Officer South ePSP Economic Assessment

Victorian Planning Authority

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SGS Economics & Planning

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Contents

Abbreviations

Abbreviation	Description
ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
AC	Activity Centre
e-PSP	Employment Precinct Structure Plan
LGA	Local Government Area
LUFP	Land Use Framework Plan
MAC	Metropolitan Activity Centre
MICLUP	Melbourne Industrial and Commercial Land Use Plan
NEIC	National Employment and Innovation Cluster
PFN	Principal Freight Network
Plan Melbourne	Plan Melbourne 2017-2050
PPTN	Principal Public Transport Network
PSP	Precinct Structure Plan
RSCA	Regionally Significant Commercial Area
RSIP	Regionally Significant Industrial Precinct
SA2	Statistical Area, Level 2 (e.g. Australian Bureau of Statistics geography)
SSIP	State Significant Industrial Precinct
UGB	Urban Growth Boundary
VIF	Victoria in Future

Executive summary

Project background and scope

Meeting employment growth targets and encouraging sustainable development across Greater Melbourne is a priority for the Victorian State Government. Careful planning for the rollout of greenfield estates both in terms of house and employment is a key part of this vision.

SGS Economics and Planning (SGS) has been commissioned by the Victorian Planning Authority (VPA) to provide an economic assessment for the Officer South Employment PSP area (OSEP). Principally, this involves undertaking economic forecasts for the region and precinct to understand the mix of employment generating land uses that could be expected to locate within the PSP area. This is then accompanied by a suitability assessment for the land itself, measuring its relative strengths and weaknesses for a range of industry types. From there the economic assessment seeks to integrate these uses within a land use configuration plan, with a focus for ensuring that business formation and employment generating opportunities are maximised in the precinct.

Report development timeline

SGS commenced development of this report under instruction from the VPA in July 2021. The initial report was completed by May 2022. The initial economic assessment was completed either in parallel or prior to other technical work for OSEP and informed the VPA's decision making for the PSP area.

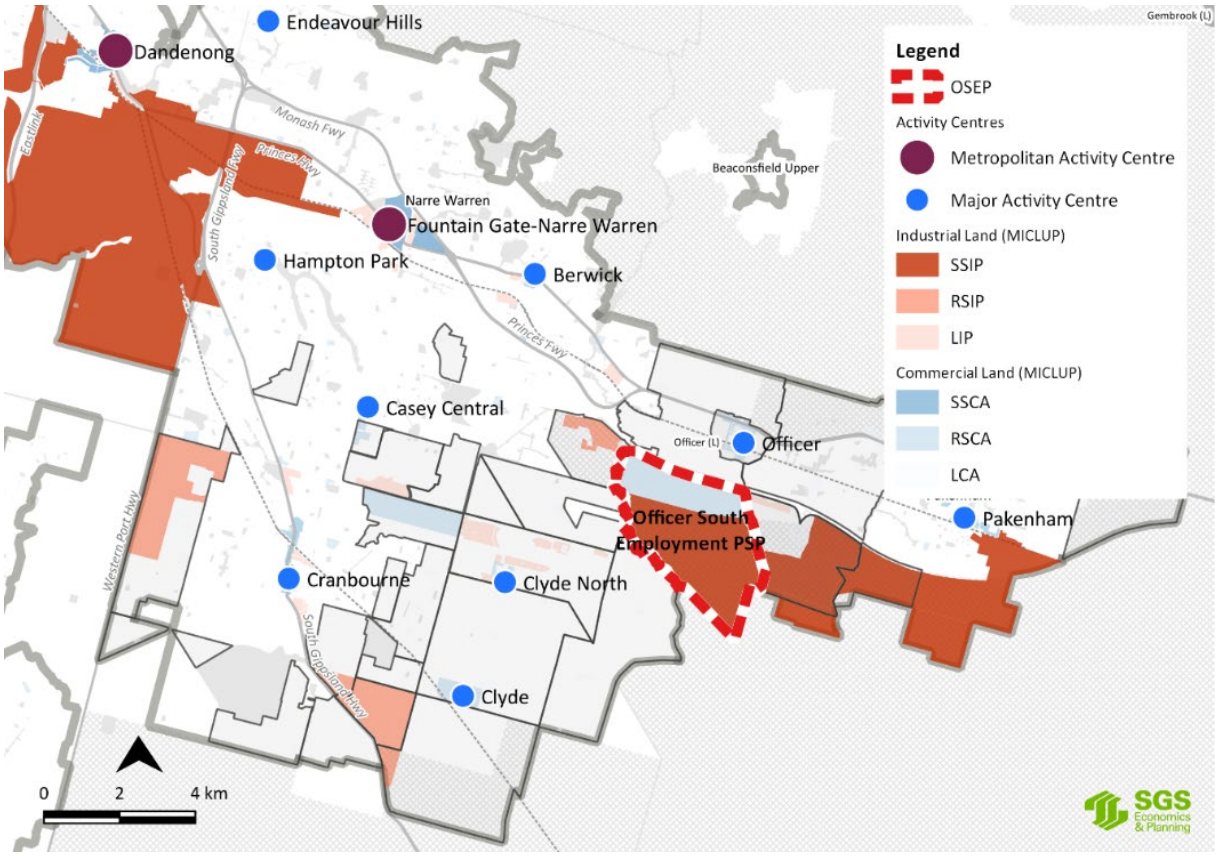
Taking into account all background reports (including the initial economic assessment) and other stakeholder input the VPA Draft Place Based Plan was refined for OSEP in November 2022.

Section 6.3 (completed in December 2022) of this report, reviews this draft final land use configuration against the original economic analysis (from May 2022) to determine if core findings and recommendations have materially changed as a result of the updated land use configuration.

Project study area

OSEP has a total land area of 1,069 hectares and is bounded by Cardinia Creek to the west, Princes Freeway to the north, Lower Gum Scrub Creek to the east and the Urban Growth Boundary to the south. The OSEP is located in Cardinia Shire Council, 50 km southeast of Melbourne CBD and 20 km east of the Dandenong and the Southern SSIP. A large component of the Officer South employment PSP is identified as part of the Officer State Significant Industrial Precinct (SSIP) (See Figure 3).

Officer South employment PSP regional context



Source: SGS Economics and Planning, 2022

Policy and Economic context

Plan Melbourne underscores that Officer/Packenham SSIP as a key precinct to deliver employment floorspace in the South East Region. The Melbourne Industrial and Commercial Land Use Plan (MICLUP) outlines that OSEP is a SSIP south of Lecky Road and a Regionally Significant Commercial Area (RSCA) north of Lecky Road. MICLUP also outlines specific zones used as buffers between uses, but notes that there will be specific market conditions and requirements from landowners and developers as the OSEP is constructed.

The South East Economic Context Report (SEEC) establishes the OSEP within Melbourne's South East sub-region. It concluded that a combination of infrastructure improvements and other catalysts were required for a successful employment precinct – including the Thompsons Road extension and possible future airport.

As the south east growth corridor matures it will be crucial that it expands and diversifies its economy to support more local employment opportunities. The OSEP provides a key opportunity for the region and acts as a gateway precinct for the broader Officer-Pakenham SSIP, along with additional commercial and local service opportunities.

MICLUP estimates that across the region, 7,270 hectares of industrial land is currently occupied, with 2,440 hectares currently zoned and vacant. Approximately 1,260 hectares of that vacant land is located within the Officer-Pakenham SSIP (754 hectares within OSEP specifically).

Over last three years, the average rate of consumption of industrial land in the region was 107 hectares per annum, with consumption increasing over this period. Almost 60 percent of this consumption occurred within the Southern SSIP (SSIP) (63 hectares). If those consumption rates remain at the 2019 level of 110 hectares, the region as a whole has 21 years supply of zoned industrial land. When the SSIP runs out of land in the mid 2020's, it is likely that some of the latent demand will be shifted to the OSEP and other major industrial precincts in the region.

Key industry opportunities for the OSEP include:

- Manufacturing for primary industries (agr/mining)
- Manufacturing for knowledge sectors (professional services)
- Manufacturing for health care
- Manufacturing for transport industries (rolling stock and infrastructure)
- Transport and logistics, particularly moving manufactured products
- Wholesaling
- Business serving professional services

Land supply and suitability

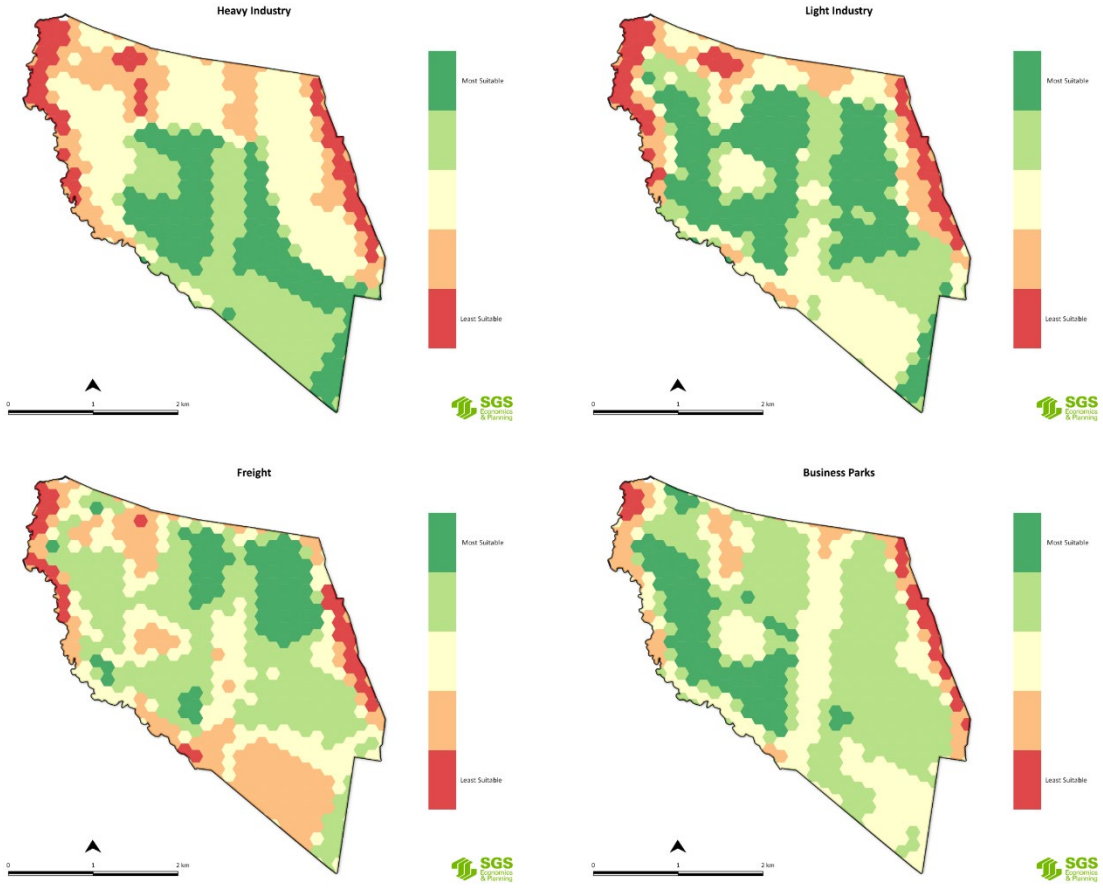
The existing land within the boundaries of the OSEP comprises 37 land parcels, with an average parcel size of 28 hectares. The OSEP is split between land designated as RSCA (321.1 ha gross land) and SSIP (747.8 ha gross land).

16 land suitability criteria were mapped across the OSEP to identify developable land and the preferred locations of 5 land use types:

- **Heavy industry** – locates away from sensitive uses, prefers larger lots, benefits from direct road access/ access to Principal freight network
- **Light industry** – benefits from access to main roads, can locate closer to sensitive uses
- **Freight and logistics** – road access important to development of industry, can locate close to sensitive uses, benefits from freeway access
- **Service industry** – locate preferred close to residential uses, flexible in location
- **Business parks** – can locate close to sensitive uses, road access preferred.

Given the OSEP core SSIP role and the constraints to where heavy industry can locate, this land use suitability was given priority when allocating uses within the OSEP.

Land Use Suitability Assessment



Source: SGS Economics and Planning based on MICLUP, DWELP 2020

The suitability assessment also identified an initial assessment of net developable land. There is a total of 1,069 ha of land in the Officer South precinct. SGS's initial assessment found that 850.3 ha is unencumbered by creeks, flood zones and other features that prevent development from occurring. Of that 850.3 ha, 80 per cent can be used for urban land uses such as commercial office or industrial, with the remaining 20 per cent needed for urban infrastructure such as roads, pavements and so on. That leaves 680.3 ha of net land supply, with 204.1 in the RSCA and 476.2 ha in the SSIP.

OSEP Developable land area

	Commercial (RSCA)	Industrial (SSIP)	Officer South PSP Total
Gross land (total area)	321.1	747.8	1,069.0
Unencumbered land	255.1	595.2	850.3
Net land supply	204.1	476.2	680.3

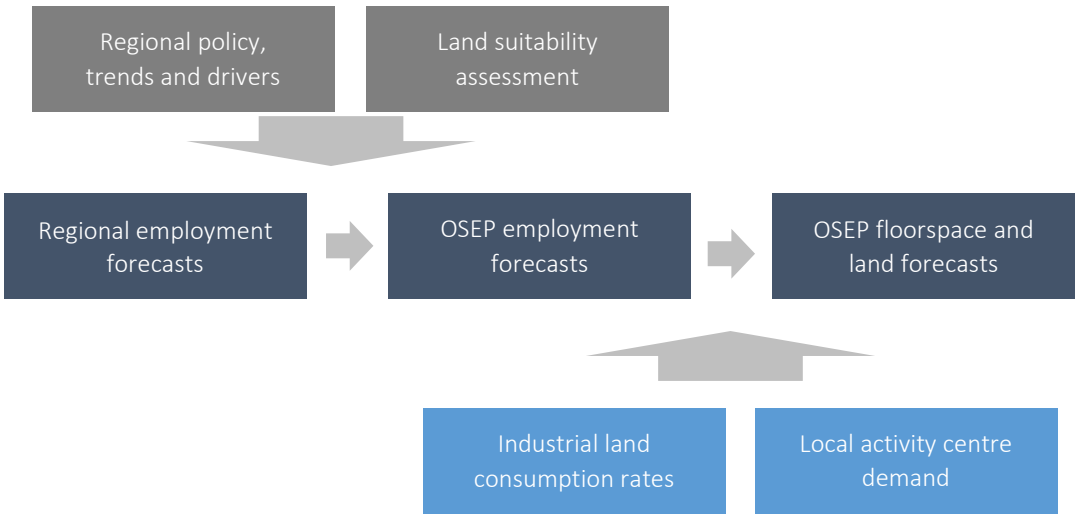
Source: SGS Economics and Planning, Dec 2021 (figures may not sum due to rounding)

Employment demand and forecasts

The OSEP is part of a regionally (and metropolitan) significant employment area which services much more than the local catchments needs. Its regional role will develop and evolve over the long term, as the broader corridor matures, and it provides a key local employment node for residents in the area.

