Huntingdale Activity Centre Background Report: Economics

City of Monash

Huntingdale Activity Centre
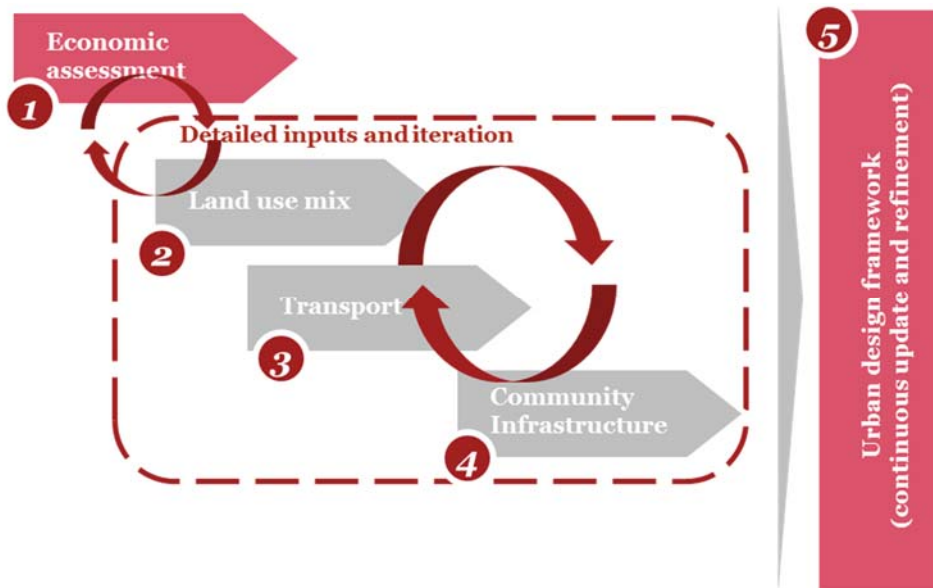
Background Report: Economics

August 2018

pwc

Executive summary

PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC) has been engaged by the City of Monash to develop a transformative vision for the Huntingdale Activity Centre (Huntingdale) and embed it in the Precinct Structure Plan. This involves the preparation of 5 background reports (relationship between these reports is shown below) which will inform a discussion paper for public consultation.

Figure 1. Relationship between the background reports

Source: PwC analysis, 2018

This report, the Background Report: Economics, develops a transition pathway to higher value economic activities and positions Huntingdale to complement the Monash National Employment and Innovation Cluster (the Monash NEIC) over the next 25 years by:

- identifying the key industries which Huntingdale should retain, grow and attract

- recognising the industries expected to transition out of Huntingdale

- developing scenarios to estimate the jobs growth expected in Huntingdale.

The forecast jobs growth by industry was input into the Background Report: Land Use, to understand the land supply available could support future economic development, and provide recommendations to support the transition.

Huntingdale has an important role to play in the growth of the Monash NEIC

The Monash NEIC (the NEIC) contains over 64,600 jobs (recorded in 2016) and has an economic output of \$8.7 billion[1]. It is home to the head offices of 30 of Australia's top 2000 businesses[2], representing a range of sectors including manufacturing, wholesaling, retail, finance, and logistics. The NEIC has been identified by Plan Melbourne[3] as a place of state significance, which will be the focus for investment and growth. The purpose of the NEIC is to improve the growth and clustering of business activity outside the central city, with a focus on knowledge based industries linked to education, health, research, and businesses which currently exist within the NEIC.

As shown below, health and education facilities are expected to continue to grow at the Clayton Activity Centre and Monash University Clayton Campus respectively. Huntingdale is expected to perform a critical function as the public transport gateway to Monash University and the local community, with enhanced public realm, retail offering and significant urban renewal opportunity to attract spill over economic activity from other parts of the growing NEIC.

Figure 2. Monash National Employment and Innovation Cluster
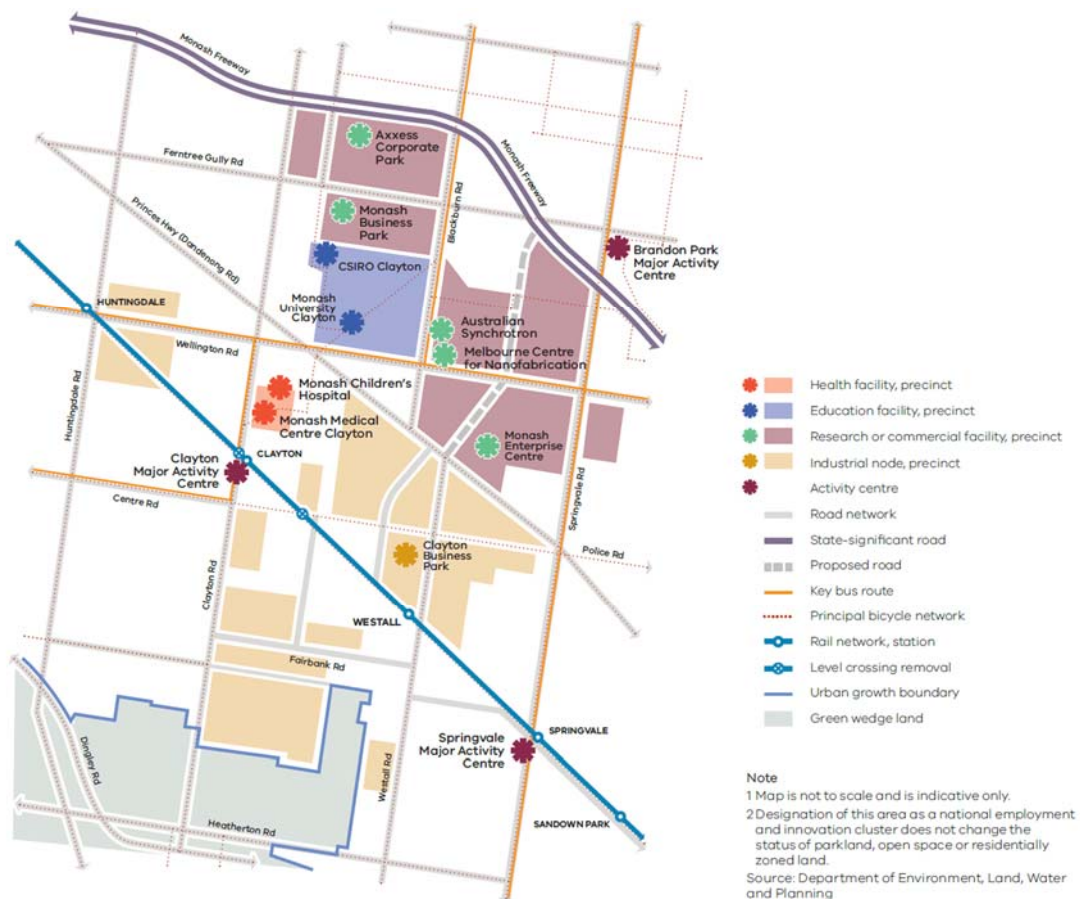
Source: Department of Environment, Land, Water, and Planning (2017) Plan Melbourne 2017-2050

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[1] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit – Destiantion Zones - ABS

[2] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit – Destiantion Zones - ABS

[3] Department of Environment, Land, Water, and Planning (2017) Plan Melbourne 2017-2050

Current economic activity in Huntingdale is heavily reliant on industries which are expected to transition out of the Monash NEIC

When compared to the NEIC, economic activity in Huntingdale is currently more concentrated in manufacturing, construction, and warehousing, with a lower proportion of knowledge economy jobs such as health, education, and professional services (as shown below in Figure 3). This trend is consistent for employment and gross value added. VITM employment forecasts indicate that Huntingdale will have a slight shift, its employment distribution will not achieve a comparable proportion of knowledge economy jobs.

This indicates that intervention is required to diversify the economic mix in Huntingdale and better reflect the composition of the NEIC.

Figure 3. Comparison between Monash NEIC and Huntingdale of share of employment by industry, 2016 (census) and 2040 (forecast)
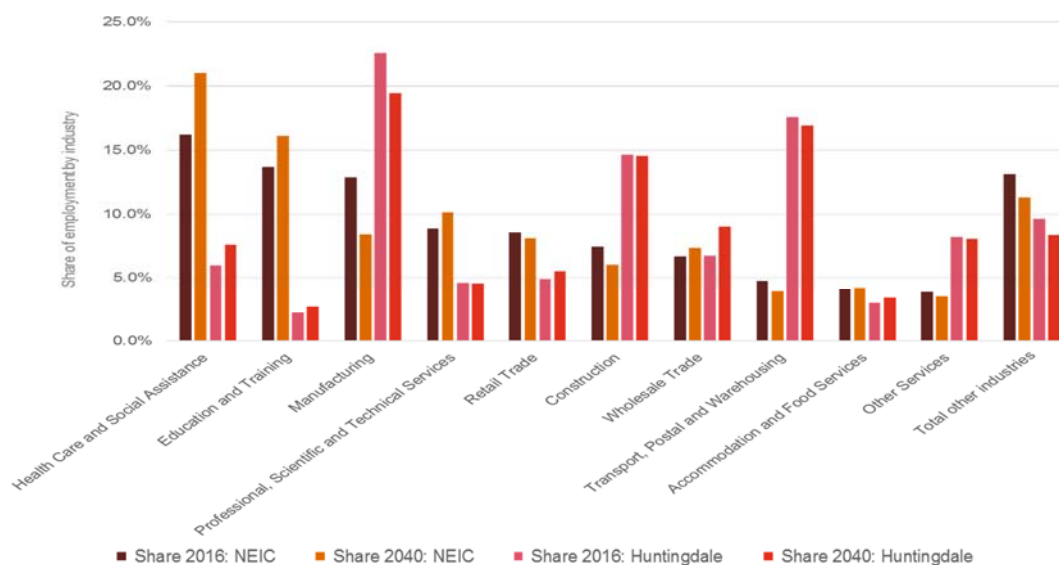
Source: PwC GEM Analysis (2018), using ABS census data for employment by industry (Ten largest NEIC divisions, and remainder). Geospatial unit – Destination Zone, as defined by the ABS. Growth rates sourced from TfV's VITM.

Huntingdale is well positioned to attract and retain high value industries to complement the growth of the Monash NEIC

For Huntingdale to adapt it is expected to increase the presence of industries which will complement activity in the NEIC, while recognising the relative strengths of other parts of the NEIC such as the University (Education and training) and Clayton Activity Centre (Health care and social assistance).The following industries have been identified as the future industries of Huntingdale and the proportion of jobs for retain, grow, and attract is expected to be comparable to the NEIC by 2040.

Table 1. Industries to retain, grow, and attract into Huntingdale*

Retain and grow	Attract
Professional, Scientific, and Technical Services (including Computer System Design)	Basic Chemical and Chemical Product Manufacturing
Machinery and Equipment Manufacturing	
Machinery and Equipment Wholesaling	

*Industry descriptions are a summary of ABS division and subdivision categories, detailed list available in Table 10 and Table 11.

Source: PwC Analysis (2018)

Huntingdale will need catalytic transformation to attract knowledge intensive businesses to the activity centre

A survey of businesses in the NEIC indicated that 47% of businesses in the NEIC expect to move within 10 years, and 62% of those businesses expect to remain in the NEIC[4]. The NEIC is home to 30 of the top 2000 companies in Australia[5], Huntingdale has an opportunity to attract these businesses by addressing the shortage of banking, stationary needs, lunch spots, restaurants, convenience stores and supermarkets.

Huntingdale has an opportunity to attract new activity which will complement the growth of the NEIC by supporting the transition of large industrial sites into mixed use commercial office space to support the industries identified above, and complement business activity in the NEIC. Improvements to amenity, public realm, and the retail offer will be instrumental in attracting businesses invest in relocating to Huntingdale.

A new mixed use neighbourhood centre with a supermarket and 15-20 specialty shops, would significantly improve the retail offering in Huntingdale, and would be expected to transform the broader retail offering along the Huntingdale Shopping Strip. The improved retail offer would make Huntingdale a more attractive destination to businesses and employees. A benchmarking exercise was undertaken to demonstrate some of the requirements of a mixed use neighbourhood centre.

Figure 4. Benchmarking Huntingdale against other neighbourhood centres

Huntingdale Shopping Strip

Composition:
- No central shopping centre
- IGA, and 2 shopping strips

Differences:
- SmartBus connection to Monash University
- Surrounded by industrial/warehousing

Requirements to implement in Huntingdale

Highett Shopping centre (Highett)

Composition:
- Woolworths, Liquor, and 17 businesses (retail, cafes, specialty shops)
- 130 apartments above the shopping centre

Differences:
- Southland Station also has train station
- Highett shopping strip nearby, separated by train line

- 160 metres by 80 metres
- Mixed use development with similar scale
- Positioned off the Huntingdale Road strip but in close proximity

The Hive (Abbotsford)

Composition:
- Woolworths, Aldi, BWS Liquor, and 17 businesses (retail, cafes, specialty shops)
- 41 two-storey townhouses above the shopping centre

Differences:
- Integrates into a long retail strip spanning 700 metres
- Destination for Vietnamese dining

- 140 metres by 80 metres
- Mixed use development with similar scale
- Positioned with frontage on the Huntingdale Road strip

Tooronga Village (Glen Iris)

Composition:
- Coles, First Choice Liquor, and 22 businesses (retail, cafes, specialty shops)
- Two residential towers containing 297 apartments
- Coles head office and 4 commercial buildings

Differences:
- Major commercial tenant on site creating "campus"
- Not adjacent to other development

- 180 metres by 160 metres (400 including major commercial tenant campus)
- Major commercial anchor tenant to create "campus" and drive transformation

Source: PwC Analysis (2018)

To support the mixed use neighbourhood centre the development adjacent to the Huntingdale Shopping Strip should increasing the density of population and student accommodation.

The population and student accommodation projections have been used to inform the Background Report: Land Use which explores potential sites and changes to planning controls required to accommodate the Central Case scenario.

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[4] Urbis (2014) Monash Employment Cluster Economics and Business Intentions Report

[5] PwC analysis of IBISWorld Australia Company Wizard data, a database that captures information on Australia's largest 2000 companies (ASX companies as well as private, foreign and government businesses), July 2018. IBISWorld states that combined the top 2000 companies database accounts for ~65% of economic activity.

Knowledge intensive businesses are expected to displace industries not aligned with the NEIC vision

There are many sites expected to become available within Huntingdale over the next 25 years, providing development opportunities to accommodate high value industries . The sites identified as candidates for transition are described below:

- **Change industries** - almost 35% of employment in Huntingdale is within industries expected to transition out of Huntingdale. These "change industries" are industries with poor economic performance and poor jobs growth. Sites with very poor economic performance are considered candidates for industry turnover from the year 2025, while other change industries are considered candidates from 2030.

- **Population serving industries** - There are also a number of industries which have strong economic performance, service the local population catchment, and are expected to change site but remain within Huntingdale. Sites occupied by these "population serving" industries are candidates for transformation, but the timeframe is less clear given the need to find suitable alternative sites within the study area.

Figure 5. Developable area within Huntingdale

Industry turnover

- Huntingdale Investigation Area
- Industrial precincts
- Recent development application
- Non-developable
- High value industry
- Population serving industry
- Industry turnover 2025 - 2030
- Industry turnover 2030 - 2040

Source: PwC Analysis (2018), Background Report: Land Use provided non-developable land based on land supply constraints, and recent development application information

While many businesses have been identified as candidates to transition, there may be other factors considered by business owners when which limit the supply of developable land. The rate of change will be market led, and as such a number of scenarios were considered for transformation.

The Central Case assumes that total jobs growth is consistent with an increased share in high value industries

Urban renewal is expected to take place at sites currently occupied by industries which are not aligned with the NEIC vision and are expected to relocate to cheaper industrial land (for example, in areas like Dandenong South and Sunshine).This will supply land for knowledge intensive industries, advanced manufacturing, complementary warehousing, and catalytic businesses to complement the NEIC. Using the Central Case, employment in "attract industries" will grow from 7% of total jobs in 2016 to 33% of total jobs in 2040, creating more than 1,200 additional "attract" jobs. These jobs are expected to displace "change" industries, as shown below in Figure 6.

Figure 6. Stylised employment uplift in Huntingdale, Central Case compared to base case
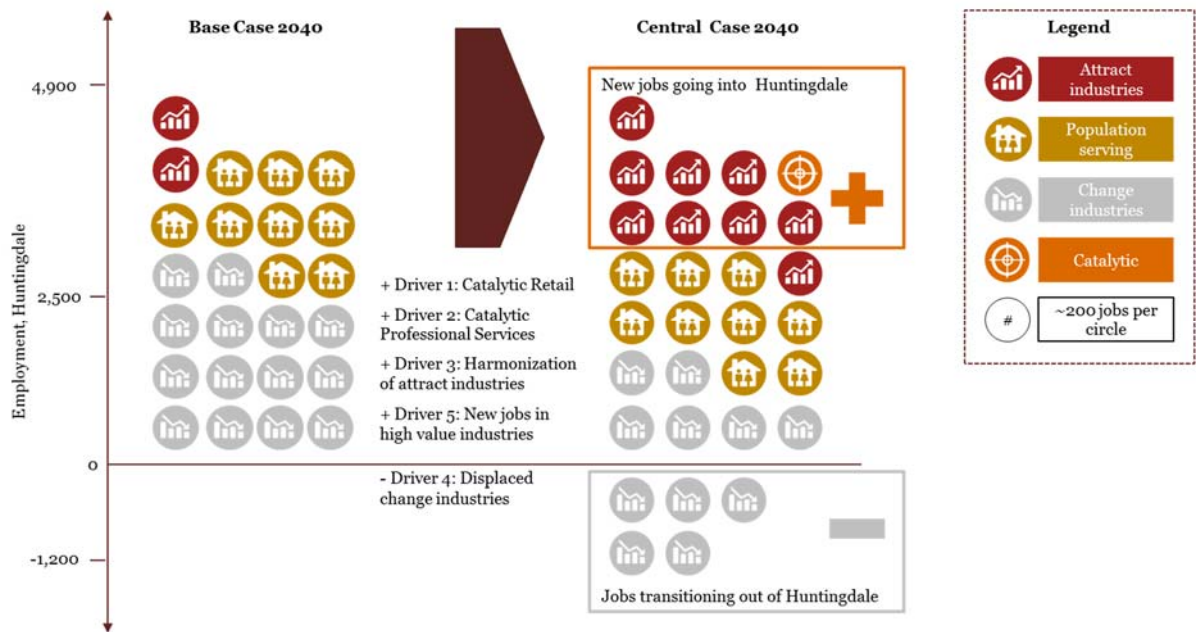
Source: PwC analysis

The employment projections by industry have been used to inform the Background Report: Land Use which explores potential sites and changes to planning controls required to accommodate the Central Case scenario.

Contents

1 Introduction

PricewaterhouseCoopers Consulting (Australia) Pty Limited (PwC) was engaged by the City of Monash to develop a Precinct Structure Plan (PSP) for the Huntingdale Activity Centre (the Study Area). This report, the Background Report: Economics (referred to as the Economics Background report) demonstrates a robust evidence base to support a transformative vision, which will drive the development of the Precinct Structure Plan and form the direction and focus for the other supporting background reports (as shown below in Figure 7).

