of all jobs in Greater Melbourne was 10.6 per cent, this compares to 7.4 per cent in Melbourne's North and 7 per cent in Melbourne's North and West combined. In 2020, the share of hi-income jobs of all jobs in Greater Melbourne was 14.1 per cent, this compares to 6.7 per cent in Melbourne's North and 7 per cent in Melbourne's North and West combined.

1.3.5 Skills

Influences on skills formation are global, national and local. In large part the success of a region depends on its capacity to respond to external influences, hence the importance of training, which in combination with tacit knowledge of how things are done in a particular place or business, form the solid foundations on which economic growth is built.

COVID-19 has taught us all that flexibility, for both the individual and in the workplace, are central to managing the journey through the years of COVID-19. Being adaptable, understanding the types of skills which are transferable, mean that opportunities for employment are enhanced and in a range of occupations and industries.

The National Skills Commission, in its report *The state of Australia's skills 2021: now and into the future*, finds that COVID-19 aside, Australia's workforce and skill needs have been impacted by a range of major forces including:

- a shift to higher skilled jobs and hence the importance of further education and training;
- an ongoing shift towards services;
- the resilience of non-routine and cognitive jobs in the face of automation; and
- the opportunities and new jobs being created by technology.

NIEIR research found that:

- literacy and numeracy skills are a foundation requirement for most jobs in the economy. Occupations that do not require a reasonable standard in these skills are declining over the long-term, albeit now influenced by low skilled worker shortages because of COVID-19;
- adaptability, flexibility and lifelong learning are three critically important components of skills formation;

- the skills of workers and individuals in the region need to be more closely aligned to the needs of the labour market;
- the Victorian Skills Authority is now established and will produce its first Victorian skills plan in 2022;
- importance of linking skills development through education and training with industry clusters;
- the gender differences in skills held in the economy continue to be striking and what opportunities exist in redefining roles in employment and skills development over the next 10 years;
- employers recruiting for medium and higher skilled vacancies in areas outside of capital cities (this applies to parts of Mitchell for example) not only have recruitment difficulty most frequently, but also experience a greater severity of difficulty;
- information and communication technologies (digital and data) and the Internet are key drivers of innovation, growth and labour productivity;
- generally, in the Australian economy at this time, skills shortages are greatest among technicians and trades workers occupations, which includes electricians, carpenters, chefs, fitters and motor mechanics;
- over the 20 year period before the impact of COVID-19, employment in STEM occupations grew by 85 per cent, more than twice the rate of non-STEM occupations, which grew at 40 per cent over the period;
- need to stress the importance of the continual improvement of Melbourne's North broadband infrastructure in enabling the greater place based dispersal of the knowledge economy and development of the digital skills that drive innovation and the high speeds and capacity of the communication systems that enable it; and
- in the early stages of employment, the majority of employers consider employability skills to be as important, if not more important, than technical skills.

1.3.6 Local Government: Place based resilience for communities and employment

Local Government can and does contribute to shaping its local industry and employment strategies. This is achieved by ensuring those things under direct council control, including planning, land use, open spaces, amenity, sustainability of built form and contemporary waste management strategies, contribute to helping industry

grow and to access an increasingly skilled local workforce. Advocating for things not under the direct control of Local Governments is also important and these include major transport systems, education infrastructure, particularly schools, major infrastructure developments (and locally nuancing them) and global standards in telecommunications infrastructure. Shaping clusters of industry development through planning and marketing, while a longer term initiative, is significantly important in growing local prosperity. Closer links and access to Victorian Government departments, where knowledge is shared, will also help regional development planning.

An important role for Local Government, probably more important since COVID-19, is connecting community and industry, and economic development departments do great work here. This is a particularly important role when it comes to working with young people in the community and minority or disadvantaged groups. Targeting areas of local disadvantage for special projects does and can help to break the generational cycle of disadvantage. Local Governments can help direct other agencies to those places in need and to help residents untangle often complex bureaucracies and pathways when they engage with governments.

1.4 Economic and employment forecasts

NIEIR have produced economic forecasts for Melbourne's North over the next decade which have been used to provide a detailed workforce outlook by industry and occupation. The Evidence report summarises these forecasts for the next 10 years out to 2031, focusing on Melbourne's North total region in Chapter 14 and by the seven LGAs within Melbourne's North in Chapter 15. Comparative macroeconomic and industry forecasts have also been completed for National, Victorian State and by Greater Melbourne sub-region economies.

The Australian economy require another 1,131,000 jobs by 2026 compared to 2021, while the number of additional jobs required will increase to 2,206,000 by 2031. Melbourne's North will require another 33,900 workers by 2026, and 66,250 by 2031, compared to place-of-work employment levels as of 2021.

The Australian economic outlook for the next 10 years is one of weaker growth compared to the previous decade, as the shock brought on by COVID-19 hangs over the next 10 years. Slower population growth compared to the pre COVID-19 period will be a major negative factor for

reducing Australia's economic outlook. This will flow onto reduced growth in workforce employment compared to recent years. Reduced rates of migration will likely continue given the likelihood that COVID-19 and successor mutations will not be eradicated in the short-term.

Within Greater Melbourne, Melbourne's North and West will continue to lead population growth over the next 10 years, however, the rate of growth will be much slower than migration lead pre COVID-19 rates. Melbourne's North will grow by 1.1 per cent per annum until 2031, while Melbourne's West will lead population growth at 1.4 per cent per annum. This compares to an average rate of 1.0 per cent across both Greater Melbourne and Australia.

Melbourne's North economy is expected to grow by an average of 2.8 per cent per annum. The rate of GRP growth is slightly above the other suburban regions of the South, East and West within Greater Melbourne. However, growth within the central region of Melbourne is expected to remain much weaker over the next 10 years compared to the outer regions with average annual growth of only 1.1 per cent per annum.

Inner regions of Melbourne have been particular impacted by the pandemic, while outer regions have shown more resilience. Within Melbourne's North, job creation is expected to continue be driven by the outer north LGAs. While the inner regions will recover from large falls in employment that occurred during the pandemic. Employment growth prospects are expected to be strong within Melbourne's North for the following industries:

- Health Care and Social Assistance;
- Professional, Scientific, and Technical Services;
- Transports, Postal and Warehousing;
- Education and Training; and
- Public Administration and Safety.

While the key Manufacturing and Construction industries within Melbourne's North are expected to be weaker over the next decade as Manufacturing activity continues to decline and the Construction industry is impacted by a fall in residential investment as the result of slower population growth. Together, this means that the overall occupational structure of the workforce will become more Professional in the next 10 years while the proportion of Technicians and Trades Workers will decline.

Page 47 of this report gives the business counts for Food and Beverage Product Manufacturing in Melbourne's North.

2. SECTION 1: Where are we now?

2.1 Key findings: Melbourne's North economy and society, where we are now

Employment and labour markets

In all seven Melbourne's North LGAs the rate of growth of jobs available was less than the rate of growth of the resident workforce, so that net outbound commuting increased for all of them. The gap between the two rates of growth varied between LGAs. The largest gap was in Nillumbik, where moderate population growth was accompanied by low job growth. The gap was 1.5-1.9 percentage points in Mitchell, Darebin and Moreland and, at less than 1 percentage point, was relatively small in the two fast-growing LGAs (Whittlesea and Hume). It was smallest in slow-growing Banyule.

Table 1 Rate of growth of jobs available and of employed residents, 1994-2019, LGAs in Melbourne's North (per cent a year)			
LGA	Jobs available	Resident workers	Excess
Banyule	1.9	2.1	0.2
Darebin	2.4	4.1	1.7
Hume	5.0	5.7	0.7
Mitchell	3.4	5.3	1.9
Moreland	3.0	4.5	1.5
Nillumbik	1.9	3.0	2.1
Whittlesea	5.3	6.2	0.9
MELBOURNE'S NORTH	3.8	4.6	0.8

Source: NIEIR.

Table 2 Excess of employed residents over jobs available within each LGA in Melbourne's North, 1994, 2009 and 2019 (as a percentage of employed residents)			
LGA	1994	2009	2019
Banyule	29.1	30.5	31.0
Darebin	12.3	23.5	31.8
Hume	-35.3	-21.5	-16.6
Mitchell	19.3	32.1	42.3
Moreland	39.5	45.0	52.3
Nillumbik	52.1	59.8	58.6
Whittlesea	25.0	34.0	38.2
MELBOURNE'S NORTH	18.9	25.9	29.8

Source: NIEIR.

- The gap between locally available jobs and Melbourne's North resident workforce continued to grow. In 2019 the region provided enough jobs to employ 70 per cent of its resident workers. This does not mean that 70 per cent of all resident workers worked in the region: some of the region's jobs were taken by residents of other regions, particularly those to the west and east.
- The trend to the decentralisation of employment within the Melbourne metropolitan area was reversed from the 1990s to 2019. From 1994 the proportion of employment in the metropolitan area located within the central region increased from one-quarter to one-third, mainly at the expense of the inner suburban regions including the inner parts of Melbourne's North.
- In the period 1994 to 2019, jobs available in Melbourne's North grew by 3.8 per cent a year while the jobholding population grew by 4.6 per cent, hence the increase in net outbound commuting.
- The rate of growth of resident workers was most rapid in Whittlesea, followed by Hume and Mitchell; it was slowest in Nillumbik and Banyule. The rate of growth of jobs available was again most rapid in Whittlesea, Hume and Mitchell and least rapid in Banyule and Nillumbik.
- Over the 25 years residential growth, both in Wallan and the peri-urban belt, tipped Mitchell from relative self-sufficiency in jobs, as is typical of rural LGAs, to dependence on commuting.

Unemployment

- In the 2 years prior to the pandemic (2018 and 2019) the average quarterly unemployment rate for Melbourne's North was around 5.3 per cent compared to 5.0 per cent across Greater Melbourne. Since March 2020, the gap between Melbourne's North and Greater Melbourne has worsened. The average quarterly unemployment rate has worsened to 7.6 per cent in Melbourne's North across March 2020 to June 2021 compared to an average of 6.6 per cent across Greater Melbourne. National and Victorian State unemployment rates have both averaged around 6.2 per cent across March 2020 to June 2021 quarters.

- The worst impacted regions for unemployment in the initial stages of COVID-19 include Hume, where the unemployment rate reached 14.5 per cent in the September 2020 quarter, many frontline and unskilled workers exposed to the impact of lockdowns. While Moreland, Whittlesea and Darebin have all reached unemployment rates during the pandemic that have exceeded 8.0 per cent. Banyule and Nillumbik have maintained relatively low levels of unemployment throughout the pandemic with some increases during the worse periods.

Registered businesses

- For Melbourne's North, the fastest growth in business registration in 2020 occurred in the Transport, Postal and Warehousing (1,209 new businesses); Construction (521 new businesses, down from 910 new businesses in the previous year) and Professional, Scientific and Technical Services (397 new businesses, down from 622 new businesses in 2018).

GRP

- The average value added per person employed in Melbourne's North (as distinct from employed residents) was below the national average in all seven LGAs. The lowest value in 2019 was that for Nillumbik, where much of the employment was local demand industries with low value added per worker.

Income

- Commuting redistributes local income from the places where it is earned to the places where people live. The result, at least in 2019, was an increase in inequality of income between the LGAs of Melbourne's North. By place-of-work, average income per hour ranged from \$5 per hour above national average in the highest-income LGA down to \$2 an hour below in the lowest-income LGA. On a residential basis this was stretched to between \$9 an hour above national average down to \$4 an hour below.
- Largely due to commuter incomes, Nillumbik residents earned the highest or second-highest incomes per hour in all industries except construction, and the highest overall. The average resident earned income was below the average for employment located in the LGA, indicating that, on average, the more skilled jobs were taken by in-commuters and Hume residents received bottom or second-bottom earnings per hour in all industries.

2.2 Key findings: Melbourne's North – Impact and recovery from COVID-19

In an economic crisis, employment is usually slower to return than output, which is reflected in each region. Melbourne's North has grown at an average of 2.3 per cent per quarter over the 2021 financial year (Headline GRP), while employment growth has lagged behind at 1.3 per cent per quarter. Overall growth in Greater Melbourne has been pulled down by lockdowns and restrictions that have prevented activity returning to the city centre, while outer Melbourne regions and Regional Victoria have generally experienced a faster return in economic activity.

- Melbourne's North unemployment rate of 5.5 per cent is higher than Greater Melbourne (5.2 per cent), Victoria (4.9 per cent) and Australia (5.1 per cent) as of the June 2021 quarter.
- The LGAs most severely affected by higher unemployment are Hume City Council and City of Whittlesea.
- Melbourne's North GRP average quarterly rate of growth of 2.3 per cent over the 2021 financial year has been slightly greater than Greater Melbourne (1.8 per cent), Victoria (2.0 per cent) and Australia (2.0 per cent).
- The LGAs most severely affected by slower recovery in average quarterly GRP growth are the inner regions of Banyule City Council (1.3 per cent) Moreland City Council (1.1 per cent) and Darebin City Council (1.1 per cent).

2.3 Key findings: Jobs, occupations and industry employment in Melbourne's North and Australia

Melbourne's North continues to lag Greater Melbourne employment patterns in terms of the share of locally available jobs in Professional, Scientific and Technical Services and Computer Systems Design and Related Services. The positive side of this story is that the residents of Melbourne's North can provide the skills and knowledge required in both hi-tech and hi-income employment for future growth in Melbourne's North industries. Better ways of connecting highly skilled locals to local jobs should be investigated and businesses should be encouraged to investigate opportunities for growth that a higher skilled workforce enables.