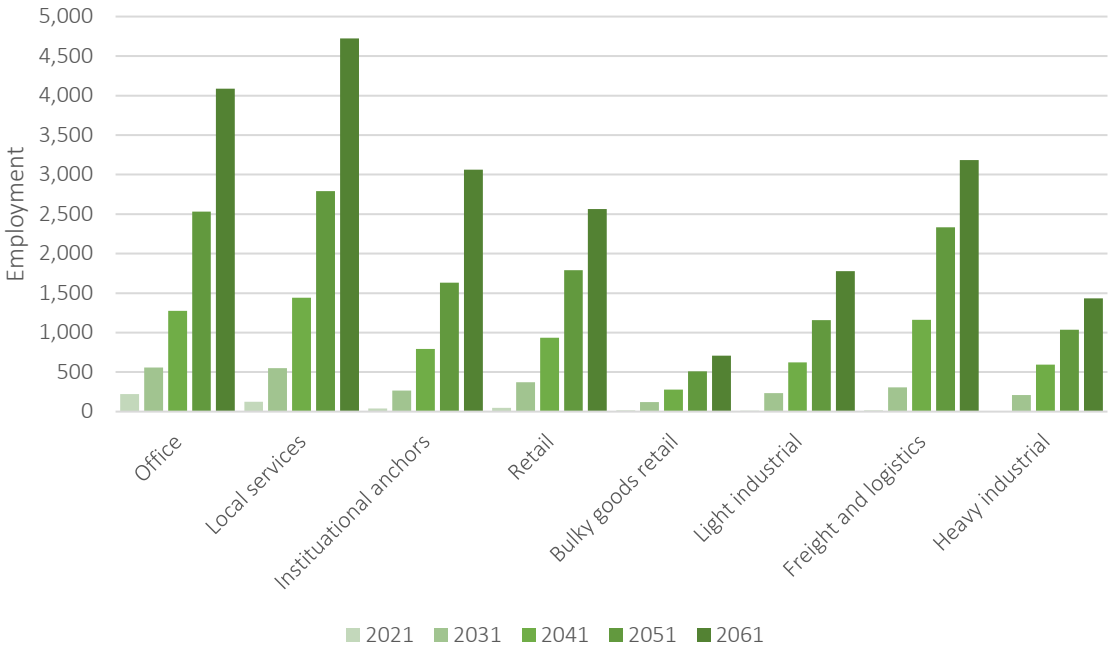
To determine potential employment, floorspace and land requirements for the OSEP, SGS has drawn on regional employment forecasts and space ratios. These have been informed and refined, based on the regional policy, trends and drivers analysis and land suitability assessment. In addition, analysis of industrial land consumption rates and local activity centre demand has also been completed to supplement this employment and land forecasts approach.

EMPLOYMENT AND SPACE FORECAST APPROACH OVERVIEW



The employment and land demand assessment identified a potential for 21,500 jobs by full development in 2061. As is expected of a large scale, regionally significant employment area, employment is spread across a diverse range of sectors and uses across the two components (RSCA and SSIP) of the OSEP. From an employment perspective, Office and local services will provide the greatest number of jobs by 2061, while there will still be considerable growth in industrial sectors

OSEP EMPLOYMENT, PREFERRED SCENARIO



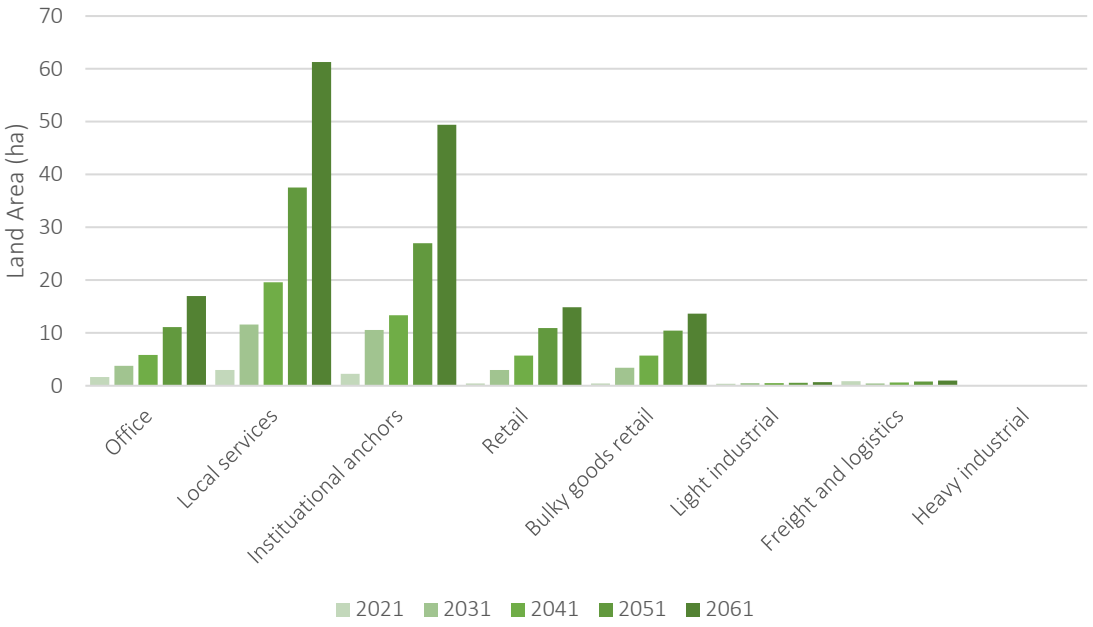
Source: SGS Economics and Planning, Dec 2021

The following two charts present the employment forecast translated into land requirements and split by the RSCA and SSIP. SSIP land requirements were also separately validated via an alternative land consumption analysis, which identified a similar requirement and rate of development.

The following key land requirements were identified for the OSEP:

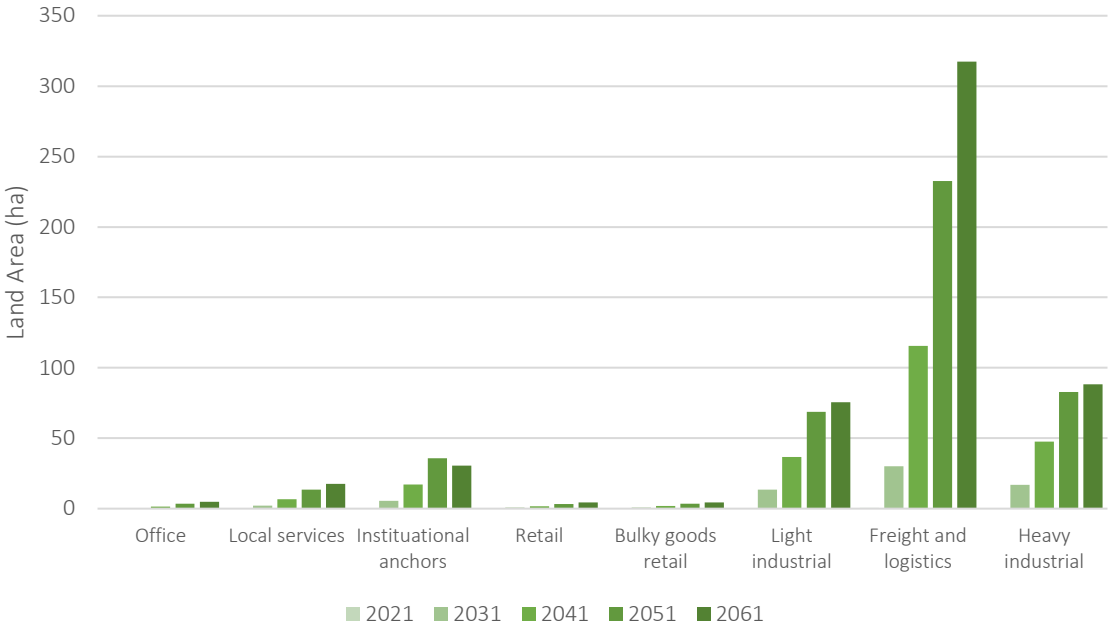
- A need for around 540 hectares of **industrial land** based on both the land consumption and employment forecasting analysis.
- Industrial land uses requirements were split between light (75 hectares), freight and logistics (319) and heavy (88) industrial requirements. In addition, analysis of other heavy industrial precincts identified that these heavy functions were typically dispersed with other lighter industrial uses. This suggested up to three times the required land was needed to address this (264 hectares)
- A need for around 160 hectares of **commercial land** outside the SSIP area. This includes offices, local service needs, institutions (i.e. hospitals) and land associated with a town centre.
- The activity centre needs assessment identified a need for a town centre of between 1.5 and 6 hectares depending on the size and population of the residential component.

RSCA AREA EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO



Source: SGS Economics and Planning, Dec 2021

SSIP EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

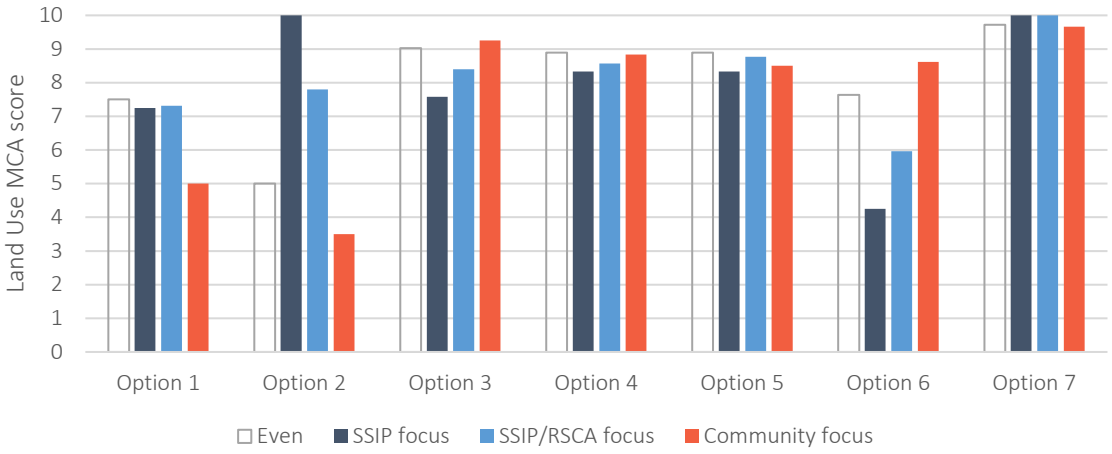


Source: SGS Economics and Planning, Dec 2021

PSP land use configuration

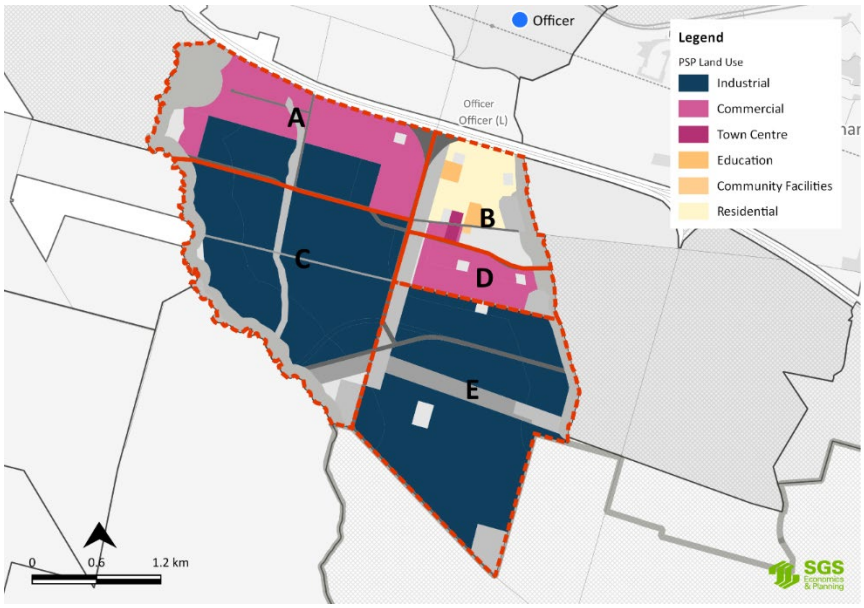
A high level land use options assessment was completed to assess the pro and cons of different potential land use configurations for the OSEP. This informed the development of a preferred option (7) which was then further developed up in greater detail by the VPA.

LAND USE MCA SCORE SUMMARY



The preferred land use configuration option fully addresses industrial and commercial demand requirements and minimise use buffers on industrial lands through commercial areas. The option also creates a small residential community that could integrate with CREP residential community to the east.

OPTION 7: IND, COM (MIDDLE BUFFER) AND RES (EAST)



Component	Est. Gross Area (Ha)
Ind	570
Ind (buf)	160
Com	240
Res	100
Total	1,070

Assessment of VPA's Draft Place-based Plan (December 2022)

Following identification of the preferred land use configuration based on the initial economic assessment completed in May 2022 (see Section 6.1 and 6.2) the VPA undertook further consultation with agencies and council to refine the draft Place-based Plan as part of Agency Validation.

The refined Draft Place-based Plan was updated to provide for:

- An increase in the volume of drainage assets across the precinct
- A slight locational shift in the industrial land to maintain primacy of employment and accommodate additional land take for drainage
- A slight locational shift in the commercial land in its role as a buffer between the residential neighbourhood and the SSIP
- Provision for some mixed use land along Lecky Road to compensate for the loss of residential area as well as provide separation between the residential neighbourhood and the SSIP

Overall it is assessed that these changes will have a net community benefit whilst the SSIP and RSCA will still perform the industrial and commercial roles that meet regional level demand.

Implementation

The transformation of the OSEP is a longer-term strategy. As evidenced in this report, the economy will continue to be dynamic, and have an interplay with the development life cycle. The Three Horizons approach[1] proposes that in order to achieve significant transformation, places need to plan across three horizons simultaneously. These are:

- Horizon 1: Consolidate the existing hierarchy and support long term options.
- Horizon 2: Reinforce and augment a maturing regional economy.
- Horizon 3: Transform the economy through innovation, major investment, and new opportunities.

The following enabling actions are proposed for the OSEP

1. Rezoning aligned with the preferred land use configuration and MICLUP directions
2. Build Thompson Rd extension to provide strong connection to Southern SSIP
3. Advocate for new SE Airport to provide greater opportunity and access to national/global markets.
4. Attract major tertiary institution to help catalyst employment and advanced industries
5. Preserve larger lots for key industrial precincts to support long term growth potential.

These will involve both local and state governments to facilitate the actions over both a medium and longer-term period. This will require input from other consideration such as land use, transport connectivity and design to make both a sustainable and successful precinct.

[1] *Baghai, Coley and White (1999) The Alchemy of Growth. Originally designed for business planning, the framework has been adapted for the development of cities and places.*

1. Introduction

1.1 Project background and scope

Meeting employment growth targets and encouraging sustainable development across Greater Melbourne is a priority for the Victorian State Government. Careful planning for the rollout of greenfield estates is a key part of this vision. Under the Melbourne Industrial and Commercial Land Use Plan (MICLUP), a framework for the development of industrial and commercial lands across Melbourne was established. As part of the broader suite of planning initiatives for the South Eastern Growth Corridor of Melbourne, the Victorian Planning Authority (VPA) is now preparing for the development of the Officer South Precinct Structure Plan (PSP).

SGS has been commissioned by the VPA to provide an economic assessment for the OSEP. Principally, this involves undertaking economic forecasts for the region and precinct to understand the mix of employment generating land uses that could be expected to locate within the PSP area. This is then accompanied by a suitability assessment for the land itself, measuring its relative strengths and weaknesses for a range of industry types. From there the economic assessment seeks to integrate these uses within a land use configuration plan, with a focus for ensuring that business formation and employment generating opportunities are maximised in the precinct.