These five background reports are described below:

1. Economics – review of economic activity and trends to develop a transformative vision for industry, population growth, and retail

2. Land use – review of planning controls, land supply and market factors to provide strategies to support the economic growth outlined in the Economics Background Report.

3. Transport – review of existing transport options (roads, public transport, active transport), consideration of State and Commonwealth Government proposals, recommendations to support the transformative vision

4. Community infrastructure – review of existing community infrastructure and needs assessment to support the growing residential and employment population

5. Urban design – changes to access, movement, activity, public realm and the built form to support the transformative vision.

The outputs from the Economics Background Report will provide a critical input and guide the development of content for the other background reports, as illustrated in Figure 7. Together they will inform a discussion paper supporting the proposed vision for Huntingdale.

**Figure 7. Relationship between the background reports**
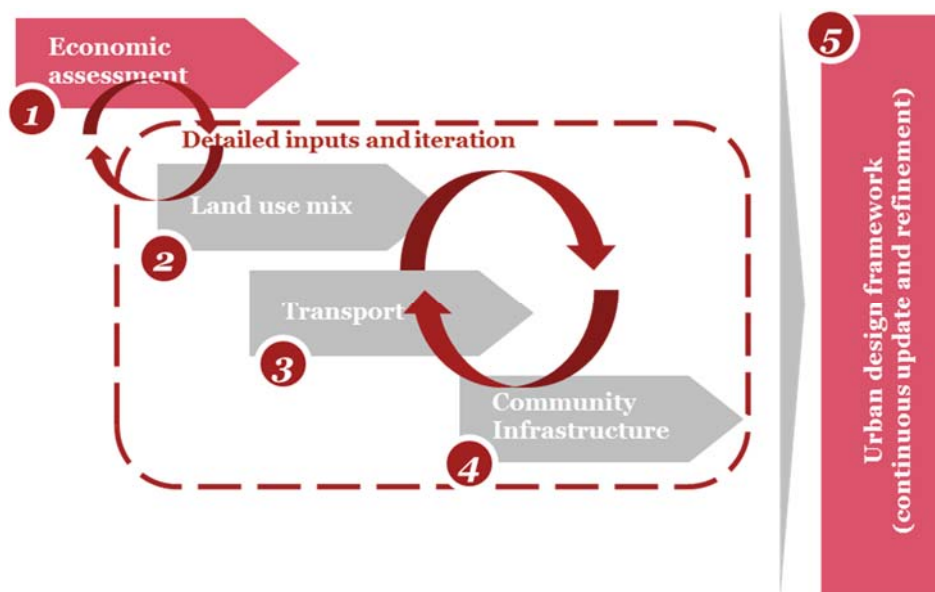
Source: PwC analysis, 2018

1.1   Huntingdale Activity Centre today

The Huntingdale Activity Centre is approximately 283 hectares, comprising predominately industrial estates with traditional manufacturing and warehouse/showroom activity. There are several pockets of residential area on the fringes of the study area, and some medium to high density mixed use development taking place adjacent to the Huntingdale Shopping Strip. The shopping strip contains a diverse range of restaurants and cafes, but the amenity of the strip is poor and the streetscape is dated. Huntingdale is the gateway to Monash University, and there are strong public transport interchange between Huntingdale train station, and the 601 bus (the most frequent and patronised bus service in Victoria).

The study area considered across all the background reports is illustrated in Figure 8.

Figure 8. Huntingdale Activity Centre Precinct Structure Plan Study Area
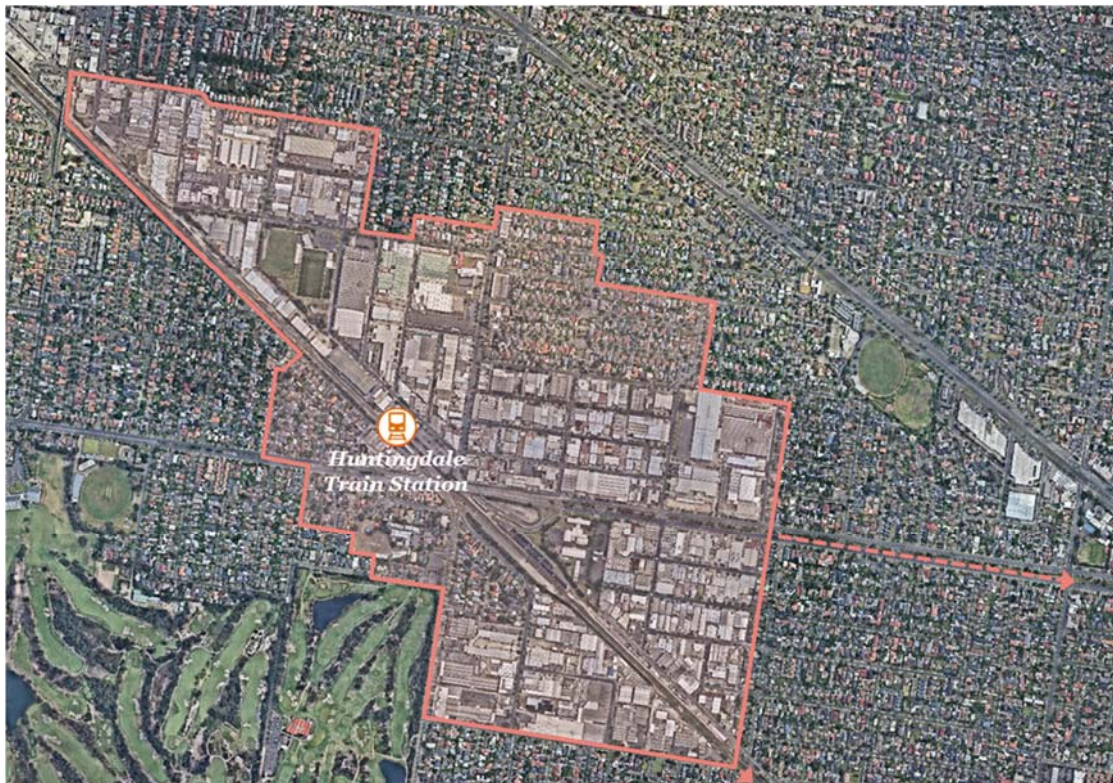
Source: PwC analysis, 2018

1.2   Objectives

The aim of the Precinct Plan is to set out a transformative, long term vision for the Huntingdale Precinct through to 2040, developing an overarching framework for urban structure and form that transform's the Activity Centre by:

* improving the attractive of the activity centre as a place to live, work and play to deliver the amenity and accessibility required for a liveable western anchor to the innovation activity centre

* using extensive stakeholder engagement to chart a path to transition of retail, housing and industrial land stock to higher value uses and provides a framework to manage that transition

* incorporating urban design to create a compact activity centre characterised by a variety of mixed uses, designed to serve the needs of workers, students and residents of the area.

The Economics Background report supports this aim by assessing:

- the ability to grow employment in the industrial and commercial land within and surrounding the activity centre in a way that is aligned to the transformative vision and builds on the strengths of the study area

- opportunities to strengthen and build the transition between research, industry and knowledge commercialisation in the Monash National Employment and Innovation Cluster (Monash NEIC) and the study area (harmonisation of activity in the study area to the Monash NEIC)

- opportunities to facilitate the transformation of the existing employment areas of Huntingdale to support the growth of the Huntingdale Activity Centre and provide employment/research industry areas linked to the broader Clayton Health Education Research (CHERP) precinct

- the potential of employment areas in the local and regional economy (including its relationship with other parts of the CHERP and the Cluster as a whole), the potential of various employment sectors, and ways of growing employment

1.3 Interdependencies with other work

This report is being developed in parallel with two other work streams related to the Monash NEIC:

- the City of Monash has separately commissioned the Clayton Activity Centre Precinct Structure Plan

- DEDJTR are separately developing a future vision for the Monash NEIC with precinct partners which will include the Huntingdale Activity Centre.

To manage interdependencies, City of Monash and DEDJTR have been consulted throughout the development of this report.

1.4 Limitations of analysis

In undertaking this analysis, PwC has combined detailed analysis with key assumptions to predict the type and scale of change to the Huntingdale Activity Centre which can be expected with and without intervention. These assumptions include:

- The future growth paths identified are forecasts only, and subject to sensitivities and variations in input data. They have been developed to inform the magnitude and direction of growth for future industry activity for the purposes of analysis in the land use report, and are not intended to be taken as exact or precise estimates.

- The forecasts in this report rely on assumptions, including that necessary changes are made to support the targeted future industry mix and that steps are taken to attract catalytic investment. More generally the forecasts depend on the delivery of the recommendations identified across the technical reports.

- geospatial analysis has been shaped by the use of destination zone boundaries

- ABS geospatial data on employment and output has been relied upon to inform the analysis

- DEDJTR division-level growth rates have been relied upon to develop base case forecasts

The findings of this analysis are for the purpose of testing with community consultation and targeted stakeholder engagement.

1.5   Report structure

This report is structured into the following sections:

- *Section 2* articulates the vision for the Monash NEIC, the role of Huntingdale, and compares the economic performance of Huntingdale today to the Monash NEIC

- *Section 3* develops assessment frameworks to identify industries which Huntingdale should look to retain, grow, and attract to achieve the vision for Huntingdale within the Monash NEIC (Chapter 3)

- *Section 4* considers the type of intervention required to drive the economic development of Huntingdale, and develops a preferred scenario for further consideration

- *Section 5* explores the retail offer within the Monash NEIC, discusses the scale of retail uplift that should be considered in Huntingdale, and the changes to Huntingdale required to support the development

2 Vision for the Monash NEIC

2.1 Study area of the Monash NEIC

Located approximately 25 km south east of the Melbourne CBD, the Monash NEIC is the largest of all the major innovation precincts within Victoria. A map of the Monash NEIC is shown below, and shows a number of key organisations including Monash University, the Australian Synchrotron, the Melbourne Centre for Nanofabrication, Monash Medical Centre (and the new Victorian Heart Hospital), a new Monash Children's Hospital, CSIRO's largest site in Victoria and the Monash Enterprise Centre. This mix of organisations makes the NEIC a key component of Australia's knowledge based sector.

Figure 9. Monash National Employment and Innovation Cluster
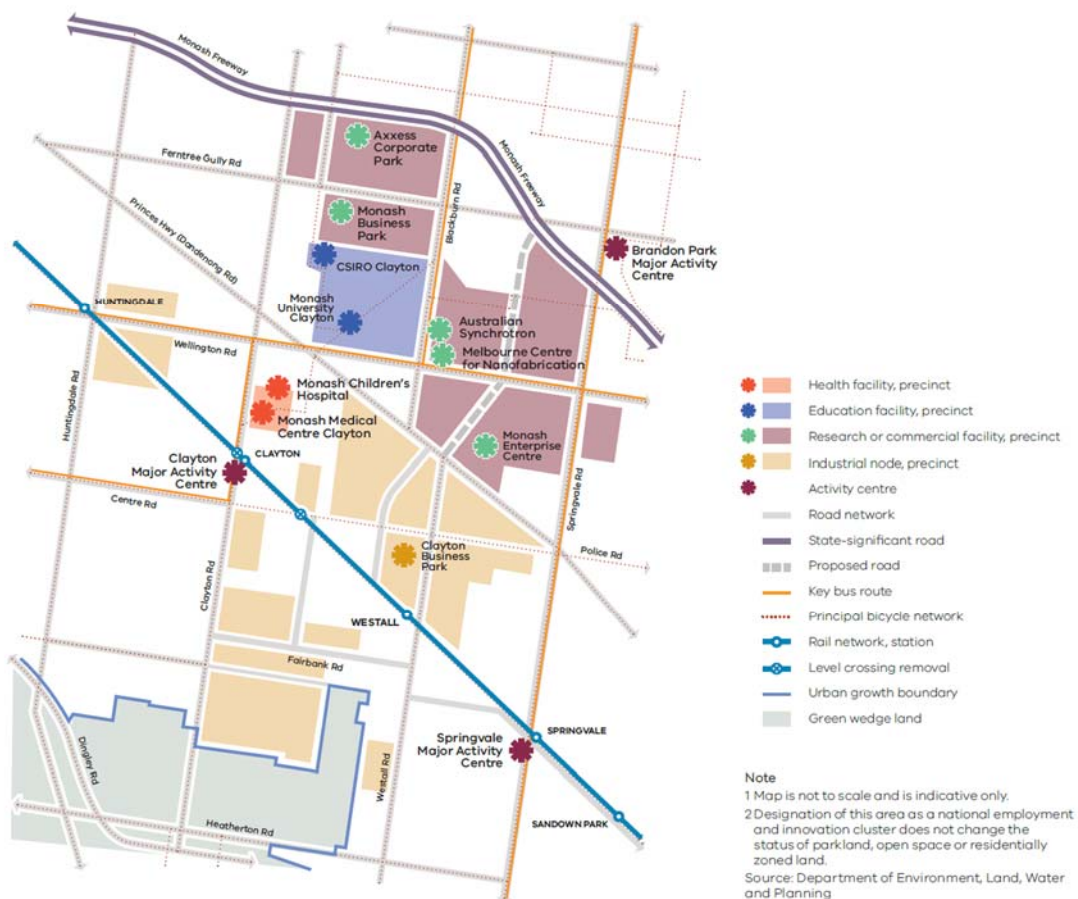
Source: Department of Environment, Land, Water, and Planning (2017) Plan Melbourne 2017-2050

This chapter will consider types of industry in the Monash NEIC, explore the economic vision, and understand the role which Huntingdale will play in achieving this vision.

2.1.1   Current economic activity in the Monash NEIC

The Monash NEIC contains over 64,600 jobs (recorded in 2016) and has an economic output of $8.7 billion[6]. It is home to the head offices of 30 of Australia's top 2000 businesses[7], representing a range of sectors including manufacturing, wholesaling, retail, finance, and logistics.

Table 2. Major economic activity in the Monash NEIC

Sector	Tenants	
Manufacturing	✓ Melbourne Centre for Nanofabrication ✓ CSIRO Manufacturing ✓ Bosch Australia ✓ PPG Industries ✓ Moffat Group	✓ McCormick Foods ✓ ASSA ABLOY Australia Pacific ✓ DuluxGroup ✓ Avery Dennison Australia ✓ Clariant
Health**	✓ Monash Health ✓ Monash Children's Hospital	✓ Monash Medical Centre
Education and Training	✓ Monash University	✓ John Monash Science School
Professional/ Scientific Services	✓ CSIRO ✓ Synchrotron ✓ BMW Finance	✓ ADP ✓ Australian Scholarships Group
Wholesaling	✓ Applied Industrial Technologies ✓ SKF ✓ PZ Cussons ✓ Energy Power Systems ✓ IMCD Australasia Investments ✓ Bristol-Myers Squibb	✓ Carpet Court ✓ BMW ✓ Mazda Australia ✓ Daimler ✓ Synnex Australia ✓ Dahlsens Building Centres ✓ SFG Group Holdings

** Health corresponds to ANZSIC Division Q, Healthcare and Social Assistance

Source: PwC GEM analysis, 2016 ABS employment data, geospatial unit - destination zones as defined by the ABS

2.1.2   The economic vision for the Monash NEIC

The Monash NEIC has been identified by Plan Melbourne[8] as a place of state significance, which will be the focus for investment and growth. The purpose of the NEIC is to improve the growth and clustering of business activity outside the central city, with a focus on knowledge based industries linked to education, health, research, and businesses which currently exist within the Monash NEIC.

The vision for the Monash precinct is to become a global leader in advanced manufacturing, future technologies, health and education. This will be achieved through innovation and trusted relationships between education, industry and research. A number of examples like this already exist in the Monash NEIC, including:

- **The Victorian Heart Hospital (to open 2022) [9]** – Australia's first stand-alone heart hospital, a partnership between Monash Health, the Victorian Government and Monash University. The facility will integrate specialised clinical care with

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[6] PwC GEM analysis, 2016 ABS employment data, geospatial unit - destination zones as defined by the ABS

[7] PwC analysis of IBISWorld Australia Company Wizard data

[8] Department of Environment, Land, Water, and Planning (2017) Plan Melbourne 2017-2050

[9] Monash Health, *Leading a change of heart, Austraila's first heart hospital,* 2018, http://www.monashheart.org.au/index.php/about-us/victorian-heart-hospital/

research, training and education to pioneer new approaches to care, such as telehealth. The hospital will target R&D activity of ~$60 million per year and a research workforce of 220. The investment will intensify clinical and Med-Tech research activity in the cluster, leading to spill over benefits. By 2026 the Victorian Heart Hospital is expected to contribute $400 million to the Victorian economy.

- **Woodside Innovation Centre[10]** - Woodside, Australia's largest independent oil and gas company, launched the Woodside Innovation Centre in partnership with Monash University in 2016. The Centre represents a globally connected innovation hub that rapidly accelerates advances in Materials Engineering, Additive Manufacturing and Data Science. Woodside engineers and Monash researchers will develop and test prototypes together in the laboratory, aiming to lead to new applications for the energy sector and other industries. State-of-the art technology includes a selective laser melting (SLM) 3D printer capable of manufacturing components used in oil and gas plants.

- **Monash Health Translation Precinct (MHTP)[11]** – The MHTP links over 400 scientific and clinical staff drawn from four key institutional partners active in the Monash NEIC – Monash University, Prince Henry's Institute, Monash Institute of Medical Research and Southern Health. Housed at the Monash Health campus, the MHTP is a dedicated facility for the translation of research and clinical findings into commercial products and improved quality and safety of healthcare.

As the Monash NEIC grows, more partnerships like these will drive economic development within the NEIC. The next section considers the role that Huntingdale has to play in helping support economic growth within the NEIC.

2.1.3 Vision for Huntingdale within the Monash NEIC

The Huntingdale Activity Centre is part of the Monash National Employment and Innovation Cluster[12], and has the following long term objectives:

- renewal of industrial precincts by attracting high value economic activity associated with the broader NEIC:

  o as development accelerates in the in the NEIC spill over opportunities are expected to emerge, with land values and land use change supporting the shift of some activities to Huntingdale

  o capturing greater activity in Huntingdale to boost local economic performance and expand the array of jobs in the cluster

- to become an important gateway, transit interchange and node of activity for Monash University and the local community, and increase retail capture

- a gritty urban attractor, leveraging its industrial identity as exemplified by areas like Cremorne, Richmond, Parkville, Fishermans Bend, and Port Melbourne

- a greatly improved public realm will change the feel of the area as a destination rather than simply acting as a transport interchange

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[10] Monash University, *Woodside Innovation Centre at Monash*, 2018, https://www.monash.edu/engineering/woodside-futurelab

[11] Monash Comprehensive Cancer Centre, *Monash Health Translation Precinct*, 2018 https://mccc.edu.au/research/research-translation/monash-health-translation-precinct/

[12] Victorian Planning Authority (2016) Monash National Employment and Innovation Cluster Draft Famework Plan

- increased dwelling diversity and density will support a range of successful community, retail and recreational infrastructure.

The next section will compare economic activity in Huntingdale with the Monash NEIC (referred to herein as the NEIC), to opportunities to achieve this transformation within Huntingdale.

2.2 Current performance Huntingdale vs. NEIC

This section details and compares current economic activity in Huntingdale to the NEIC in terms of output measured in gross value added (GVA)[13] and employment by division to test how well Huntingdale is currently meeting the vision set out in 2.1.3.