- Commonwealth Government figures for the August 2021 quarter give the median age for Australia's 13 million workers at 39 years with about 20 per cent of the current workforce aged over 55 years old.
- The national figures show that of the 19 ANZSIC industry divisions the Health Care and Social Assistance sector is now by far the largest employer nationally with around 1,677,000 employees. This is followed by the Retail sector that has 1,233,000 employees, the Construction sector with 1,196,000 employees, Professional, Scientific and Technical Services with 1,099,000 employees and Educational and Training with 1,070,000 employees. These five industry sectors employ around half of Australia's workforce.
- Historical analysis shows that the most rapid growth in employed persons from 2006 to 2016 in Melbourne's North was in the community and personal services (5.7 per cent a year), followed by the professions (3.4 per cent) and managers (2.9 per cent). The number of sales workers increased at 2.6 per cent a year, the same as for employed persons as a whole. Labourers followed at 2.2 per cent, then technicians and trades workers (2.0 per cent), machinery operators and drivers (1.8 per cent) and finally clerical and administrative workers (1.5 per cent).
- Victoria has been losing population during COVID-19 as more residents emigrate interstate and overseas than have arrived. This is partly due to temporary migrants returning to their home country, e.g. international students. States such as Queensland have benefitted from this exodus, as people looked to avoid lengthy Victorian lockdowns.
- The fastest growth in online job advertisements by occupation for Melbourne over the 2016 to 2021 financial years showed that the most in demand occupation over recent years were ICT Professionals. The next most significant group were health, social welfare and caregiving. These include the following occupations:
 - Medical practitioners and nurses;
 - Carers and aides;
 - Health diagnostic and therapy professionals; and
 - Legal, social and welfare professionals.
- Online advertisements in the period also show that while there appears to be a decline in lower-skilled work, job listings for these occupations are more likely to be advertised outside of the internet (word of mouth, local newspapers, etc.). Professionals remain in strong demand, while other Business-related occupations have become increasingly advertised since the start of the pandemic.
- Occupations that have large workforces and have undergone high employment growth over the past 5 years and have a high number of jobs advertised and have a higher than expected number of online job ads per employed person are:
 - ICT Professionals; and
 - General-Inquiry clerks, Call Centre Workers and Receptionists.
- The next tier in demand include:
 - Corporate Managers;
 - Medical Practitioners and Nurses;
 - Carers and Aides;
 - Other Clerical and Administrative Workers;
 - Legal, Social and Welfare Professionals;
 - Business, Finance and Human Resource Professionals;
 - Hospitality Workers; and
 - Numerical Clerks.
- In 2020, the share of hi-tech jobs of all jobs in Greater Melbourne was 10.6 per cent, this compares to 7.4 per cent in Melbourne's North and 7 per cent in Melbourne's North and West combined. In 2020, the share of hi-income jobs of all jobs in Greater Melbourne was 14.1 per cent, this compares to 6.7 per cent in Melbourne's North and 7 per cent in Melbourne's North and West combined.

2.4 Key findings: Education and training, including attainment in Melbourne's North

Two things, which are of major significance have occurred since the original workforce report was published, universities have been impacted by COVID-19 and this has significant implications for the capacity of universities to engage and contribute as deeply and broadly with their immediate geographic region as we had all hoped a few years ago. It remains of critical importance that the universities continue their local engagement activities with local industry in research and high-level education in those industry sectors which are critical to the economic development of Melbourne's North. The second thing that has happened is that progress has been made in rebuilding the public TAFE sector and signs are that public VET strategies in Victoria have improved. That is not to say that the TAFE sector has not suffered from the impact of

COVID-19, it has, and particularly due to the complications of delivering hands on subjects and retaining students, not enthused by online learning.

The importance of the relationship between education, training, research and industry has again been sharpened by COVID-19, worker and skill shortages. The solution is a more cohesive system that communicates and integrates pathways and opportunities for skilled employment more effectively. The quality and relevance of what is being delivered by education and training providers is core to the success of the education and training system and to the participation of employers who sometimes express concerns about the ability of training providers to meet their needs.

- Focus on further development of La Trobe and RMIT Universities and their key specialisations.
- Focus on year 9 literacy and numeracy improvement programs.
- Focus on early childhood development.
- Programs to raise skills, individuals should take responsibility for lifelong learning practices and this idea must be taught.
- A greater focus on vocational mentoring to redress entrenched disadvantage.
- Relatively poor links between education providers and industry in Melbourne's North needs actions to improve current circumstances including better funding and specialisations in career guidance in schools.
- The education system needs to be far more cohesive, with employability as a key goal throughout the system.
- Further develop successful programs linking education and industry in a practical way, such as the Northern Industry student Placement Program and the North and West Melbourne Data Analytics Hub.
- Low levels of foreign language teaching are creating a monolingual business culture despite the rich cultural composition of the population.
- Characteristics of strong VET programs include policies that employers are involved in setting qualification standards, deciding when to update the curriculum and setting the examination form, and that the larger component of the training activity should occur in the workplace.
- TAFEs are in transition phase following review with likelihood of improvements to assist TAFEs to deliver VET training focussed on industry demand.
- Despite COVID-19, the physical presence of tertiary institutions and their campuses will grow in importance and are crucial in building clusters of

excellence in high-tech and knowledge economy employment and research links with local industry.

- Leaving school early continues to be a lifelong impediment to a higher proportion of early school leavers to finding secure employment and that early leavers are less likely to engage with training activities and other education.
- As Melbourne's North has gentrified the culture of education has grown, with many migrant families keen to see their children attend university.
- The sectors that attract young workers, food and hospitality, retail and the arts, particularly performance and events, have been damaged by COVID-19, it will be important to maintain and enhance training for these sectors to assist recovery post pandemic.
- The dropout rate from traineeships and apprenticeships is far too high, this is a long-term problem that needs a clear focus and strategy for improvement. While enrolments have risen in the COVID-19 period this may signal the possibility of even higher dropout rates over the next few years.
- Sensitivity to Government subsidies for traineeships and apprenticeships means funding needs to be long-term. When funding stops, training stops.
- Mitchell Shire needs special attention in terms of how its population engages with education and training, at school level and beyond, access to education is just one of many likely issues.
- The capacity of universities has declined, specifically because of the loss of revenues from international students combined with the impacts of COVID-19. The next few years will continue to be difficult as universities adjust to new circumstances. It is important that universities maintain their links to local industry and research activities.
- Practitioners need to be aware that for those residents who hold a tertiary qualification, speakers of a language other than English at home tend to be slightly more disadvantaged in terms of their employment prospects than residents of Melbourne's North who speak English at home.

2.5 Key findings: Macro influences on employment and skills formation

Employment patterns do not change rapidly. Established employers carry on and established skills are, for the most part, utilised. However, industries grow and contract and the skill requirements within industries also change.

Influences on skills formation are global, national and local. In large part the success of a region depends on its capacity to respond to external influences, hence the importance of training, which in combination with tacit knowledge of how things are done in a particular place or business, form the solid foundations on which economic growth is built.

COVID-19 has taught us all that flexibility, for both the individual and in the workplace, are central to managing the journey through the years of COVID-19. Being adaptable, understanding the types of skills which are transferable, mean that opportunities for employment are enhanced and in a range of occupations and industries.

- Literacy and numeracy skills are a foundation requirement for most jobs in the economy. Occupations that do not require a reasonable standard in these skills are declining over the long-term, albeit now influenced by low skilled worker shortages because of COVID-19.
- Adaptability, flexibility and lifelong learning are three critically important components of skills formation, in an individual and in society as a whole.
- Important to ensure that the skills of workers and individuals are aligned to the needs of the labour market.
- Importance of linking skill development with industry clusters.
- Fine-tuning of workforce skills provides industries in Victoria with the workers and skills that industry requires.
- The Victorian Skills Authority is now established and will produce its first Victorian skills plan in 2022.
- The gender differences in skills held in the economy continue to be striking and what opportunities exist in redefining roles in employment and skills development over the next 10 years?
- Employers recruiting for medium and higher skilled vacancies in areas outside of capital cities (this applies to parts of Mitchell for example) not only

have recruitment difficulty most frequently, but also experience a greater severity of difficulty.

- Information and communication technologies and the internet are key drivers of innovation, growth and labour productivity.
- Innovation in the tech sector has led to a rise in the gig economy, where the workers are employed on contract to perform short-term services, such as ride-sharing and food delivery. This provides opportunity for workers to generate an income, but contractors lack the rights of employees. Digital skills and literacy are essential to take advantage of this growing sector.
- Generally, in the Australian economy at this time, skills shortages are greatest among technicians and trades workers occupations, which includes electricians, carpenters, chefs, fitters and motor mechanics.
- Over the 20 year period before the impact of COVID-19, employment in STEM occupations grew by 85 per cent, more than twice the rate of non-STEM occupations which grew at 40 per cent over the period.
- We need to stress the importance of the continual improvement of Melbourne's North broadband infrastructure in enabling the knowledge economy and development of the digital skills that drive innovation and the high speeds and capacity of the communication systems that enable it.
- 75 per cent of employers considered employability skills to be as important, if not more important, than technical skills.
- The benefits of foreign language teaching and for residents to acquire language skills beyond their own native tongue build capacity to connect cultures and markets and improve the ability to communicate and leverage the skills of culturally diverse populations in Melbourne's North.

3. SECTION 2: How do we get there?

3.1 Key findings: Getting there – Economic levers of employment growth and productivity gains

It is important to link the work undertaken by NORTH Link and NIEIR in developing the Northern Horizons report. Northern Horizons provides a carefully structured approach to facilitating the future development of the Melbourne's North economy.

“Educational/skill outcomes are affected by many things, including the quantity and quality of associated infrastructure and services and the timeliness in their delivery. The report has noted a positive story in terms of the presence of people with bachelor's degrees in Melbourne's Northern Region but has also raised some concerns about Year 9 literacy and numeracy results and early childhood developmental vulnerabilities. Given the spatial distribution of outcomes on childhood vulnerability, it seems likely that the timeliness of availability is a significant factor here. For Year 9 literacy results and numeracy results, the concerns are more widely distributed across the Region, which suggests the need for a comprehensive assessment of reasons why.”

Northern Horizons

- Melbourne's North has a larger workforce living within the region than there are local jobs available. The hours worked from jobs located within the region are around 31 per cent less than the hours worked by people who live in the North. This means that local residents are currently dependent on the commuter infrastructure network to access employment. Improved travel times by road or public transport will allow greater access to employment opportunities, not only for people living in Melbourne's North, but for residents outside the region who would benefit from greater access to jobs in the North.
 - The employment opportunities that are located within the region are also less productive than the Greater Melbourne each hour worked generating \$72 per hour in GRP. In contrast, the average productivity for Metropolitan Melbourne and Victoria is \$81 per hour and \$79 per hour respectively.
 - NIEIR has identified an investment shortfall within the Northern Region over the past 5 years within a range of \$393 million to \$1,081 million, and up to \$2,271 million over 10 years, as compared to the average investment rate of the other regions within Greater Melbourne. The gap was identified on a per capita basis and a population growth basis, where the latter is derived from analysing the level of investment for every new person between the regions over the past 5 years and 10 years.
 - Had investment levels been equalised within Melbourne's North compared to all the other regions within Greater Melbourne (outside of the CBD), Melbourne's North GRP would have increased by \$164 to \$208 million per annum over the period 2015 to 2019. The annual benefit translates to a total GRP impact of around \$818 to \$1,040 million over the 2015 to 2019 period, and greater than this over a longer period.
- COVID-19 and climate change have shown the importance of regions becoming more self-reliant. The benefits of fast track infrastructure development in Melbourne's North improve the dynamism of the potential of the region over coming decades. The Northern Horizons report identified the reasons why Melbourne's North is a priority for location for infrastructure investment and these include:
- to accommodate more effectively and more productively a rapidly growing population;
 - to help offset the impact of a decline in employment because of a contraction in manufacturing employment in some sectors, including automotive;
 - to help offset the gap between the scale of the resident workforce and the number of jobs available in Melbourne's North;
 - to ease the growing pressure on transport systems as the population grows and more people travel outside the region to employment. The danger here is also the possibility that transport issues, already a problem in Melbourne's North, will mean greater difficulties for the industry in the region;
 - facilitate the growth of clusters such as a hi-tech cluster in the outer north, the Melbourne Airport cluster, medical precincts, a hi-tech cluster around La Trobe and RMIT Universities, and a food and logistics cluster around the Melbourne wholesale markets; and

- facilitate growth of manufacturing to benefit from the sector's high value adding and innovation potential.

The Northern Horizons report points out that industry clusters in Melbourne's North that are strong and gave potential for significant growth should each have an industry body to manage innovation processes and business development. Innovation systems are critically important and that continual improvements are required to the way that industry, education and research are connected. This process starts at school with career guidance linked strategically to local tertiary education and industry. Innovation systems can be concentrated in the key industries and sectors in Melbourne's North, including Health, Manufacturing and Food.

3.2 Key findings: Pathways to employment – The LLEN story

LLENs have an important strategic role and this should be leveraged. Currently Victorian Government funding for the LLENs is provided to procure services and 'activities' instead of supporting the opportunity for higher level planning and collaboration. The LLENs are well positioned to undertake work at the higher level, particularly given the breadth of network connections and the many years of accumulated relationship and the expertise that has been developed across the LLEN regions.

All of Victoria's LLENs provide a Structured Workplace Learning (SWL) program and are therefore continually enhancing opportunities for students to engage with industry placements relevant to their chosen field of study and all LLENs also provide a range of programs which support school, community, industry and local government engagement. These programs are offered to schools for a range of year levels and reflect local place based needs.

- For the LLENs the issue is always how can we scale up these programs? This work is very resource heavy if you are going to achieve big impacts.
- LLENs should have a key strategic role in aligning schools with sector partners in Melbourne's North such as Melbourne Airport, CSL, North East Link, major businesses and development sector and the Northern Hospital and Health and Community Services.
- COVID-19 and its impact on disadvantaged groups is going to play very hard on confidence, experience and young people in particular are going to find it really hard to make that transition.

- Neurodiverse young people are really struggling and need more support so they can achieve better outcomes in the transition pathway to employment.
- LLENs and similar organisations, have a role in improving the viability of courses offered by tertiary and TAFE institutions by reducing the high drop-out rates currently experienced in the Victorian system.
- Mitchell Shire: Social and economic pressures are mounting as the predicted employment challenges have come to pass.
- It is one thing for a student to learn skills and demonstrate competencies and capabilities, it is another thing to have the networks and be able to gain employment and industry experience.
- Students are studying allied health and nursing, health and community services and the biggest challenge we have there is trying to get students placements, particularly for secondary school students.
- LLENs have had cases during lockdown that describe educational disadvantage – where there are five children in a household with only one computer between them.
- In relation to the manufacturing sector, we don't adequately connect school students to that industry and the industry can increase efforts to promote itself.
- Place-based approaches are really important so if we use the caravan manufacturing sector as an example, located around Sydney Road and locality, the schools in the region could be brought into relevant employment projects.
- There has been a problem in that there has been a resistance to talk to younger students about career pathways and types of industries and work opportunities. Career guidance starts early, not late.
- Initiatives such as INLLEN's Vocational Mentoring Exchange could be further supported as a means of addressing vocational disadvantage.
- Career education – young people need a "better line of sight" on current jobs and jobs of the future in the region – little relationship between career information imparted at schools and industries of strength in Melbourne's North, e.g. food manufacturing, aviation, logistics.

3.3 Key findings: Pathways to employment – Networks in research, industry, innovation, creativity and money

In Melbourne's North, the industry clusters that have potential for growth and strategic innovation processes include the following.

- The food sector including the strengths in bioscience and food science at La Trobe and the RMIT, linked to local industry and developments at and surrounding the Melbourne Wholesale Fruit Vegetable and Flower Market.
- The manufacturing sector has been a strong contributor to growth and manufacturing skills remain. Advanced manufacturing will continue to develop and may be linked to such sectors as food and transport or assistive technologies linked to the health sector and the NDIS.
- Health is already important and has potential to grow significantly, particularly in areas of specialisation and research. Health clusters are particularly dynamic and beneficial to the regions in which they exist.

"There is some smart money coming into innovation and our view is that most of it is coming out of the large superannuation funds".