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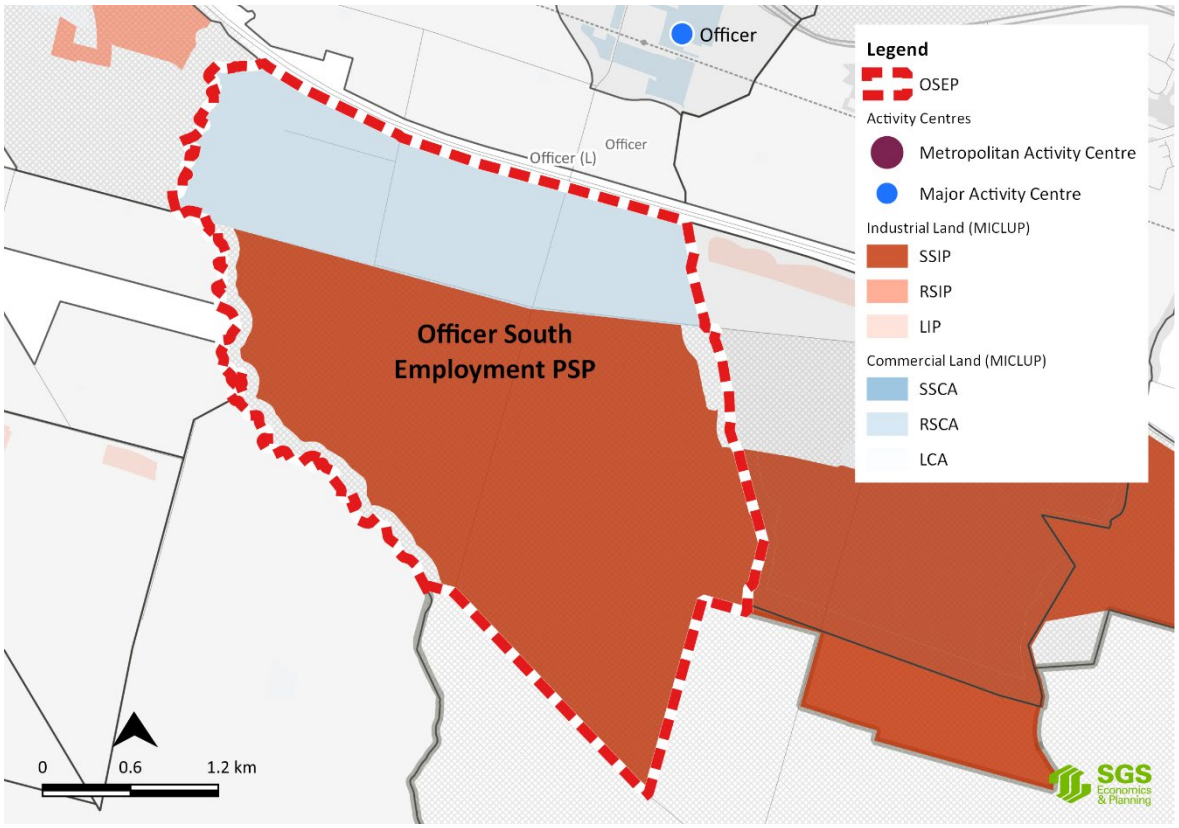
1.2 Project study area

The Officer South employment PSP (OSEP) has a total land area of 1,069 hectares and is bounded by Cardinia Creek to the west, Princes Freeway to the north, Lower Gum Scrub Creek to the east and the Urban Growth Boundary to the south. The context of the site is shown in Figure 2 below.

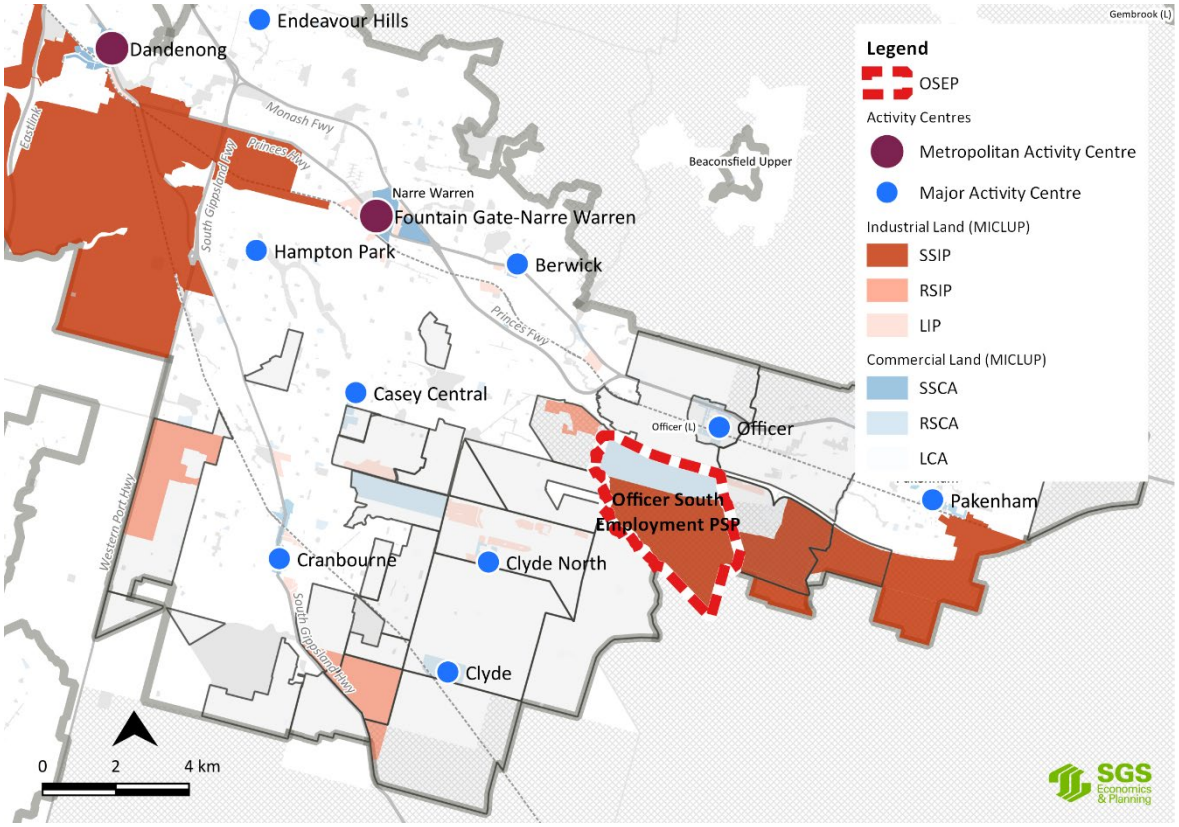
FIGURE 1: OFFICER SOUTH EMPLOYMENT PSP



Source: SGS Economics and Planning, 2022

Officer South employment PSP is located in Cardinia Shire Council, 50 km southeast of Melbourne CBD and 20 km east of Dandenong and the Southern SSIP. A large component of the Officer South employment PSP is identified as part of the Officer-Pakenham State Significant Industrial Precinct (SSIP) (See Figure 3).

FIGURE 2: OFFICER SOUTH EMPLOYMENT PSP REGIONAL CONTEXT



Source: SGS Economics and Planning, 2022

2. Policy context

This section outlines the regional and sub-regional planning policies that have implications for the OSEP.

2.1 Plan Melbourne

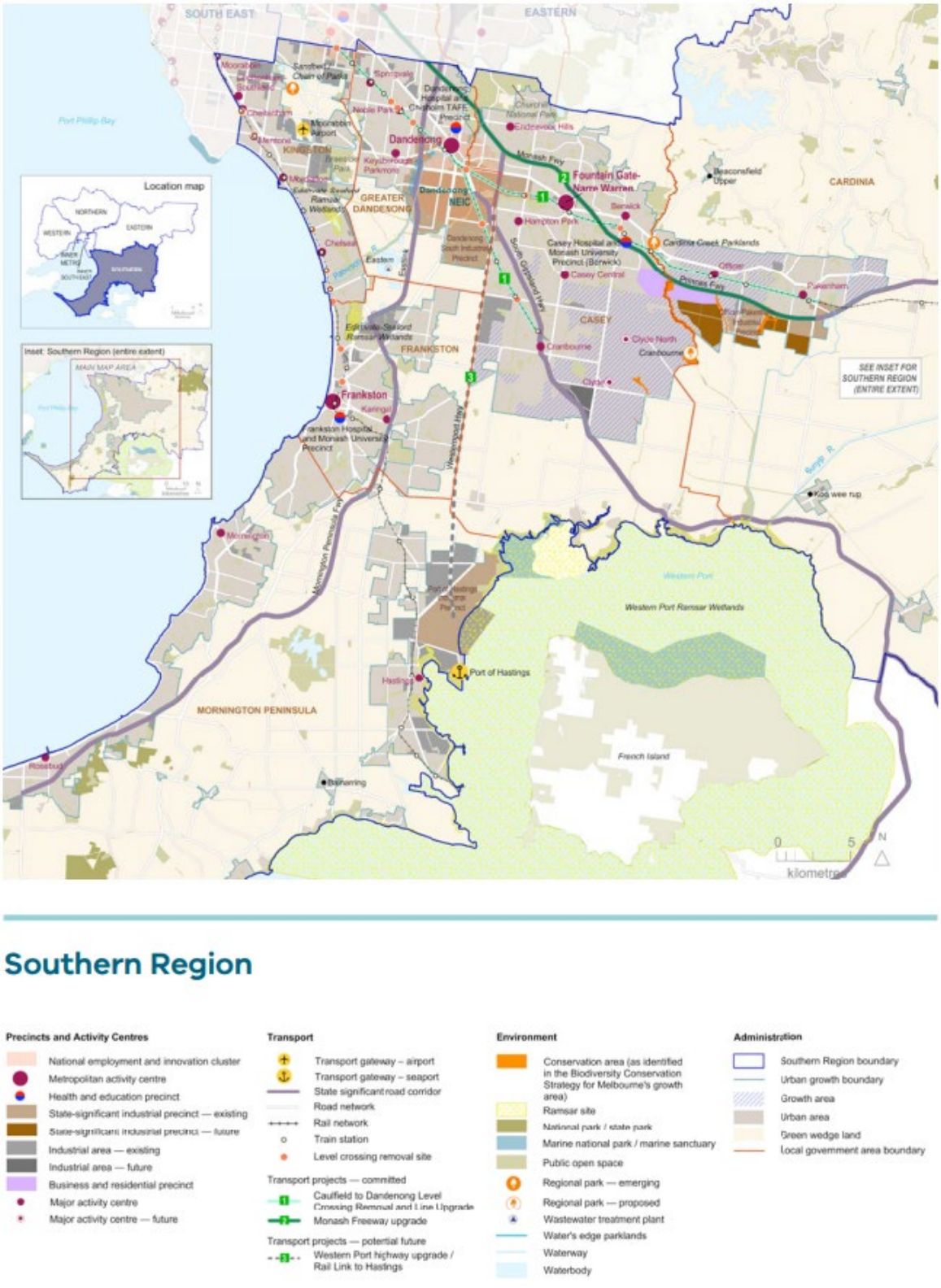
In 2017 the State Government released Plan Melbourne Refresh (The Plan), a document intended to guide growth across Victoria to 2050. This is the overarching planning document for metropolitan Melbourne and provides the framework under which local government planning should take place.

The Plan recognises the Pakenham-Officer SSIP as one of five state-significant industrial precincts (SSIPs), the purpose of which is 'to provide strategically located land for major industrial development linked to the Principal Freight Network and transport gateways'. The Plan recognises the importance of protecting these precincts, stating that they 'will be protected from incompatible land uses to allow continual growth in freight, logistics and manufacturing investment'. The Plan is structured into a number of outcomes, with a series of directions and objectives intended to support each:

- Outcome 1 highlights that Melbourne is to be a productive city that attracts investment, supports innovation and creates jobs. The first direction linked to this outcome is to 'create a city structure that strengthens Melbourne's competitiveness for jobs and investment'.
- Policy 1.1.6 directly addresses the need to plan for 'industrial land in the right locations to support employment and investment opportunities', referencing the five state-significant industrial precincts (including the Pakenham-Officer SSIP).

The Plan also recognises that over the past five years, demand for new industrial land has averaged around 205 hectares a year, with demand driven primarily by freight, logistics and manufacturing. The Plan highlights the positive impacts of recent investments in Victoria's transport network and hubs on Melbourne's major industrial areas, noting that metropolitan employment precincts are well positioned to absorb additional growth near major transport gateways and freight terminals. It highlights the need for future industrial land to be identified in strategic locations to ensure there is sufficient land available for major industrial development.

FIGURE 3: IMPLEMENTATION PLAN - SOUTHERN REGION



Southern Region

Precincts and Activity Centres

- National employment and innovation cluster
- Metropolitan activity centre
- Health and education precinct
- State-significant industrial precinct — existing
- State-significant industrial precinct — future
- Industrial area — existing
- Industrial area — future
- Business and residential precinct
- Major activity centre
- Major activity centre — future

Transport

- Transport gateway – airport
- Transport gateway – seaport
- State significant road corridor
- Road network
- Rail network
- Train station
- Level crossing removal site

Transport projects — committed

- Caulfield to Dandenong Level Crossing Removal and Line Upgrade
- Monash Freeway upgrade

Transport projects — potential future

- Western Port highway upgrade / Rail Link to Hastings

Environment

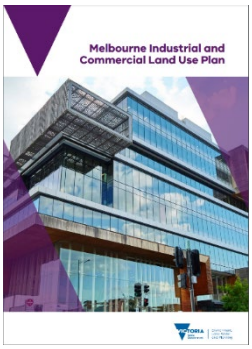
- Conservation area (as identified in the Biodiversity Conservation Strategy for Melbourne's growth area)
- Ramsar site
- National park / state park
- Marine national park / marine sanctuary
- Public open space
- Regional park — emerging
- Regional park — proposed
- Wastewater treatment plant
- Water's edge parklands
- Waterway
- Waterbody

Administration

- Southern Region boundary
- Urban growth boundary
- Growth area
- Urban area
- Green wedge land
- Local government area boundary

Source: Plan Melbourne Refresh, 2017

2.2 Melbourne Industrial and Commercial Land Use Plan



The Melbourne Industrial and Commercial Land Use Plan (MICLUP) is a metropolitan planning framework which defines the current and future needs for industrial and commercial land across Melbourne. The objective of this plan is to support state and local government planning for commercial and industrial lands, ultimately creating more jobs and economic benefits to the community.

MICLUP emphasises the importance of identifying, zoning and protecting land for employment over the long-term. It also identified a hierachy of industrial and commercial precincts

- State signficant industiral precincts (SSIP)
- Regionally significant industrial precincts (RSIP)
- Local industrial precincts (LIP)
- State signficant commercial precincts (SSCP)
- Regionally significant commercial areas (RSCA)
- Local commercial precincts (LCP)

Application of zoning based on this heirarchy would ensure the preservation of the full range of employment uses into the long-term, especially those that require relatively large land parcels, may have negative amenity impacts and may not develop until the regions begin to mature.