This analysis indicates that compared to the NEIC, activity in Huntingdale is currently more concentrated (in three main industries) and less linked to the knowledge economy. This indicates an opportunity to diversify the economic mix in Huntingdale to better reflect the composition of the NEIC. The following sections provide a detailed breakdown by assessment category.

2.2.1 GVA in Huntingdale and the NEIC

In 2016, Huntingdale is estimated to have generated GVA of \$504m, while \$8,181m is attributed to the larger NEIC area[14]. This means that Huntingdale is estimated to contribute 5.9 per cent of the GVA of the combined area.

Given the difference in relative GVA, a comparison between Huntingdale and the NEIC can be most effectively drawn considering the composition of industry contribution to GVA, illustrated in Figure 10.

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[13] Industry gross value add is one of three methods used to calculate GDP. It measures total economic output less immediate consumption, for example, the cost of inputs, supplies and services used to produce output.

[14] GVA has been calculated for the study area by industry, using the geographic unit of destination zones. See Appendix A for more details on the approach

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Figure 10. Comparison of share of GVA by division, NEIC and Huntingdale, 2016: ten largest NEIC divisions and remainder
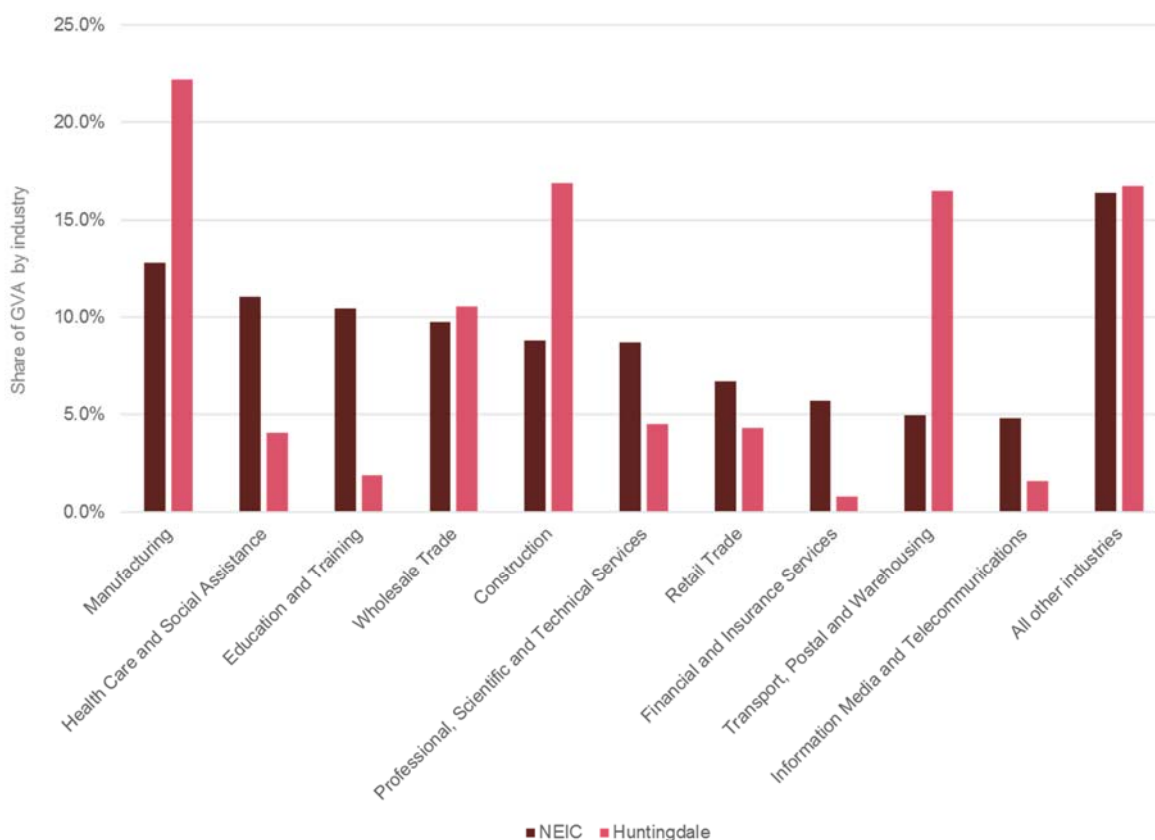
Figure 10 shows that sectors associated with the knowledge economy – such as education, health and professional services – are playing a stronger role in the NEIC. As such, the activity in the NEIC is more closely aligned with the economic vision than Huntingdale.

Figure 10 also shows that activity is more diverse in the NEIC. Here, division contribution to GVA is relatively evenly split between the top five divisions in the NEIC. These five industries account for approximately 50 per cent of all output. By contrast, in Huntingdale, activity is concentrated in the top three divisions of manufacturing, construction and transport, which account for almost 55 per cent of output.

Table 3 details the GVA by industry in Huntingdale and the NEIC that underpins Figure 10, structured by GVA in the NEIC by industry, largest to smallest.

Table 3. GVA by industry 2016, Huntingdale and the NEIC

Industry	NEIC ($ million)	NEIC (per cent share)	Huntingdale ($ million)	Huntingdale (per cent share)
Manufacturing	$1,051	12.8%	$112	22.2%
Health Care and Social Assistance	$902	11.0%	$20	4.1%
Education and Training	$852	10.4%	$10	1.9%
Wholesale Trade	$797	9.7%	$53	10.6%

Industry	NEIC ($ million)	NEIC (per cent share)	Huntingdale ($ million)	Huntingdale (per cent share)
Construction	$719	8.8%	$85	16.9%
Professional, Scientific and Technical Services	$709	8.7%	$23	4.5%
Retail Trade	$548	6.7%	$22	4.3%
Financial and Insurance Services	$465	5.7%	$4	0.8%
Transport, Postal and Warehousing	$404	4.9%	$83	16.5%
Information Media and Telecommunications	$392	4.8%	$8	1.6%
Administrative and Support Services	$286	3.5%	$18	3.5%
Electricity, Gas, Water and Waste Services	$277	3.4%	$8	1.6%
Rental, Hiring and Real Estate Services	$247	3.0%	$16	3.2%
Other Services	$205	2.5%	$25	5.0%
Accommodation and Food Services	$142	1.7%	$6	1.2%
Public Administration and Safety	$132	1.6%	$5	1.1%
Arts and Recreation Services	$34	0.4%	$6	1.1%
Agriculture, Forestry and Fishing	$11	0.1%	$-	0.0%
Mining	$8	0.1%	$-	0.0%

Source: 2016 GVA by Destination Zone –PwC GEM analysis using SA2 GVA 2015. Employment data from ABS census by ANZSIC and ABS destination zones used as the geospatial unit.

2.2.2 Employment –Huntingdale and the NEIC

In 2016, there were 3,495 full time employees in Huntingdale, while 61,165 are attributed to the larger NEIC area[15]. Huntingdale therefore currently contributes 5.4 per cent of employment in the combined area, as compared to 5.8 per cent of the GVA. This indicates that productivity in Huntingdale is slightly higher than the average in the NEIC, although areas such as the CHERP clearly outperform Huntingdale.

As with GVA, Figure 11 draws a comparison between Huntingdale and the NEIC in terms of the composition of industry employment, illustrated in Figure 10.

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[15] GVA has been calculated for the study area by industry, using the geographic unit of destiantion zones. See Appendix A for more details on the approach

Figure 11. Comparison of share of employment by division, NEIC and Huntingdale, 2016: ten largest NEIC divisions and remainder
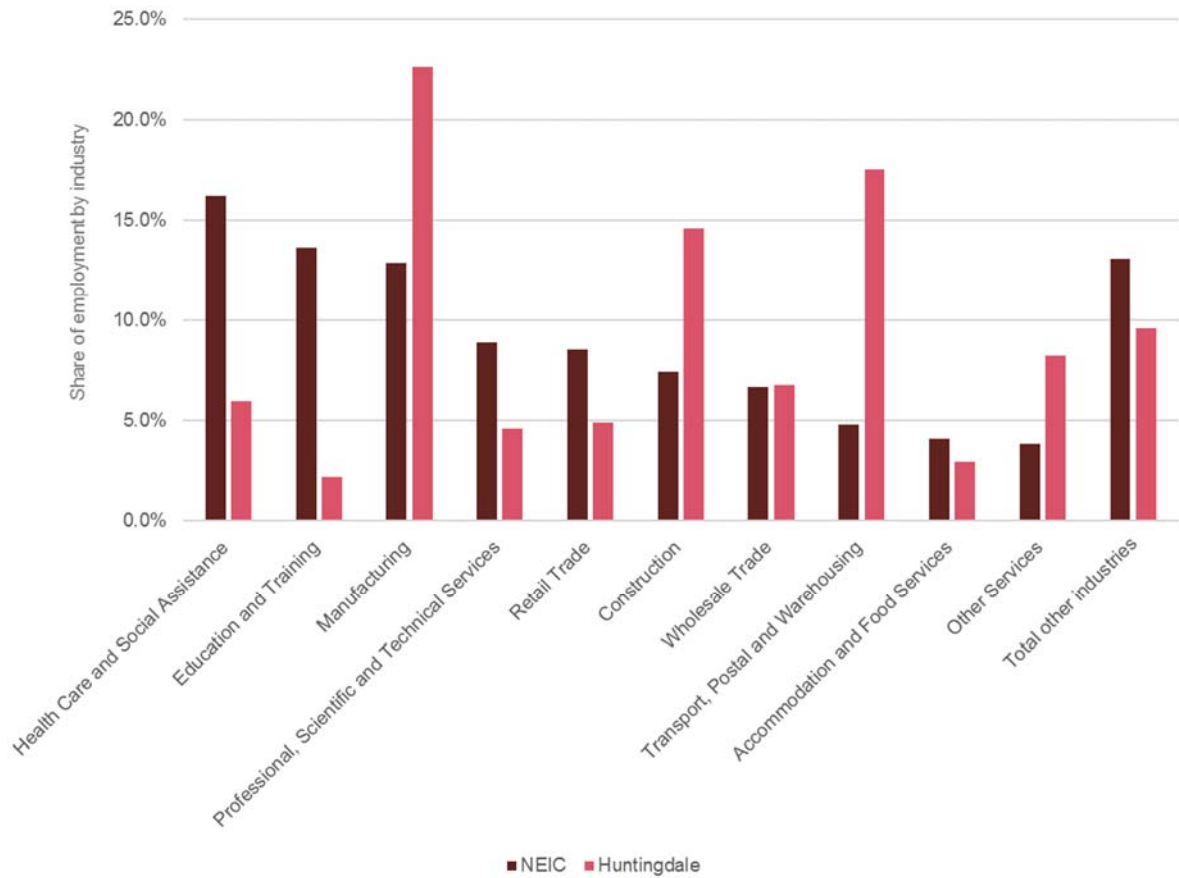
Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zone - ABS.

Figure 11 shows that as with GVA, employment in the NEIC is spread across four knowledge intensive industries. Employment in Huntingdale by contrast is more highly concentrated and dominated by three industries – manufacturing, construction and transport.

Table 4 details the employment by industry in Huntingdale and the NEIC that underpins Figure 11, structured by employment in the NEIC by industry, largest to smallest.

Table 4. Employment by industry 2016, Huntingdale and the NEIC

Industry	NEIC (FTE)	NEIC (per cent share)	Huntingdale (FTE)	Huntingdale (per cent share)
Health Care and Social Assistance	9,920	16.2%	208	6.0%
Education and Training	8,352	13.7%	77	2.2%
Manufacturing	7,872	12.9%	790	22.6%
Professional, Scientific and Technical Services	5,424	8.9%	161	4.6%
Retail Trade	5,220	8.5%	171	4.9%
Construction	4,546	7.4%	511	14.6%

Industry	NEIC (FTE)	NEIC (per cent share)	Huntingdale (FTE)	Huntingdale (per cent share)
Wholesale Trade	4,081	6.7%	236	6.8%
Transport, Postal and Warehousing	2,911	4.8%	614	17.6%
Accommodation and Food Services	2,479	4.1%	104	3.0%
Other Services	2,340	3.8%	287	8.2%
Administrative and Support Services	1,982	3.2%	114	3.3%
Financial and Insurance Services	1,471	2.4%	8	0.2%
Public Administration and Safety	1,336	2.2%	61	1.7%
Information Media and Telecommunications	1,157	1.9%	16	0.5%
Rental, Hiring and Real Estate Services	812	1.3%	45	1.3%
Electricity, Gas, Water and Waste Services	620	1.0%	19	0.5%
Arts and Recreation Services	488	0.8%	65	1.9%
Agriculture, Forestry and Fishing	137	0.2%	8	0.2%
Mining	16	0.0%	-	0.0%

Source: 2016 GVA by Destination Zone –PwC GEM analysis using SA2 GVA 2015. Employment data from ABS census by ANZSIC and ABS destination zones used as the geospatial unit.

3 Future industries of Huntingdale

This section introduces a series of frameworks to assess the alignment of industries in Huntingdale, in the NEIC and in metropolitan Melbourne to the vision for Huntingdale established in Section 2. The output of this assessment is four categorisations of economic activity that is:

1. not currently present in Huntingdale, but aligned to the vision – these industries are to be attracted

2. high performing, well aligned and already in Huntingdale – these industries are to retain and grow

3. serving a localised population catchment and need – these industries are to be retained

4. currently present in Huntingdale, but poorly aligned to the future vision – these industries are expected to transition out of the study area through market forces.

The categorisations of activity into attract, retain and grow, population serving and transition are used to shape scenarios for the future development of Huntingdale in section 4.

3.1 Assessment frameworks to identify activities of the future

Three assessment frameworks have been applied to identify likely future sources of economic growth in the study area from current activity:

1. Relative Strength Assessment: a quantitative analysis of industry historical performance, based on observed job and GVA growth performance 2011-2016.

2. Activity Type Assessment: Assumptions-led assessment the markets and supply chains served by the industry, either local (essentially population supporting) or regional/national. The need for population supporting industries is assumed to remain constant in the future, while the role of regional/national activity in the economy may change.

3. Future Readiness Framework: Qualitative assessment to account for structural change in economic activity, considering alignment with expected future to growth sources, for example drawing on the thinking behind the DEDJTR priority industry framework.

Figure 12 illustrates how the three assessment framework work together to identify an aspirational industry mix for Huntingdale, based on current industry activity.

Figure 12. Flow of Huntingdale industry activity through three assessment frameworks for prioritisation
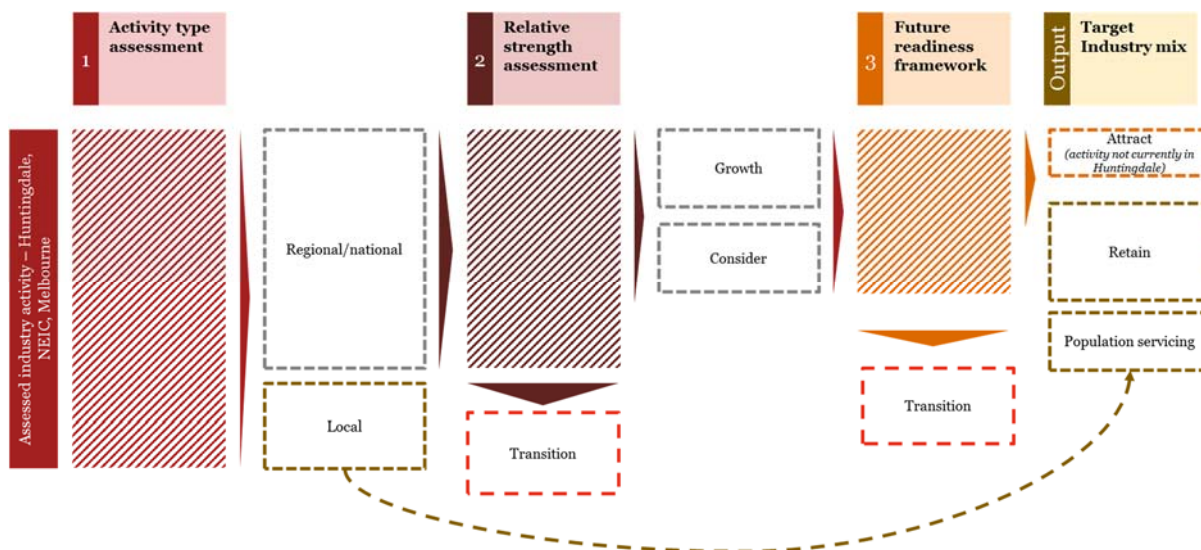
The frameworks illustrated in Figure 12 are described in further detail and applied in Section 3.2. They are applied to three geographies, as detailed in Table 5, in order to develop a complete view of the target industry mix in Huntingdale.

Table 5. Geographic areas included in the assessment

Area	Purpose for inclusion	Assessment frameworks applied to filter and refine	Outputs
Huntingdale study area	To examine and categorise all industries currently in the study area	• Activity Type Assessment • Relative Strength • Future Readiness Framework	• Industries to retain and grow • Industries to transition
NEIC	To examine and categorise activity in the NEIC that could spill over	• Relative Strength • Future Readiness Framework	• Industries to attract
Metropolitan Melbourne	To examine and categorise activity in Melbourne that could be attracted		

* Note that the activity type assessment is presented for Huntingdale only, as attracting population serving activities not currently in Huntingdale does not support the vision. It is recognised that a level of amenity and services is provided to current residents and the intent is to retain, but not grow this activity.

3.2 Assessment

This section presents the three assessment frameworks in detail. Each assessment framework is applied progressively to filter the current industry mix in Huntingdale into a target industry mix for the future. The framework is also applied to activity in the NEIC and greater Melbourne to define industries to be attracted to Huntingdale in the future.

The culmination of this section is the categorisation of current activity in Huntingdale and comparison to the NEIC in section 3.3.1, and the detailed definition of activity as retain/attract/transition in section 3.3.2.

3.2.1 Activity Type Framework

The activity type assessment framework categorises economic activity by the catchment that is serves – local, or regional/national. The expectation is that on the pathway to realising the economic vision, the key lever will be the transition of activity that is underperforming relative to its regional/national catchment. Local activity may also change over time, but the key function of providing amenity and services to current residents in Huntingdale and surrounds will remain.

Accordingly, the outputs of this section are categorisation of regional/national industries for detailed performance assessment in sections 3.2.2 and 3.2.3, and local population serving industries to retain.

Assessment framework

Activity Type Assessment categorises the economic activity in Huntingdale into two streams: local and regional/national. In detail:

- Local activity is mostly business to consumer, and relates to the delivery of goods and services required by the population in Huntingdale and immediate surrounding areas.

- Regional/national activity is mostly business to business. It captures the development and combination of goods and services across a supply chain. The locational drivers of this activity are broader than the population focused activity, and include land value, supply chain linkages, proximity to related activities and access to labour force. Regional/national activity is more likely to change in the future in response to shifts in the locational drivers than local activity, which has a stronger link to the population in the study area.

The streams are defined in Table 6 as they correspond to ANZSIC classifications. Primary production (agriculture and mining) has been excluded from the analysis.