- Melbourne's North now has more highly skilled population, long-term trend, low skilled jobs stagnant and vulnerable to disruption. High skilled jobs growing as local industry demands tech and digital skills. Universities will have a lot to do.
- The Visitor Economy in Melbourne's North has great potential and requires some of the support that regional tourism areas receive.
- MICE is the term used for the Meetings, Incentives, Conferences and Events sector. Developing the MICE sector attracts visitors to Melbourne's North and helps to improve demand, enabling hotels, cafes and restaurants in the region to invest in growing quality and to scale up.
- It appears that if Israel, which has been a leader in the global start-up culture, can teach us anything, then the lesson is, how to better connect high tech companies with the rest of businesses, so that high tech innovation flows more effectively to other sectors.
- Similar comments apply to design as it is applied to industries in Melbourne's North. Better diffusion of

design thinking across industries in Melbourne's North including product design, packaging design and marketing design could have a significant impact on market development for goods produced in Melbourne's North as well enhancing the circular economy and sustainability processes more generally.

- There are other factors that contribute to a changing landscape for the music industry, including the fact that artists can now stay independent and manage their own art. Technology and distribution has changed how artists record and put out their music.
- The role of the Digital Innovation and the Bio Innovation Hubs at La Trobe University is to accelerate research and development by start-ups and Victorian businesses through connecting them with La Trobe researchers, students and infrastructure.
- This process of commercialisation will be improved if we have a greater focus on investing in high end university research and all of it is better co-ordinated. We need to keep working on this aspect as it is critical to the future of universities and also creating the smart and high productivity companies of the future.
- While we're talking about private investment, we should also think about the role of government, the investments it makes and how cleverly this is done.
- The Breakthrough Victoria Fund reflects a State Government focus on encouraging innovative organisations to conduct research aimed at building and growing in Victoria.
- The Melbourne Innovation Centre's main focus is increasing the level of business digital proficiency of business owners and entrepreneurs.
- The Melbourne Innovation Centre now partners with Victorian Government tech schools to deliver entrepreneurial programs.
- The next phase of regional economic development and business support programs from government is going to be looking at new economy opportunities and how we build businesses that are more robust under circumstances we have experienced in relation to COVID-19 and other disruptions, like climate change and during other times of crisis.
- In the COVID-19 period, students have missed out on many of these opportunities and at the same time they are missing out on gaining those skills that will make them more job ready.
- One of the things the Melbourne Innovation Centre is working on, including with NORTH Link, is in the area of developing entrepreneurial skills. So, by

working through the skills and thinking required to be a young entrepreneur, students can gain some really useful workforce skills, even if they are not going to set up their own businesses.

- One of the flow-on impacts of a global supply chain that supplies manufacturing equipment, with almost all of those manufacturers overseas, is the capability and capacity of what remains of a specialised engineering workforce to deal with local requirements.

3.4 Key findings: Pathways to employment – TAFEs in Melbourne’s North

The publicly funded TAFE system is critical to Victoria’s education and training system and, particularly so, in aiding the recovery enduring following COVID-19. TAFEs, given their historic contribution to training and industry in Melbourne’s North, remain central to the region’s training system, providing the skills industries need, as well as the opportunities for residents in Melbourne’s North to learn new skills and in new industry sectors.

TAFEs are critically important in providing the knowledge infrastructure that enables flexibility and adaptability in the region’s workforce, in what are uncertain and rapidly changing circumstances, creating both difficulties and opportunities for businesses and the supply of the occupations and skills required for future prosperity of the region and the wellbeing of the people who live there.

- The publicly funded TAFE system is critical to Victoria’s education and training system and, particularly so, in aiding the recovery enduring following COVID-19.
- TAFEs need, above all, certainty and consistency in long-term funding models and the policies that accompany these.
- Requires a fairer funding model that takes into account the wraparound services and supports public TAFEs provide and policy change which supports the TAFE network to operate more nimbly and collaboratively.
- Digital literacy support for TAFE teachers who have had to adapt their delivery throughout COVID-19 and for many of whom a blended delivery model will now become the “new normal”.
- Access to more frequent and granular (regional) employment data and projections so that TAFEs can better align their course offering to demand and growth.

- Curriculum designed and delivered in concert with industry.
- Investing in up-to-date campus facilities.
- Enterprise analytics and data science important factors in defining TAFE markets and demand for future education and training strategies and this includes tracking outcomes for graduating TAFE students.
- It may be the case that TAFEs have caught up with universities in developing a blended learning approach and there is a real hunger to keep doing more.
- Beyond the disadvantage for those students who had limited access to technology, the introduction of blended learning revealed that there were significant disparities in the capability of students, highlighting the importance of things like well-developed relationship skills which enable a better engagement online.
- Among the cohorts who were disproportionately impacted by COVID-19, young people and women migrants were particularly vulnerable.
- As a cohort, young people have not responded well to online learning, as much as we think they live in this space on their phones and social media, this has not translated to engagement with online learning, particularly for those marginalised groups.
- COVID-19 has amplified the challenges around finding opportunities for students to complete their practical placements, this has caused bottlenecks and delays in the training system. Inability to change the structure of training packages had added to the difficulties. There are a lot of course extensions in the system because of a host of inflexibilities.
- There was already a big skills gap and now there is going to be an even greater one because of the disruption to the training pipeline.
- Vulnerability of employment in some industry sectors means that workers are leaving certain industries and retraining to work in others.
- The challenge TAFEs currently have is attracting students to some courses, especially Aged Care and Hospitality as it is likely that perceptions of jobs in these important sectors have worsened because of COVID-19 impacts including layoffs and the front line stress of dealing with the pandemic. Special attention needs to be paid to this issue.
- Partnerships are important and a way of better connecting VET training to organisations and industry. Encourage greater partnerships between TAFE and industry organisations such as NORTH Link.

- More work needs to be done in relation to building pathways between TAFEs and universities, but it takes time to understand the value of these things, particularly from the university's perspective.
- From a policy perspective, apprenticeships are central; the industry internship model and the industry integrated model of learning are going to be more preferred; Skills need to be contextualised and different industries have different nuances around skills development.
- As much as the digital and online space is part of the future, if that is forced on people as the only way to learn, people react to that (in a negative sense).
- We should not look at the TAFE sector in isolation, but as very much part of the education sector, into secondary schools as well as a more elegant integration between higher education and vocational education. This applies especially in Melbourne's North.
- We are just starting to see the results of the Macklin review of TAFE.
- Government recognises the public TAFE offering is incredibly significant and that TAFEs in Victoria operate as a network, as opposed to the twelve competitive entities.

3.5 Key findings: Pathways to employment – Networks, partners, MACs and NEICs

From the point of view of employment generation, it is important to ensure that the land requirements of economic-base industries are met. To maximise employment outcomes, activity clusters, and future clusters, should expect good quality public transport services, both radial (mainly rail) and circumferential (mainly bus-based in outer suburbs, tram in inner suburbs and tram or bus in middle suburbs).

Strategic planning can assist employment development in many ways, for example:

- by reserving land for long-term high-value use;
- by providing for the co-location of activities which benefit from proximity one to another; and
- by providing transport networks which complement long-term land use.

Plan Melbourne (DTPLI 2014) and Plan Melbourne 2017-2050 (Victorian Government 2017) both included the concept of a future Melbourne containing a small number of high tech/knowledge-based economic clusters, which

will provide increased opportunities for locating high productivity jobs throughout the urban area, with good access to the fast growing outer suburbs. There are now seven National Employment and Innovation Clusters, two of which are in the inner area (Parkville and Fishermans Bend), four in the middle suburbs (Monash, La Trobe, Dandenong and Sunshine), plus one in the outer suburbs (East Werribee). The Victorian Planning Authority is preparing development strategies for four of these NEICs, including La Trobe.

A number of specific Northern Region activity clusters are noted in Plan Melbourne 2017-2050, additional to La Trobe NEIC: University Hill (including RMIT Bundoora campuses), Melbourne Airport, Beveridge Interstate Freight Terminal, Northern Industrial Precinct, a number of Metropolitan Activity Centres (Broadmeadows, Epping, Cloverton – future), a number of **Major Activity Centres** that are places that provide a suburban focal point for services, employment, housing, public transport and social interaction. Plan Melbourne identifies 121 existing and future Major Activity Centres across Melbourne. The northern region Major Activity Centres are: Beveridge (future), Brunswick, Coburg, Craigieburn, Craigieburn Town Centre, Diamond Creek, Eltham, Gladstone Park, Glenroy, Greensborough, Heidelberg, Ivanhoe, Mernda, Mickleham (future), Northcote, Preston-High Street, Preston-Northland, Reservoir, Roxburgh Park, South Morang, Sunbury, Sunbury South (future), Wallan (future), Wollert (future).

Trends for Melbourne's North without the significant infrastructure investments recommended in the *Northern Horizons* report are lower GRP growth than for Melbourne metro and, because of a higher rate of population growth than for Melbourne metro as a whole, this means a growing gap between the size of the resident workforce and the actual jobs available in Melbourne's North, which is what is occurring. This is because of a slower rate of growth in industry employment in Melbourne's North than is the case for Melbourne metro as a whole.

- To maximise employment outcomes, these activity clusters, and future clusters, should expect good quality public transport services.
- An inescapable conclusion is that the Victorian Government and Melbourne's North needs to devote considerable effort to promoting the future development of its La Trobe NEIC.
- Development of strong activity centres that sit at a lower level is also important.
- In Australia, and typically so, outer urban areas of our cities are being left behind.
- A future Melbourne Food Hub, which could be developed on vacant state-owned land immediately to the east of the Market, is a major opportunity.

- Melbourne's North becomes the food hub with all the necessary services, research and education, that will enable future growth of the industry. That is the big picture play.
- Melbourne Airport has an enormous land bank, what is now occurring on this land is continuing development, but not necessarily development that relies on aviation, new developments include an advanced manufacturing operation. So for the region the airport land offers diversity, including diversity of jobs and skills.
- The risk for Melbourne is the consolidation of flights into Sydney, so fewer flights, higher prices and less choice for Melbourne passengers.
- Western Sydney International (Nancy-Bird Walton) Airport will not be subject to a curfew so that increases pressure further.
- Inevitably, given the scale and scope of the pandemic, COVID-19 has highlighted the fragility of the Health and Community Services sector.
- A critical action is that the Health and Community Services sector in Melbourne's North, particularly in terms of major infrastructure developments, requires long-term planning.
- For Health and Community Services, digital innovation remains essential in improving services as well as reducing costs.
- At the time of researching this report there was still uncertainty about the location in Melbourne's North of the new public hospital.
- Particularly in the case on the new Northern Hospital, planning is required in terms of workforce development.

Key 2022 Federal Budget commitments for Melbourne's North include:

- \$3.1 billion in new commitments to deliver the \$3.6 billion Melbourne Intermodal Terminal Package including \$1.2 billion for the Beveridge Interstate Freight Terminal in Beveridge, taking the total investment to \$1.62 billion;
- \$280 million for Road Connections, including Camerons Lane Interchange, to the Beveridge Interstate Freight Terminal; and
- \$109.5 million for the Mickleham Road Upgrade.

3.6 Key findings: Pathways to employment – Making things

The trend for the manufacturing sector in Australia is towards advanced manufacturing, which is a knowledge intensive industry, and this includes relatively low run bespoke manufacturing. The structure of the industry is also changing with the blending of occupations and changes to the relationships with customers and supply chain companies. These changes include the blending of traditional processes of design, engineering, planning, manufacturing with marketing and distribution and ownership of intellectual property rights. Research and development and intellectual property rights will become increasingly important.

The knowledge chain for advanced manufacturing includes digital technology, bespoke engineering and design skills, skilled employees with both tacit and technical knowledge, global knowledge workers with distribution, marketing and sales skills, close relationships with the providers of education and training and a skilled management team.

- NORTH Link has established the Melbourne's North Advanced Manufacturing Group to assist all manufacturers across northern metropolitan Melbourne, supplemented by the Melbourne's North Food Group.

The largest employing manufacturing industry sub-sectors in Melbourne's North during the COVID-19 period were:

- Food Product Manufacturing;
- Transport Equipment Manufacturing;
- Furniture and Other Manufacturing; and
- Machinery and Equipment Manufacturing.

The industries that have been the most adversely impacted by the pandemic and restrictions have been:

- Transport Equipment Manufacturing; and
- Food Product Manufacturing (depending on which market sector is being supplied).

Advanced manufacturing opportunities in Melbourne's North from leveraging manufacturing that already exists or financing new opportunities include:

- highly customised or bespoke product manufacturing and hence a low level of competition from international suppliers because of scale;
- strategically important manufactures where product manufactures should be retained in Australia because of the products importance and the new uncertainty in global supply chains; and

- high value products at greater scale where the IP rights reside with the manufacturer (although these manufactures may still be offshored).

Additional information

- Comparing the 2019 caravan production numbers to 2021, the local industry is looking at about a 30 per cent increase of built product.
- Predominantly employees in the caravan industry are place-based employees, they live locally.
- The caravan manufacturing sector have struggled to get enough workers, particularly so, given recent growth in sales.
- Caravan Industry Victoria are in partnership with NORTH Link and Jobs Victoria to help find workers in a labour market intervention.
- A long-term consequence for the advanced manufacturing sector from the loss of the automotive manufacturing industry, is the loss of access to new methods and technologies in automotive for the manufacturing sector as a whole through knowledge diffusion activities.
- Knowledge diffusion in the automotive sector now comes mainly from repair and maintenance activities using components manufactured in other countries.
- Need to consider energy innovations and the circular economy as a strong focus of business development and product design.
- Advanced manufacturing skills are required to drive Victorian Government priority industry sectors, so STEM skills are essential to the future economic prosperity of the region.
- Melbourne's North has the capacity to attract a greater cluster of food process manufacturing companies because it has all the key features required by this industry.
- The work undertaken by NORTH Link and Melbourne's North Food Group in pulling together various strands of this important sub-sector of the manufacturing industry points to opportunities in other industry sectors.
- The Northern Melbourne AgriFood Precinct, an alliance between La Trobe University, RMIT University and CSIRO that will bring together significant research and innovation capacity to benefit industry.
- Getting jobs to the outer regions of Melbourne's North becomes more pressing as housing developments continue to expand outwards.

- Successful regions market themselves, while no amount of skilful marketing can counter strong negative evidence of a region's general prospects.
- The construction sector has played an important role as an employer of young people, in particular allowing young people to choose a career in the region in which they grew up.
- The construction sector is becoming an increasingly important employer of young people as opportunities in manufacturing decline.
- Ongoing training across the construction supply chain in design, tools, materials and construction techniques is required to ensure the best possible outcome in providing energy efficiency for Melbourne's North new housing developments.
- Important occupations involved in creating improved amenity, sustainability and lower costs for householders over time include; urban planners, architects, designers, engineers, horticulturalists, construction workers, energy specialists, administrator (including in local and state government) and the suppliers of construction materials.
- The work of the region's universities provides important clues about new and more efficient ways of construction, use of materials, reducing waste in construction activities and sustainability and the opportunities for commercialisation of research and future employment in the construction sector.
- The time has come to really get behind the implementation of the circular economy for the environmental and financial benefits the developing sectors brings to regions.