Key issues for OSEP

The majority of OSEP is identified as part of the Officer-Pakenham SSIP, while the north area identified as being a RSCA. Key points from MICLUP and their implications to OSEP are as follows:

MICLUP	***Implication for OSEP***
Industrial (SSIP component)	
MICLUP stating the importance of industrial land with 'ongoing protection and retention for industrial uses will be critical, as will retaining other key industrial areas that can accommodate industry needs for land into the future'.	*Part of OSEP is part of an SSIP that has been identified as land that can accommodate future industry needs. MICLUP is stating the need to retain the OSEP-SSIP as an industrial area.*
A range of State Government industry sector strategies are referenced. Opportunities for ▪ **Industrial** lands include construction, defence, food and fibre, medical and pharmaceuticals, energy, transport (freight and logistics). ▪ **Commercial** lands include education and professional services.	*OSEP has both state significant industrial areas and regionally significant commercial areas which could leverage these industry opportunities and create synergies.*
In terms of an approach to future planning, the long term land supply is described as needing to be 'set aside to support future industry and business', whilst the role of planning is described as one which involves providing clarity and certainty for how and where businesses can grow to assist investment.	*Clear and certain market signals are highlighted as the key to support business investment decisions. That means OSEP needs to be clear on its employment outcomes as primary goals and it should not let other supportive uses dilute or compromise that core employment outcome.*
MICLUP also emphasises the legacy and importance of long term strategic planning to develop industrial precincts. References are made to how land was set aside for	*Key industrial precincts can take decades to fully develop (along with infrastructure investment). The SSIP and the wider OSEP area is likely to be a similar*

MICLUP	*Implication for OSEP*
industrial land as far back as the 1954 MMBW planning scheme, providing market certainty for land that would eventually be activated by infrastructure investment (e.g. Laverton North planned in 1954, activated with the Western Ring Road in the 1990s).	*long run area, with market certainty, time and infrastructure all necessary ingredients to it reaching its ultimate role in the region.*
MICLUP also addresses the issue of buffer zones, highlighting their role as separating incompatible land uses to protect sensitive uses from off-site impacts, whilst noting that the presence of those sensitive uses can detract from certainty for industry. Importantly, buffer areas are stated to be able to accommodate businesses, urban services and other uses that are compatible with both industry and sensitive uses.	*OSEP must therefore be planned with buffer zones clearly at the forefront of mind, with the land uses in those buffer zones needing to be carefully selected amongst a range that includes 'businesses' and 'urban services', and clearly not a sensitive use such as residential. Buffer zones should also be defined from the edge of required industry uses and should encroach into them.*
MICLUP provides zoning guidance for SSIPs. Industrial 1 and 2 zones are recommended for land within the SSIPs themselves, Industrial 3 is slated for buffer zones, whilst Commercial 2 is nominated for some situations in growth corridor plans where a business precinct has been identified.	*All zones prohibit residential uses, whilst the only buffer zone nominated is the Industrial 3 zone, which is still predominantly geared towards industrial businesses. There may be a case for a Commercial 2 zone in the buffer areas as well.*
Commercial (RSCA component)	
MICLUP estimates that between 2016 to 2031, almost 10million sqm of new commercial floorspace is required across Metropolitan Melbourne. Professional services, finance and insurance were identified as the strongest sources of demand. Whilst the inner-metro region will accommodate a significant proportion of growth, the South Region is still expected to gain 1.37million sqm.	*Employment precincts such as the northern portion of the OSEP will have a regionally significant role in helping to accommodate some of that demand expected for the South Region. That requires the commercial areas to be quite flexible longer term.*
In mixed use contexts, activity centres and Commercial 1 zoned precincts, MICLUP acknowledges that balancing demand between residential and commercial uses within the same precincts are problematic as the market for commercial purposes isn't necessarily receptive to such environments in the long run. MICLUP therefore also notes the importance of understanding the needs of developers, landowners and business/industry/commerce.	*Mixed use precincts in OSEP will need to be planned carefully with consideration of evolving market drivers. For example, residential development on higher floors with commercial podiums/ground floor (that have become popular in inner city contexts) may be unfeasible in an outer suburban context today. This may drive single use developments initially. However, by the time the region is fully developed, the business world may be very different. Such patterns are difficult to assess definitively today, but the best thing may be to not preclude certain development outcomes and retain flexibility in precincts.*
MICLUP states that residential development to occupy no more than 50 percent of land designated as Regionally Significant Commercial	*A high provision of residential uses will be discouraged to enable other floorspace. Employment uses and opportunities should be prioritised and accommodated first before residential during the Precinct Structure Planning Process.*

2.3 South East Economic Context Report

The South East Economic Corridor (SEEC) Strategic Context Report to 2060 is a regional spatial framework for employment precincts and activity centres in Greater Dandenong, Casey and Cardinia LGAs, prepared by the Victorian Planning Authority (VPA). The main objective of this document is to provide an evidence base and vision for the long term role and function of employment land in future PSPs in the region (including OSEP). This was ultimately articulated in the spatial strategy map (see Figure 5)

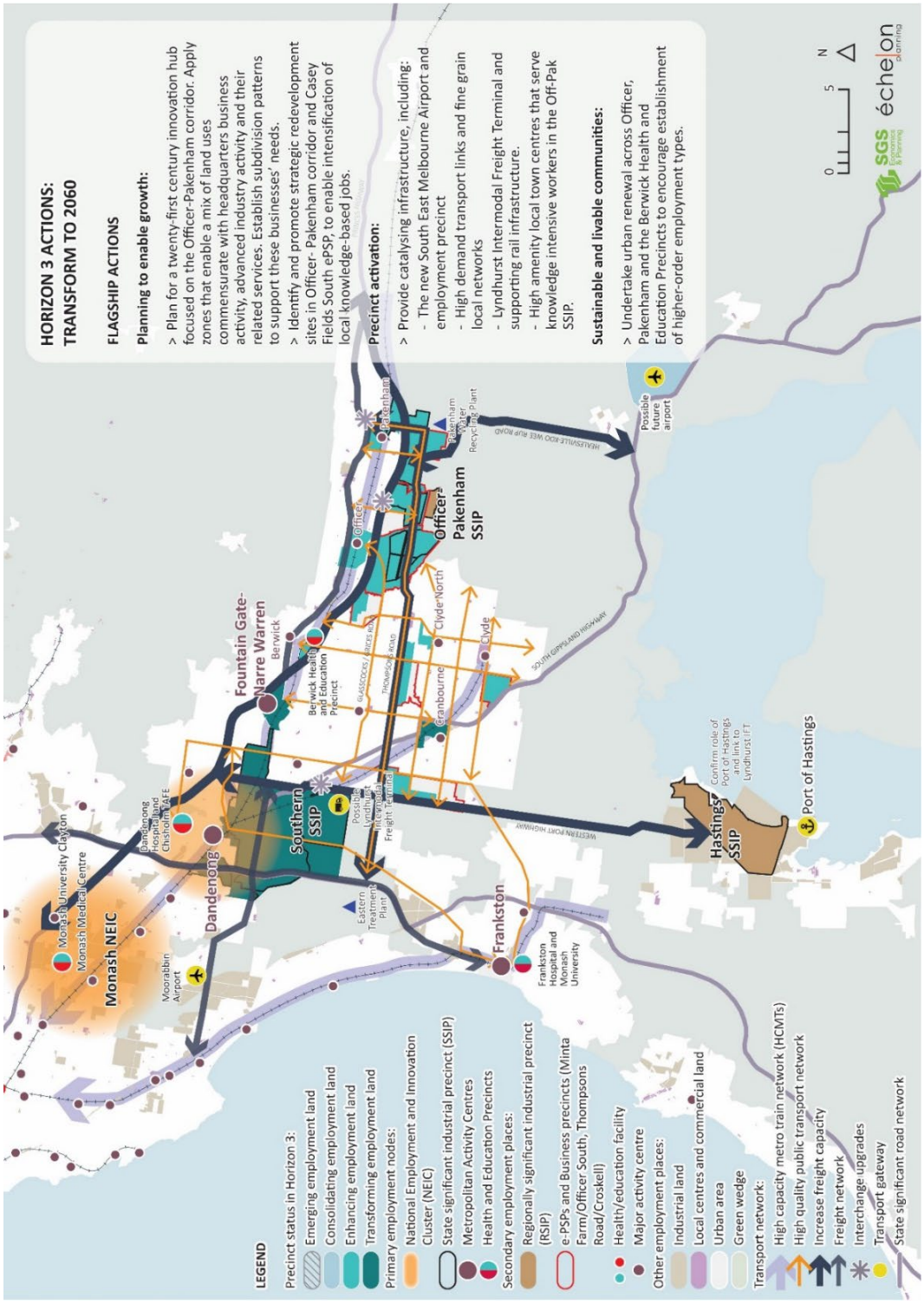
Key issues for OSEP

Beyond the regional economic issues discussed further in this this report, the SEEC report also:

SEEC	OSEP implication
Identified a range of business types which would be suitable for industrial precinct in the traditional industry sectors from Start-ups with sub-regional sales focus to SMEs and businesses that have inter-regional export operations.	*All of these business types are potentially important target markets for the landowners in the OSEP. Combined with the industries identified in the SEEC document as well as MICLUP, guidance is thus provided for what economic activity the PSP land will ultimately cater for, informing the land suitability assessment and discussion in Section 4 of this report. Note that in Section 3, the actual industry and business opportunities are explored in more detail to provide a more accurate picture of exactly what the land prospects then are in the Section 5 forecasts.*
Provided a locational attributes and opportunities assessment for PSPs in this region. Officer South was noted as having good access to nearby Officer Town Centre and Train Station, Princes Freeway and other employment nodes. A relatively flat landscape with only a few constraints was also identified as a strength.	*The locational attributes assessed in the SEEC document give a good regional overview, particularly for comparison purposes across the PSP areas.*
And explored in detail the supply and demand challenge of planning to accommodate investment whilst encouraging jobs growth. The numbers are covered in detail in Section 2.2 of this report. There is also a staged 'three-horizons' approach, that is about setting aside land for future employment in the short term (to 2030); enhancing infrastructure, amenity and land in the medium term (to 2040); and finally capturing economic opportunities from a mature regional economy in the long run (to 2060).	*The approach put forward in the SEEC strategy's employment forecasts outlines a staged approach which reflects a long term vision. The approach reflects the fact that PSP areas such as Officer South require many ingredients for success from an employment perspective and that this is unlikely to occur without a maturing regional economy along with infrastructure investment (see below for a high level spatial representation of future infrastructure investments in this corridor, including Thompsons Road extension and potential future Airport).*

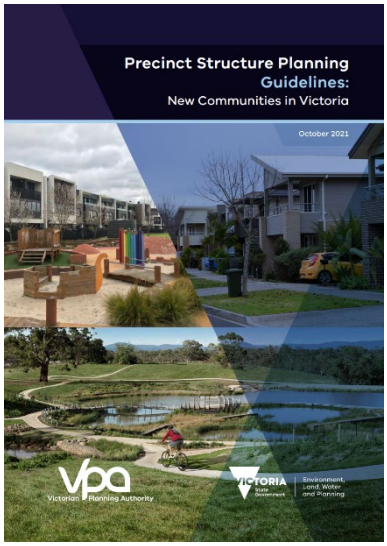
OSEP, like many other PSP areas (particularly ePSP areas) identified in the SEEC report, is likely to evolve and transition multiple times over its lifespan as demand rises and falls for different types of land uses. That requires the land in the precinct to offer a degree of flexibility to the market over time. Elements that can gradually erode that flexibility include: residential development/sensitive uses, excessive subdivision and uses that significantly detract from the land's core attributes (e.g. extractive industries) Those uses should therefore be carefully managed so as to not detract from the precinct's long term potential.

FIGURE 4: SPATIAL STRATEGY MAP



Source: SGS Economics and Planning, and Echelon Planning, 2020

2.4 PSP guidelines



Objective

The purpose of the PSP Guidelines is to help guide the preparation of PSPs as a planning mechanism for subdivisions, land use and development. The overarching vision includes the following considerations, with the most relevant being **bolded** and expanded upon.

- **Liveable neighbourhoods**: aligned with the Plan Melbourne 20-minute neighbourhood framework in recognition that living locally will require changes to the previous approach to planning and development. The urban form in new PSPs needs to adapt to support increasing densities and intensity of activity, while also providing for high amenity and social inclusion
- **Flexibility enabling innovation**: it is important to 'set the floor', but not the ceiling for what might be possible. A PSP area takes at least 10 to 15 years to develop. It therefore needs to accommodate all potential future technologies, products, consumer preferences and economic drivers that could evolve at least10 to 15 years into the future, if not more.
- Climate resilience and adaptability
- Leadership collaboration & partnerships
- Whole-of-government strategic thinking
- Good place-based outcomes
- Delivery coordination

Other key documents that helped inform the PSP guidelines include the UN Sustainable Development Goals and Plan Melbourne. Note there are many other more specific details associated with each of these topic areas, for which the full details should be found and referenced in the PSP Guidelines.

2.5 EPA buffers

The Victorian State Government also seeks to protect sensitive land uses from the off-site impacts of noxious industries. This is done through buffer distance requirements mandated by the Environmental Protection Authority (EPA).

These recommendations are the EPA's default minimum buffer distances in the absence of a detailed site specific assessment of proposed industrial/sensitive land uses. Note that these buffers only apply to manufacturing activities. Service industry and freight & logistics may still operate in close proximity to more sensitive uses provided that other factors (e.g. traffic) are considered. The table below summarises industrial-manufacturing buffers as outlined in the EPA's latest report:

TABLE 1: EPA BUFFER DISTANCE – GENERAL GUIDELINES

Industry type	Separation distance (metres)
Basic metal products	100 to 2,000
Chemical, petroleum and coal products	100 to 2,000
Food and beverages	100 to 1,000
Non-metallic mineral products	100 to 1,000
Paper and paper products	100 to 5,000
Storage and transport of petroleum[1]	100 to 250
Textiles	250 to 1,000
Waste management	Case by case detailed assessment
Wood, wood products & furniture	100 to 250
Miscellaneous	250 to 500

In summary:

- All manufacturing activities must be located a minimum of 100 metres away from the nearest sensitive uses
- 95% of all industrial activity requires less than a 1,000 metre buffer zone. Only particular types of metal and chemical manufacturing require a larger buffer.
- 99.5% manufacturing can be permissible at two kilometres (2,000 metres) from the nearest sensitive use (there is only one type of manufacturing which requires in excess of 2,000 metres).
- At five kilometres (5,000 metres) from the nearest sensitive use, all forms of manufacturing become legally permissible

Note that each business is assessed on their own operational merits, and these are general guidelines for land use planning purposes.

[1] Also includes hydro-carbon products

2.6 Local policy

Cardinia Shire Council – Economic Development Roadmap

Council's Draft Economic Development Roadmap, proposes a three pillar strategy comprising of:

1. Creating the New Economy – is focused on the next couple of years in response to the current, challenging economic conditions whilst continuing to attract investment into this growing municipality, taking advantage of competitive opportunities that emerge.
2. Partnerships and Regionalism – strategic partnerships which will generate economic benefits
3. Experience Cardinia – focused on tourism, retail, arts, food and accommodation industries to create jobs in the long run.

Of these, number 2 will have the greatest impact on the OSEP, given the long term horizon, and the overall importance of partnerships and a regional approach to key assets such as infrastructure, institutions, anchors and government investment. Those assets then drive demand for economic activity, which eventually creates employing business and jobs. Number 3 will also play a part in the local region's key strengths. The market for those visitor-driven industries will create a knock-on demand effect for industrial activity in OSEP.

Alongside these pillars are the four 'key moves' that Council will pursue which are likely to have a significant catalysing impact on the local and regional economy:

Cardinia EDR	***Implication for OSEP***
A net zero precinct. Which focuses on the environmental sustainability and energy efficiency.	*More than a mere climate change or sustainability initiative, move 1 could drive economic activity via a strong circular economy. Businesses that have a role in sub-sectors such as recycling, waste management, greening/vegetation, clean energy, water and air quality/emissions could all be anchor or ancillary tenants in OSEP. There is an ambition to create OSEP and CREP as Victoria's number one net zero emissions precinct(s).*
Thompsons Road extension from Cardinia Road to OSEP.	*Implications: move 2 is an initiative that is expected to target economic development outcomes in the OSEP. It creates strong movement in and out of the precinct, connects the precinct to the Southern SSIP, and then other regional assets beyond, via the freight network.*
South East Airport Gateway, with a focus on freight capabilities, alongside tourism.	*The Airport may be a more aspirational/longer term goal, but would certainly benefit industrial businesses in the entire region, with amplified impacts to PSP areas such as Officer South given not just the access to markets from the Airport itself, but also the boosted economic activity across employment precincts along the freight network.*
Cardinia Food Strategy, which is about leveraging the local productive capabilities through anchor projects	*This should create some direct opportunities for manufacturing and other businesses in OSEP given that agriculture has direct links back to industrial activities in this region.*

Note these 'moves' are the subject of analysis in the Section 5's scenario testing for what employment outcomes could be achieved in Officer South if some or a combination of these 'moves' are achieved. Scenario testing is preferred to automatic inclusion into the demand forecast because some of these moves are not guaranteed to occur as they depend on a range of factors including partnerships with other institutions.

2.7 Key implications for the OSEP

Plan Melbourne is clear in establishing this Officer/Packenham SSIP as a key precinct to deliver employment floorspace in the South East Region. This is in line with overarching policy objectives that encourage employment and industrial lands that meet future needs and are located in strategic locations.

MICLUP reiterates and expands upon both the SSIP and the Regionally Significant Commercial Area (RSCA) and their role in delivering industrial and commercial floorspace respectively. It outlines specific zones meant to create buffers between core industrial activity and neighbouring residential areas. Within these recommendations, however, there are caveats that specific consideration should be made to market conditions and the needs of developers in order to deliver this floorspace.