Table 6. Activity type categorisation by Division

Local	National/Regional
Accommodation and food services	Administrative and Support Services
Arts and Recreation Services	Financial and Insurance Services
Construction	Information Media and Telecommunications
Education and Training	Manufacturing
Electricity, Gas, Water and Waste Services	Other Services

Local	National/Regional
Financial and Insurance Services[16]	Professional, Scientific and Technical Services
Health Care and Social Assistance	Rental, Hiring and Real Estate Services
Retail Trade	Transport, Postal and Warehousing
Public Administration and Safety	Wholesale Trade
	Mining
	Agriculture

Source: PwC analysis

Outputs: to retain - "local" industries that support the population in Huntingdale

Table 7 details the Subdivisions in Huntingdale designated as "population supporting". These have a local impact and are expected to remain in Huntingdale to support the existing and future population. In 2016, it is estimated that approximately 1,220 people were employed in Huntingdale in these industries, or ~35 per cent of all employment.[17] In comparison, the share is 75 per cent of employment in the NEIC, when the regional/national focus of health and education activities is accounted for.

Table 7. Assessment outcomes - population supporting industries

Division	Employment Huntingdale
Accommodation and Food Services	104
Arts and Recreation Services	65
Construction	511
Education and Training	77
Financial and Insurance Services	8
Health Care and Social Assistance	208
Public Administration and Safety	61
Retail Trade	171
Total	**1,224**

Source: PwC analysis

The vision implies that over time the amount of employment in population supporting industries detailed in Table 7 grows in line with population, and therefore declines as a share of employment due to stronger employment growth in industries with a regional/national draw.

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[16] The kinds of Finance and Insurance services observed in Huntingdale and the low numbers of employees associated with these industries indicate that they are serving the local area, through for example, bank branches.

[17] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit – Destiantion Zones - ABS

Outputs: to analyse further - regional/ national industries

In 2016, it is estimated that almost 65 per cent of all employment[18] in Huntingdale is in industries with a regional or national catchment, or approximately 2,270 jobs.

Table 8. Assessment outcomes - economic activity in Huntingdale with a regional/national catchment

Division	Employment Huntingdale
Agriculture, Forestry and Fishing	8
Mining	0
Manufacturing	790
Wholesale Trade	236
Transport, Postal and Warehousing	614
Information Media and Telecommunications	16
Rental, Hiring and Real Estate Services	45
Professional, Scientific and Technical Services	161
Administrative and Support Services	114
Other Services	287
Total	**2,271**

Source: PwC analysis

The activity detailed in Table 8 is progressed for assessment using the relative strength analysis and future readiness assessment

The relative strength analysis is not applied to the other geographies under consideration – the NEIC and Melbourne – as the point of the analysis is to identify the activity in Huntingdale to share the target future activity mix.

In the NEIC, the health, education and finance related activity has been categorised as Regional/National, reflecting the different scale of the activity in the NEIC – anchored by key players Monash University and Monash Health. For consistency and to enable comparison, employment in education and health is illustrated and detailed where comparisons are made in subsequent sections.

3.2.2   Relative Strength Assessment

The Relative Strength Assessment is a quantitative analysis of industry historical performance. This section outlines the assessment in detail and applies the criteria to Huntingdale and the NEIC. This analysis shows that the activity in the NEIC has a stronger historical performance and growth momentum than the Huntingdale.

Assessment framework

The Relative Strength Assessment is based on observed job and GVA growth performance 2011-2016, and is carried out in two phases.

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[18] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit – Destination Zones - ABS

The first phase assesses historical trends in industry performance in Huntingdale, the NEIC and Melbourne. It stratifies activity into one of three categories based on employment and output performance (as captured in ABS source data at a Subdivision level). The three categories of growth, consider and transition are illustrated in Figure 13

Figure 13. Relative strength assessment phase one
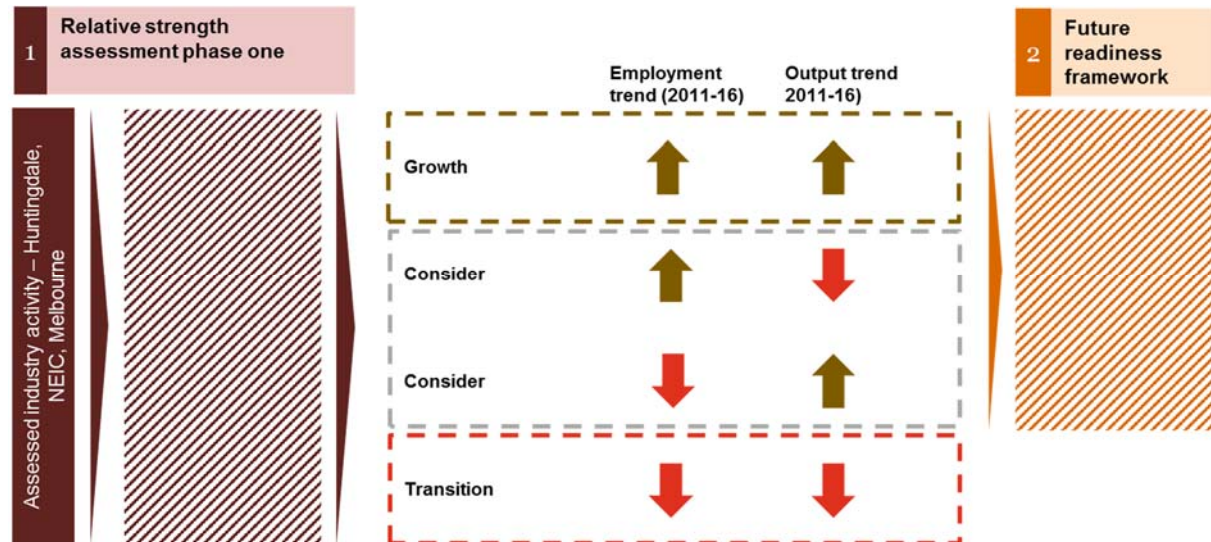
Source: PwC analysis

As illustrated in Figure 13, the framework designates as growth Subdivisions:

- where employment is growing in at a Subdivision level based on PwC GEM analysis (see 0 for details of approach)

- where GVA is growing nationally at a Subdivision level[19]

In the converse case, the framework designates industries as decline. For industries where employment and GVA growth are not moving in the same direction, then further consideration is flagged. Growth and consider activity is progressed to the future readiness framework, transition industries are not considered further.

The second phase of the Relative Strength Assessment is used in section 4 for scenario development. It considers the relative concentration of employment in a study area (Huntingdale or the NEIC) to the concentration in Melbourne. An industry is noted as having a strong presence where the employment concentration is greater than that of greater Melbourne. Figure 14 illustrates the categorisation approach.

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[19] Sub-division is an intermediate category between division and industry. This is the most detailed level that output is recorded and reported by the ABS.

**Figure 14. Industry strength assessment matrix**
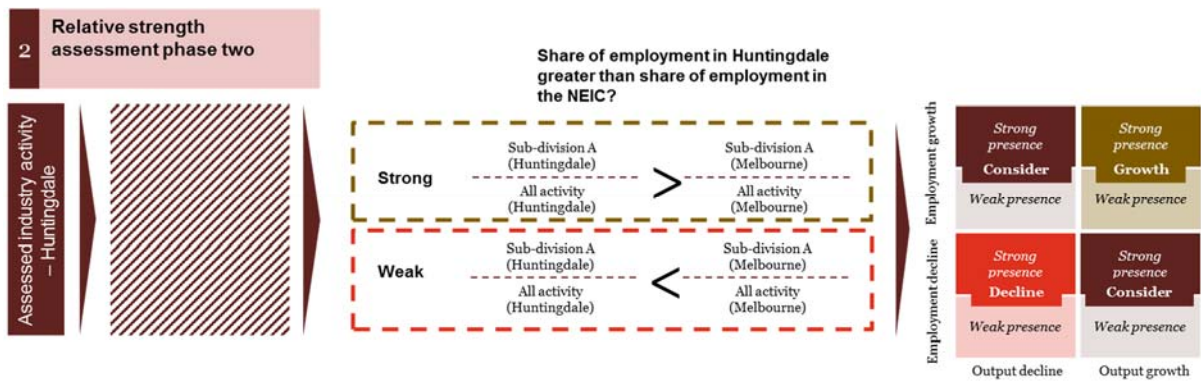
Source: PwC analysis

As Figure 14 shows, the second phase of assessment categorises industries in terms of their historic economic performance (growth, consider, transition) *and* in terms of the strength of their presence in Huntingdale. The relative strength is used in section 4.3 to shape scenarios for transition. It is presented in this section to support discussion of the findings.

Relative Strength assessment findings – Huntingdale and Monash

The Relative Strength Assessment, focused on employment and output growth trajectory, has been applied to economic activity classified as regional/national in Huntingdale and the NEIC. For the NEIC Education and Health activity is presented as a stand-alone – while technically classified as "local", in the NEIC major institutions serve a national and even global catchment.

The high-level findings are illustrated in Figure 15.

Figure 15. Employment by strength of economic activity and strength of presence, Huntingdale and NEIC, 2016
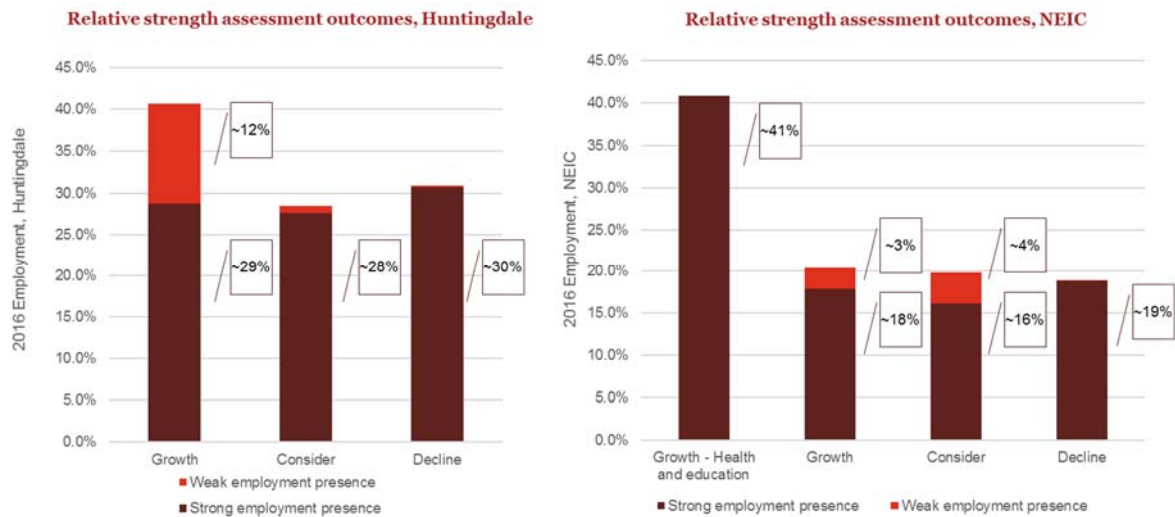
PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zone - ABS

As Figure 15 shows, the close to a 40 per cent of regional/national employment in Huntingdale is in Subdivisions where employment and output have been growing nationally, approximately 30 per cent of which have a strong presence in the study area. But equally, 30 per cent of activity is in Subdivisions in decline, a challenge as these industries have a strong presence in Huntingdale.

By comparison, Figure 15 shows that economic activity in the NEIC is dominated by growth industries (60 per cent[20] compared to 40 per cent). In addition, the share of employment in decline industries is lower - 19 per cent versus 30 per cent. This reflects the strong historic performance of the NEIC.

Output: industries to transition

Table 9 details the industries in Huntingdale exhibiting a decline trend. These industries are targeted for transitioned as their performance is weakening in both terms of output and job growth. The transition pathways for these industries are considered in Section 4, noting that where these industries play a strong supporting role to the local population, they are expected to transition more slowly, such as fuel retailing.

Table 9. Relative Strength Assessment Huntingdale economic activity:

Type	2016 Presence in Huntingdale	Industry Code	Industry Subdivision	Employment (2016)
Decline	Strong	C	Primary metal and metal product manufacturing	18
Decline	Strong	C	Textile, leather, clothing and footwear manufacturing	38
Decline	Strong	C	Polymer product and rubber product manufacturing	44
Decline	Strong	C	Transport equipment manufacturing	59
Decline	Strong	C	Fabricated metal product manufacturing	335
Decline	Strong	F	Basic material wholesaling	39
Decline	Strong	F	Machinery and equipment wholesaling	42
Decline	Strong	F	Other goods wholesaling	85
Decline	Strong	L	Rental and hiring services (except real estate)	33
Decline	Weak	C	Beverage and tobacco product manufacturing	4
Decline	Weak	G	Fuel retailing	3
Total				700

PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zone - ABS

Output: industries to investigate further

In the analysis, 45 industries employing approximately 2,750 people (2016) are identified as "growth" or "consider" and included in further analysis. These industries are detailed in Appendix B.

3.2.3   Future Readiness Framework

The Future Readiness Framework is qualitative and has been developed to incorporate emerging structural change trends in economic activity in the identification of the target industry mix. This complements the first two assessment frameworks that draw on historical and current economic activity.

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[20] Here, the high value and knowledge intensive health and education activity in the NEIC are included in the analysis, for the reasons provided in section 13.2.1.

Contents

The future readiness framework is applied to the activity progressed from the relative strength assessment in order to identify the target industry mix for Huntingdale.

Assessment framework

Huntingdale has a strong legacy of industrial activity, but our analysis shows that these industries are unlikely to be robust in the future. Globally, the drivers of economic growth are rapidly transitioning to knowledge based industry sectors which leverage technology to add value across all industry sectors.

The importance of knowledge based industries in driving future growth has been recognised across governments. For example, DEDJTR has identified eleven priority knowledge based industry sectors as drivers of Victoria's future growth[21]. These sectors include professional services, STEM industries like science, engineering and new areas such as MedTech which are captured under broad division categories like manufacturing.

To identify future industries, economic activity in the study area was reviewed in depth at an industry level in a qualitative assessment of knowledge intensity. Industries were designated as:

- Future focused: knowledge intensive industries with high value output per worker and likely to be resilient to structural change.

    o Where these industries have a presence in Huntingdale they have been categorised as "retain", where they have no existing presence in Huntingdale they have been categorised as "attract"

- Incumbent: industries that range from somewhat to low knowledge intensity, with variable output per worker and likely to vulnerable to structural change.

    o Where these industries have a presence in Huntingdale they have been categorised as "transition"

The assessment framework has been applied to industries in Huntingdale, the NEIC and Melbourne with a Regional/National catchment, as illustrated in Figure 12.

Outputs: Industries to retain and grow

The Activity Type and Future Readiness Frameworks have been applied to economic activity in Huntingdale and NEIC. .

Table 10 details the Subdivisions with a current presence in the NEIC designated as "future focused" under these two frameworks.

Table 10. Assessment outcomes - retain industries

Division	Subdivision	Presence
Manufacturing	Machinery and Equipment Manufacturing	
Wholesale Trade	Machinery and Equipment Wholesaling	Huntingdale and NEIC
Professional, Scientific and Technical Services	Professional, Scientific and Technical Services (Except Computer System Design)	

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[21] See https://economicdevelopment.vic.gov.au/priority-industries-sectors for information on the identified sectors

Division	Subdivision	Presence
	Computer System Design and Related Services	

The four sub-divisions detailed in Table 10 have a regional/national impact, and are aligned with the knowledge economy. In 2016, it is estimated that ~230 people were employed in Huntingdale in these industries, or ~6.7% of all employment.[22]

Outputs: Industries to attract

Economic activity in the NEIC and Melbourne has been analysed using the Activity Type and Future Readiness Frameworks to identify attract industries. These are "future ready" industries *without a presence* in Huntingdale, but with a regional/national impact. They could be attracted to Huntingdale to support economic growth.

Table 11. Assessment outcomes - attract industries

Division	Subdivision	Presence
Manufacturing	Basic Chemical and Chemical Product Manufacturing	NEIC, Melbourne
Financial and Insurance Services	Finance	Melbourne
	Insurance and Superannuation Funds	
	Auxiliary Finance and Insurance Services	

Of the activities identified in Table 11, Basic Chemical and Chemical Product Manufacturing is the most likely candidate for recruitment to Huntingdale. This is due to the existing presence in the NEIC and the similarity of the industry to those identified in Table 2.

The other activities are centred on finance, a key part of the knowledge economy that undertakes significant research and development, employing highly skilled labour and generating intellectual property exports.

This activity is considered unlikely to be attracted to Huntingdale. The regional/national impact of the industry is driven from agglomerations of labour in central business districts of Melbourne and Sydney. Activity in areas like Huntingdale tends to be more focused on service delivery, for example, through bank branches.

Outputs: Industries to transition

Error! Reference source not found. details the activity designated as "transition", that is, Subdivisions with a national/regional impact, and existing presence in Huntingdale, but poorly aligned with the knowledge economy. As land values increase, and activity grows in the NEIC, these industries are expected to transition out of the study area.

In 2016, it is estimated that ~2,070 people were employed in Huntingdale in these industries, or ~60% of all employment.[23]

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[22] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones - ABS

[23] PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones - ABS

3.3 Assessment outcomes

Three assessment frameworks have been applied in sections 3.2.1, 3.2.2, and 3.2.3 to produce a view of industries to retain (population supporting and future focused), attract and transition to realise the vision for Huntingdale. The high level outcomes for Huntingdale and the NEIC are summarised here, as are detailed findings for Huntingdale.

3.3.1 Comparison of outcomes – NEIC and Huntingdale

Figure 16 illustrates the categorisation 2016 employment in Huntingdale and the NEIC applying the three frameworks.

Figure 16. Employment by activity categorisation type, Huntingdale and NEIC, 2016
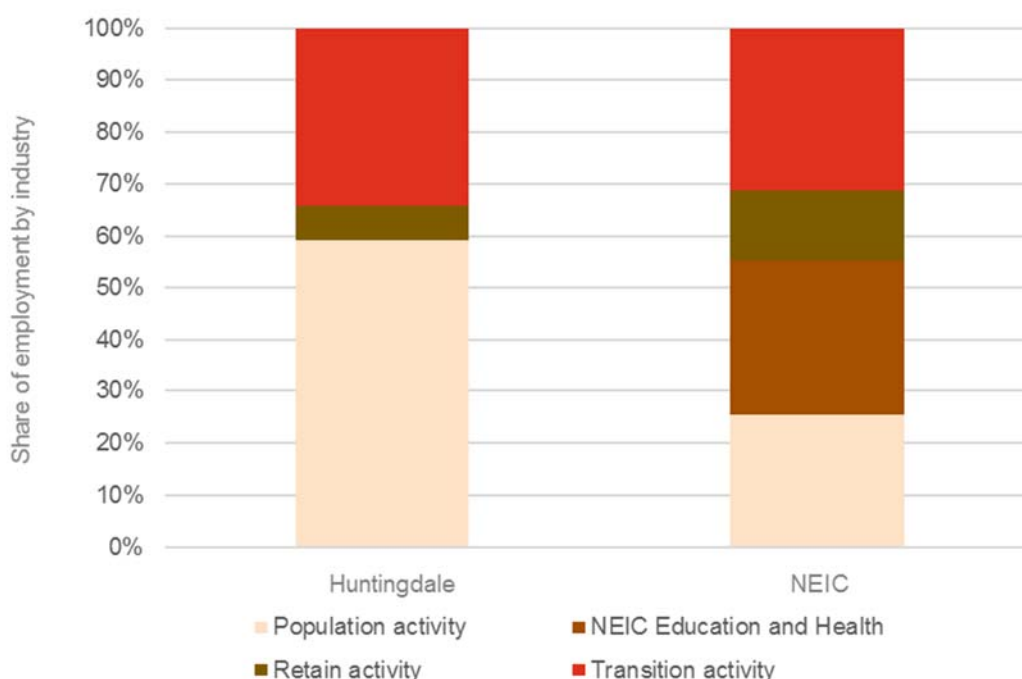
Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM; PwC analysis

As Figure 16 shows, in both Huntingdale and the NEIC, the majority of activity is related to population supporting functions, but Huntingdale has a noticeably higher share of activity vulnerable to transition and an accordingly lower share to be retained.