A note on Manufacturing employment

Under current trends employment in the manufacturing sector is forecast to decline. The reasons for this include:

- the decline in sub-sectors of manufacturing, particularly as a result of long term impacts of the closure of the Automotive Manufacturing industry (employment in the Food Processing and Manufacturing sub-sector is growing);
- rising land prices impacting establishment costs of lower value manufacturing operations;
- rising value of the AUD making Australian manufacturing less competitive because of a forecast mining boom. The situation is likely to be a repeat of what happened during the most recent mining boom;
- the continued impact on employment of automation and artificial Intelligence; and

- shift of employment classification out of the Manufacturing sector due to outsourcing of occupational types, including to the Professional Services sector.

The decline in employment will continue without remedial action by groups such as NORTH Link and respective State and Federal Government purchasing policies to ensure more manufactured goods are produced locally.

These declines can also be further offset by a focus on high value, high tech manufacturing, by encouraging increased business investment in the manufacturing sector in Melbourne's North that is strategically required to reduce sovereign risk and by focussing on identified manufacturing sub-sectors such as Food Processing, Caravan industry manufacturing, Health related and circular economy manufactures. The strategy includes increased investment in research and development, continual improvement of design and engineering standards (including product design) and embracing new economy manufacturing opportunities as they become evident.

3.7 Key findings: Pathways to employment – The role of Local Government

An important role for Local Government, probably more important since COVID-19, is connecting community and industry. This is a particularly important role when it comes to working with young people in the community and minority or disadvantaged groups. Targeting areas of local disadvantage for special projects does and can help to break the generational cycle of disadvantage. Local Governments can help direct other agencies to those places in need and to help residents untangle often complex bureaucracies and pathways when they engage with governments.

- Local Government can and does make a significant contribution to shaping the region's local industry and employment strategies.
- Rapid change means a life-long learning approach to employment and career development. Local Government can help promote these ideas within their communities.

- The research found that the extra capacity created by productivity growth should be utilised to increase export production requiring a careful assessment of export market prospects as part of regional economic strategy development.
- Local Government can help drive investment and this is a particularly important lever for local jobs growth.
- Local Governments in Melbourne's North have played an important role in mitigating the impacts of COVID-19 and there are numerous examples of innovative, creative and thoughtful actions.
- Four pillars of regional growth are the skills base, non-dwelling capital, knowledge creation capacity and supply chain strength.
- The circular economy provides new opportunities and more jobs.
- Liveable and smart cities create a rich opportunity for employment as new approaches to these matters are introduced.
- Victoria has an extremely poor track record when it comes biodiversity conservation and the situation becomes more dire as each year passes. Local Government has a role in ensuring the decline of biodiversity is slowed at the local level. This requires local investment and skilled workers.
- In the new paradigm councils are front and centre in the important task of creating local resilience, advocacy, climate mitigation, employment, wellbeing.

Local Government and employment development opportunities may include the following:

- Local Government is ideally placed to observe the efforts of local not-for-profits and perhaps build on them.
- Local Government has the authority to experiment with various policies and projects as the chapter clearly shows.
- Local Government can readily work with local business, NGOs and possibly unions.
- Local Government should also look around, adapt and adopt what has worked elsewhere and in places with similar problems and opportunities.

4. SECTION 3: What should it look like?

4.1 Key findings: Industry and occupation forecasts by region

The overall Australian economic outlook for the next 10 years is one of weaker growth compared to the previous decade, as the shock brought on by COVID-19 hangs over the next 10 years. Industry aligned skills training is critical here to minimise any labour shortages that might further constrain growth. The next 5 years will see the Australian economy require another 1,131,000 jobs compared to 2021, while the number of jobs required will increase to 2,206,000 by 2031. Melbourne's North will need another 33,900 workers by 2026, and 66,250 by 2031 compared to place-of-work employment levels as of 2021.

- Forecast population growth over the next 10 years is expected to be under half that of the previous 10 years across most Victorian regions.
- Melbourne's North has less jobs than workers living within the region. This outflow of workers is forecast to continue. For the gap between local jobs and resident workers to be closed, a further 182,000 local jobs would be required by 2031.
- The industry divisions within Melbourne's North that are expected to be in high employment demand include Health Care and Social Assistance; Transport, Postal and Warehousing; Professional, Scientific and Technical Services; and Education and Training.
- Manufacturing will continue to decline while the Construction industry will be stagnant or in decline as a result of slow population growth and falling residential investment.
- Melbourne's North workforce will become more Professional as demand for health-related occupations, professional service and education occupations increase.
- Job demand for Technicians and Trades is expected to plateau and fall on the back of weaker Manufacturing and Construction sectors.

The Melbourne's North economy is expected to grow by an average of 2.8 per cent per annum. The rate of GRP growth is slightly above the other suburban regions of the South, East and West within Greater Melbourne. However, growth within the Central region of Melbourne is expected to remain much weaker over the next 10 years compared to the outer regions with average annual growth of only 1.1 per cent per annum.

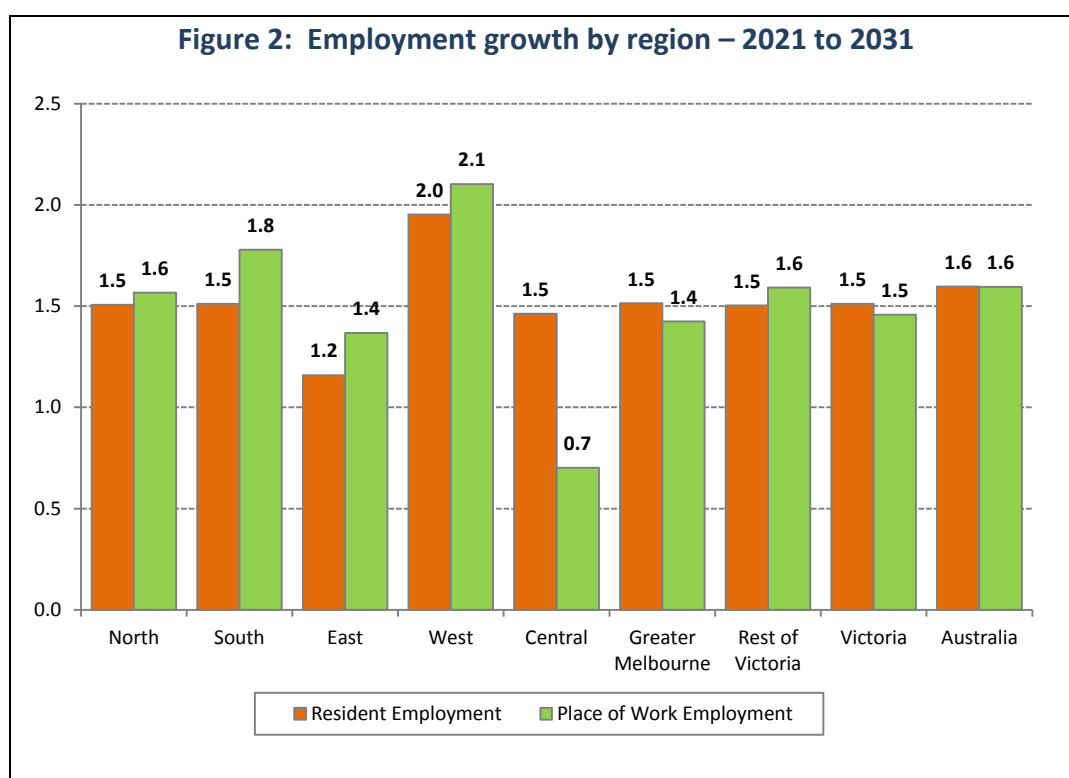
The reduction in population growth compared to the pre COVID-19 period will be a major negative factor for reducing Australia's economic outlook. This will be caused by the fall off in immigration intakes in the 3 years since 2019 stemming directly from the pandemic. Reduced rates of migration will likely continue given the likelihood that COVID-19 and successor mutations will not be eradicated until 2023 or beyond.

Melbourne's North and West will continue to lead population growth over the next 10 years; however, the rate of growth will be much slower than migration lead pre COVID-19 rates. Melbourne's North will grow by 1.1 per cent per annum until 2031, while Melbourne's West will lead population growth at 1.4 per cent per annum. This compares to an average rate of 1.0 per cent across both Greater Melbourne and Australia.

Employment outcomes are expected to be better for the Melbourne regions outside of the CBD as industry and work practices look to decentralise after experiencing years of disruption from lockdowns and working from home. Place-of-work employment for Melbourne's North will grow at around 1.6 per cent per annum over the next 10 years, compared to 1.4 per cent on average for Greater Melbourne. While resident employment will grow by 1.5 per cent, which is comparable to the Greater Melbourne average.

Melbourne's North has long had a structural gap between the number of workers employed within the North, and the number of workers living within the North and commuting to jobs outside of the region. As of 2021, there was a net outflow of 159,000 workers. While the gap between resident and place-of-work employment will persist over the forecasts, with more workers living within Melbourne's North than there are jobs, the gap is expected to stabilise somewhat under lower overall employment growth.

Average place-of-work growth in employment from 2011 to 2019 was 2.3 per cent while resident employment grew by 2.9 per cent in the years unaffected by the pandemic. This means the gap between the two series grew by an average of 4.3 per cent per annum. Going forward, there is expected to be slower employment growth in the Central Melbourne region, and a slight trend toward decentralising employment to the middle to outer suburbs. This leads to faster growth in place-of-work employment (1.6 per cent per year) within Melbourne's North compared to resident employment (1.5 per cent per year).



The growth in the employment gap between the two series is forecasts to grow by only 1.4 per cent per annum, at a much slower rate than recent history, but the net outflow of jobs is unlikely to reverse without heavy policy or industry intervention.

For the gap to be closed between local jobs and resident workers, a further 182,000 jobs would be required by 2031. This would mean that the net outflow of workers would be zero, with as many workers commuting to jobs outside the region as there are workers from outside Melbourne's North working in local jobs. The forecast employment gap will increase by a further 10,000 jobs to 192,000 by 2036.

The industry divisions that are expected to be in high demand for employment within Melbourne's North include:

- Health Care and Social Assistance;
- Transport, Postal and Warehousing;
- Professional, Scientific and Technical Services; and
- Education and Training.

Historically, both Manufacturing and Construction have been strong employment industries within Melbourne's North. Most sectors of manufacturing are expected to continue declining over the next 10 years, with those that had been most exposed to the exit of the motor vehicle industry, the worst impacted by employment losses. Construction will eventually experience a downturn over the next few years as lack of migration and associated slow

population growth feeds through to the residential housing market.

Melbourne's North industries will require a net total of 74,525 new jobs within the region from 2021 to 2031, which is comprised of both growth industries and industries that are in decline.

Health Care and Social Assistance are expected to require the greatest number of new jobs over the next 10 years. Melbourne's North alone will require another 21,100 trained health care workers out of a total 118,247 for the Greater Melbourne region.

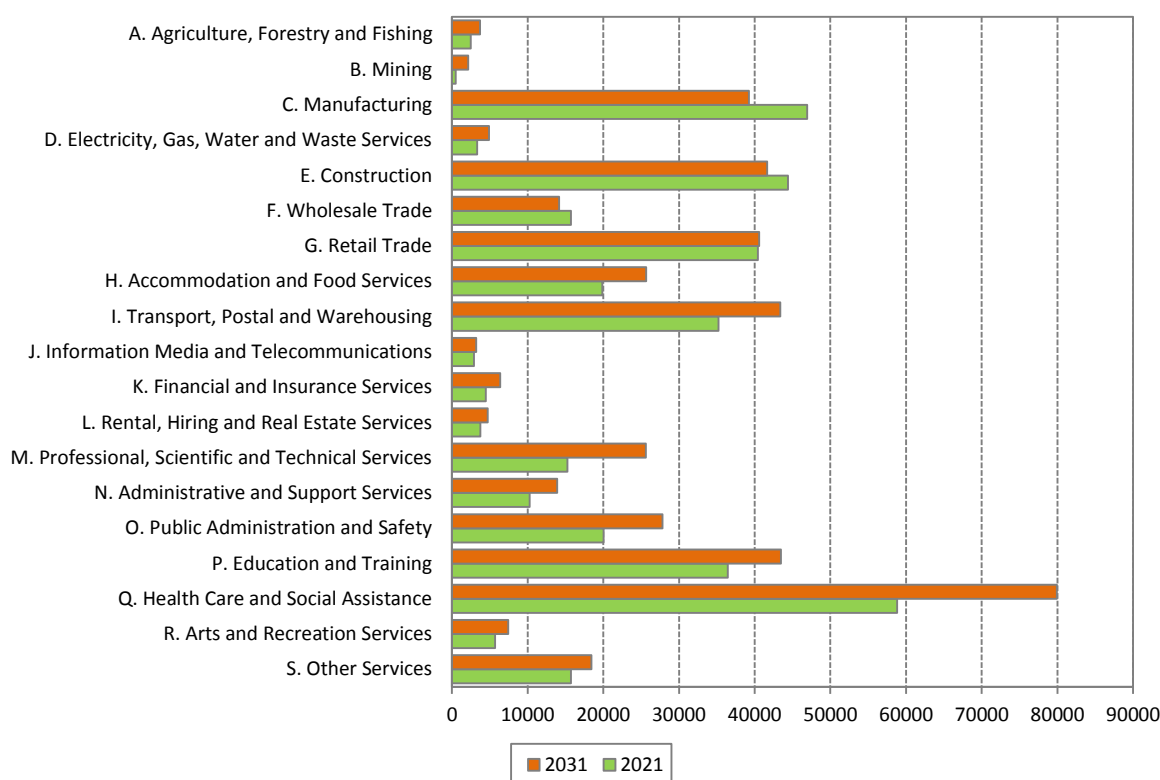
Other key industries within Melbourne's North that are expected to experience growth out to 2031 include:

- Transport, Postal and Warehousing will require a further 8,138 workers;
- Professional, Scientific and Technical Services need a further 10,395 workers;
- Public Administration and Safety will employ another 7,783;
- Education and Training will have another 7,014.

Employment levels in the following industries are expected to fall or remain stagnant from 2021 to 2031:

- Manufacturing will continue contracting by losing 7,715 workers; Construction will require less 2,771 workers with falls in investment and sluggish population growth; and
- Retail Trade and Wholesale Trade will remain relatively stagnant in employment growth.

Figure 3: Place-of-work employment by industry subdivision – Melbourne's North



4.1.1 Residents

Melbourne's North currently houses 540,898 workers as of 2021, and this is expected to grow by 1.6 per cent each year out to a total of 627,899 workers by 2031.

Melbourne's North will continue to have a large resident workforce employed in Health and Social Assistance and will reach over 100,000 workers by 2031. This industry accounts for 14.4 of resident workers in 2021 and increases to 16.4 per cent by 2031. This highlights how important this industry will continue to be in the future.