The South East Economic Context Report (SEEC) contextualises the OSEP within the wider region. The analysis confirms that there are many ingredients required to deliver a successful employment precinct. Crucial factors are infrastructure investments including Thompsons Road extension along with a potential future Airport. The appropriate EPA buffers espoused by the Victorian government must also be considered when providing various uses in proximity.

Additionally, the PSP guidelines underscore a need for liveable neighbourhoods and flexibility for different types of land uses as the area develops over the next 10-15 years. This is echoed by Cardinia Shire Council's Economic Development Roadmap, which asserts that infrastructure investment will be crucial in delivering a precinct and creating a dynamic economy for the LGA.

3. Economics trends and opportunities

This section discusses the wider macro-economic trends and the resulting implications both in the South East Region and for Officer South.

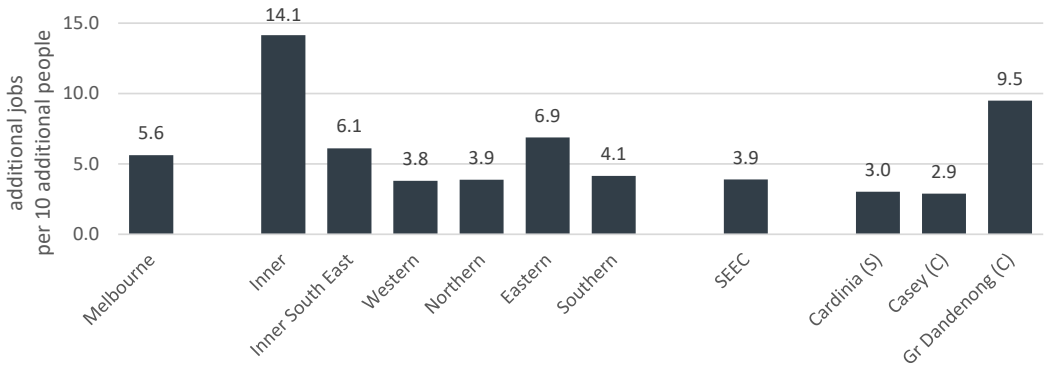
3.1 South East growth context

The Southern Metro Region[2] has grown significantly since 1996. Over the past 30 years, the region absorbed 25 percent of Victoria's population growth, and the SEEC itself accommodated 16 percent of the state's growth.

Over the next 40 years, the SEEC is anticipated to accommodate an additional 600,000 people. The projected growth is equivalent to 4.2 times Greater Geelong's present population, or 9.1 times Greater Bendigo's population. Cardinia is anticipated to accommodate 135,000 additional people.

Population growth in Casey and Cardinia growth areas has continued to exceed the rate of employment growth in recent years. Over the last 20 years, the SEEC has added 3.9 jobs for every 10 additional people. This has largely been driven by Greater Dandenong, which has added 9.5 jobs for every 10 people. The Metropolitan average over this time is 5.6 jobs per 10 people, meaning the Southern Region would need to meet or exceed this ratio to keep pace with population growth (see Figure 6).

FIGURE 5: ADDITIONAL JOBS PER 10 ADDITIONAL PEOPLE, 2001 TO 2021



Source: SGS Economics and Planning (2022), derived from ABS datasets

[2] The Southern Metro Region contains the Cardinia Shire, Casey City, Kingston City, Frankston City, Greater Dandenong City, and Mornington Peninsula Shire LGAs.

3.2 Regional employment connections and clusters

Key transport and connections

The Southern region has some significant competitive advantages over other metropolitan regions, including easy access to Moorabbin Airport and the Port of Hastings. A potential intermodal freight terminal at Lyndhurst that could support the Southern and Officer/Pakenham SSIP, and the distribution network across the region, combined with a possible South East Airport, would elevate the region's accessibility significantly. In this context, the South East Airport could also present a game-changing opportunity for the region to link the Southern Region, Gippsland, and the Latrobe Valley to global markets.

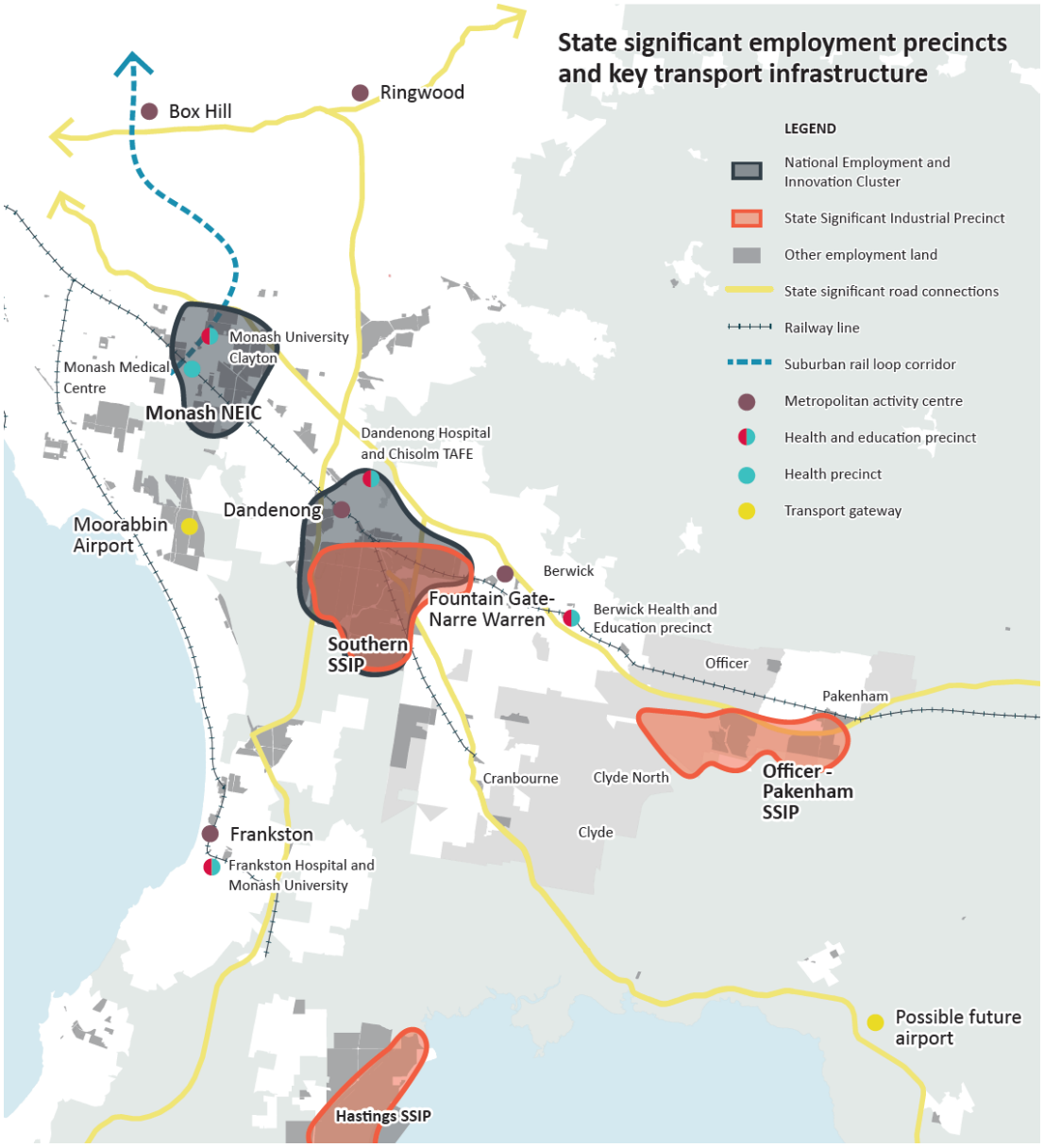
There are good road and rail connections across the Southern region. Eastlink, the Monash Freeway, Mornington Peninsula Freeway, the Princes Highway and Freeway, Nepean Highway, Western Port Highway and South Gippsland Highway provide important connections throughout the region and beyond to other regions, including regional Victoria. Three rail lines provide connections to Frankston and Stony Point, Cranbourne, and Pakenham.

Nearby, the region is also enhanced by strong connections to the Frankston MAC and Health and Education Precinct, and the Monash National Employment and Innovation Cluster (NEIC) and Monash Medical Centre Health and Education Precinct. The region is strongly linked to the Port of Melbourne via the Cranbourne and Pakenham train lines (part of the Principal Freight Network). Other transport gateways include Moorabbin Airport and the Port of Hastings.

Transport infrastructure is a key enabler of business investment and access to jobs, and is crucial for the success of the Southern Metropolitan Region. Improving east-west connections between Frankston, Dandenong, and the South East growth area (for both workers and freight) will improve the productivity and deliver economic success in the region over the long term.

The economic relationship between the Officer/Pakenham SSIP and the Gippsland region also needs to be strengthened. The proximity of Casey and Cardinia to agricultural areas in South Gippsland, the Mornington Peninsula and Western Port mean that it is well-placed to link to these economies, supporting the development of niches in food manufacturing and related value-adding industries.

FIGURE 6: KEY NODES, TRANSPORT AND PORTS

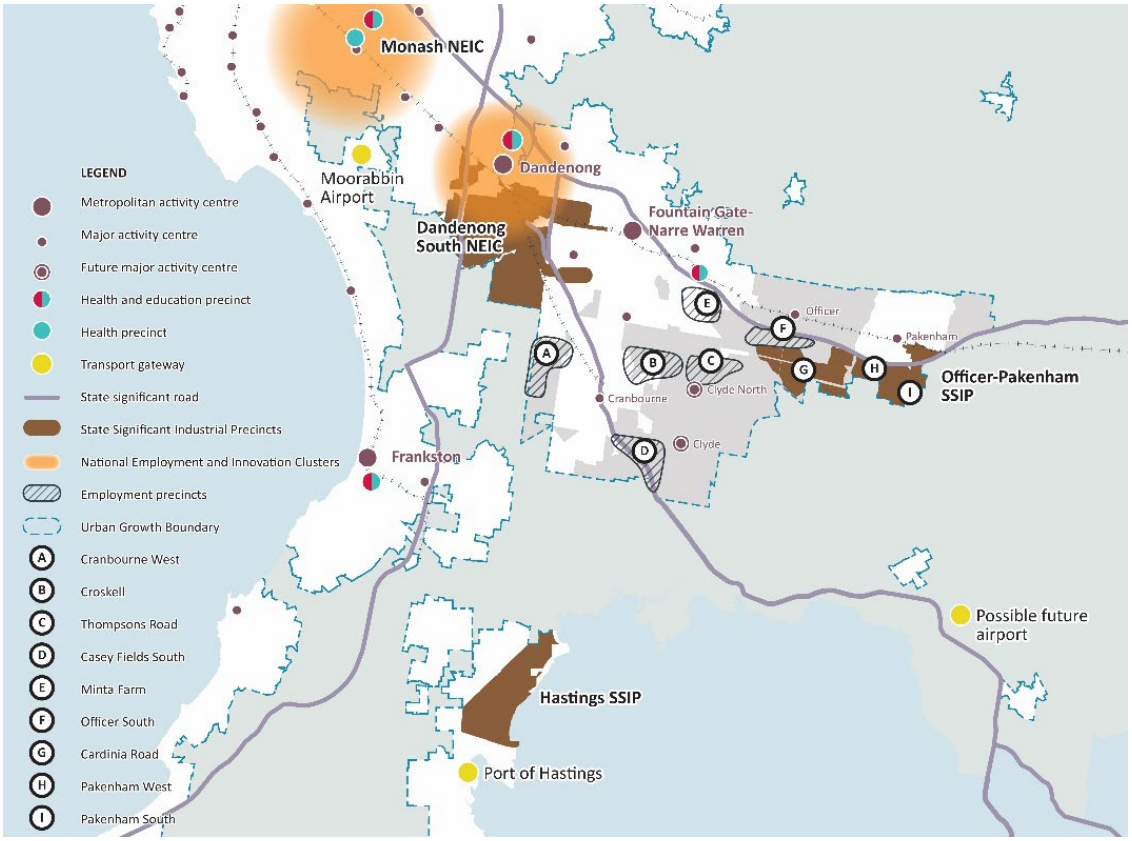


Source: SGS Economics and Planning, and Echelon Planning, 2020

Key employment nodes in this corridor

This region has a wide range of locations that cater to business and employment. This includes the Dandenong and Narre Warren Metropolitan Activity Centres, 12 Major Activity Centres and two State Significant Industrial Precincts (SSIPs) (Southern and Officer Pakenham). Combined, these areas represent 44 percent of all jobs in the region. Beyond that, there are also many smaller activity centres and commercial and industrial precincts across the region. The Southern SSIP represents the largest job cluster (32 percent of all current SEEC jobs). Other large job locations include Dandenong and Narre Warren MACs and Cranbourne, Berwick, and Pakenham Major Activity Centres.

FIGURE 7: SEEC CURRENT EMPLOYMENT LOCATIONS

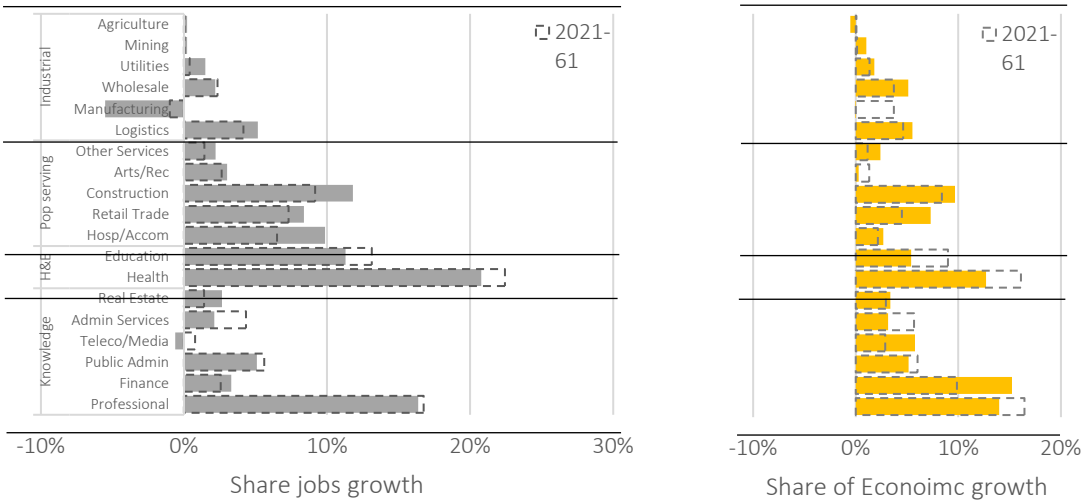


Source: SGS Economics and Planning, and Echelon Planning, 2020

3.3 Changing economic structure

Melbourne's economy, like that of many other cities, has undergone significant structural change over the past few decades. Previously dominated by manufacturing and industrial activities, it has been transformed into one more reliant on population and knowledge-intensive activities and services. Over the last 20 years, knowledge sectors have represented 29 percent of jobs growth and 47 percent of economic growth. Conversely, traditional industrial jobs only represent 4 percent of new jobs, and contributed 13 percent of economic growth.

FIGURE 8: MELBOURNE'S HISTORIC AND FUTURE STRUCTURAL EMPLOYMENT AND ECONOMIC CHANGE



Source: SGS Economics and Planning, 2020

Other key trends affecting the SEEC, include a disrupted supply chain, automation, future uncertainty, climate change, bottom-up community enterprises, and growth in micro and small businesses. These have a significant influence on the Victorian Government Priority sectors:

- Construction technologies
- Creative industries
- Defence technologies
- Food and fibre
- International education
- Medical technologies and pharmaceuticals
- Professional services
- Retail, transport distribution, logistics and postal
- Space technologies
- Visitor economy.