The higher share of activity to retain (~14 per cent in the NEIC vs ~seven per cent in Huntingdale) illustrates the relative performance gap. Section 4 establishes a base case forward forecast for Huntingdale and the NEIC, and considers development scenarios in which this gap is closed.

3.3.2 Detailed assessment findings for Huntingdale

This section lists the industries and employment in Huntingdale categorised as retain, population, attract or transition. These findings are the basis of the uplift pathway development in section 4.

Industries to retain

Table 12 details the industry activity targeted for retention in developing the future economic mix of Huntingdale. This is the outcome from applying the assessment framework developed in section 3.1 and 3.2.

Table 12. Retained activity by assessment, division and 2016 employment estimates

Assessment	Division	Employment (2016)
Retain	Professional, Scientific and Technical Services	161
	Wholesale Trade	42
	Manufacturing	30
Population	Construction	511
Population	Health Care and Social Assistance	208
Population	Retail Trade	171
Population	Accommodation and Food Services	104
Population	Education and Training	77
Population	Public Administration and Safety	61
Population	Arts and Recreation Services	49
Population	Financial and Insurance Services	8
Total		1,422

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zone - ABS

As Table 12 sets out, in 2016 ~ 1,420 employees were associated with the industries assessed as "attract" or "population", or ~40% of employment. The transformative vision for Huntingdale is one where this existing activity mix is supplemented with the attraction of targeted industires, as current "transition" activity moves out of the study area with rising land prices. Section 4 explores pathways to achieving this vision.

Industries to attract

The analysis of economic activity in the Huntingdale study area, the NEIC and Metropolitan Melbourne has identified a key Subdivision classification of industry activity to target detailed in Table 13.

Table 13. Employment and share of total employment in "attract" industries, Huntingdale and the NEIC

Subdivision	Employment Huntingdale	Share of employment Huntingdale	Employment NEIC	Share of Employment NEIC
Basic Chemical and Chemical Product Manufacturing	-	0.0%	942	1.1%

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM.

Industries to transition

The application of the Relative Strength and Future Readiness frameworks activity has identified activity vulnerable to transition due to historic performance or future resilience.

Table 14. Transition activity by assessment, division and 2016 employment estimates

Assessment	Division	Employment (2016)
Transition	Administrative and Support Services	114
	Agriculture, Forestry and Fishing	8

Contents

| Assessment	Division	Employment (2016)
	Arts and Recreation Services	65
	Electricity, Gas, Water and Waste Services	19
	Information Media and Telecommunications	16
	Manufacturing	790
	Mining	0
	Other Services	287
	Rental, Hiring and Real Estate Services	45
	Transport, Postal and Warehousing	614
	Wholesale Trade	236
Total		2,065

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM.

As Table 12 sets out, in 2016 ~ 2,070 employees were associated with the industries assessed as "attract" or "population", or ~60% of employment. The transformative vision for Huntingdale is one where this existing activity mix is supplemented with the attraction of targeted industires, as current "transition" activity moves out of the study area with rising land prices. Section 4 explores pathways to achieving this vision.

4 Defining pathways to uplift

This section follow four steps to develop scenarios for uplift, illustrated below.

Figure 17. Scenario development schematic
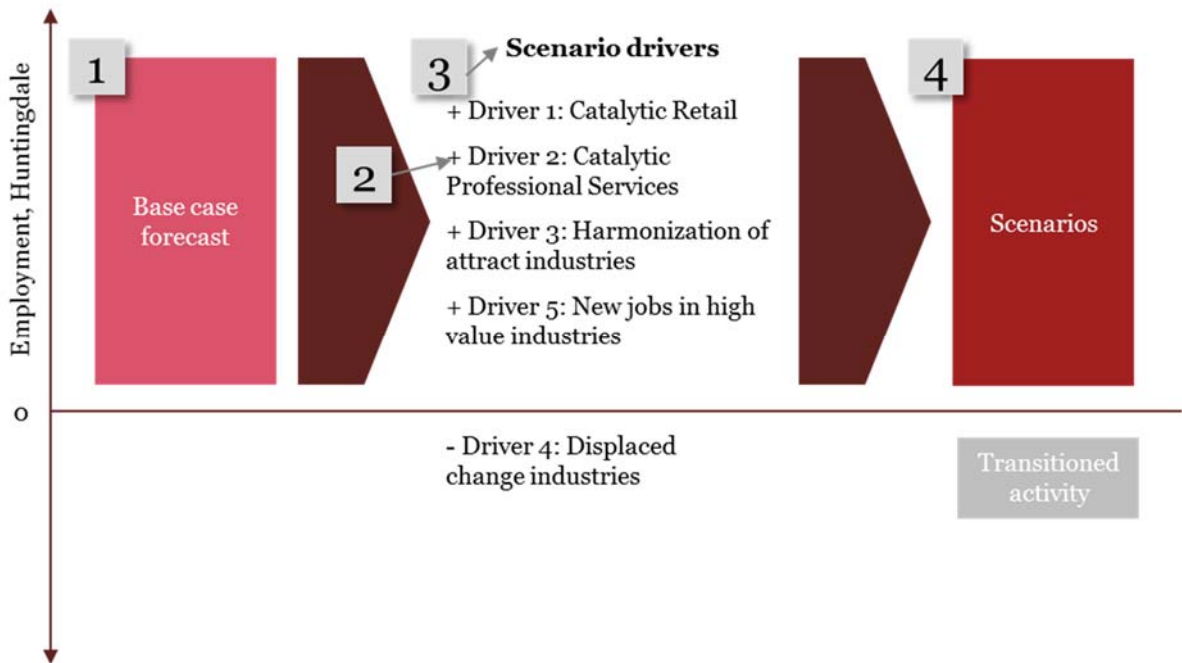
As Figure 17 shows, the four steps are:

1. Establishing base case forecasts for Huntingdale and the NEIC

2. Exploring the potential to catalyse change in Huntingdale through attracting investment

3. Establishing the role and impact of five key scenario drivers

4. Using the drivers to define scenarios in variation to the base case forecasts

The output from this section is a preferred scenario that articulates the role that Huntingdale could play in the NEIC and is taken forward for analysis into other technical reports. Finally, using site level analysis, the land uses that could transition to support the realisation of the preferred scenario are illustrated.

4.1 Base case activity forecasts

Building on the analysis of current activity in Section 2, for both Huntingdale and the NEIC "base case" forecasts for economic activity are developed here. The "base case" establishes what kind of economic activity would be delivered by a continuation of current trends. This case is then compared against the development scenarios identified in section 4.4.4.3

4.1.1   Base case forecast approach

Base case forecasts of future economic activity in Huntingdale and the NEIC for 2025, 2030 and 2040 have been developed by:

- taking the ABS-sourced 2016 data for current employment division as a base[24]

- applying growth rates for employment by division sourced from outputs from the Victorian Integrated Transport Model (VITM)[25] for Huntingdale and the NEIC

The resulting forecasts are considered conservative in that:

- For the NEIC, the input growth rates do not reflect the commitment to fund the Victorian Heart Hospital in the 2018 Victorian State Budget and other activity to support activate the NEIC

- For Huntingdale, the input growth rates are majority positive. The assessment framework in section 3 documented that a share of this activity is vulnerable to transition in the future, and so there is downside risk to these estimates. The development scenarios in 1 explore the potential for transition and renewal of economic activity further.

## 4.1.2   Aggregate base case forecast outcomes

Using the methodology outlined in 4.1, it is forecast that total employment will reach ~4,905 in Huntingdale and ~92.670 in the NEIC. As employment growth in the NEIC is forecast to be faster, Huntingdale's share of total employment declines from 5.4 per cent (2016) to 5.0 per cent (2040).

Figure 18 illustrates the high level forecast trends in activity in Huntingdale and the NEIC by comparing industry mix in 2040 to 2016.

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[24] See Appendix A for the detailed methodology

[25] VITM input assumptions are developed by the Department of Economic Development, Jobs, Transport and Resources (DEDJTR). They are internally consistent with other government produced forecasts such as Victoria in the Future. The ABS data has been used as a base as it is more granular than the VITM inputs and so allows for the use of the assessment frameworks.

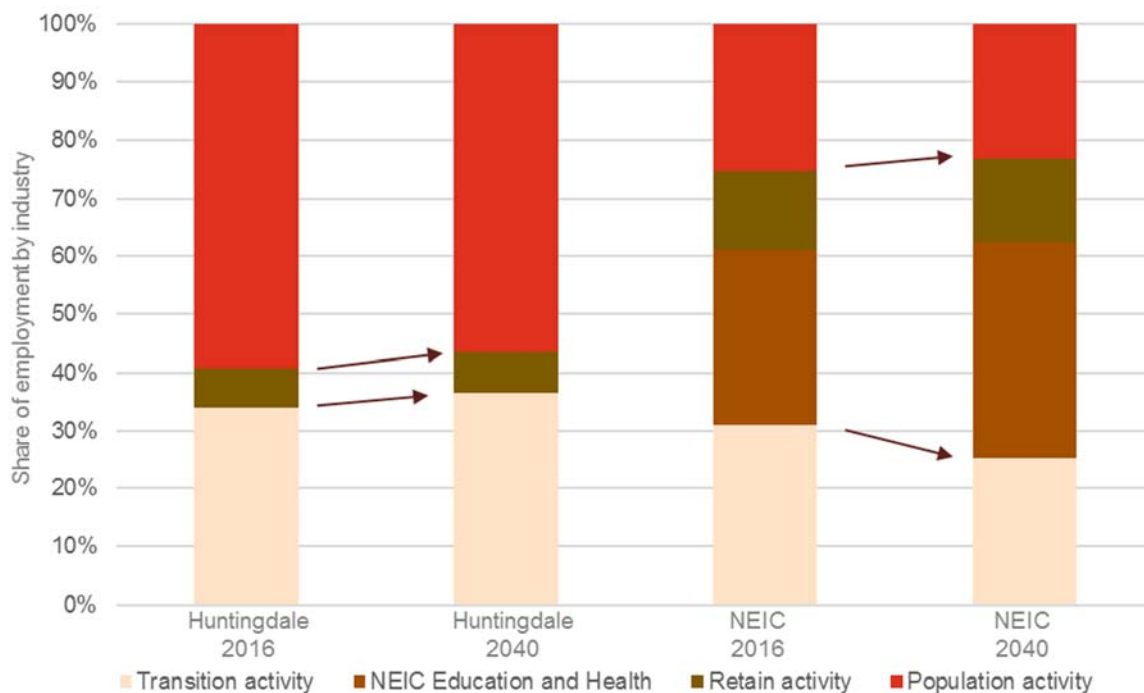**Figure 18. Base case forecasts, share of activity by industry, 2016 and 2040, NEIC and Huntingdale**
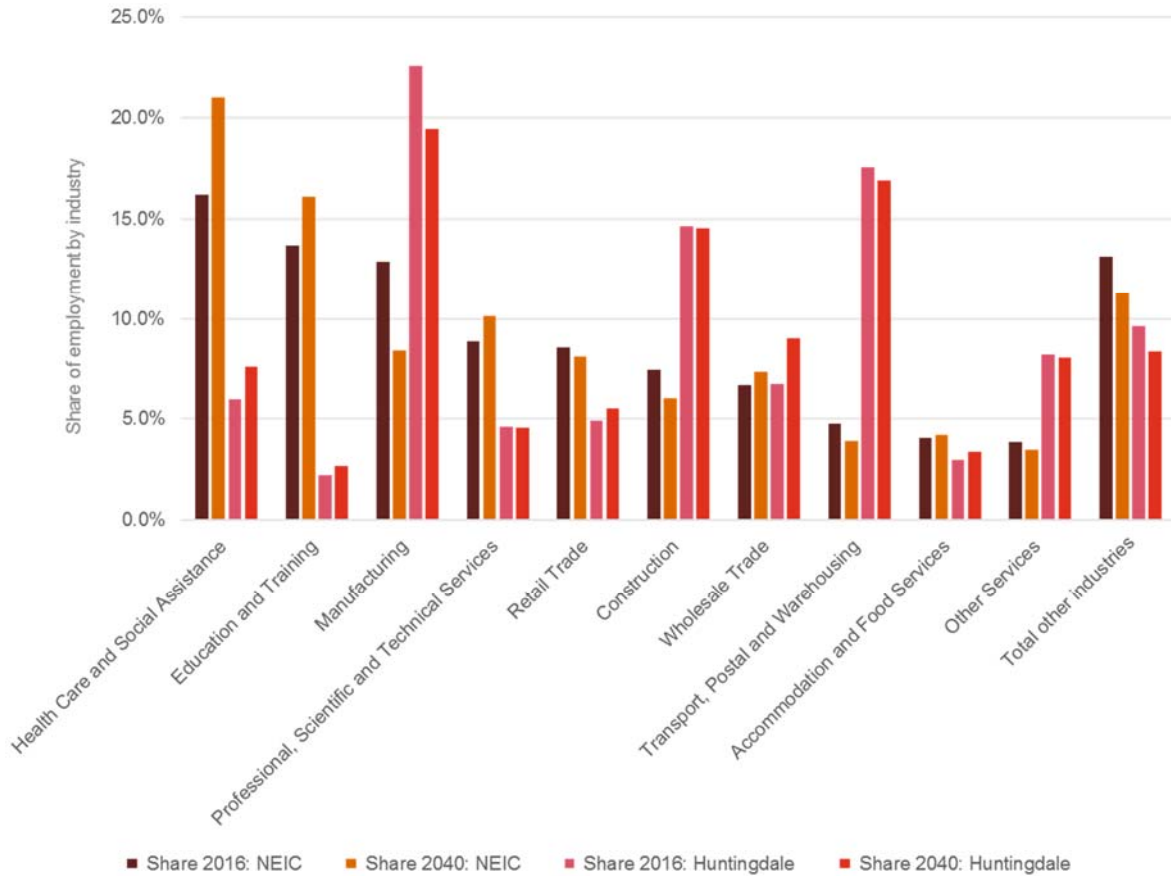
Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM.

As Figure 18 shows, by 2040 economic activity in Huntingdale is still has concentrated in manufacturing, construction and transport, postal and warehousing, although growth in all three industries is expected to decline. Other observations for the economic activity in Huntingdale include:

- gradual movement closer to the industry mix achieved in the NEIC

- maintains but does not grow the share of activity associated with professional services

- both the NEIC and Huntingdale have a greater concentration of employment in the top ten industries in 2040 than 2016, indicating a greater focus in economic activity.

The activity categorisations developed in section can be applied to forecast future activity in Figure 18. Figure 19 illustrates the results.

Figure 19. Base case forecast activity by framework categorisation, 2016 and 2040, Huntingdale and NEIC

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM; PwC analysis

As Figure 19 shows, transition activity in Huntingdale is expected to be a greater share of total activity by 2040 in the base case forecast. This reinforces the finding that the study area is not progressing quickly to harmonise with the NEIC.

In the NEIC by comparison, a growth is expected in the high value and knowledge economy focused industries it is known for, with health and education expansion resulting in declining shares for population *and* transition industries. As in section 3.3.1, health and education activity has itemised to allow for flexibility in comparison.

4.1.3 Detailed base case forecast outcomes

This section presents detailed base case forecasts for Huntingdale and the NEIC, including growth rates applied.

Detailed forecast – Huntingdale

In the Huntingdale base case forecast is for total employment growth from ~3,495 in 2016 (historic data), to ~4,070 in 2025, ~4,470 in 2030, and ~4,905. That is, over a 25 year period, employment is forecast to increase by ~1,410 jobs. The results are detailed in Table 14, including the compound annual rate of growth applied to generate the forecasts.

Table 15. Base case forecast employment by industry, Huntingdale, and growth rates applied

Industry	2016	2025 forecast	2030 forecast	2040 forecast	CAGR 2016-2030	CAGR 2030-2040
Manufacturing	790	826	848	954	0.5%	1.0%
Transport, Postal and Warehousing	614	680	721	829	1.2%	1.3%

Industry	2016	2025 forecast	2030 forecast	2040 forecast	CAGR 2016-2030	CAGR 2030-2040
Construction	511	575	615	712	1.4%	1.4%
Other Services	287	361	413	394	2.9%	0.4%
Wholesale Trade	236	325	393	442	4.2%	1.7%
Health Care and Social Assistance	208	268	311	372	3.2%	2.0%
Retail Trade	171	213	242	271	2.7%	1.5%
Professional, Scientific and Technical Services	161	188	206	223	1.9%	1.1%
Administrative and Support Services	114	137	152	132	2.2%	-0.3%
Accommodation and Food Services	104	136	159	166	3.4%	1.1%
Education and Training	77	96	108	131	2.7%	2.0%
Arts and Recreation Services	65	86	102	111	3.6%	1.4%
Public Administration and Safety	61	59	58	48	-0.4%	-1.4%
Rental, Hiring and Real Estate Services	45	59	69	51	3.4%	-1.2%
Electricity, Gas, Water and Waste Services	19	25	30	32	3.6%	1.2%
Information Media and Telecommunications	16	16	16	15	0.1%	-0.5%
Agriculture, Forestry and Fishing	8	11	12	11	3.6%	0.0%
Financial and Insurance Services	8	10	12	10	2.9%	-0.1%
Forecast Total	**3,495**	**4,071**	**4,467**	**4,904**	**N/A**	**N/A**

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM.

The detailed forecast growth by industry in Table 14 will be compared with the development scenarios in section 4.

Detailed forecast – NEIC

In the NIEC base case, total employment is expected to grow from ~61,165 in 2016 (historic data), to ~72,355 in 2025, ~79,850 in 2030, and ~92,665. That is, over a 25 year period, employment is forecast to increase by ~41,503 jobs. Table 16 illustrates the decomposition of this growth by division, and presents the forecast employment and growth rate applied.