4.1.2 Industry

Industries as measured by the total change in the number of employed between 2021 and 2031. Professional, Scientific and Technical Services are expected to need another 8,662 employed within Melbourne's North over the next 10 years. While the next two industries are both related to Health with 7,869 more employed in Medical and Other Health Care Services, and another 7,261 employed in Hospitals within Melbourne's North.

Industries that have been significantly impacted by the pandemic are expected to bounce back from current low levels. This includes Food and Beverage Services and Air and Space Transport. This means that part of this growth is in returning employed, rather than significant new growth. In addition, Transport and Logistics related industries are expected to continue to grow over the next 10 years, which follows on from high industry demand during the pandemic.

Manufacturing industries will continue to weaken over the next 10 years, in particular Transport Equipment Manufacturing will lose a further 1,777 employed, which continues on from losses associated with the exit of the motor vehicle manufacturing industry within Melbourne's North. The notable exceptions to declining manufacturing employment include the combined Food Product Manufacturing and Beverage and Tobacco Manufacturing sectors, which are expected to employ another 1,042 combined.

Employment in Building construction and Construction services are expected to slow down over the next 5 years as the housing market cools down with declines of 1,540 and 1,124 employed respectively. Construction employment will start to improve in the last 5 years of the forecasts but will not return to levels seen today.

4.1.3 Youth

Youth unemployment is of particular concern within Melbourne's North, particularly throughout the pandemic as many occupations that would typically be available to young people have been restricted by lockdowns and allowed activity. This includes workers in Retail, and Hospitality (e.g. Hospitality Workers, Food Preparation Assistants, Sales Assistants and Sales Persons). In the short-term, these conditions will continue to improve post re-opening. Already it seems that Hospitality Workers are in strong demand (demonstrated by job listings) as businesses look to fill vacancies now that restrictions on patronage have largely been removed.

In addition, over the next 10 years young people will need to be encouraged into different industries as demand for jobs changes under the new economic environment.

One of the main pathways to employment for young people, particular young men, is by seeking training and employment through the construction industry. This is often completed through an apprenticeship, which also involves completing certificate level education through the VET system. With the expected contraction in construction over the next 5 years, employment prospects in construction will be weaker than what has been the case in the previous 10 years with strong migration and a booming property market. This will place further pressure on youth unemployment if apprenticeships are over-subscribed.

Concurrently, the manufacturing industries will continue to decline, which means technicians and trades employment growth within manufacturing will also be weak/in decline.

Solutions to addressing the structural shift in occupations, in context of young people entering the workforce include the following.

- More will need to be done to encourage young people into alternative pathways within growth industries in Melbourne's North away from construction or manufacturing under business-as-usual forecasts. Initiatives such as the Melbourne's North Advanced Manufacturing Group are important in this respect.
- Further development of local industries to provide more jobs for resident workers, which will increase place-of-work employment beyond the NIEIR business-as-usual forecasts.

Growth industries that could be promoted to young people include Health and Social Assistance, Transport, Postal and Warehousing. Young people may also need to seek higher skilled training than previous years to move into more professional career pathways to train for more digital and information-based careers.

Further development of local manufacturing industries and attraction of manufacturing businesses may also be beneficial to Melbourne's North to attempt to stop further declines in the industry (BAU case) and enable more pathways for Trades and Technicians workers for young people. The manufacturing sector is particularly important in a future context as it provides supply chain security, high value adding potential and contributes significant research and innovation capacity to the region. Food security will become an even more important consideration and that provides more opportunities for Melbourne's North.

4.1.4 Local jobs

Melbourne's North needs to plan for business-as-usual forecast employment increases over the coming years. Beyond BAU forecasts, Melbourne's North could work to encourage the creation of local jobs to serve local residents who currently commute to regions outside of Melbourne's North for work. This approach is consistent with, for example, 20-minute neighbourhoods proposed in Plan Melbourne 2017 to 2050. 20-minute neighbourhoods are designed so that residents can meet most of their daily needs within a 20-minute walk of home, including groceries, work, and local transport options. Now that many people have also been able to experience the benefits of working from home, and many businesses are now offering working from home options, this could be more achievable than prior to COVID-19. Indirect benefits might include encouraging more high tech workers to localise employment, while it appears unlikely, given the structure of local jobs, that the trend of working from home will create much downside risk to the already locally employed.

Encouraging more local jobs to serve the local population will reduce the long standing and increasing gap between the number of workers living within the region, and the number of jobs available. The gap between the resident workforce and place-of-work workforce is projected to be as follows:

- 158,820 in 2021;
- 174,581 in 2026;
- 181,781 in 2031; and
- 191,574 in 2036.

The gap between local jobs and resident employment can be reduced through two methods:

- reduce net residential and place-of-work employment by encouraging development of industries and occupations where Melbourne's North already has a comparative advantage; and/or
- attract industries and occupations that Melbourne's North is weak in to increase industrial diversity and employment opportunity.

For existing businesses, transport links across Melbourne's North need to be fixed to connect local workers to local jobs, including improvement to East-West public transport. Other initiatives need to be directed toward attracting new businesses and job creation to Melbourne's North, such as planning health precincts, commercial space for professional services and other cluster development.

Figure 4 shows the difference between place-of-work employment and resident employment by 2031 within Melbourne's North by industry sub-division. Net positive numbers show that there is a surplus of local jobs compared to resident industry workers. While net negative numbers show that there is a lack of local jobs to serve local workers. While Figure 5 shows the same gap by occupation major group.

Figure 4: Difference between place-of-work and resident employment by industry division – 2031

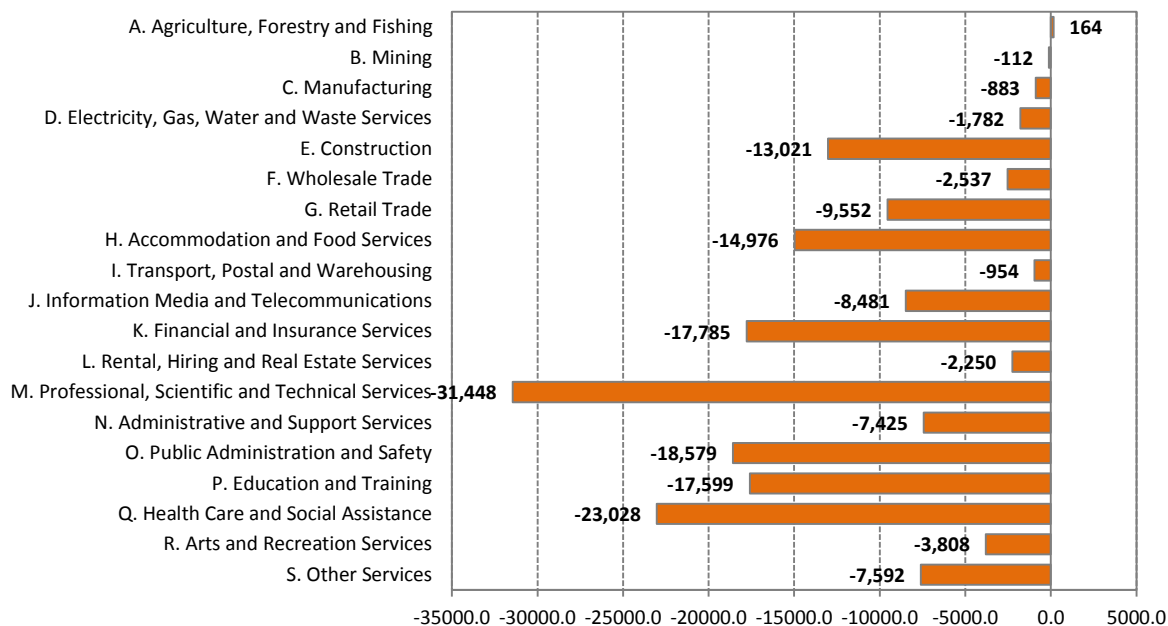
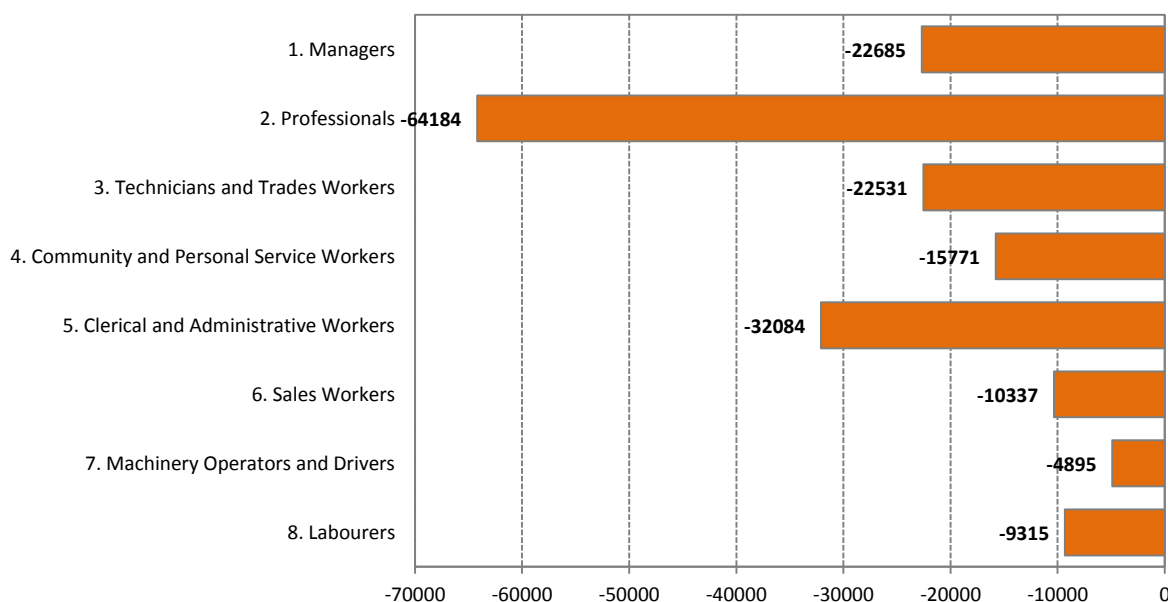


Figure 5: Difference between place-of-work and resident employment by occupation major group – 2031



Most industries within Melbourne's North are expected to retain a net outflow of workers over the forecasting period. Only a small number of industries have a net inflow of workers to the region. The industries that will have a net inflow of workers include around half of the manufacturing related industries, air transport and transport support services.

Business professionals or other professions that primarily deal with information continue to have a large difference between resident and place-of-work employment (Industries J to O). These industries likely had a high level of people working from home over the past few years compared to other industries which require more physical presence. Industries J to O will have a gap of around 86,000 workers by 2031. Information and digital occupations will also have larger influence in other industries.

The Food and Beverage services industry has a large gap between resident and industry employment with a net outflow of 13,000 workers by 2031 commuting to regions outside of Melbourne's North. Given one of the key industries promoted for development in Melbourne's North is the Food industry, employment gap may have potential to be closed.

Manufacturing employment is relatively local with only a small gap between place-of-work and resident employment. But if developed further, could encourage higher net inflows of workers.

Despite being one of the highest employing industries within Melbourne's North a net of 23,028 Health Care and Social Assistance commute to regions outside of the North for work, this includes major hospitals around the CBD which are within easy access from the inner north. More could be done to attract both public and private beds to Melbourne's North, including the proposed new hospital, given that Melbourne's North generally has less service on offer compared to other Greater Melbourne sub-regions (as highlighted by Northern Horizons).

4.2 Key findings: Industry and occupation forecasts by Local Government Area

Melbourne's North economy will grow by an average of 2.8 per cent per annum from 2021 to 2031. The outer regions of Hume and Whittlesea will remain the largest economies over the next 10 years. Hume (C) will have an annual economy worth \$20.5 billion by 2031 and Whittlesea will have GRP of \$12.0 billion, through Whittlesea will be growing at a slower rate than recent years, while Hume (C) GRP growth will be similar to that of the previous 10 years.

The inner regions of Darebin (C) and Moreland (C) are expected to have an increased rate of GRP growth over the 2021 to 2031 period compared to 2011 to 2021. However, both of these regions seemed to be harder hit by industry closures and reduced activity during the 2021 financial year compared to 2020 financial year. This means that a larger part of the reported growth in GRP for these regions is economic activity returning post-lockdowns, rather than expanded economic activity. In contrast, the outer regions showed more overall economic resilience during this period compared to all other regions.

Melbourne's North is home to 1,073,600 people in 2021, over the next 10 years another 124,200 people will be living within the region. Melbourne's North total population is expected to grow by 1.1 per cent on average each year from 2021 to 2031. This is under half the growth rate of the previous decade, which saw annual average population growth of around 2.4 per cent each year.

The fastest growing regions over 2021 to 2031 include Mitchell, Hume and Whittlesea LGAs as these outer regions contain the most opportunities for urban growth. The remaining regions will have relatively slow population growth with annual growth rates of under 1 per cent each year as there is less opportunity for greenfield urban expansion.

Working age population growth will be strongest in Mitchell (S) with 2.6 per cent average growth per annum, followed by Whittlesea with 1.6 per cent average growth per annum to 2031.

Banyule (C) and Nillumbik (S) will both have slow growth in both total and working age population, with Nillumbik projected to have slight declines in working age population over the next 10 years. Growth in the number of households shows a similar pattern to population growth between the LGAs.

4.2.1 Industry employment

Forecasts for place-of-work employment by industry subdivision show that Health Care and Social Assistance is one of the key job growth industries during the forecasting period. Banyule (C) will continue to have the greatest number of Health jobs, followed by Whittlesea (C) as both benefit from major hospital within their regions.

- Banyule (C) will add another 3,864 jobs by 2026 to meet short-term demand, while new job creation is expected to plateau in the next 5 years out to 2031.
- Whittlesea (C) will gradually add jobs over the next 10 years with an increase of 4,512 workers by 2031.
- Hume is expected to have the greatest growth in Health jobs with the workforce almost doubling in the next 10 years from 6179 to 12196 local jobs.

- Moreland (C) and Darebin (C) both will continue to have strong Health workforces with annual average growth 2.3 and 2.0 per cent.
- Both Mitchell (S) and Nillumbik (S) will retain smaller workforces but undergo strong growth in Health workers with over 5.0 per cent growth on average out to 2031.

Professional, Scientific and Technical Services are expected to undergo significant growth over the next 10 years.

- Hume (C) will see another 4,807 workers in the region over the next 10 years starting from a workforce of only 2,814 in 2021.
- Whittlesea (C) will add another 1,942 workers by 2031.
- Mitchell (S) will go from 373 to 1,021 workers.
- Other LGAs have established workforces that will continue to grow at relatively strong rates.