CSIRO global megatrends:

- **More people using less**: The earth has limited supplies of natural mineral, energy, water and food resources essential for human survival and maintaining lifestyles.
- **Loss of habitats, animals and plants**: Many of the world's natural habitats, plant species and animal species are in decline or at risk of extinction.
- **Rise of the Asian century**: The world economy will continue to shift from west to east and north to south.
- **The ageing population:** Australia and many other OECD countries have large ageing population.
- **Digital disruption and technology:** a world of increased connectivity where technology links individuals, communities, governments and businesses
- **Demand for experiences over products:** a consumer, societal, demographic and cultural megatrend causing a rising demand for experiences over products.

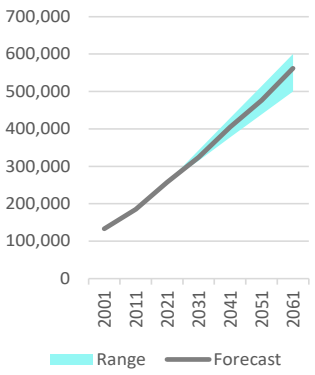
Regional employment forecasts

By 2060, the SEEC will need to cater for between 500,000 and 600,000 jobs to support the economic function of South East metropolitan Melbourne. These jobs can capitalise on existing local strengths in manufacturing, food production, community, education, and other population services. They will also need to capture opportunities arising from globalisation, technological change, and the rapid shift toward knowledge services.

In the short-medium term, there will be strong demand for 'population serving' activities to support the needs of a growing population but over time the SEEC economy will evolve and reach a level of maturity that will support a more diverse mix of business activities and employment. The SEEC residential population will be almost fully developed by 2060. By then, existing activity centres and employment precincts will have undergone urban renewal, and other precincts will have evolved from being industrial in nature to catering for a wider mix of commercial and industrial activities. If job self-containment aspirations are to be realised for the SEEC, then it is necessary to plan for this evolution of the regional economy over the long term.

The following provides a breakdown of the assumed long-term employment forecast for the SEEC. These long-term employment forecasts align with Victoria in Future 2019 population and assume a continued structural shift in the broader economy toward more service and knowledge-based sectors, as discussed in pervious sections of this report. They do not consider the effects of COVID-19, which were not yet known at the time of writing. They reflect an aspirational, yet realistic scenario for the region, which is based on the successful implementation of strong local and regional policy and infrastructure investment that supports broad based and higher order employment linked to a maturing local economy.

FIGURE 9: SEEC LONG TERM JOB FORECAST SUMMARY



	2001	2011	2021	2031	2041	2051	2061
Jobs	133,000	185,000	257,000	319,000	393,000	475,000	563,000
Change		52,000	72,000	62,000	74,000	82,000	88,000
Growth rate		3.4%	3.3%	2.2%	2.1%	1.9%	1.7%
Share of Melb'	7.7%	8.6%	9.4%	9.6%	10.1%	10.6%	11.1%
Share of Melb' job change		11.9%	12.6%	10.5%	12.7%	14.1%	15.1%
Jobs per 10 people	3.7	3.9	3.8	3.8	4.0	4.3	4.6
Add' jobs per 10 add' people		4.2	3.7	3.6	5.4	6.5	7.1

Source: SGS Economics and Planning (2022)

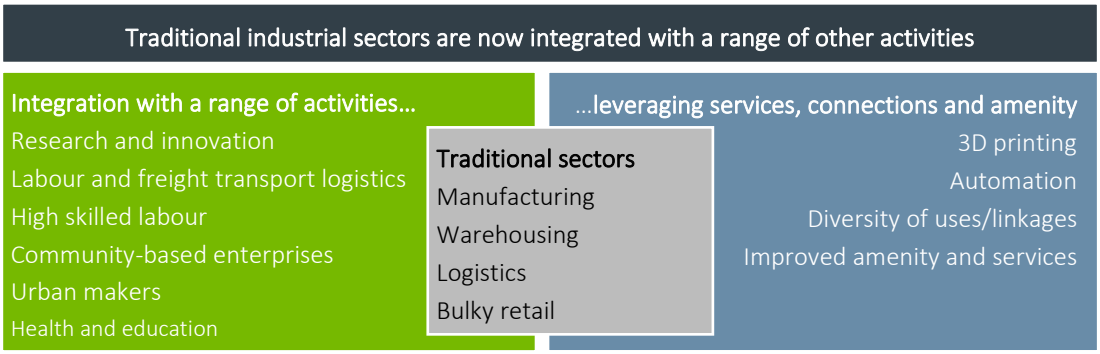
These regional employment forecasts are further discussed and disaggregated in Section 5.2

3.4 The future of employment lands

Given this changing economic structure, the role of employment lands in the metropolitan economy is also shifting. Current state policy defines the role and function of activity centres, industrial precincts, health and education precincts, and national employment and innovation clusters (NEIC). The nature of different precinct types also means they are anticipated to accommodate different types of jobs.

Many traditional industrial businesses now include higher tech functions, and subsequently employ higher skilled workers. This is occurring in parts of the South East region (for example, Southern SSIP, Moorabbin Airport, Scoresby); where there is a higher proportion of highly skilled workers compared to historic industrial areas. There are an increasing proportion of businesses employing people in traditional, industrial sector jobs as well as knowledge-intensive research and headquarter functions at a single site. These types of businesses are typically located in highly accessible precincts where workers enjoy high levels of amenity and access to services.

FIGURE 10: MODERN INDUSTRIAL PRECINCTS



Source: SGS Economics & Planning (2022)

Integration of a range of activities is also being seen in small- to medium-enterprises making use of smaller lots that combine office, warehouse/distribution and research and development functions on the one site (for example, in Cremorne) or where trades businesses are leveraging this mixed use, small lot model to grow their business (Cranbourne West). Some businesses will still require very large lots; they are more capital-intensive with high gross value added, meaning they accommodate fewer jobs per hectare. This is particularly the case in the warehouse, freight and logistics (linked to e-commerce) where automation is a key characteristic.

Some precincts in the new economy have embraced closed-loop environmental management. Energy generation, water recycling and waste recovery are a key selling point, reinforcing community involvement and environmental resilience for future-proof precincts (e.g. Tonsley in South Australia, Erskine Park in Western Sydney). There are instances where this is being explored even further, in the design of goods based on upcycling, recycling to return material to the economy, and using fewer resources in the initial process, challenging traditional linear economic flows.[3] In light of recent challenges to Australia's resilience (drought, bushfires and floods, and now COVID-19), the importance of access to (or creation of) local manufacturing inputs, getting the greatest return from resources over

[3] Loop Circular Economy Platform, *On the Circular Economy*, 2019, Available from URL: https://www.poweringthechange.org/on-circular-economy.

their lifetime (in many forms), and preparedness for future shocks has been underlined more strongly than ever before.

3.5 Impacts and uncertainty from COVID-19

The short and lasting impacts of COVID are still uncertain and dependent on how the pandemic continues to unfold over the coming years and the response from Local, State and Federal Government. The following outlines potential implications for key sectors relevant to OSEP.

Local manufacturing could increase as business want greater certainty for their supply chains. This means that there would be less imports and more domestic production. This would increase the demand for employment floorspace as manufacturers increase production.	**Retail** could experience a shift away from 'bricks and mortar' models and more towards on-line sales. This could reduce the demand for conventional retail space but open up more demand for retail / wholesale type spaces well suited to online delivery.	A shift away from 'just in time' supply chains could mean that business hold much more stock than is currently the case. This would include the demand for additional **warehouse** floorspace.
Under a slow recovery, there could be a 1 million less than projected people in Victoria in 2046. Less population growth in Melbourne would reduce residential development which in turn could impact on the number **population serving jobs**. This would decrease the demand for employment floorspace.	Investment in **Health services** from research, pharmaceutical and supply production to hospitals and other related service has been a focus during this pandemic. Continued investment in these sectors to ensure Australia remains resilience will encourage further jobs and employment floorspace in this sector.	Households may search for larger homes to account for **working from home**. This could result in more people living and possibly working from the South East Growth Area. This could decrease the demand for employment floorspace in the central city and increase local economy opportunities.

For Officer South, what occurs in the short term (deep or shallow recession) is unlikely to be of much significance given the long term growth trajectory to full development that is expected. However, during the course of the pandemic a number of other things have changed in the Australian economy, including:

- The raised profile and importance of local manufacturing, particularly of essential products that are of bio-security significance. State significant industrial precincts like the one in Officer South are prime candidates for any future local manufacturing hubs to develop.
- The realisation of the benefits of work from home from a work-life balance perspective. While office space will still be needed, it does change where families can choose to both live and work if they are commuting less during the work week.
- The decline in trading relationship with China as Australia's #1 export market. While new markets are likely to be found, those other trading partners have different economic structures to the unique Chinese economy. The composition of goods, services and labour traded are also likely to change, thereby affecting the types of businesses that will emerge over coming decades.
- Growth in online retail has accelerated. Freight routes and distribution centres are now recognised as important locations from the perspective of food and resource security.

These elements are difficult to quantify, but do represent some opportunities for State Significant Industrial Precincts such as Officer South. Local manufacturing, different/new export markets, freight and distribution centres may be the sectors where new opportunities emerge.

3.6 Economics impacts and opportunities from climate change

Climate change risks

Climate change carries with it significant risks to industry in employment precincts including fire, weather, flooding, water shortages, hot days/heat waves, rising sea levels and storm surges[4]. In terms of the increased risk of flooding, employment lands near waterways and creeks will need to be planned for with care and abide by all the relevant regulations and environmental planning checks. Scarcity of water (due to drought) and/or other key resources (e.g. energy shortages) will cause disruptions to business operations.

Extreme temperatures can increase fire hazards whilst also reducing suitable days for certain types of work in the summer, particularly considering the health risks posed to workers on site. There are large parts of Casey which can be considered as 'Heat vulnerable', but the Officer South PSP area is clear of that at this stage. This status could change in coming years as this corridor of Cardinia sees more urban development. In addition, sea level risks, storm surges and bushfire risks are reduced compared to other locations in the state, given the location of OSEP.

Climate adaption opportunities

Climate change also brings with it some opportunities. Renewable energy will emerge as traditional resources are depleted and impacts of climate change increase. So far, there is no clear statistical pattern towards major economic activity in this region for renewable energy, but it is expected to increase in the long term and OSEP could place a key role.

Development of a more sustainable and ecologically closed loop industrial and employment precinct could also support emissions targets and help attracted new innovative businesses.

[4] Climate Ready Victoria 2015

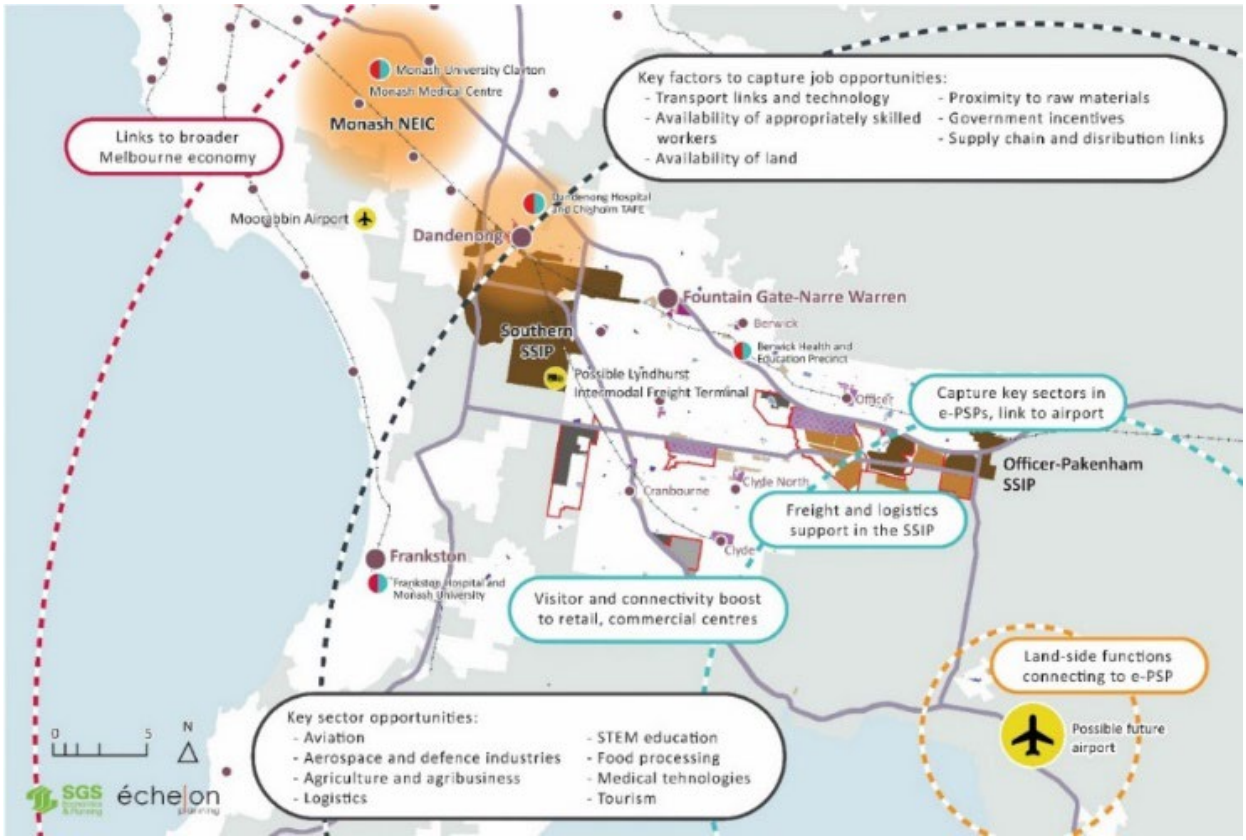
3.7 Economic impact of a potential new airport

A new airport in the SEEC has the potential to provide significant economic benefits. Given the current uncertainty, the region should not rely on its delivery, but should be ready to respond to opportunities if and when they become available.

Potential employment role of an airport

In 2016, there were 23,600 jobs at Melbourne Airport and surrounds. 75 percent of these jobs where in the Industrial sector.[5] In and around Sydney Airport 60 percent of the 18,000 jobs were industrial in 2016.

The following provides an overview of how the potential opportunities might spatially impact the SEEC.



Key sector opportunities		Key push/pull factors for capturing job opportunities
▪ Aviation ▪ Aerospace and Defence Industries ▪ Advanced manufacturing ▪ Agriculture/ Agribusiness ▪ STEM Education	▪ Logistics ▪ Food processing ▪ Tourism ▪ Medical technologies	▪ Transport links and technology ▪ Availability of appropriately skilled employees: ▪ Availability of land: ▪ Proximity to raw materials ▪ Government incentives ▪ Supply chain and distribution links

[5] A 2015 report by MacroPlan Dimasi found that the Essendon Fields and Airport West (Essendon Airport and Essendon Technology Precinct) contained around 9,176 jobs, accounting for 26.8 percent of jobs in the Moonee Valley LGA, and 27.6 percent of all workers who live in the LGA.

3.8 Key implications for OSEP

Previous sections in this chapter identified the following as the strongest economic opportunities in the region. The question then turns to what those industries most need to succeed. The table below forms an assessment of gaps and opportunities for the region moving forward. Gaps, because those components are still not strong in the region, but also potential opportunities if they are capitalised upon.