Table 16. Base case forecast employment by industry, Monash NEIC and growth rates applied

Industry	2016	2025 forecast	2030 forecast	2040 forecast	CAGR 2016-2030	CAGR 2030-2040
Health Care and Social Assistance	9,920	13,524	16,066	19,472	3.5%	1.9%

Industry	2016	2025 forecast	2030 forecast	2040 forecast	CAGR 2016-2030	CAGR 2030-2040
Education and Training	8,352	10,633	12,159	14,936	2.7%	2.1%
Manufacturing	7,872	7,682	7,579	7,776	-0.3%	0.3%
Professional, Scientific and Technical Services	5,424	6,567	7,304	9,395	2.1%	2.5%
Retail Trade	5,220	5,936	6,376	7,526	1.4%	1.7%
Construction	4,546	4,811	4,964	5,593	0.6%	1.2%
Wholesale Trade	4,081	5,207	5,962	6,813	2.7%	1.3%
Transport, Postal and Warehousing	2,911	3,213	3,394	3,600	1.1%	0.6%
Accommodation and Food Services	2,479	3,046	3,415	3,875	2.3%	1.3%
Other Services	2,340	2,770	3,043	3,224	1.9%	0.6%
Administrative and Support Services	1,982	2,105	2,177	2,264	0.7%	0.4%
Financial and Insurance Services	1,471	1,748	1,924	2,310	1.9%	1.8%
Public Administration and Safety	1,336	1,280	1,250	1,180	-0.5%	-0.6%
Information Media and Telecommunications	1,157	1,197	1,221	1,224	0.4%	0.0%
Rental, Hiring and Real Estate Services	812	990	1,105	1,289	2.2%	1.5%
Electricity, Gas, Water and Waste Services	620	808	935	1,068	3.0%	1.3%
Arts and Recreation Services	488	675	809	953	3.7%	1.7%
Agriculture, Forestry and Fishing	137	142	144	147	0.4%	0.2%
Mining	16	20	22	22	2.2%	0.2%
Total	**61,164**	**72,356**	**79,849**	**92,667**	**N/A**	**N/A**

Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM.

The base case forecasts for the NEIC are used to construct development scenarios in section 4.3.

4.2   Catalytic industry uplift

This section develops and understanding of how the economic mix identified in section 3.3.2 can be attracted to Huntingdale.

Pathways to accelerating transformation in the study area

Economic activity in five Subdivisions has been identified to target to support a transformation in Huntingdale (see section3.3). Attraction of this activity, including spill over from elsewhere in the NEIC, would complement the anticipated shift of "transition" activity out of the precinct. Figure 20 illustrates 3 pathways to supporting the transition to higher value adding activity.

Figure 20. Mechanisms for land use change - attracting high value industries to Huntingdale
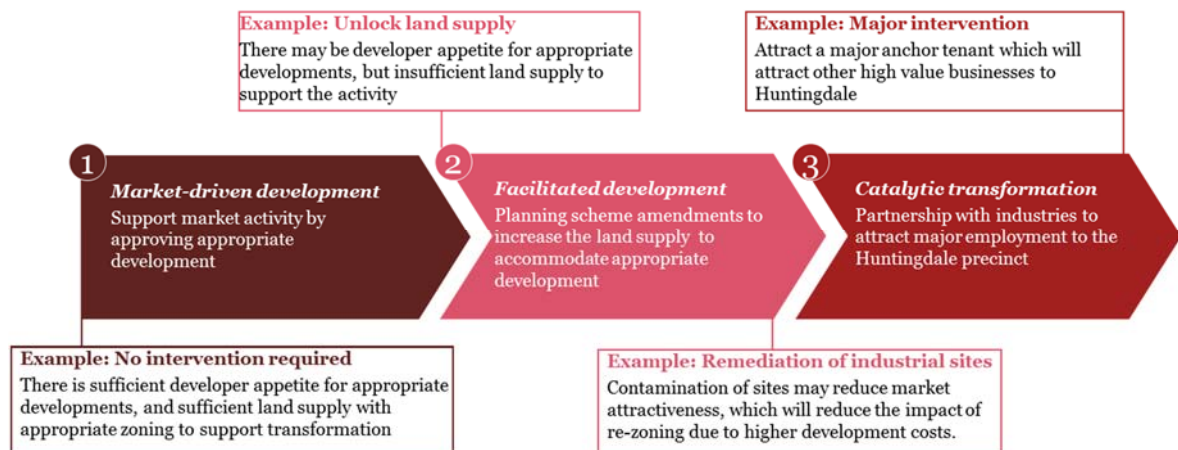
Source: PwC analysis

As Figure 20 shows, there are three development models, which require progressively more intervention from local government. Of these, mechanism three, catalytic transformation, would have the fastest and most targeted impact on industry mix. Activation of a key site with an appropriate anchor tenant could accelerate the transition by:

- setting a precedent or benchmark for land use and urban form

- improving the incentives to developers of nearby sites to target similar uses in their development to leverage the character of the catalyst site

Sources of anchor tenants to accelerate transformation in the study area

To have a catalysing effect, target anchor tenants should align with the target economic mix. Anchor tenants could be attracted from three key sources, presented in the order of their ease of delivery and risk:

1. Elsewhere in the NEIC: there is the potential to attract target anchor tenants from within the NEIC,

   o The NEIC is home to corporate offices for 35 of the top 2000 companies in Australia.[26]

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[26] PwC analysis of IBISWorld Australia Company Wizard data, a database that captures information on Australia's largest 2000 companies (ASX companies as well as private, foreign and government businesses), July 2018. IBISWorld states that combined the top 2000 companies database accounts for ~65% of economic activity.

- o Monash Employment Cluster Economics and Business Intentions Report[27] found that 47% of businesses expect to move sites within the next ten years, and 62% of those businesses expect to remain in the NEIC.

2. From Victoria: Looking to Victoria, our analysis shows strong commercial activity in the targeted Subdivisions:

- o 78 companies in top 2,000 are classified in the Subdivisions prioritised in 3.3r and have an existing head office in Victoria[28]

- o This is out of 558 companies with head offices in Victoria, so close to 14% of high-revenue business in the state

- o The threshold revenue for inclusion in the database is ~$81 million[29]. This means that the true number of companies with the scale to play the role of an anchor tenant within the prioritised Subdivisions is larger than the 78 identified in the database.

3. Through attraction of key infrastructure that draws the desired economic activity

- o A traditional example is the way that the presence of courtrooms supports co-located or proximate legal and social services activity

- o Specialised facilities at the NEIC are already drawing in desired economic activity – for example the Synchrotron attracts domestic and international researchers to use the unique infrastructure

- o Examples of targeted infrastructure for Huntingdale could include a co-working space to attract small scale professional services, or investment in open source manufacturing equipment commonly used by target industries.

4.3   Scenario drivers

Five drivers have been identified, representing assumptions that can be flexed to produce alternative forecasts to the base case outlined at the start of Section 4. The drivers are:

1.   Attraction of catalytic investment in retail

Development of Huntingdale could be accelerated by attraction of a key anchor tenant for retail, as discussed in section 4.2. This is assumed to:
- Occur in all variations to the base case to drive transition of industries

- Result an additional 56[30] retail jobs, uplifting the "population" categorisation

- Occur in 2025, with the additional 56 jobs carried through to 2030 and 2040 activity estimates

2.   Attraction of catalytic investment in industry

Development of Huntingdale could be accelerated by attraction of a key anchor tenant for retail, as discussed in section 5. This is assumed to:

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[27] Urbis (2014) Monash Employment Cluster Economics and Business Intentions Report

[28] PwC analysis of IBISWorld Australia Company Wizard data

[29] PwC analysis of IBISWorld Australia Company Wizard data

[30] Assumption based on the ratio of employees to enterprises in *IBISworld Industry Report G4111 Supermarkets And Grocery Stores*, IBISWorld, 2018

- occur in all variations to the base case to drive transition of industries

- result an additional 200 jobs in the Professional, Scientific and Technical Services division[31], uplifting the "attract" categorisation

- occur in 2025, with the additional 56 jobs carried through to 2030 and 2040 activity estimates

3. Harmonisation of activity with the NEIC

The current and forecast base case economic activity in Huntingdale includes notably fewer jobs in the "attract" category than for the NEIC (see section 4.1). As activity in the NEIC grows in the future (see section 4.1) there is an opportunity for Huntingdale to capture activities crowded out of the other NEIC areas. This potential is grounded in the enabling urban form of Huntingdale, including smaller and denser lots, and strong heavy rail public transport connections.

The following assumptions have been made regarding the capture of spill-over activity:

- Increase in the share of jobs in attract industries in Huntingdale (7 per cent in 2016) increasing to levels comparable to the share of attract industries in the NEIC (15 per cent in 2016)

- Change in Huntingdale driven by harmonisation not expected to occur until after the year 2025 and is expected to be gradual, meaning the share of jobs in attract industries will still be lower than the NEIC in year 2040

4. Speed of transition of transition industries

Transition and renewal have been consistent features of Australia's economic history, most recently a shift in activity from agriculture and manufacturing to knowledge industries, and cyclical variation in mining activity[32]. These forces are expected to shape outcomes in the period to 2040.

In the specific case of Huntingdale, the implication of greater competition for access to the NEIC is rising land values. This mechanism further increases the likelihood of transition. In the base case transition of activity outside of the study area is not explicitly considered but it is included as a key factor in the development scenario.

The basis for the approach in the development scenario draws on the assessment framework in section 3.1, and uses the Relative Strength and The Future Readiness Frameworks to identify activity to transition out, and the timing of the transition. Across the scenarios the extent to which activity transitions out per period is then flexed.

In detail:

- the Future Readiness Framework (see section 3.2.3) identified activity that is vulnerable to structural change – "transition" activity, and economic activity that is more robust – "retain" and "attract" activity

- the "transition" activity is further classified according to performance under the relative strength framework (see section 3.2.2) as follows:

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[31] Assumption for quantum of employment uplift and king of economic activity developed with City of Monash

[32] Ellis Connolly and Christine Lewis, *Structural Change in the Australian Economy,* Reserve Bank of Australia, Bulletin, 2010

- o activity where job and output decline is assumed to transition in 2030, five years after the catalytic investment in 2025

- o in the case of Consider, activity with a weak presence in Huntingdale is assumed to transition in 2030, and activity with a strong presence from 2040

- o activity with job and output growth is assumed to remain in the study area in 2040

- o applying the three assumptions, up to ~810 jobs could transition in 2030, and up to ~1,890 by 2040, depending on the transition rates assumed

- assumptions are developed by scenario as to the extent of transition – for example, in the central scenario it is assumed that 40 per cent of activity that *could* transition by 2030 does transition

5. Renewal of employment following transition

New activity is expected to renew employment in Huntingdale as existing activity transitions out. This activity is:

- forecast to be in line with the target economic activity identified in section 3.3

- assumed to replace the employment lost through transition activity exits in 2030 and 2040 at rates that are varied across the scenarios.

4.4 Uplift scenarios

Building on the base case forecasts for economic growth, five drivers are outlined in this section that open up the possibilities for alternate outcomes. The development of a central scenario is explored in detail. Lastly, the central scenario is compared to "high" and 'low" cases to explore the sensitivity of the forecast.

Considered three scenarios, influenced by the following drivers identified above:

- **High** - overall jobs growth in Huntingdale over and above the DEDJTR employment forecasts, 80% of transition industries have vacated Huntingdale by 2040, and all that land has been acquired and used for growth industries

- **Central** – overall jobs growth in Huntingdale consistent with DEDJTR employment forecasts, 60% of transition industries have vacated Huntingdale by 2040, and just over half of that land has been acquired and used for growth industries.

- **Low** – overall jobs growth in Huntingdale is lower than DEDJTR employment forecasts, 40% of transition industries have vacated Huntingdale by 2040, and there has been no further development of growth industries.

The central case was selected for further investigation because the total employment projections are similar to DEDJTR projections. Further information about the three scenarios is available in this section below.

4.4.1 Central development scenario

The central developed scenarios has been designed with input from the City of Monash as a "most likely" case to explore further in the land use background report.

Key assumptions

The key assumptions used are detailed in Table 17.

Table 17. Central scenario - key assumptions

| Scenario driver	Assumption
1. Attraction of catalytic investment in retail	Growth in employment assumed for the catalytic retail – see section 5.
2. Attraction of catalytic investment in industry	Growth in employment for catalytic industry attraction – see section 4.2 .
3. Harmonisation of activity with the NEIC	Growth in employment in "attract" industries such that the ratio of attract industries to total employment harmonises with the Monash NEIC This process is progressive from 2025 -40 per cent of the gap is closed in 2025, ~60 per cent by 2030 and 80 per cent by 2040
4. Speed of transition of transition industries	Transition assumptions: • that of the "transition" activity identified as vulnerable to exit by 2030, 40 per cent exits • that of the "transition" activity identified as vulnerable to exit by 2040, 60 per cent exits (including 60 per cent of the activity vulnerable to exit by 2030, that is, there is a successive reduction in this activity)
5. Renewal of employment following transition	Assumptions designed such that overall employment fits in the "envelope" of the base case, ie, net growth or decline is limited, implying that • the industry activity transitioned by 2030 is largely replaced by the uplift from assumptions in drivers one to three • an assumed 55 per cent of the activity transitioned in 2040 is assumed to be renewed by new employment in "attract" industries.

Source: PwC analysis in collaboration with City of Monash

Central development scenario employment forecast

In the central scenario then, the resulting forecast is for total employment growth from ~3,495 in 2016 (historic data), to ~4,521 in 2025, ~4,509 in 2030, and ~4,915. Over a 25 year period, employment is forecast to increase by ~1,420 jobs, which is close to the 1,410 jobs forecast in the base case.

Notably, the timing and composition of the growth in economic activity differs compared to the base case. These features of the scenario are illustrated in Figure 21.

Figure 21. Base case and central development scenario, employment forecasts by activity type and future readiness, 2025, 2030 and 2040
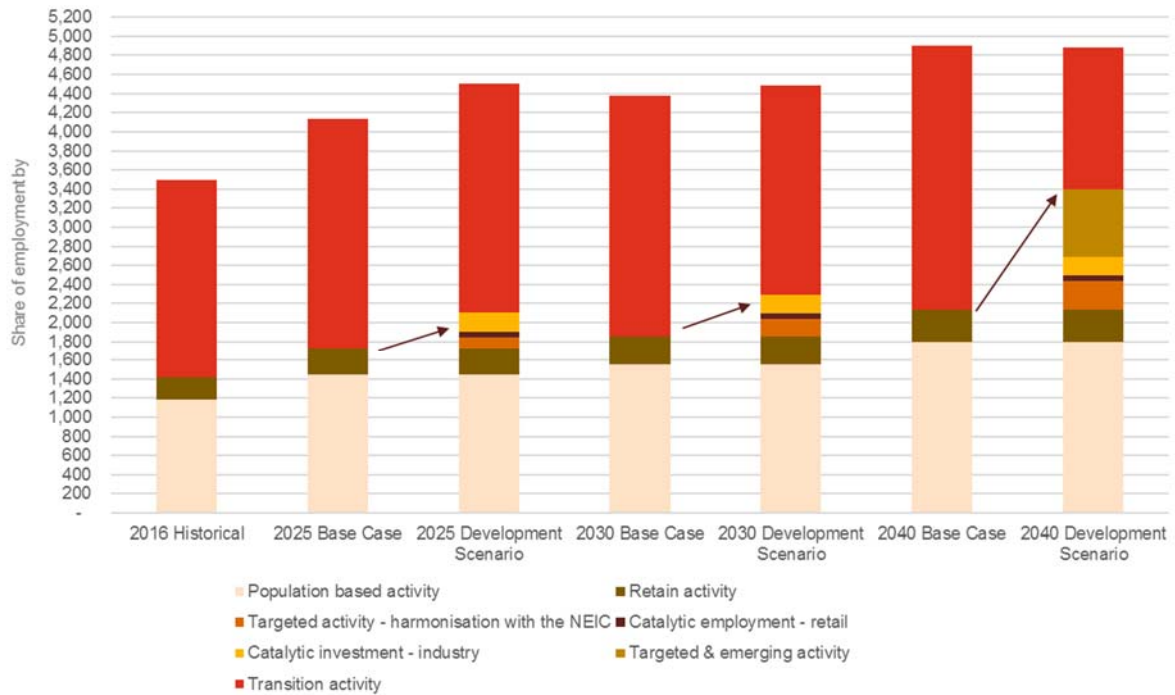
As Figure 21 illustrates, the application of the scenario drivers results in a substantially different development path in the Central Scenario and one that is in line with the vision. By 2040 this culminates in industries vulnerable to transition accounting for ~31 per cent of all activity, as opposed to ~57 per cent in the base case for Huntingdale.

This is achieved through:
- harmonisation with activity in the NEIC from 2025
- attracting catalytic retail and industry investment by 2025, which immediately boosts the employment in attract and retain industries
- from 2030, the exit of industries vulnerable to transition and the attraction of future ready activity.

This pathway is detailed in Table 17.

Table 18. Comparison - employment by activity type, 2025, 2030 and 2040 - base case and central case

	Historic	Bas Case			Central case		
Year	*2016*	*2025*	*2030*	*2040*	*2025*	*2030*	*2040*
Total "attract" employment	233	283	300	338	654	739	1,599
Total "population" employment	1,189	1,448	1,554	1,794	1,448	1,554	1,794

	Historic	Bas Case			Central case		
Total "transition" employment	2,073	2,405	2,519	2,772	2,405	2,196	1,493
Total Employment	3,495	4,136	4,373	4,904	4,507	4,488	4,887
% Attract	7%	7%	7%	7%	15%	16%	33%
% Population	34%	35%	36%	37%	32%	35%	37%
% Transition	59%	58%	58%	57%	53%	49%	31%
Employment uplift	N/A	N/A	N/A	N/A	371	115	- 17

Source: PwC analysis

Comparison of the Central development scenario to the NEIC

Figure 22 compares the base case for Huntingdale and the Central Development Scenario with the Base Case forecast for the NEIC in 2040. The comparison shows that activity in the Central Development Scenario is more closely aligned with activity in the NEIC and the vision for Huntingdale.

Figure 22. Activity type categorisation, 2040, Base Case Huntingdale, Central Development Scenario and Base Case NEIC
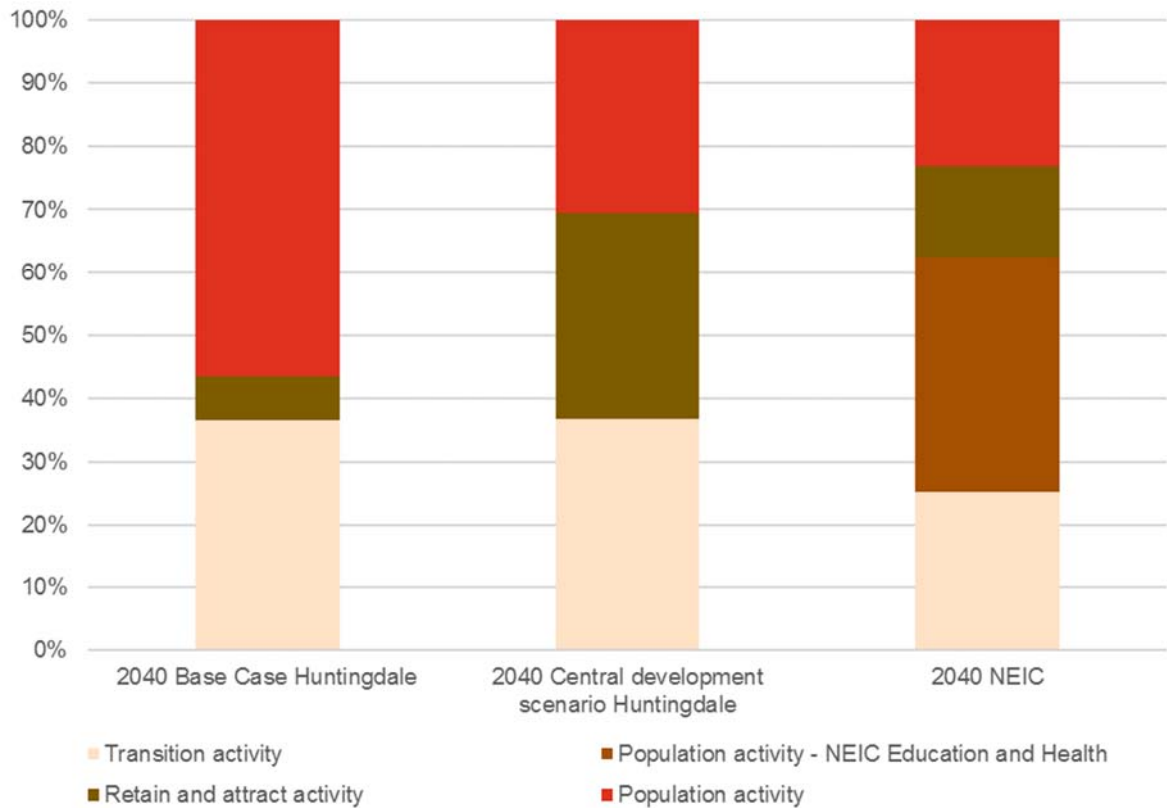
Source: PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zones, as defined by the ABS. Growth rates sourced from TfV's VITM; PwC analysis

4.4.2   Alternate scenarios and sensitivity analysis

To explore the impact of the varying assumptions four and five identified in Section 4.3, two alternate scenarios have been developed:

1. High: designed in response to the central case to test the sensitivity of forecasts to aggressive assumptions for transition and renewal

2. Low: designed in response to the central case to test the sensitivity of forecasts to conservative assumptions for transition and renewal

Table 19 sets out the assumptions applied to develop the high and low scenarios and compares these to the central scenario.