The Construction industry within most regions will be steady or in decline over the next 10 years. Mitchell (S) and Nillumbik (S) will fair slightly better than other regions in terms of growth but will still retain relatively small workforces compared to larger regions. LGAs with established manufacturing industries are all expected to continue to decline over the next 10 years. While those with more niche manufacturing industries are expected to retain similar levels of employment across the next 10 years (Mitchell, Nillumbik).

Education and Training employment growth will be particularly strong in the outer regions when compared to the inner north.

The Transport, Postal and Warehousing industry will continue to gain over the next 10 years. Employment gains will be on top of the additional employment demand throughout the pandemic to cater for freight demand (exception of Air Transport).

4.2.2 Industry and occupations

Place-of-work employment within Melbourne's North is expected to change from 2021 to 2031 by:

- Managers (5,807);
- Professionals (30,574);
- Technicians and Trades Workers (7,463);
- Community and Personal Service Workers (15,224);
- Clerical and Administrative Workers (8,747);
- Sales Workers (1,825);
- Machinery Operators and Drivers (1,226); and
- Labourers (3,480).

Employment for managers is fairly evenly spread out between the LGAs, with the exception of Nillumbik and Mitchell, each LGA had close to 10,000 managers employed within each respective region. Over the next 10 years growth in Managers will slightly favour the outer regions of Hume, Whittlesea and Mitchell over all other LGAs.

Demand for Professionals is expected to remain strong for each LGA over the forecasts, backed by growth in Health Care and Social Assistance and Professional, Scientific and Technical Services.

Melbourne's North will require another 3,286 Technicians and Trades Workers by 2031 with most LGAs requiring less than 1,000 new workers. Whittlesea will require the most additional Technicians and Trades workers with a further 2,872 employed and Mitchell (S) will require 1,506 new workers.

Community and Personal Service workers will add the second greatest number of employed out of the occupational major groups. Employment growth will be solid across all LGAs, but slightly favour outer growth areas.

Employment growth in Clerical and Administrative Workers is expected to be higher over 2021 to 2031 than it was for 2011 to 2021 across Melbourne's North. All LGAs are expected to grow beyond the previous 10 years with the exception of Hume and Whittlesea, which will still see relatively strong growth. Similarly, growth in Sales workers over the forecasts is expected to outpace the previous 10 years.

Machinery Operator and Driver growth is expected to remain below that of previous years as Manufacturing industry continues to contract. Labourers are expected to grow at a similar, albeit lower rate, than the previous 10 years.

The list below shows the key findings relating to the share of occupations within each LGA at the major group level as of 2031 (composition of occupations for each LGA on a place-of-work basis):

- Hume and Whittlesea will remain the largest LGA economies within Melbourne's North over the next 10 years. These two LGAs will add the most jobs to the region.
- The resident workforce is much larger than place-of-work employment within each LGA with the exception of Hume (C), which will continue to have more jobs than local workers.
- The inner northern regions of Banyule (C), Darebin (C) and Moreland (C) will each continue to have significantly more resident workers than local jobs given better access to employment opportunities within the CBD and surrounding areas of Melbourne.

- Banyule (C) and Whittlesea (C) will both benefit for strong demand for health care workers. In addition, there is expected to be significant growth in health jobs within Hume (C).
- The Construction industry within most regions will be steady or in decline over the next 10 years. Mitchell (S) and Nillumbik (S) will fair slightly better than other regions in terms of growth but will still retain relatively small workforces compared to larger regions.
- Professional occupations within Melbourne's North are expected to grow by 27,977 jobs by 2031 with Banyule (C), Hume (C) and Whittlesea (C) having the largest workforces.
- Technicians and Trades will grow by only 3,286 new jobs out to 2031 with the most scope for new growth in Whittlesea (C), Mitchell (S) and Nillumbik (S).

4.3 Key findings: Disadvantage in Melbourne's North

There are regions within Melbourne's North that have particular areas of disadvantaged people. The report touches on two regions within Melbourne's North that have relatively high levels of disadvantage – Broadmeadows and Heidelberg West. Both regions suffer from high levels of unemployment, including youth unemployment and have relatively high proportions of migrant population.

Figure 6: Top 20 place-of-work employment by occupation minor group 2021 to 2031 (change in number employed) – Melbourne's North

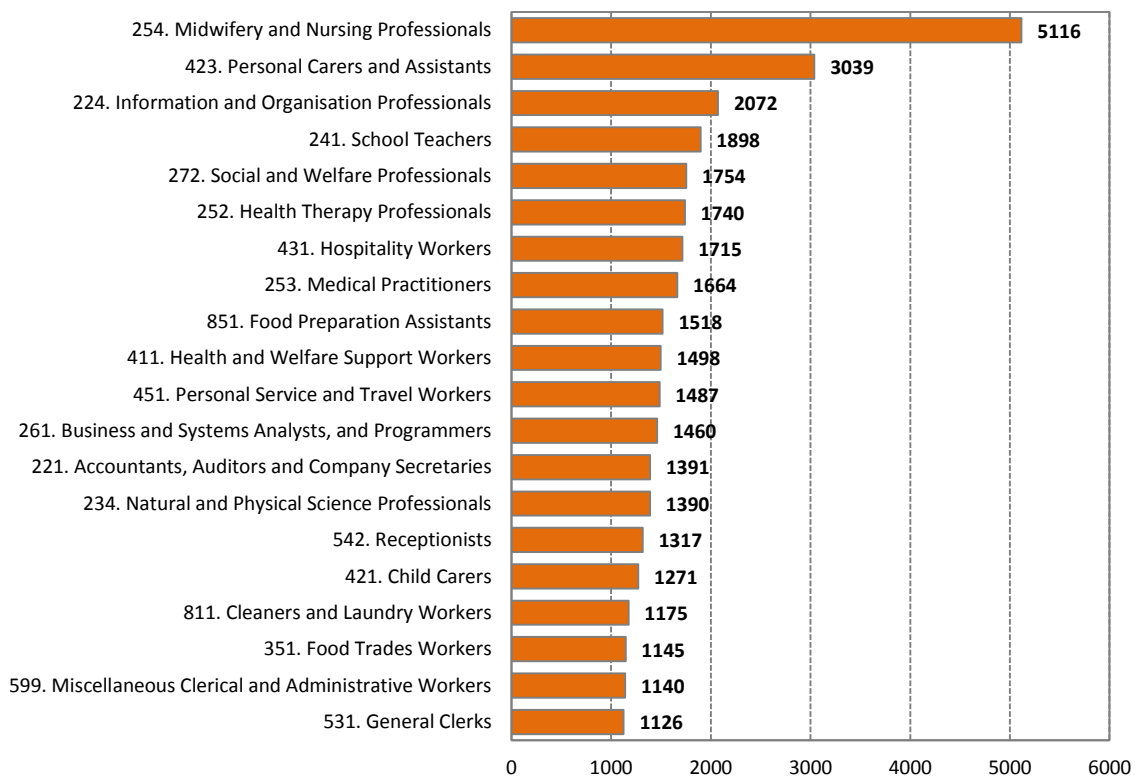
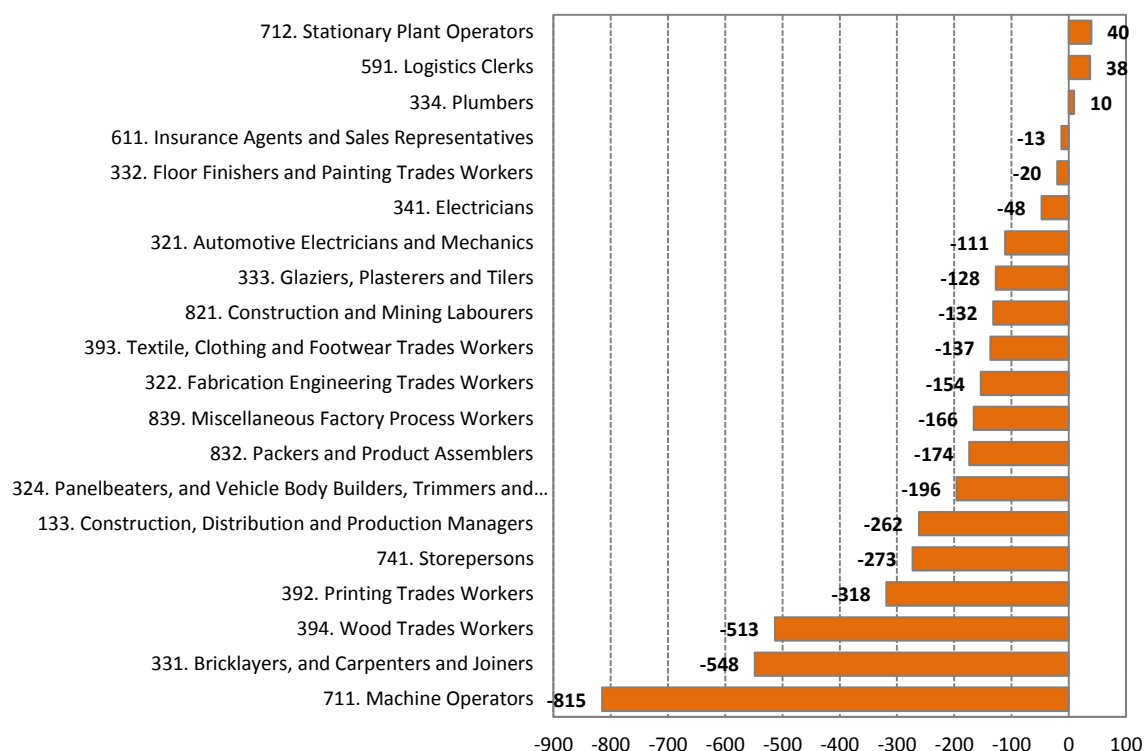


Figure 7: Bottom 20 place-of-work employment by occupation minor group 2021 to 2031 (change in number employed) – Melbourne’s North



In the context of this workforce report, adequate employment directly addresses areas where the people living there are experiencing financial disadvantage. While other forms of disadvantage prevent people from obtaining employment, which could include lack of access to education, social-economic disadvantage, or lack of access to transport. Financial disadvantage could come from three sources:

- low liquidity (lack of access of savings);
- low disposable income; and/or
- no member of the household is employed.

One way to address financial disadvantage is encourage unemployed, underemployed and lower paid people into training or employment into industries and occupations that are forecast to have strong demand in the short to medium-term. Barriers to entry into these industries or occupations will need to be considered, and targeted programs may be needed to match disadvantaged to jobs or career pathways.

4.3.1 Broadmeadows

Broadmeadows is a Metropolitan Activity Centre (MAC) that has a very high proportion of residents that are disadvantaged. The working age population within Broadmeadows has a large rate of disengagement with the workforce. Broadmeadows has maintained a high unemployment level over the past 10 years that has not shown significant improvement over this time, with the exception the last half of 2021, which has seen the labour market tighten within most regions, including Broadmeadows. Over the 2015 to 2019 period the average unemployment rate for the Broadmeadows SA2 has been around 22 per cent. The labour force participation rate for the area of 48 to 49 per cent is very low compared to Greater Melbourne (above 60 per cent), which suggests a large proportion of the working age population is long-term unemployed.

Broadmeadows contains a large population of residents who were born overseas with 45.9 per cent of residents born outside of Australia. Only 54.8 per cent of residents over the age of 15 have completed high school, while just under half the workforce have post-school qualifications. This translates into a resident workforce that is relatively unskilled with Labourers (17.4 per cent) being the largest occupational group.

The loss of manufacturing employment within the region with the closure of the Ford Manufacturing plant in Campbellfield has been felt in the adjacent regions, including Broadmeadows. However, the rate of unemployment before this time was still around the same level. Note, that the unemployment rate in Greater Melbourne had been improving at the same time.

Broadmeadows has access to several growth industries within Hume (C) that can provide opportunity for disadvantaged residents to obtain employment and improve their circumstances including:

- Transport and Logistics;
- Health Care and Social Assistance; and
- Professional, Scientific and Technical Services.

The Transport and Logistics Industry has recently gone through a large resurgence through COVID-19 with increased freight demand. The industry will remain strong and grow over the next 10 years. Broadmeadows has close proximity to major transport infrastructure including Hume Highway and Melbourne Airport which gives residents access to jobs within close range within the industry. Training requirements for entry into transport and logistics are low compared to many other industries, which means that the industry could be suited to attract adult unemployed in the short-term. Generally, Transport and

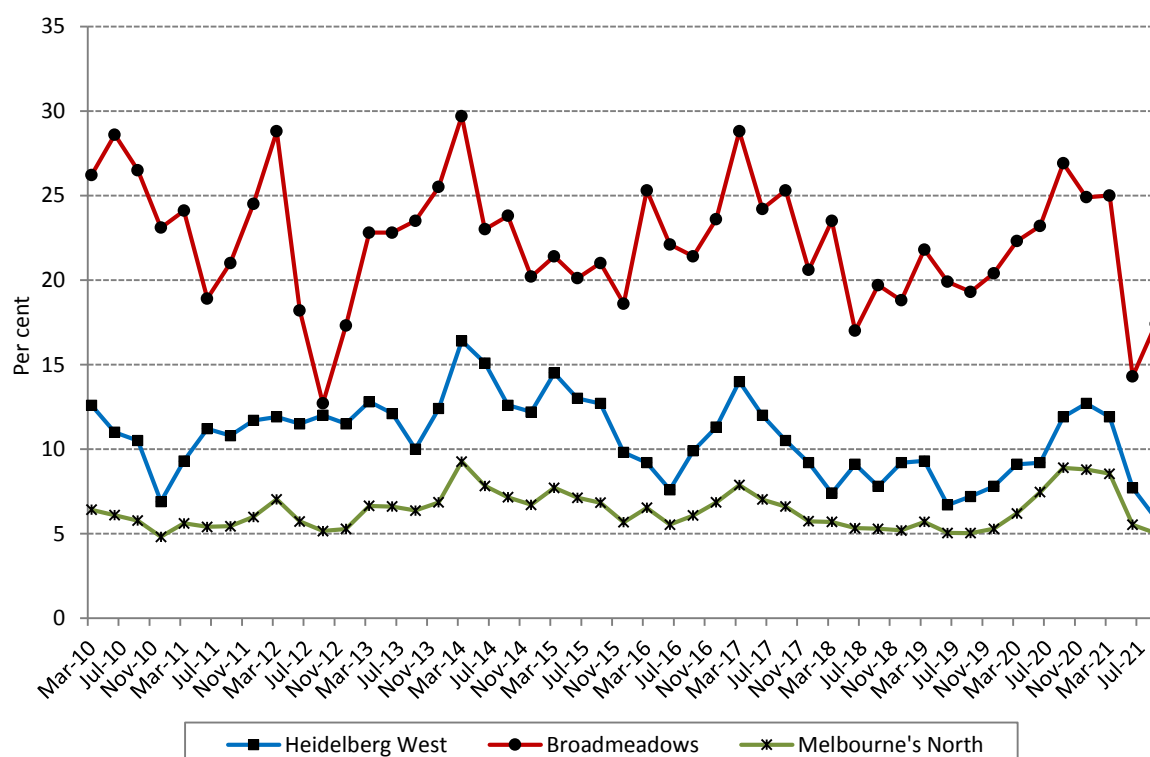
Logistics is not seen as an attractive option, especially for young people first entering the workforce. More could be done to attract young people into the industry, starting in high school with industry placement or programs.