Industry group	Gaps in the region	Opportunities
Manufacturing for primary industries (agr/mining)	Minimal, given the green wedge and Gippsland food bowl.	An opportunity to build one of, it not the strongest agriculture linked manufacturing precincts in the State.
Manufacturing for knowledge sectors (professional services)	Still early in the development of this corridor for these industries. Dependent on growing professional services and IT businesses in centres and business parks.	Officer and Pakenham Town Centres are potential nodes where these industries can grow, with Officer South PSP being located in close proximity to both those centres.
Manufacturing for health care	Local health anchors/ health and education precincts. Demand and the case for these institutions will increase as population in the region grows.	A future health and education precinct could also be located in close proximity to the Officer South PSP area. Note the long supply chain in the health industry.
Manufacturing for transport industries (rolling stock and infrastructure)	Transport connections (around Officer South, incl. Thompsons Rd extension) to improve connection with other industrial precincts. This type of manufacturing can require long assembly lines and storage facilities, meaning large lots.	Leverage established clusters in the region for these activities.
Transport and logistics, particularly moving manufactured products	Transport connections (around Officer South, incl. Thompsons Rd extension) to improve connection with other industrial precincts.	Leverage established clusters in the region for these activities. Land for these activities in other industrial precincts in the region has run out, so Officer South the next logical area for this demand to be accommodated.
Wholesaling	Transport as above. Large lots for storage facilities at low cost.	This is an opportunity for Officer/Pakenham SSIP early in its development phase whilst land values are still low.
Business serving professional services	Relatively low access to a critical mass of local businesses to service. Transport access and precinct amenity that suits white collar workers.	As the region matures, more businesses will emerge, creating more client opportunities. Growing the presence of knowledge institutions such as university campuses to help with skill development of the local workforce.

Note that many of these gaps and opportunities have implications for land suitability, jobs, business attraction – which are all discussed elsewhere in this report.

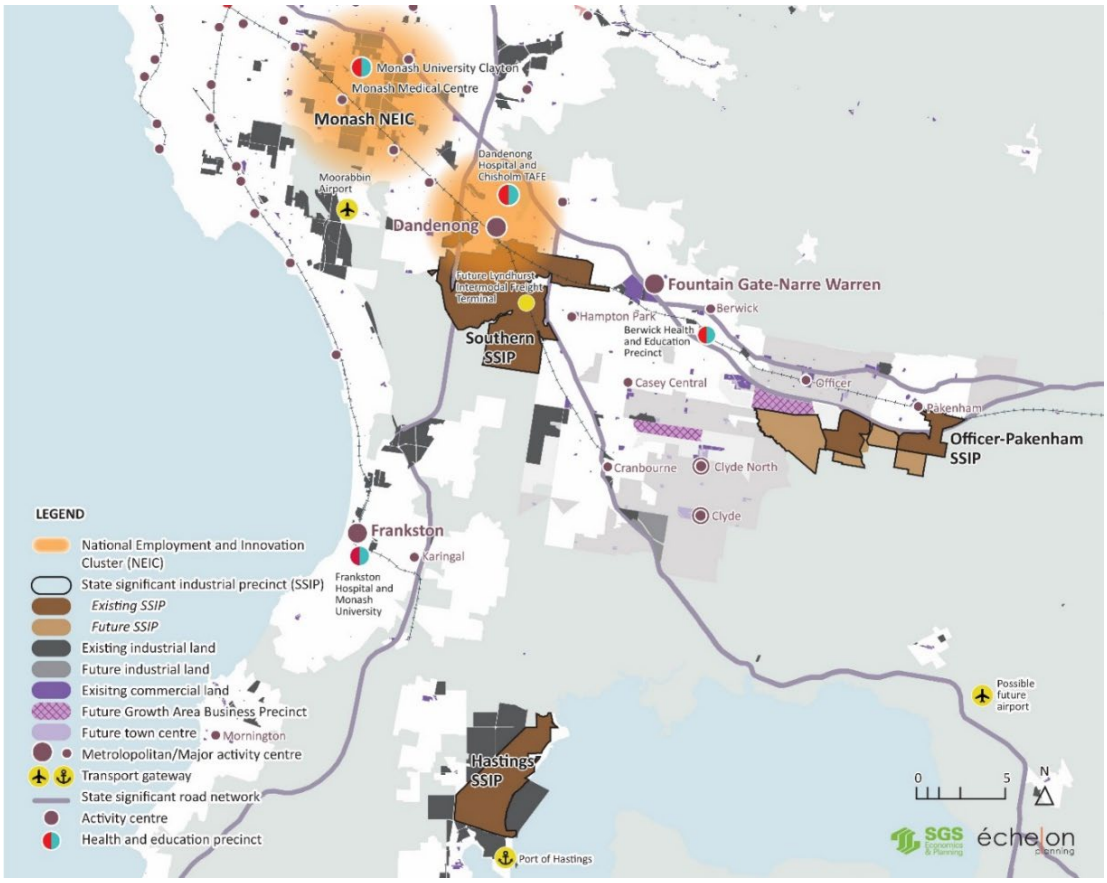
4. Land supply and suitability

This section reviews the existing land supply at a regional and OSEP scale.

4.1 Regional land supply

MICLUP estimates the Southern Region[6] has a total of 9,610 hectares of zoned land set aside for industrial uses. Approximately 7,270 hectares is currently occupied, with 2,440 hectares currently zoned and vacant.[7] Approximately 1,260 hectares of this vacant land is located within the Officer-Pakenham SSIP, with 1,180 hectares of vacant land elsewhere (zoned and unzoned). The Southern Region currently contains a total of 855 hectares of land zoned for commercial purposes, estimated to have the capacity to accommodate 3.2 million square metres of commercial floorspace. Approximately 43 percent of all existing floorspace supply is located within the municipalities of Casey and Greater Dandenong.

FIGURE 11: CURRENT INDUSTRIAL AND COMMERCIAL LAND SUPPLY IN THE SOUTHERN REGION



Source: SGS Economics and Planning, based on *Melbourne Industrial and Commercial Land Use Plan*, April 2020

[6] Southern Metro Region defined as Cardinia, Casey, Kingston, Frankston, Gr Dandenong, and Mornington Peninsula LGAs.
[7] MICLUP, p. 88.

Supply and consumption of industrial land

Over last three years, the average rate of consumption of industrial land in the region was 107 hectares per annum, with consumption increasing over this period. Almost 60 percent of this consumption occurred within the Southern SSIP (63 hectares).[8]

If consumption rates remain at the 2019 level of 110 hectares, the region as a whole has 21 years supply of zoned industrial land. Of this, 980 hectares of land in Mornington Peninsula zoned Special Use Zone 1 (around the Port of Hastings) makes up just over 12 years supply of zoned industrial land in the Southern Region. Unzoned land identified for future industrial purposes (80 percent of which is in the Officer Pakenham SSIP) could provide another seven years of supply, depending on the outcome of the PSP-planning process for these areas.

It is estimated that land supply in the Southern SSIP will become significantly constrained in the early 2020s, and will be exhausted by the mid-2020s. When this occurs, demand transfer is likely to occur to the closest comparable industrial areas, including areas such as Braeside, Cranbourne West and the Officer-Pakenham SSIP. These locations include relatively large contiguous tracts of vacant industrial land with easy access to the Principal Freight Network for large heavy vehicles and access to existing supply chains and distribution networks.

Between 2000-01 and 2017-18 a total of 328 hectares of land identified for industrial uses[9] was rezoned across the Southern region for non-industrial uses. The largest single loss of industrial land over this period was within Casey, where just under 28 hectares of industrial land was rezoned to allow for residential development. Of the remaining industrial land losses that occurred over this period, almost 60 percent involved sites of less than 2 hectares in size. Of all the industrial land losses over the period, around 37 percent was rezoned to allow for mixed-use or residential development.

TABLE 2: INDUSTRIAL LAND SUPPLY AND RECENT CONSUMPTION, SOUTHERN REGION

Council / SSIP	2018 Zoned occupied (ha)	2018 Zoned vacant (ha)	2018 Future supply (ha)	2018 Total available supply (ha)	2015-17 Average consumption rates (ha)
Cardinia	380.9	375.2	938.3	1,313.50	14.2
Casey	670.7	367.5	245.2	612.7	7.1
Greater Dandenong	2,448.20	469.6	0	469.6	61.8
Southern Region*	**7,270.30**	**2,337.50**	**1,183.50**	**3,521.00**	**107.2**
Southern SSIP	*2,454.4*	*502.6*	*0.0*	*502.6*	*63.5*
Officer-Pakenham SSIP	*317.7*	*323.8*	*938.3*	*1,262.10*	*13.9*

** Southern Region includes (including Casey, Cardinia, Greater Dandenong, Frankston, Kingston and Mornington Peninsula)*
Source: MICLUP, 2020 (Department of Environment, Land, Water and Planning, unpublished data (2020)).

[8] MICLUP, p. 89.
[9] For example, by the *Growth Corridor Plans, 2012*

4.2 OSEP Land

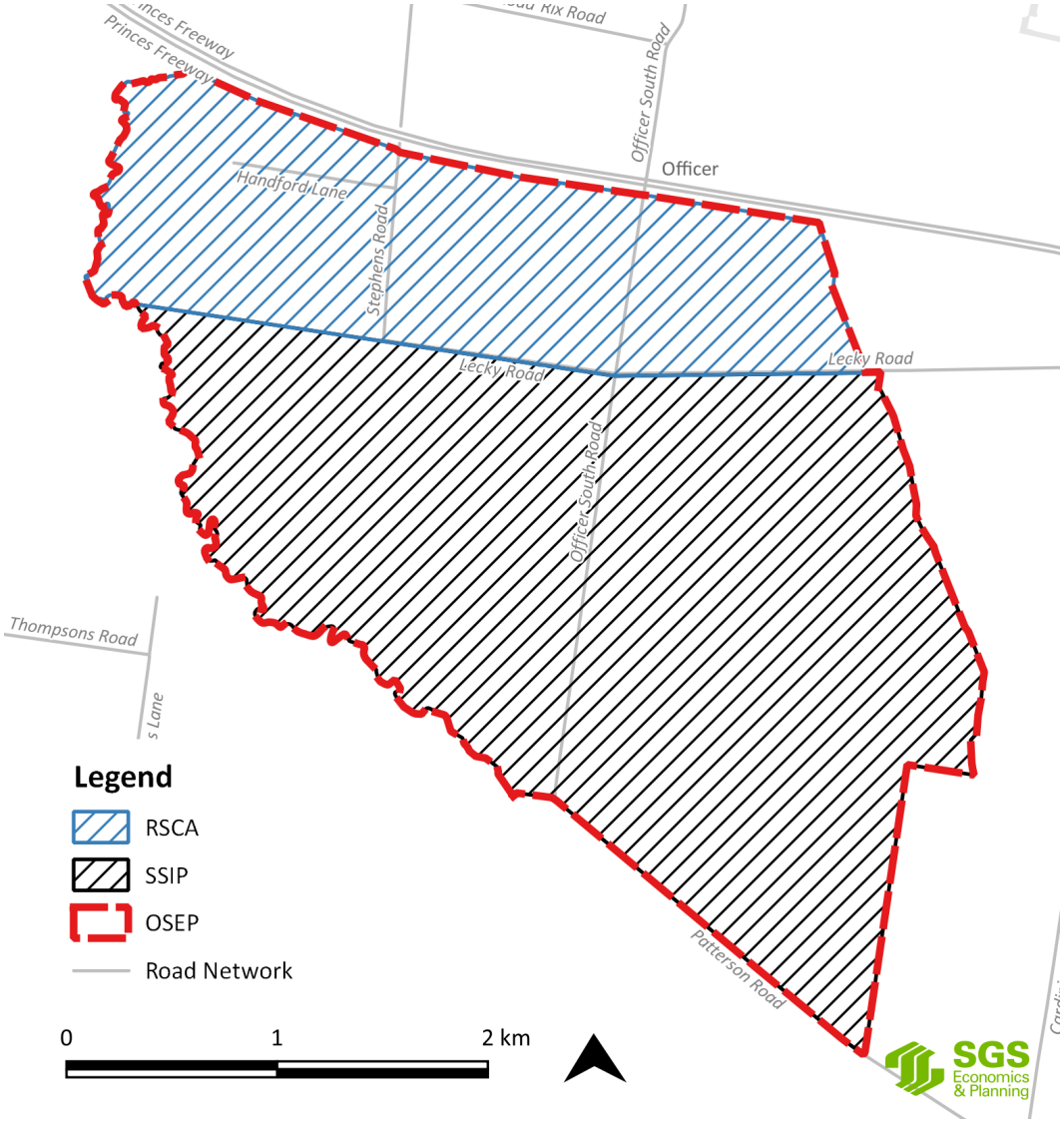
Overall, the OSEP is undeveloped land with relatively large land parcel. The existing land within the boundaries of the OSEP comprises 37 land parcels, with an average parcel size of 28 hectares. Nine parcels are under two hectares, whereas eight of these parcels are over 50 hectares.

FIGURE 12: OFFICER SOUTH LAND PARCELS AND AERIAL

Source: SGS Economics and Planning based on Nearmap, November 2020

The area includes land designated as a Regionally Significant Commercial area (RSCA) comprising 317 ha of gross land area. The remainder is classified as State Significant Industrial Precinct (SSIP), at a gross land area of 754 ha. This is mapped in Figure 14 below.

FIGURE 13: MICLUP LAND USE CATEGORIES



Source: SGS Economics and Planning based on MICLUP, DWELP 2020

4.3 OSEP land suitability Assessment

Assessment criteria

The rest of this section focuses on the 1,069 ha of land in the Officer South PSP area. Before quantifying how much of that land can be considered to be 'supply' for industrial and/or commercial land uses, the suitability of that land for those uses must first be analysed. In this section we spatially analyse a range of land criteria to build a composite picture of suitability across the precinct.

The criterion which are under consideration in this analysis are listed below in Table 3. Most are included in the analysis, and most of those are also part of a sieve mapping exercise. The exceptions are those criterions which can be assumed to be uniformly available across the precinct (power, water) or not available across the precinct (public transport, built amenity).

TABLE 3: SUITABILITY CATEGORIES, CRITERION

Category	Criteria	Comments
Access	Road /truck access	Included, mapped
	Public Transport	Included, not mapped
Infrastructure (utilities)	Gas	Included, mapped
	NBN	Included, mapped
	Power	Assumed available across precinct
	Water	Assumed available across precinct
Natural Constraints	Biodiversity	Included, mapped
	Bushfire	Included, mapped
	Fauna	Included, mapped
	Flooding	Included, mapped
	Riparian/ waterways	Included, mapped
Amenity	Creeks interface	Included, mapped
	Built	Included, not mapped
Sensitive uses	Residential	Included, mapped
	Aboriginal Heritage	Included, mapped
	Post contact heritage	Included, mapped

Source: SGS Economics and Planning, 2022

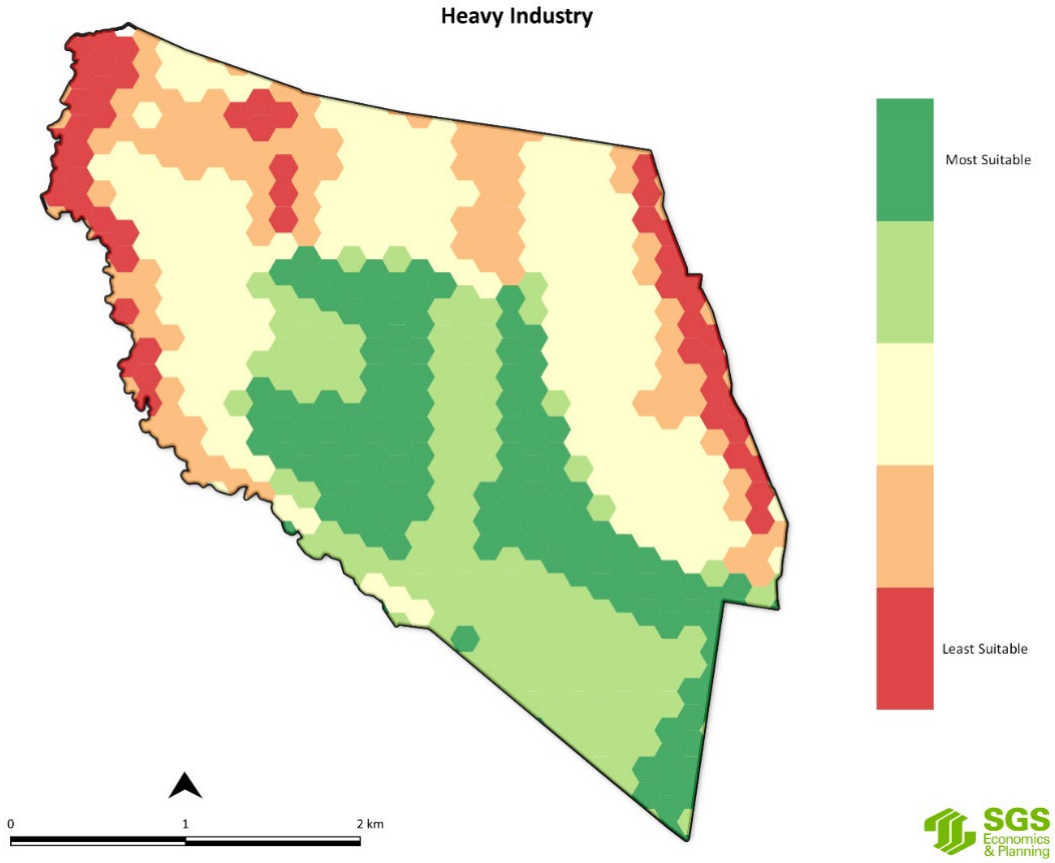
The criteria above are then weighted based on their relative levels of importance to various land uses to derive a composite result for land suitability (See Figure 15 to Figure 19). In summary:

- **Heavy industry** – locates away from sensitive uses, prefers larger lots, benefits from direct road access/ access to Principal freight network
- **Light industry** – benefits from access to main roads, can locate closer to sensitive uses
- **Freight and logistics** – road access important to development of industry, can locate close to sensitive uses, benefits from freeway access
- **Service industry** – locate preferred close to residential uses, flexible in location
- **Business parks** – can locate close to sensitive uses, road access preferred.