Table 19. Assumptions for driver four and five, by scenario

	Exit of transition activity		Renewal of transition activity with new activity	
	2030	2040	2030	2040
High	60%	80%	80%	100%
Central	40%	60%	0%	55%
Low	20%	40%	0%	0%

Source: PwC analysis

As Table 19 sets out, in the high case the majority of transition industry exits by 2040, and it is largely replaced by new employment in the target areas. By contrast, in the low transition scenario by 2040 only 40 per cent of transition activity has exited. The forecasts that align with the assumptions in Table 19 are detailed in Table 20.

Table 20. Historic, base case and scenario employment and activity mix forecasts

Year	Historic	Base Case			Low Case			Central case			High case		
	2016	2025	2030	2040	2025	2030	2040	2025	2030	2040	2025	2030	2040
Total "attract and retain" employment	233	283	300	338	654	739	896	654	739	1,599	654	1,127	1,976
Total "population" employment	1,189	1,448	1,554	1,794	1,448	1,554	1,794	1,448	1,554	1,794	1,448	1,554	1,794
Total "transition" employment	2,073	2,405	2,519	2,772	2,405	2,358	1,908	2,405	2,196	1,493	2,405	2,034	1,692
Total Employment	3,495	4,136	4,373	4,904	4,507	4,650	4,598	4,507	4,488	4,887	4,507	4,715	5,462
% Attract and retain	7%	7%	7%	7%	15%	16%	19%	15%	16%	33%	15%	24%	36%
% Population	34%	35%	36%	37%	32%	33%	39%	32%	35%	37%	32%	33%	33%
% Transition	59%	58%	58%	57%	53%	51%	41%	53%	49%	31%	53%	43%	31%
Employment uplift	N/A	N/A	N/A	N/A	371	277	-306	371	115	-17	371	342	558

Source: PwC analysis

Scenario analysis

The forecasts listed in Table 20 imply that the forecast activity mix is more sensitive to drivers four and five than total employment:

- depending on the assumptions used, the share of "attract" activity in 2040 ranges from 19 per cent in the low case to 36 per cent in the high case, compared to seven per cent in the business as usual case

- in contrast, in 2040, the net difference in total employment between the low and high case is in the range of ~-306 to ~+560, or a variation of negative six per cent to positive 11 per cent off the base case 2040 forecast

A second finding is that in all scenarios employment growth is higher than the base case in 2025 and 2030, highlighting the importance of the assumptions for drivers one, two and three.

Comparison of the Central development scenario to the NEIC

The three development scenarios are compared to the Base Case for Huntingdale in Figure 23.

Figure 23. Comparison of Base Case for Huntingdale to the three development scenarios, by employment type in 2040
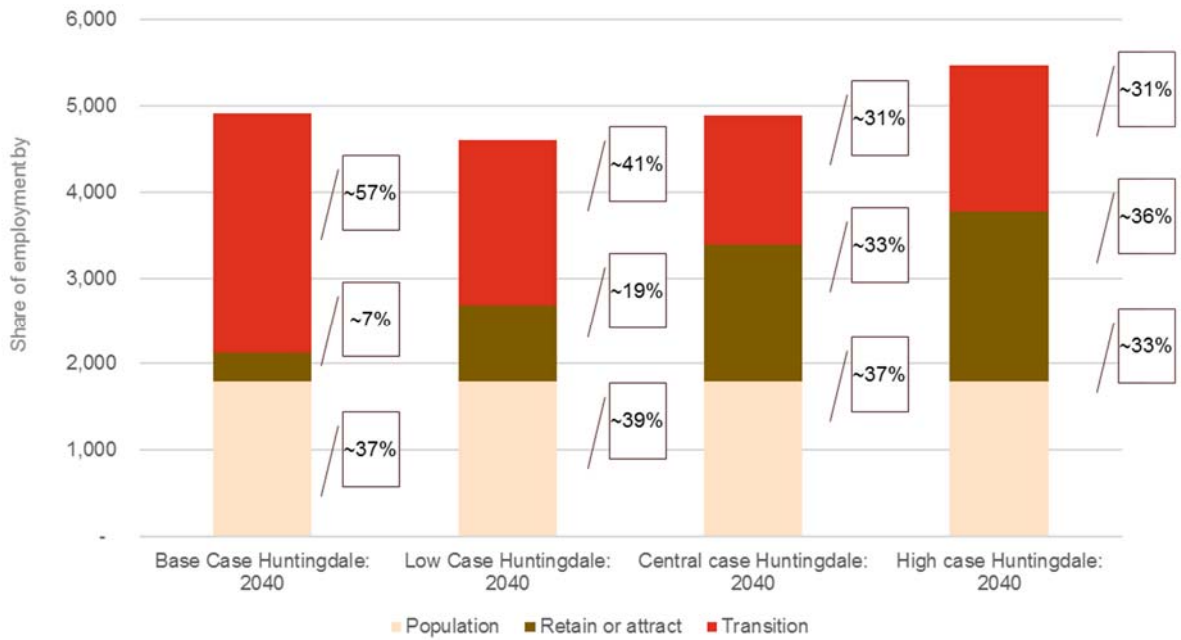
Figure 23 shows that as the development scenarios move from low to high, there is an increasing share of activity in the attract and retain categorisation. Consequently, the scenarios move progressively towards the composition of the activity in the NEIC.

Considered on the basis of the share of employment, the central and high cases appear to have similar outcomes. The key difference between the two cases, as illustrated in Figure 23 and Table 20, is that total employment in the central case is in line with the base case forecasts, while in the high case these are exceeded.

4.5   Preferred scenario for land use analysis

If the transformative vision for the study area is achieved and the forecasts in the central scenario are achieved realised, there is the opportunity to uplift the number of high value adding jobs in Huntingdale and increase output.

Employment uplift in high value adding industries

In a transformative view of Huntingdale, explored further in the *Land Use Background Report*, there is the potential to increase employment in catalytic industries by ~250 jobs, in "attract" industries by ~1,005 jobs, alongside reduction in employment in "transition" industries by ~1,080 jobs by 2040. This change is illustrated in a stylised form in Figure 24.

Figure 24. Stylised employment uplift in Huntingdale, Central Case compared to base case
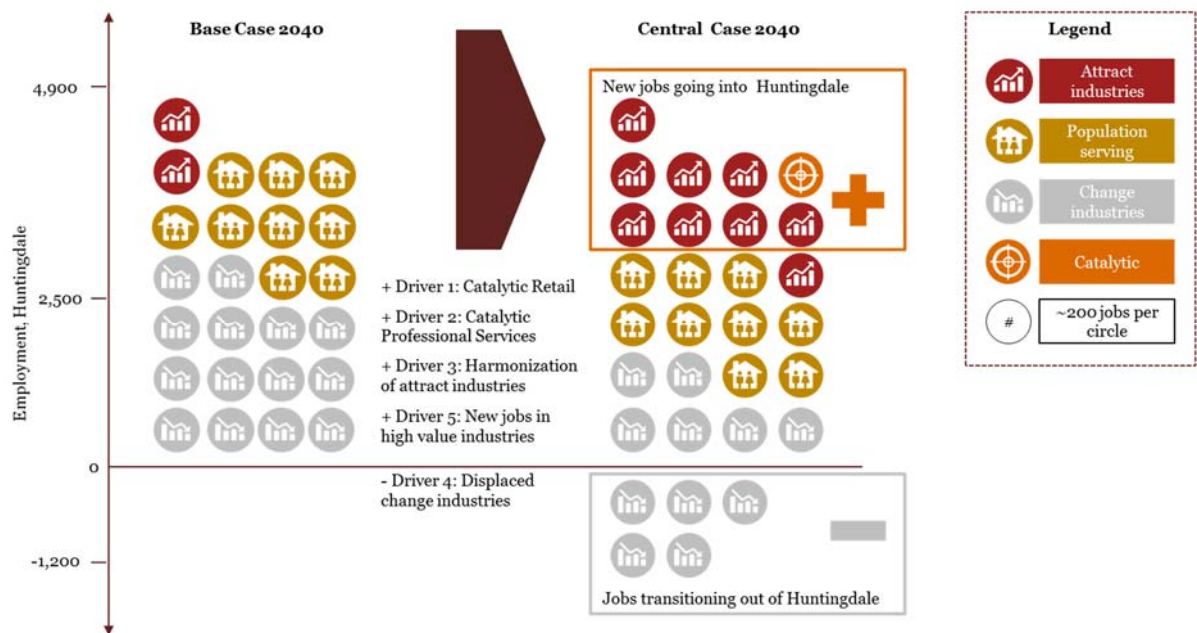
Source: PwC analysis

4.6 Sites and development opportunities

An audit of economic activity was undertaken to identify sites with industries expected to be transitioned over time. This audit identified classified all sites into the following categories:

1. **High value industries** – Businesses which should be retained and grown within Huntingdale.

2. **Population serving industries** – Businesses with strong economic performance and employment growth. Over the next 25 years, these businesses are expected to relocate to new sites to accommodate their needs, but remain within Huntingdale. As such, sites occupied by these businesses are candidates for development, but the timing is unclear due to the need to find suitable new locations within Huntingdale.

3. **Industry turnover** – Industries with poor economic performance and poor employment growth, these businesses are expected to transition to low value industrial land in areas like Dandenong South and Sunshine. The weakest performing businesses are candidates for transition from 2025, while other businesses should be considered from 2030.

It is important to note that while businesses may have been identified as one of these three categories, there may be other factors they consider which will limit the availability of developable land. Figure 25 illustrates the sites where this developable land is expected to become available in Huntingdale from 2025 to 2030, and then to 2040.

Figure 25. Developable land within Huntingdale

Source: PwC Analysis (2018), Background Report: Land Use provided non-developable land based on land supply constraints, and recent development application information

5 Deep-dive into retail potential

The Huntingdale Activity Centre can be transformed over the next 25 years, with the evolution of the existing manufacturing and warehousing base in in the direction of future focused economic activity and attraction of higher value jobs in professional and technical services.

To support this increased activity, Huntingdale will need to attract and retain quality retail tenants to improve the amenity of the retail strip, which will attract businesses to the area.

This chapter explores the retail needs of the Monash NEIC today and into the future, and considers the scale of retail development which should be considered for Huntingdale. It assesses the changes to the retail offer in Huntingdale today required to support the economic development of the Huntingdale Activity Centre. The process undertaken for this section is shown below in Figure 26.

Figure 26. Assessment methodology overview for future retail activity
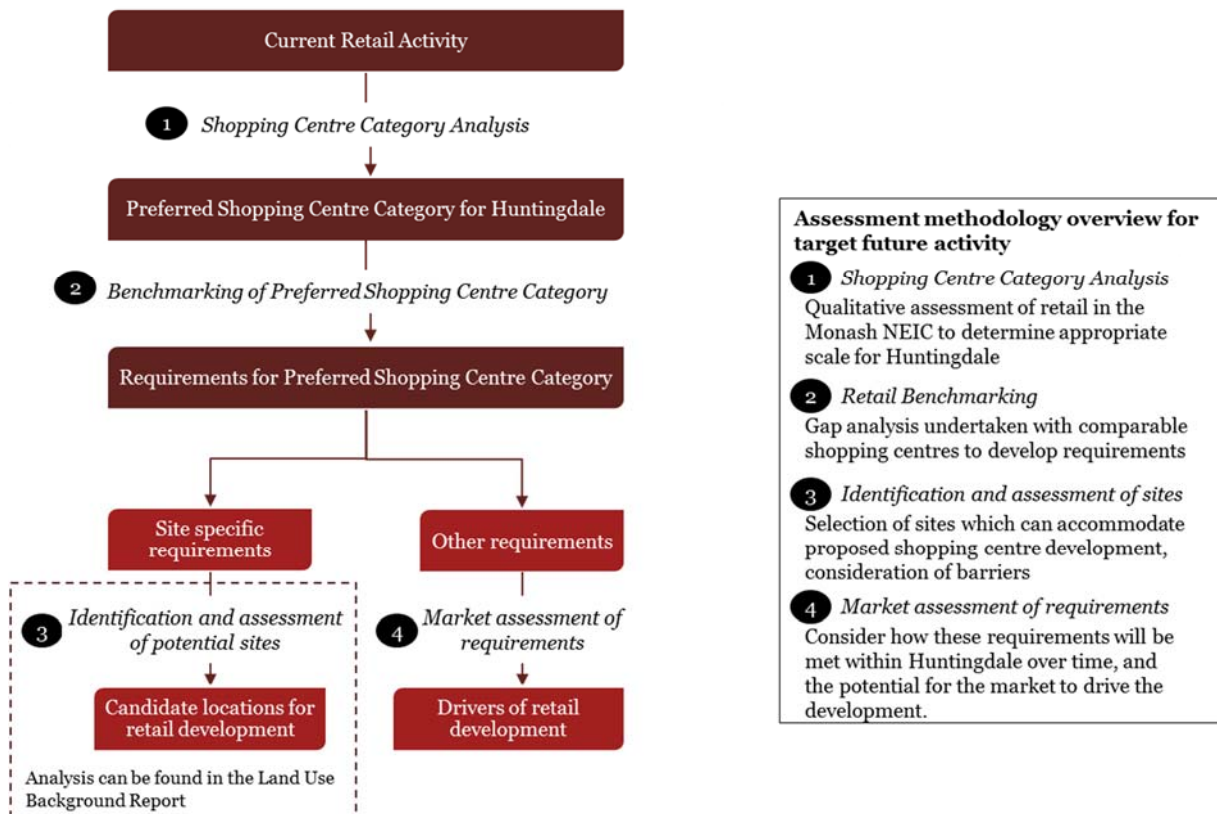
Source: PwC Analysis (2018)

5.1 Classification of shopping centres

The Property Council of Australia (PCA), defines a hierarchy of shopping centres using several criteria which can be grouped into the following categories shown in Figure 27. This hierarchy is shown below in Table 21.

Figure 27   Criteria for classification of shopping centres

Size	Attractiveness	Customer experience
• Total gross lettable floor area for retail (GLA) • Number of specialty shops	• Full line department stores (Myer, David Jones) • Full line discount department stores (Kmart, Target, Big W) • Supermarkets (Coles, Woolworths, ALDI)	• Entertainment and leisure (cinemas, arcade games, play centres) • Facilities and amenities (car parking, food court, toilets, parents room, seating)

Source: Property Council of Australia (2011)

Table 21   Hierarchy of shopping centres

| Category	Size	Attractiveness	Customer Experience
Super Regional Centre	More than 85,000 square metres, 250 specialty shops	2 department stores 1+ discount department stores 2 supermarkets	Entertainment and leisure Facilities and amenities
Major Regional Centre	50,000 to 85,000 square metres, 150 specialty shops	1+ department stores 1+ discount department stores 1+ supermarket	Entertainment and leisure Facilities and amenities
Regional Centre	30,000 to 50,000 square metres, 100 specialty shops	1 department stores 1 discount department stores 1+ supermarket	Facilities and amenities
Sub Regional Centre	10,000 to 30,000 square metres, 40 specialty shops	0 department stores 1 discount department stores 1 supermarket	Facilities and amenities
Neighbourhood Centre	Less than 10,000 square metres	0 department stores 0 discount department stores 1 supermarket	Minimal facilities and amenities (toilets, seats)

Source: Property Council of Australia (2011)

5.2 Retail in the Monash NEIC today

The Monash National Employment Cluster Retail Strategy (the MNEC Retail Strategy), finalised in April 2015, estimates that the Monash NEIC contains 235,000 square metres of retail floor space, 92% of which is concentrated in activity centres and bulky goods precincts.

The MNEC Retail Study indicates that approximately 50% of retail floor space is for bulky goods retailing, with Springvale Homemaker Centre reinforcing the NEICs position as the major bulky goods retail centre servicing the south eastern suburbs of Melbourne.

Figure 28. Competing retail hierarchy in the Monash NEIC
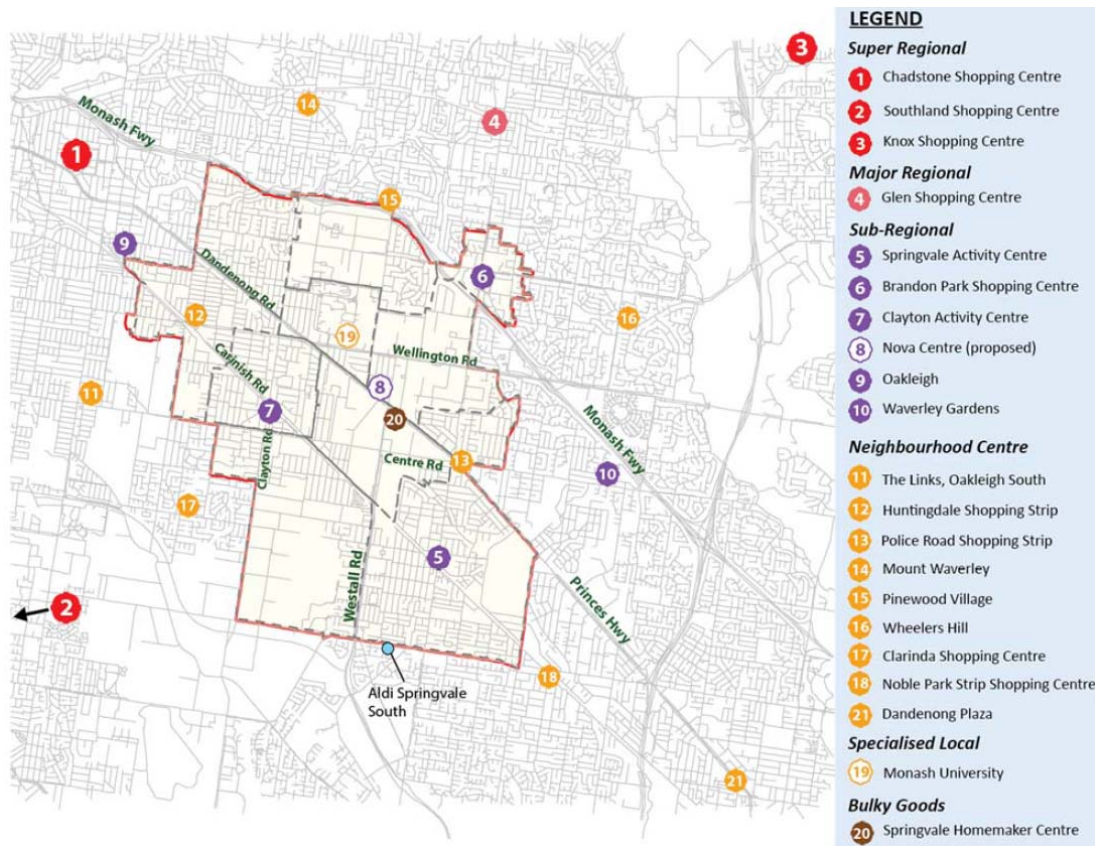
Source: Urban Enterprise (2015) Monash National Employment Cluster Retail Needs Study

The MNEC Retail Strategy assessed retail demand for the Monash NEIC and made the following conclusions:

- When the retail growth and upgrade of existing and proposed activity centres is considered, there will still be a need for an additional 8,000-10,000 square metres of retail floorspace in by 2026, and 40,000 square metres by 2051.
- Any new centres should be anchored by a supermarket and include a food catering / hospitality focus, co-located with 47neighbourhood and open space where possible.
- New centres would require 2 to 3 hectare of land, ideally in single ownership

Across the NEIC, businesses report a shortage of banking, stationary needs, lunch spots, restaurants, convenience/supermarkets[33]. The report also states that while lack of retail amenity is not a key deterrent, it does affect business' ability to attract and retain staff, and similarly it is likely to be important for businesses considering moving into the Monash NEIC.