Both Health Care and Social Assistance, and Professional, Scientific and Technical Services are expected to undergo significant growth within the Hume (C) region over the next 10 years. Broadmeadows, as an MAC, would be ideally suited to encourage more commercial space to house these industries and promote local employment. However, both of these industries require higher skilled workers with occupations within these industries often requiring University degrees, diplomas, or certificates to enter the workforce.

The high proportion of migrant population, and lower high school completion rate suggest that adult education programs in English, or high school equivalent vocational qualifications could help get the working age population ready for the workforce.

The Broadmeadows Revitalisation with the revitalisation of the Town Centre, the redevelopment of Kangan Institute with the siting of a technical school could help cement Broadmeadows as a major education and service centre for manufacturing, logistics and health and community services.

Figure 8: Unemployment rate – Heidelberg West, Broadmeadows and Melbourne's North (per cent)



4.3.2 Heidelberg West

Heidelberg West (SA2) is an inner suburban region within Banyule (C) that includes suburbs of Heidelberg West, Bellfield and Heidelberg Heights. The region has high levels of unemployment over the past 10 years. Heidelberg West has had an unemployment rate of around 10 per cent over 2015 to 2019, and around 11.7 per cent from 2010 to 2014. Recently, the unemployment rate has been trending downwards, so employment prospects for the local labour force seem to be improving. However, the Heidelberg West region has the highest rate of unemployment within the Banyule (C) region.

The region is also home to a large proportion of social housing and has the largest number of residents who were born overseas within Banyule (C). Education levels for residents of this region are also relatively low in terms of high school completions (55 per cent) and University qualifications. Employment and training prospects for local residents will need to be addressed with these issues in mind.

Heidelberg West benefits from being relatively close to the CBD and has close access to a number of employment districts which include:

- Heidelberg West Business Park;
- La Trobe University;
- Heidelberg Repatriation Hospital and Austin/Mercy Hospital Precinct;
- Northland Shopping Centre; and
- Industrial and Commercial precinct North/South of Bell Street, Preston.

Given the regions lower education levels and post-school qualifications, on average, the more disadvantaged workers will be currently more suited to lower skilled occupations such as those found within Sales, Machinery Operators or Drivers, or Labourers. However, within Banyule (C) these occupation groups are the three lowest in terms of place-of-work employment out of the eight occupation groups. Banyule's (C) largest employment industry is within Health Care and Social Assistance, which skews much more Professional. Darebin (C) has a similar composition for the lower skilled occupations but has slightly more opportunity for lower skilled work.

There are major opportunities around the redevelopment of La Trobe University, a possible major redevelopment of Northland and investments associated with the Austin Hospital at Heidelberg, as well as public transport connectivity opportunities across the La Trobe NEIC.

The current composition of the local industry skews more toward higher skilled work, which acts as a barrier for those seeking entry into the workforce from a lower qualification background. This means that either transport links may need to be improved for local workers to find suitable work, or workers will need to be retrained or upskilled for growth industries and occupations within the region. Programs that connect local residents to industry to provide them with experience may also help bridge the gap between unskilled unemployed and employed.

Industries within Banyule (C) that will have growth in demand for workers include:

- Health Care and Social Assistance (Q); and
- Other Services (S).

Occupations that are expected to grow strongly within Other Services (S) include Hairdressers, Miscellaneous Labourers, and Personal Service and Travel Workers. This is partly due to rebound in services post-lockdown.

While Health Care and Social Assistance provides the largest opportunity for growth within the region, with thousands of more jobs forecast over the next 10 years, which will need to attract more skilled workers. These are occupations such as Nurses, which are directly involved in the care of patients.

The Health Care and Social Assistance industry also requires many lower skilled occupations which have lower educational barriers to entry but will also be in high demand. These may provide an easier pathway to employment for disadvantaged persons within Heidelberg West area. This includes:

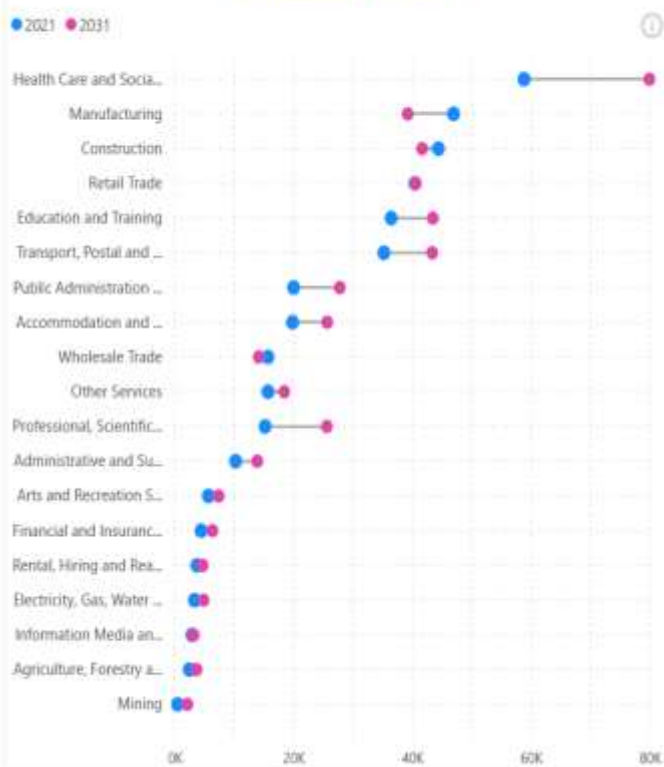
- General Clerks;
- Receptionists;
- Food Trades Workers (Cooks);
- Food Preparation Assistants;
- Personal Carers and Assistants (such as Disability Care Workers); and
- Cleaners and Laundry Workers.

Summary of Economic Indicators 2021 to 2031 by region (average annual growth, per cent)

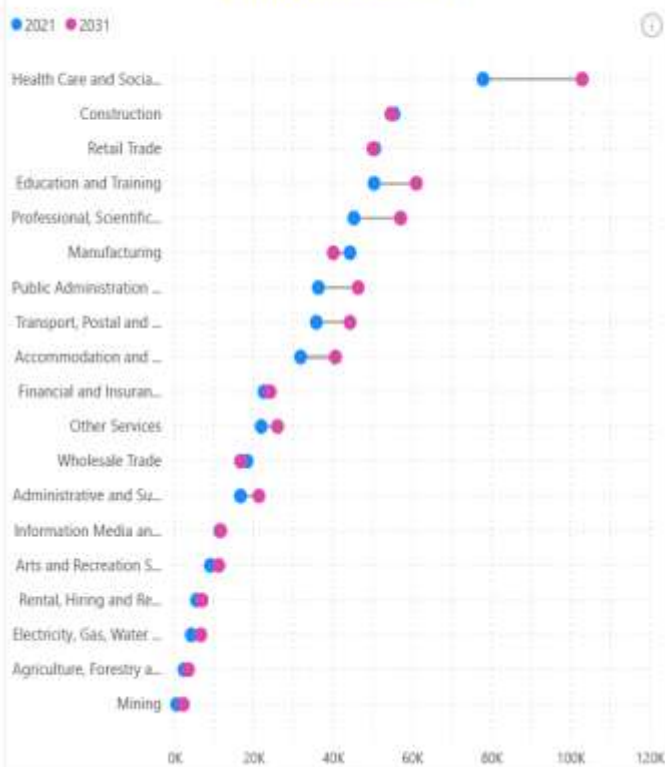
Region	GRP	GRP per hour worked	Population	Working age population 18-70	Households	Resident Employment	Place-of-work employment	Total business and public investment	Total residential investment
North	2.8	1.1	1.1	0.9	1.0	1.5	1.6	3.6	-2.4
South	1.5	0.7	0.9	0.7	0.8	1.5	1.8	3.4	-1.8
East	2.3	0.9	0.5	0.4	0.6	1.2	1.4	3.0	-0.8
West	2.6	0.4	1.4	1.2	1.2	2.0	2.1	3.0	-3.6
Central	1.1	0.3	1.1	1.1	1.5	1.5	0.7	1.7	-1.6
Greater Melbourne	2.1	0.6	1.0	0.8	0.9	1.5	1.4	2.9	-2.1
Rest of Victoria	1.5	-0.2	0.6	0.4	0.7	1.5	1.6	2.1	-2.9
Victoria	2.0	0.5	0.9	0.7	0.9	1.5	1.5	2.7	-2.2
Australia	2.4	0.7	1.0	1.2	1.2	1.6	1.6	2.7	1.2

Note: Total business and public investment includes non-residential construction investment and equipment investment.
Total residential investment includes new residential construction and renovations.

Place-of-work employment by industry subdivision Melbourne's North



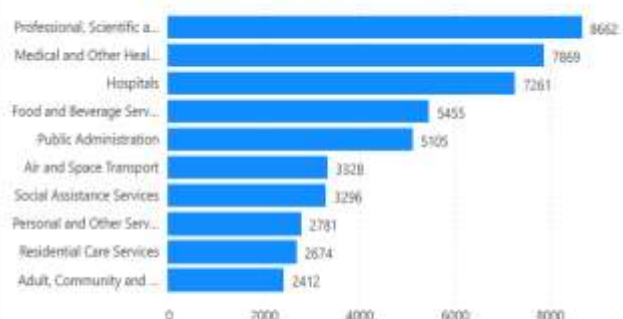
Resident employment by industry subdivision - Melbourne's North



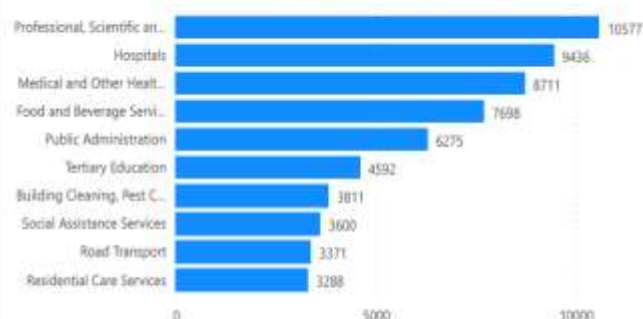
Place-of-work employment by industry division and region, Annual growth(%) 2021 to 2031

	North	South	East	West	Central	Greater Melbourne
Other Services	1.6	2.4	1.7	3	1.2	2
Arts and Recreation Services	2.7	2.9	2.9	2.9	-0.1	1.8
Health Care and Social Assistance	3.1	2.8	2.8	5.2	1.7	3
Education and Training	1.8	1.4	1.5	3.2	2.3	1.9
Public Administration and Safety	3.3	5.6	3.8	2.8	0.9	2.7
Administrative and Support Services	3.1	2.3	2.6	2	0.3	1.8
Professional, Scientific and Technical Services	5.3	2.9	1.9	3.5	0.4	1.7
Rental, Hiring and Real Estate Services	2.3	1.6	2	2.3	1.5	1.8
Financial and Insurance Services	3.6	1.7	0.1	2.7	-0.3	0.3
Information Media and Telecommunications	0.9	1.8	0.2	1.1	-0.4	0.2
Transport, Postal and Warehousing	2.1	2.8	3.4	1.3	2.4	2.3
Accommodation and Food Services	2.6	3.6	2.8	4	2	2.9
Retail Trade	0	0	-0.9	0.2	-0.3	-0.2
Wholesale Trade	-1	-0.9	-0.8	-1.1	-0.3	-0.9
Construction	-0.6	0.5	-0.6	-0.4	-2.3	-0.5
Electricity, Gas, Water and Waste Services	3.8	1.7	4.9	4.4	2.2	2.9
Manufacturing	-1.8	0.1	-0.3	0.2	1.8	-0.2
Agriculture, Forestry and Fishing	4	0.6	0.6	4.8	6.8	2.1

Top 10 industries change in place-of-work employment - Melbourne's North 2021 to 2031



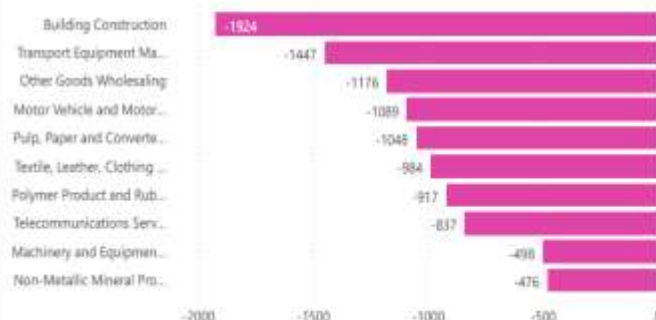
Top 10 industries change in resident employment - Melbourne's North 2021 to 2031



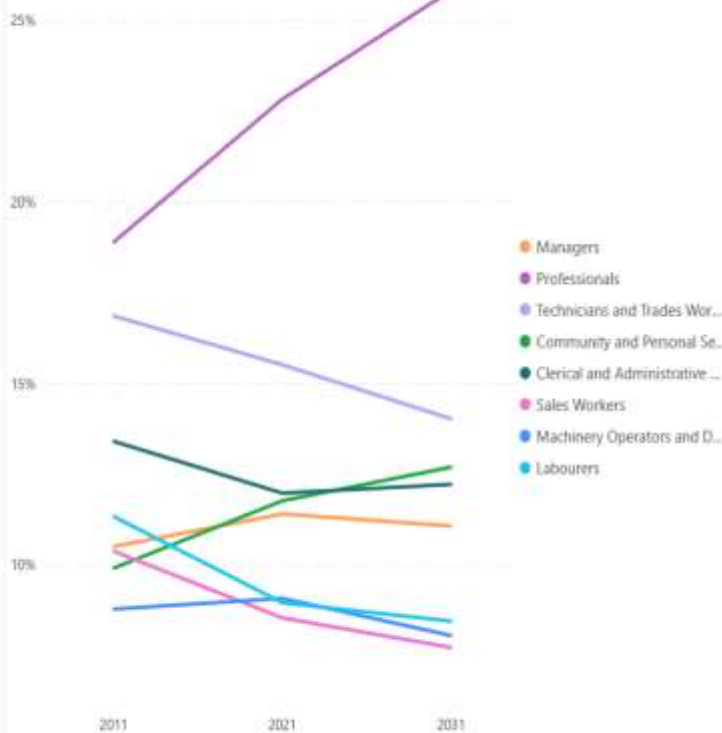
Bottom 10 industries change in place-of-work employment - Melbourne's North 2021 to 2031