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[33] Urbis (2014) Monash Employment Cluster Economics and Business Intentions Report

5.3   Retail opportunity in the Huntingdale Activity Centre

The Huntingdale Activity Centre contains 11,500 square metres of retail floorspace in the form of a shopping strip along Huntingdale Road, north of the train line. The more prominent brands available along the strip include IGA X-press plus Liquor, Australia Post, and Subway. There is a diverse range of restaurants (Greek, Italian, Chinese, Korean, Vietnamese, Thai, Sri-Lankan, Indian, fish and chips, a burger restaurant, several cafes) as well as take away food outlets (sandwiches, charcoal chicken). Other retail available in the strip include:

- Small grocery stores (Convenience store, halal, butchers, fresh fruit and vegetables, bakery)

- Services (printing, shoe repair and clothing alteration, optometrists, hair and nails, laundromat, a 24/7 gym)

- Offices (Dental surgery, accountants, real estate, building design services)

- Other retail (tobacconist and gifts, discount variety store, newsagency, cakes)

The northern end of the strip contains a number of businesses which service commercial clients, including a bathroom/kitchen/laundry display showroom, business signage displays and marketing materials, commercial chemicals, used motorbike sales, car service, and a hardware store.

The strip also contains several vandalised and abandoned retail shops close to the train station, some of which have been converted into a mosque and no longer perform a retail function.

The MNEC Retail Needs Study (Urban Enterprise, 2015) describes the Huntingdale Activity Centre as small neighbourhood centre. This section considers the classification of Huntingdale Shopping Strip, benchmarks the retail offer against comparable developments, and makes recommendations for the uplift in retail offer.

5.3.1   Assessment of shopping centre categories

As indicated in Figure 28, The Huntingdale Shopping Strip is in close proximity to Sub Regional Centres (Oakleigh Central and Clayton both less than 2km away), with a Super Regional Centre (Chadstone) less than 4km away. This close proximity to larger centres limits the role of the Huntingdale Shopping Strip, as the catchment is already serviced by department stores and discount department stores.

As such, the Huntingdale Shopping Strip should remain a neighbourhood centre, but look to increase the retail offer to include a full line supermarket and additional specialty shops, which can attract businesses to the area and service the higher density residential development expected in close proximity to the train station. An assessment of different types of neighbourhood centres is considered in the following section.

5.3.2 Benchmarking against other Neighbourhood Centres

The Huntingdale Shopping Strip is located within an industrial area, in close proximity to a train station. As such any change to the neighbourhood centre is expected to require consolidation of urban renewal sites to form a brownfield mixed use development which will provide increased amenity to the strip while increasing the population catchment serviced by the neighbourhood centre. A benchmarking exercise was undertaken to understand what changes to the Huntingdale Shopping Strip could deliver, and the requirements to support the increased offer.

Figure 29. Benchmarking Huntingdale against other 49neighbourhood centres

Source: PwC Analysis (2018)

The comparison of Huntingdale Shopping Strip to other similar neighbourhood centres indicates that a major supermarket, complementary liquor retailer, and up to 20 specialty shops could be considered, but several requirements would need to be considered:

- **Shopping centre footprint** — to support this development, a suitable site would require a footprint ranging from 80 metres by 140 metres up to 160 metres by 180 metres.

- **Access** — the shopping centre would need access to an arterial road, with frontage either within or adjacent to the existing shopping strip.

- **Catchment** — the shopping centre must incorporate other development to increase the catchment of the centre. This can include apartments, townhouses, or a large commercial office as demonstrated with the Tooronga Village example.

Using these parameters, the Background report: Land use considers potential sites to accommodate the neighbourhood centre, and the changes to planning controls and overlays required to support this development.

5.4   Catalysing the retail mix

When considering the requirements for a neighbourhood centre, the catchment can be measured considering the population growth projected for Huntingdale, and the potential for student accommodation. This section explores the Victoria In Future population projections (DELWP, 2016) for the area, and the opportunity to provide support the growing demand for student accommodation which will support the development of a neighbourhood centre.

5.4.1   Population growth for the Huntingdale Activity Centre

The Huntingdale Activity Centre currently accommodates approximately 2,000 residents (DELWP, 2016), with most in houses and townhouses (General Residential Zone), and a small number in mixed use apartment developments along the Huntingdale Shopping Strip (Commercial 1 Zone), as shown below in Figure 30 below.

Figure 30. Zoning in the Huntingdale Activity Centre

Source: Zoning data provided by City of Monash. Map prepared by PwC using QGIS open source software with shape files provided by Data VIC.

Population for the Huntingdale Activity Centre is expected to grow by 50% between 2016 and 2051, to 3000 residents. The Background Report: Land Use explores the potential of the Huntingdale Activity Centre to accommodate an additional 1,000 people, considers the existing supply of residential stock, the development trends in the area, and the changes to zoning and overlays required to support population growth.

5.4.2   Supporting student accommodation growth

As the primary connection between the metropolitan train network and Monash University's Clayton campus, Huntingdale Activity Centre is well positioned to support the growth in demand for student accommodation. This section will explore the provision of student accommodation today, and the role that Huntingdale could play to support the growth in demand for student accommodation within the activity centre.

Between 2012 and 2016, Monash University enrolments grew by almost 11,000 students, with 68% of the growth provided by international students (Department of Education and Training, 2018).

Figure 31   Monash University, student enrolments, all campuses, 2012-16
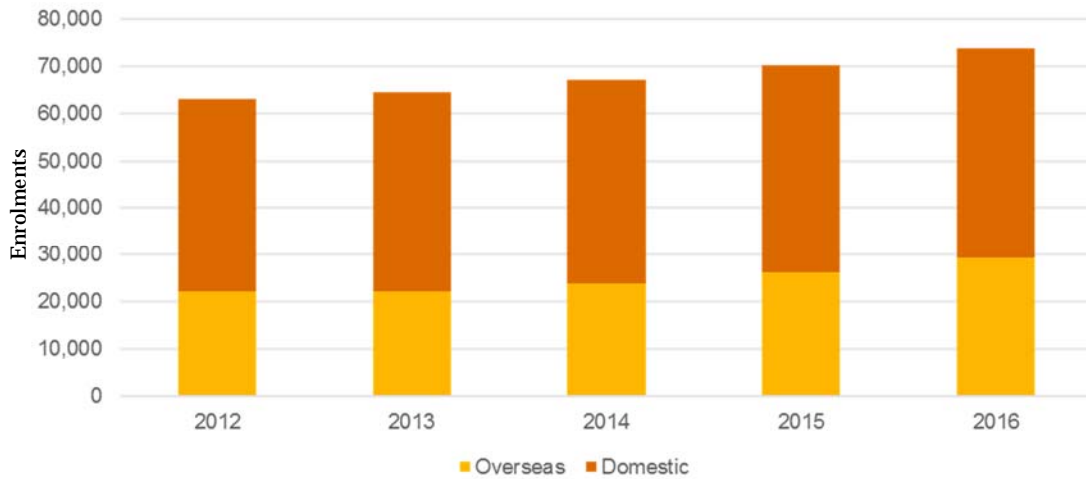
Source: Department of Education and Training, (2017) Higher Education Data Cube, and PwC analysis

Of the 70,000 enrolments across all campuses, university statistics indicate that in 2017 there were:

- 38,500 student enrolments at Clayton campus, with 25% international students

- 19,500 student enrolments at Caulfield campus, with 58% international students

Due to the variability of demand for international students, Monash University is adapting its planning approach for each campus to move away from horizon targets, and is instead focused on the planning outcomes required to support enrolment numbers. For example, the Clayton campus is expected to grow to 50,000 enrolments, and planning is being done to support that growth as milestones are reached rather than expecting 50,000 enrolments by 2050.

The growing international student enrolments are expected to place increasing pressure on accommodation at and around Monash University's Clayton and Caulfield campuses. The next section will explore the existing supply and planning for student accommodation in these areas.

5.4.3   Student housing stock limitations in Clayton and Caulfield

Students enrolled at Monash University's Caulfield or Clayton campuses who wish to live close to campus currently have access to the following types of accommodation shown in Figure 32.

Figure 32   Current accommodation supply available for students

	University owned and operation accommodation	*Purpose Built Student Accommodation*	*Private Residential Market*
Definition	Accommodation owned and operated by Monash Residential Services, for Monash University Students	Properties operated by student housing providers that can only be rented by students	All private market rental properties in the areas in and around a Monash University campuses that could be leased by employees, students or recent graduates
Availability	Clayton – 2,783 beds Caulfield – None provided	Clayton – 1,334 beds Caulfield – 1,106 beds	Undefined – rental market supply unclear, students compete with the market for accommodation.

Dedicated student housing stock

Source: PwC Analysis (2018)

Historically, Monash University planned to have provide university owned and operated accommodation for 10% of student enrolments at Clayton campus, but limited land availability and difficulty procuring new land has driven the university to cap the amount of university owned accommodation. The supply of university owned accommodation is currently 7.2% of total enrolments at the Clayton campus, which is 1,000 beds below the target. The university has no plans to invest in additional university owned accommodation at this time. If enrolments at the Clayton campus grow to 50,000, the university owned accommodation available will be more than 2,000 beds below the target.

The Monash University's Caulfield campus does not have university owned accommodation, and has a high proportion of international students (58% compared to 25% at Clayton). If the university provided accommodation for 10% of students, it would need to provide an almost 2,000 beds.

5.4.4   Additional retail jobs to service the larger catchment

This analysis indicates that Huntingdale has the potential to increase its catchment population from 3,000 in 2016 to 6,000 in 2051, and add up to 2,000 student beds.

Based on these estimates, analysis will assume that an average neighbourhood centre will be developed in the Huntingdale Activity Centre, to estimate the increase in retail jobs within the area.

The Background Report: Land Use explores the potential of the Huntingdale Activity Centre to accommodate this potential growth, the type of housing stock appropriate, possible locations within the Huntingdale Activity Centre, and the changes to zoning and planning overlays to support development.

6 Conclusions

This report develops a pathway to economic development of Huntingdale which will support the growth of the Monash NEIC over the next 25 years. The analysis in this report makes the following conclusions:

- Historic economic performance in Huntingdale is weaker than elsewhere in the Monash NEIC

- Current economic activity is dominated by legacy industries, with low rates of transformation to new and higher value sectors such as Medtech

- Without intervention, the current composition of industries is likely to remain low value

- Development trends could be catalysed to create the right conditions for uplift in Huntingdale

- Activation would enhance existing locational drivers in Huntingdale that support the attraction of higher value activity

- The drivers for uplift have been used to craft a range of development scenarios to achieve the transition

- The central development scenario has been incorporated into the land report to explore sites and changes to planning controls required to deliver this scenario in the Huntingdale Activity Centre

During consultation, engagement with stakeholders will be used to test assumptions about developable sites, and the potential for transition over time.

Contents

Appendix A   Approach to geospatial economic analysis

Outline

This appendix documents the use of the geospatial unit of destination zones (DZs) to analyse the current and forecast future economic performance of the study area. DZs are geographic units defined by the ABS and have been used in this report to structure the collection of data specific to Huntingdale and the Monash NEIC. In all other technical reports the study area as defined by the City of Monash has been used.

The use of DZ to define a boundary for economic analysis

DZs were grouped in PwC's GEM tool to align to the proposed Huntingdale Activity Centre boundary as defined by the City of Monash. This DZ-constructed boundary defines the scope of the economic analysis. Figure 33 below illustrates the final output from this alignment.

Figure 33. PwC economic analysis boundary

Source: Huntingdale analysis boundary –ABS destination zones and PwC analysis. Map prepared using QGIS and Nearmap

Comparison of DZ boundary to study area

Due the use of DZs to construct the boundary and enable the economic analysis, the boundary shown in Figure 33 does not align exactly with the study area boundary. Visual checks and engagement with council was used to get the best fit to the study area and ensure that the DZ boundary for economic analysis covered the key areas to minimise the risks of over-estimating the economic activity.

Figure 34 below shows the difference between the City of Monash's Huntingdale Activity Centre boundary and PwC's study boundary.

Figure 34. Comparison of City of Boundary to PwC study boundary

Source: HAC boundary – City of Monash, Huntingdale analysis boundary –ABS destination zones and PwC analysis. Map prepared using QGIS and Nearmap

As **Error! Reference source not found.** illustrates, the majority of the extra land within the study boundary is residential with the exception of the bottom right area, which includes a tip and a racecourse. Both with low density employment, therefor will not affect the overall outcome of the analysis.

6.1.2   Assessment units

The analysis in this report has been conducted using industry data from the Australian Bureau of Statistics (ABS). The ABS use a specific structure to classify economic information, known as the Australia New Zealand Standard Industry (ANZSIC), which reports information according to four hierarchies, illustrated in Figure 35.

Figure 35. Hierarchical structure of ANZSIC

Level	Example
Division	C Manufacturing
Subdivision	11 Food Product Manufacturing
Group	111 Meat and Meat Product Manufacturing
Class	1111 Meat Processing

Source: Australian Bureau of Statistics, *Australian and New Zealand Standard Industrial Classification 2006,* 2013

At each progressive level illustrated in Figure 35, a greater level of detail is provided. The ABS indicate that division level serves as a summary for reporting to "provide a broad overall picture of the economy' while the subdivision and lower levels allow for the "compilation of more specific and detailed statistics"[34]. These uses, and the availability of data, have guided the assessment units used in this report. Table 22 sets out the level of detail used in each section of the report; throughout, the Division level is used to summarise results.

Table 22. Level of assessment units used, by report section

Report section	Assessment unit
2	Division
Error! Reference source not found.	Subdivision
Error! Reference source not found.	Subdivision
0	Subdivision
Error! Reference source not found.	Subdivision

Source: PwC analysis

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[34] Australian Bureau of Statistics, Australian and New Zealand Standard Industrial Classification 2006,2013

Appendix B Detailed assessment results

1 Relative strength analysis

Table 23 captures the detailed assessment results by Subdivision in Huntingdale, and .
Industries categorised as "Growth" or "Consider" are progressed through to the next stage of
assessment. Industries categorised as "decline" are not analysed further, and Section 4
develops pathways for their transition out of the study area.

**Table 23. Relative Strength Assessment Huntingdale economic activity: results
by Subdivision**

Type	2016 Presence in Huntingdale	Industry Code	Industry Subdivision
Growth	Strong	C	Non-metallic mineral product manufacturing
Growth	Strong	E	Building construction
Growth	Strong	E	Construction services
Growth	Strong	F	Commission-based wholesaling
Growth	Strong	G	Non-Store Retailing and Retail Commission Based Buying and/or Selling
Growth	Strong	I	Warehousing and storage services
Growth	Strong	I	Transport support services
Growth	Strong	I	Road transport
Growth	Strong	N	Building cleaning, pest control and other support services
Growth	Strong	Q	Social Assistance Services
Growth	Weak	A	Agriculture
Growth	Weak	D	Electricity supply
Growth	Weak	G	Food retailing
Growth	Weak	G	Other store-based retailing
Growth	Weak	H	Food and beverage services
Growth	Weak	I	Air and space transport
Growth	Weak	J	Internet service providers, web search portals and data processing services
Growth	Weak	J	Telecommunications services
Growth	Weak	L	Property operators and real estate services
Growth	Weak	M	Computer system design and related services
Growth	Weak	M	Professional, Scientific and Technical Services (Except Computer System
Growth	Weak	N	Administrative services
Growth	Weak	O	Public Order, Safety and Regulatory Services

Detailed assessment results

Type	2016 Presence in Huntingdale	Industry Code	Industry Subdivision
Growth	Weak	P	Preschool and School Education
Growth	Weak	Q	Medical and Other Health Care Services
Growth	Weak	R	Gambling activities
Growth	Weak	S	Personal and other services
Consider	Strong	C	Wood product manufacturing
Consider	Strong	C	Machinery and equipment manufacturing
Consider	Strong	C	Printing (including the reproduction of recorded media)
Consider	Strong	C	Furniture and other manufacturing
Consider	Strong	C	Food product manufacturing
Consider	Strong	D	Waste collection, treatment and disposal services
Consider	Strong	F	Grocery, liquor and tobacco product wholesaling
Consider	Strong	I	Postal and courier pick-up and delivery services
Consider	Strong	R	Sports and recreation activities
Consider	Strong	S	Repair and maintenance
Consider	Weak	E	Heavy and civil engineering construction
Consider	Weak	F	Motor vehicle and motor vehicle parts wholesaling
Consider	Weak	G	Motor vehicle and motor vehicle parts retailing
Consider	Weak	J	Publishing (except internet and music publishing)
Consider	Weak	P	Tertiary Education
Consider	Weak	P	Adult, Community and Other Education
Consider	Weak	Q	Residential Care Services
Consider	Weak	R	Creative and performing arts activities
Decline	Strong	C	Primary metal and metal product manufacturing
Decline	Strong	C	Textile, leather, clothing and footwear manufacturing
Decline	Strong	C	Polymer product and rubber product manufacturing
Decline	Strong	C	Transport equipment manufacturing
Decline	Strong	C	Fabricated metal product manufacturing
Decline	Strong	F	Basic material wholesaling
Decline	Strong	F	Machinery and equipment wholesaling
Decline	Strong	F	Other goods wholesaling
Decline	Strong	L	Rental and hiring services (except real estate)
Decline	Weak	C	Beverage and tobacco product manufacturing
Decline	Weak	G	Fuel retailing

PwC GEM analysis, using ABS census data for employment by industry. Geospatial unit - Destination Zone - ABS

2   Activity type analysis

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