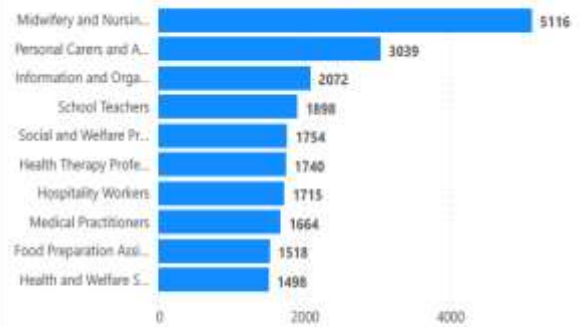
Bottom 10 industries change in resident employment - Melbourne's North 2021 to 2031



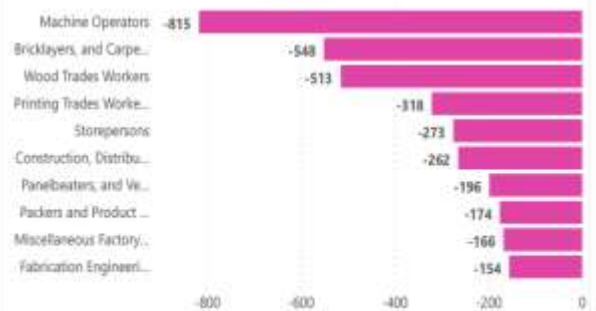
Change in Place-of-work Occupation Major Group Composition, Melbourne's North 2011-2031



Top 10 place-of-work employment by occupation minor group 2021 to 2031 (change in number employed) - Melbourne's North



Bottom 10 place-of-work employment by occupation minor group 2021 to 2031 (change in number employed) - Melbourne's North



Difference between place-of-work and resident employment by industry division



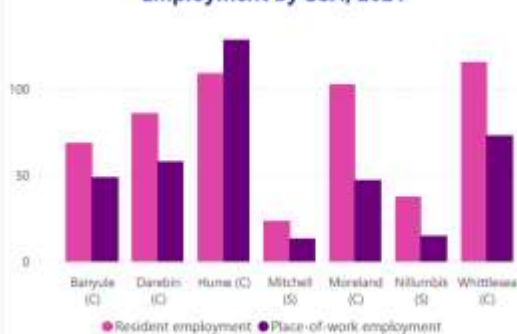
Difference between place-of-work and resident employment by occupation major group



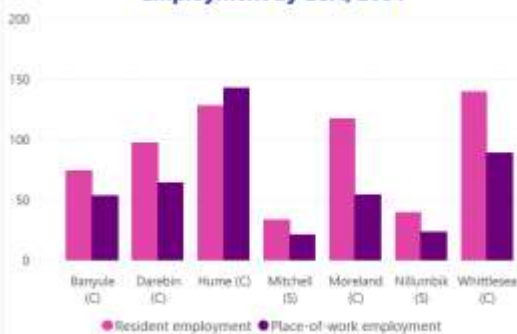
Summary of Economic Indicators 2021 to 2031 by LGAs (average annual growth, per cent)

LGA	GRP	GRP per hour worked	Population	Working age population	Households	Resident employment	Place-of-work employment	Total business and public investment	Total residential investment
Banyule (C)	1.6	0.8	0.4	0.3	0.3	0.8	0.9	0.4	-2.2
Darebin (C)	2.3	1.3	0.8	0.7	0.7	1.2	1.0	4.7	0.3
Hume (C)	2.8	1.4	1.3	0.9	1.2	1.6	1.1	0.7	-5.3
Mitchell (S)	5.1	0.5	2.7	2.6	2.2	3.7	4.6	6.4	0.3
Moreland (C)	3.2	1.6	0.8	0.8	0.7	1.3	1.4	7.6	-1.2
Nilfumbik (S)	6.2	1.2	0.2	-0.2	0.5	0.6	4.8	10.8	0.8
Whittlesea (C)	2.1	0.1	1.6	1.3	1.3	1.9	2.0	4.0	-3.4
Melbourne's North	2.8	1.1	1.1	0.9	1.0	1.5	1.6	3.6	-2.4

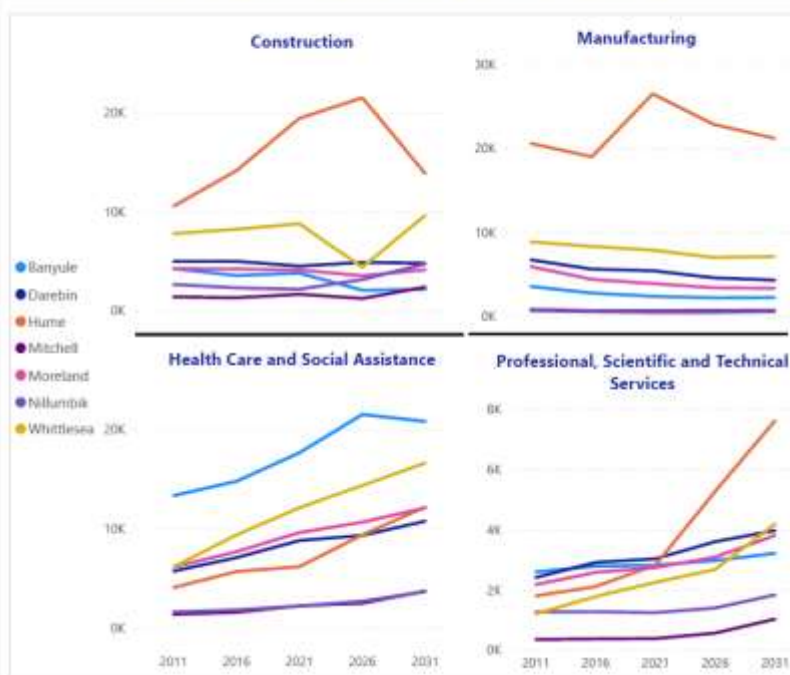
Employment by LGA, 2021



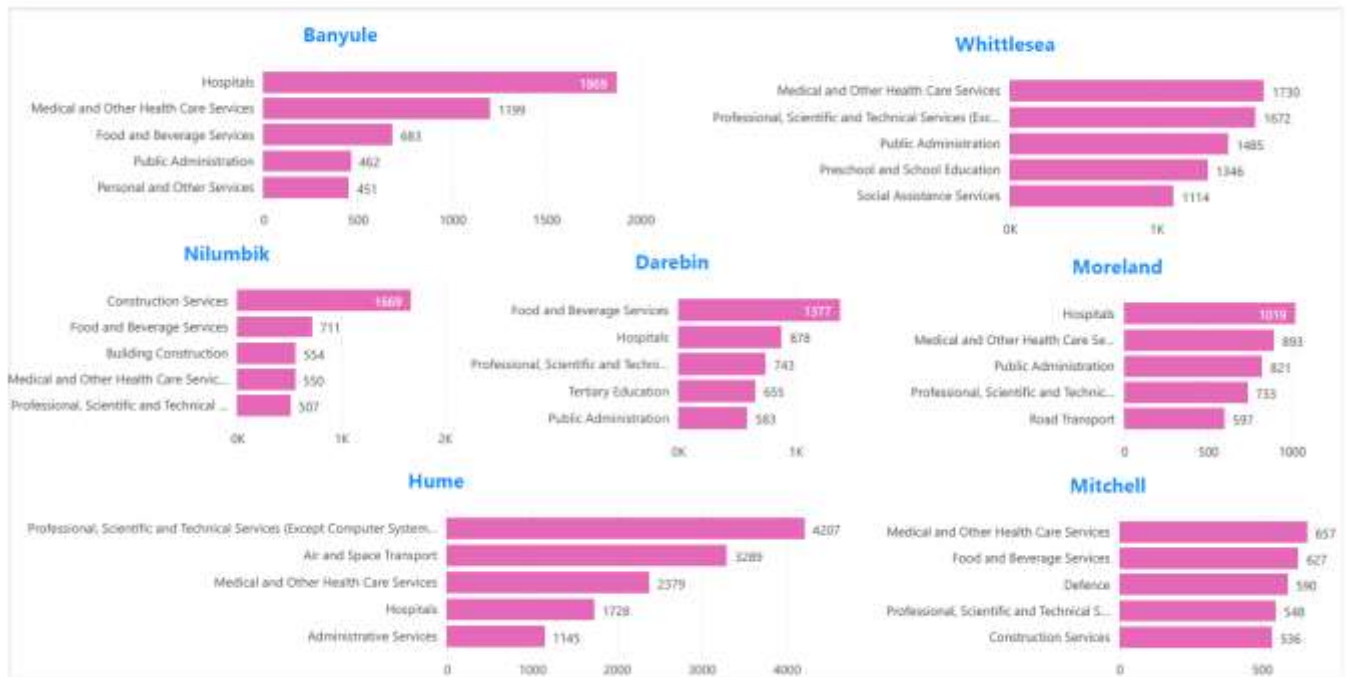
Employment by LGA, 2031



Place-of-work employment by industry division



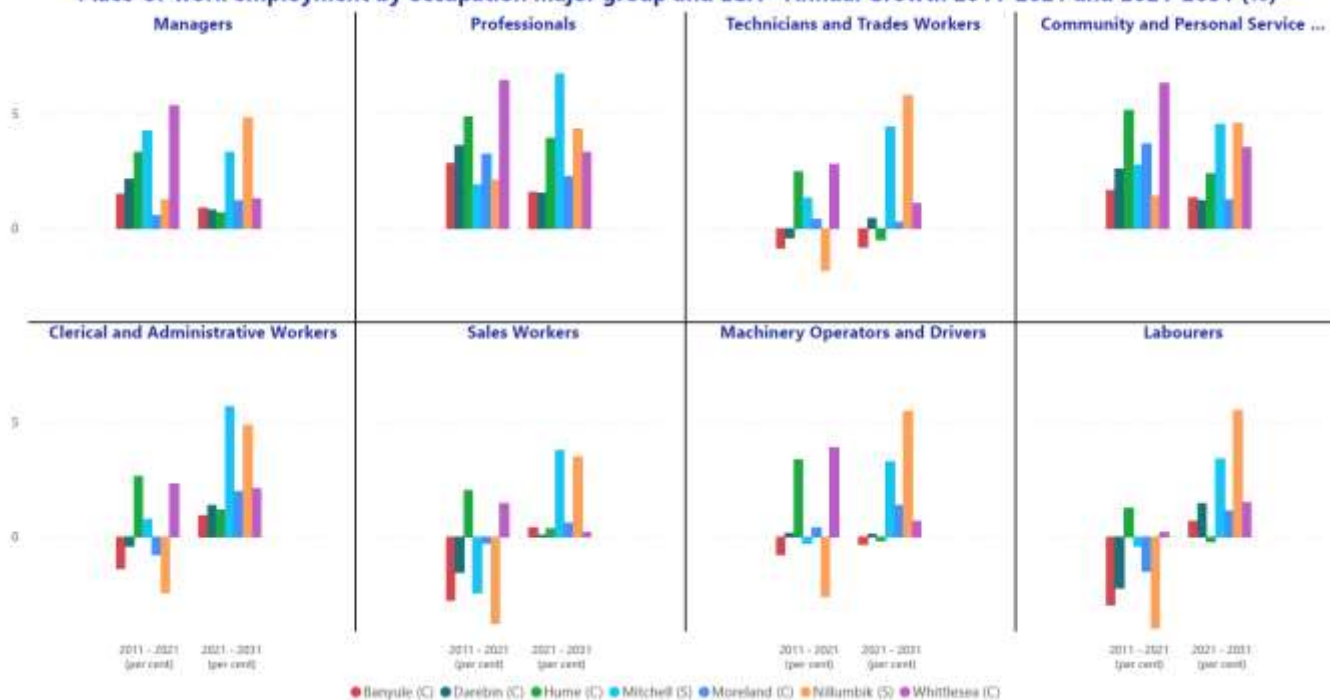
Top 5 Industries(subdivision) Change in Place-of-work Employment - Melbourne's North LGAs



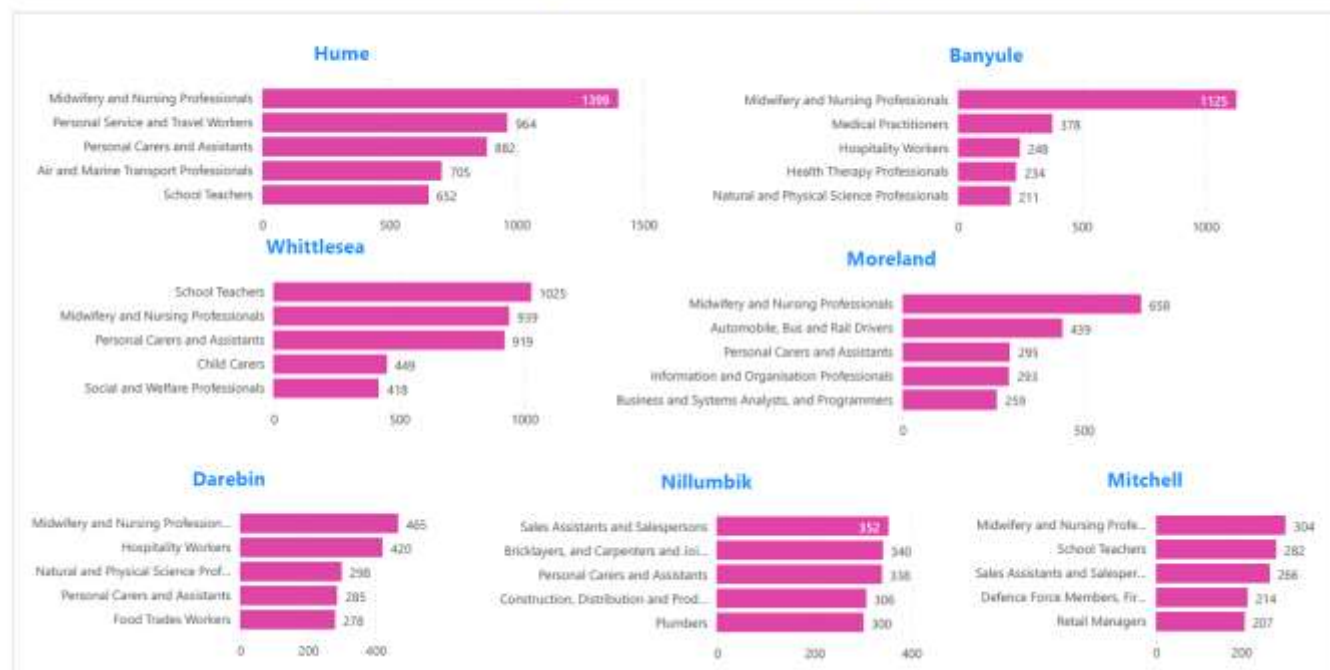
Bottom 5 Industries(subdivision) Change in Place-of-work Employment - Melbourne's North LGAs



Place-of-work employment by occupation major group and LGA - Annual Growth 2011-2021 and 2021-2031 (%)



Top 5 Occupations(subdivision) Change in Place-of-work Employment - Melbourne's North LGAs



Bottom 5 Occupations(subdivision) Change in Place-of-work Employment - Melbourne's North LGAs



Business Counts in Melbourne's North - Food and Beverage Product Manufacturing