Whilst multiple industries have been assessed, it is ultimately the 'Heavy Industry' map which is the most critical for this PSP; as its location needs to be carefully planned in advance in relation to other sensitive uses that are typically important to PSPs – namely, residential areas.

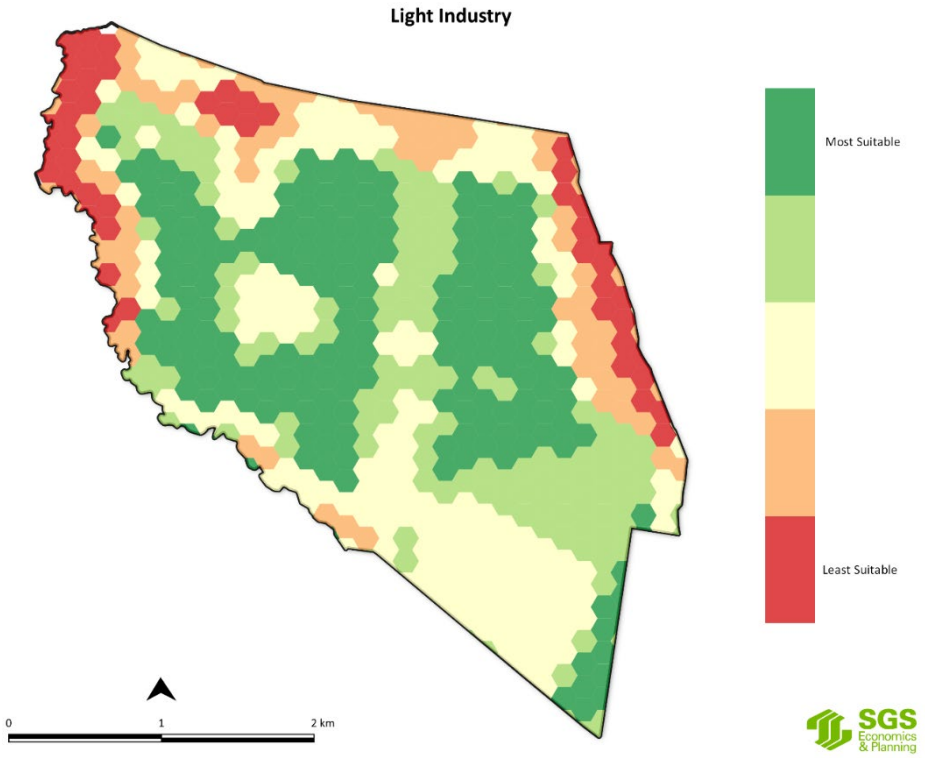
The other four land uses have preferences for where they are best, but can still be placed in other locations as they are do not generate as many cascading off-site impacts for surrounding land uses.

FIGURE 14: LAND SUITABILITY – HEAVY INDUSTRY



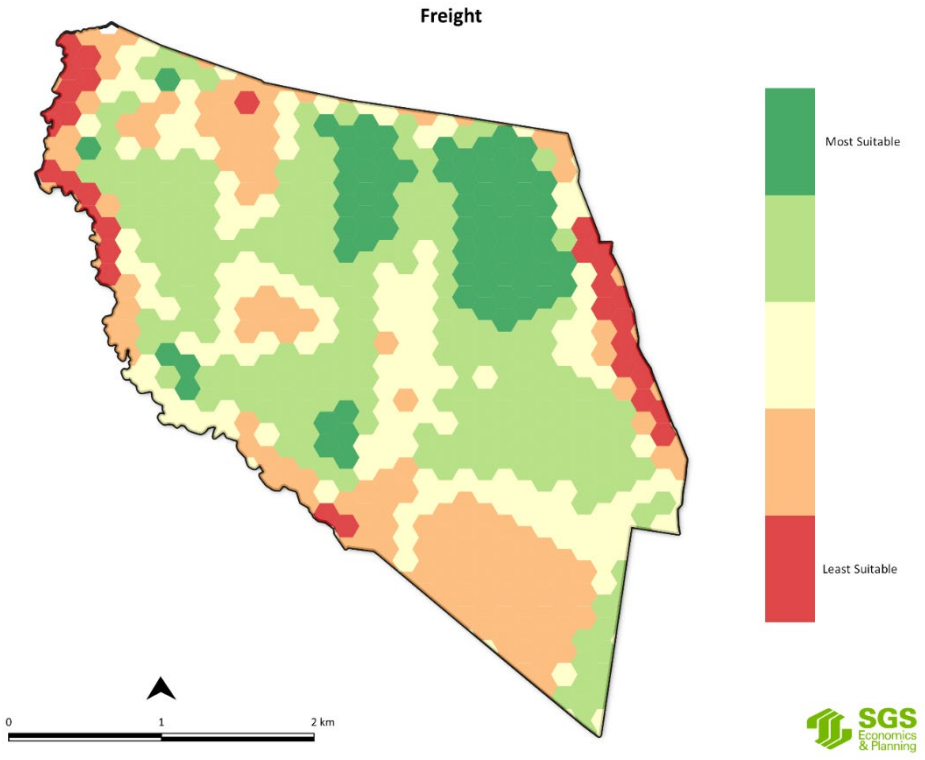
Source: SGS Economics and Planning, 2022

FIGURE 15: LAND SUITABILITY – LIGHT INDUSTRY



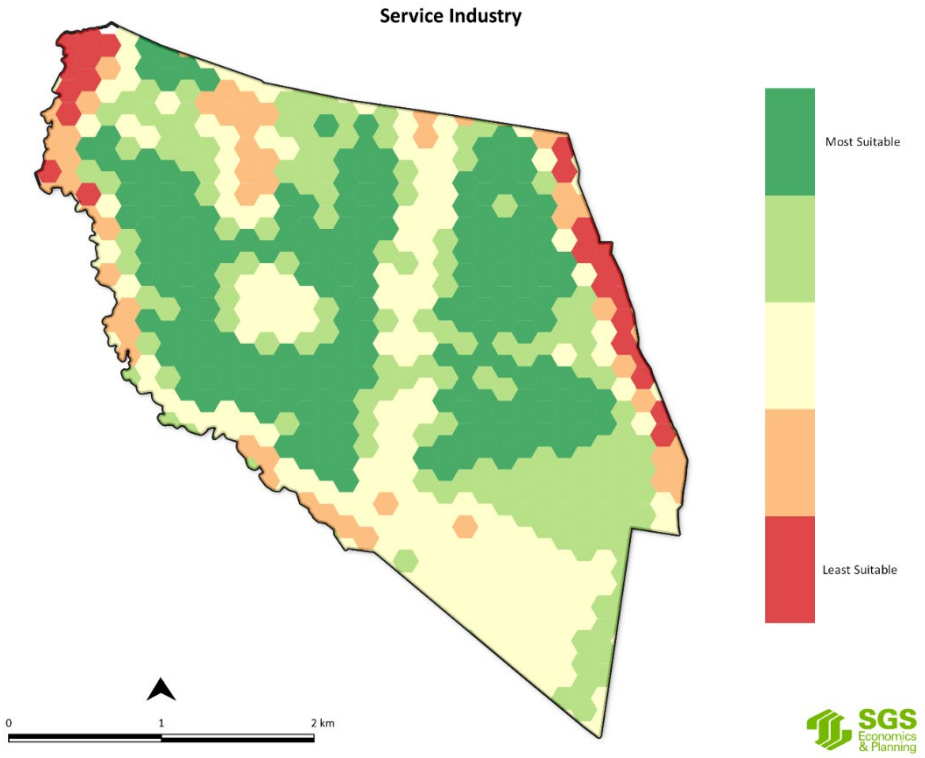
Source: SGS Economics and Planning, 2022

FIGURE 16: LAND SUITABILITY – FREIGHT & LOGISTICS



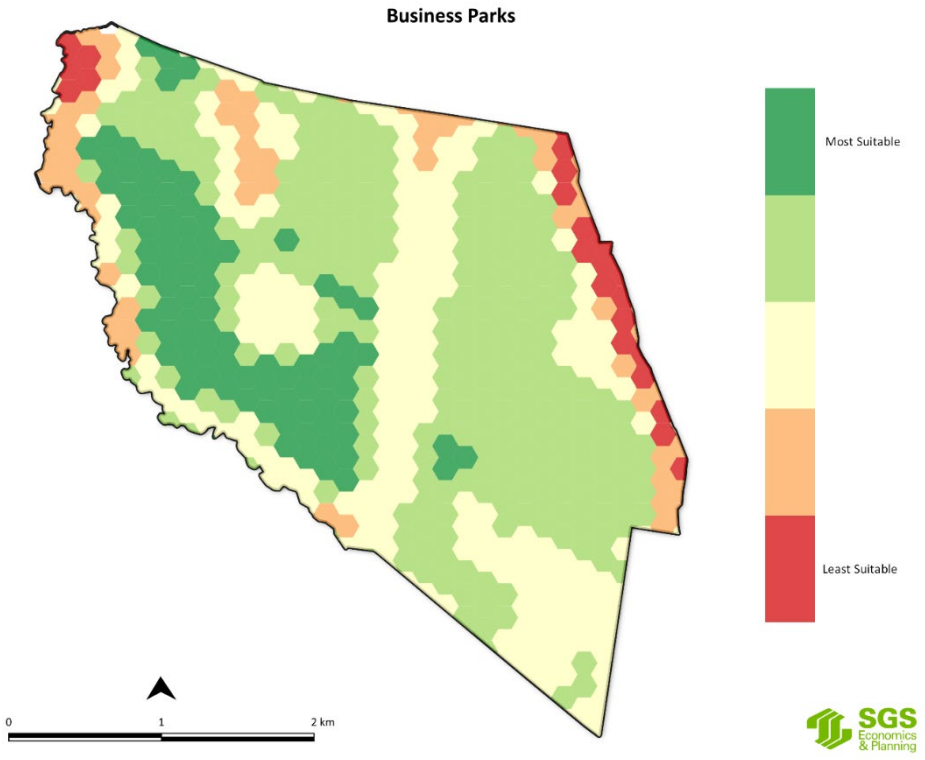
Source: SGS Economics and Planning, 2022

FIGURE 17: LAND SUITABILITY – SERVICE INDUSTRY



Source: SGS Economics and Planning, 2022

FIGURE 18: LAND SUITABILITY – BUSINESS PARKS AND OFFICE



Source: SGS Economics and Planning, 2022

Heavy industry in the SSIP

A deeper dive into the demand and supply equation is required for Heavy Industry given their offsite impacts greatly limit the options that such businesses/operations have for site location.

Not all of this land is actually suitable for heavy industry. Only some (323.2ha) of that land can be considered to be suitable for heavy industry – represented through the two green shades. Applying to 80 per cent net developable area ratio, that means only 258.4ha of net land supply is available for the 100.8ha of heavy industry demand.

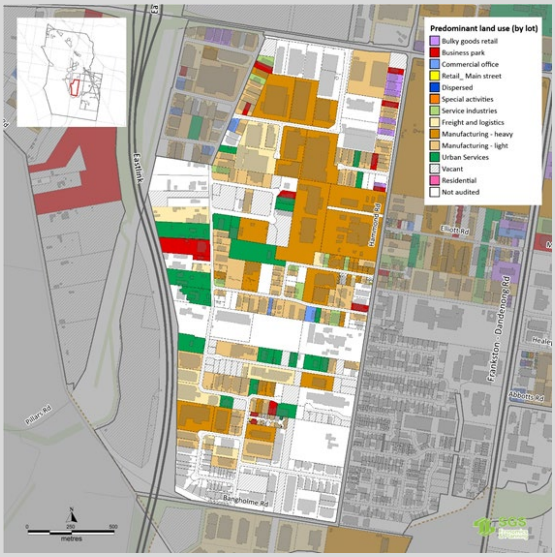
This may still appear to be enough land – in theory. However, there is no economic or regulatory mechanism to ensure that SSIP land is used exclusively for heavy industry. Mixing of businesses will undoubtedly occur, and that reduces the real supply for heavy industry further.

Southern SSIP case study

A 2015 SGS land audit of the Dandenong Southern SSIP found that even in the IN2Z (Hamond Road) sub-precinct, only 35 per cent of the net land area was occupied by 'heavy industry'. This mixing phenomenon led to the other 65 per cent being occupied by a range of other business types including light industry, freight/logistics, service industry and even some industrial business parks. This spatial mix of land uses is shown in Figure 20.

Applying a 35 per cent heavy industry occupancy to this land use 'mix' finds that a 100.8ha demand for industrial land would actually require up to 288ha of suitable industrial land in the SSIP. Hence the 258.4ha that is available in the Officer South SSIP is already somewhat limiting and should not be reduced further by encroachment from non-industrial land uses.

FIGURE 19: LAND USE MIX IN DANDENONG SOUTH IN2Z HAMOND ROAD PREINCT



Source: SGS Economics & Planning (2015)

4.4 Key implications for OSEP

Given the land supply and suitability analysis above, an appraisal of lot area supply for employment activities can be summarised below and contains the following definitions:

- Gross land, refers to land supply available overall across the precinct
- Unencumbered land, refers to the volume of land available for development across the precinct for either commercial or industrial uses excluding creeks, floodways etc.
- Net land supply, refers to the volume of land in each precinct which would be available once 20% of land is turned over for local roads/access points and public infrastructure such as green spaces, plantations, median strips, footpaths etc.

There is a total of 1,069 ha of land in the Officer South precinct. 850.3ha is unencumbered by creeks, flood zones and other features that prevent development from occurring.

Of that 850.3ha, 80% can be used for urban land uses such as commercial office or industrial, with the remaining 20% needed for urban infrastructure such as roads, pavements and so on.

That leaves 680.3 ha of net land supply, with 204.1 in the Regionally Significant Commercial Area (RSCA) and 476.2 ha in the State Significant Industrial Precinct (SSIP). This is demonstrated in the table below.

TABLE: 4 OVERALL LAND AREA IN THE OFFICER SOUTH PSP AREA (HA)

	Commercial (RSCA)	Industrial (SSIP)	Officer South PSP Total
Gross land (total area)	321.1	747.8	1,069.0
Unencumbered land	255.1	595.2	850.3
Net land supply	204.1	476.2	680.3

Source: SGS Economics and Planning with assistance from VPA, 2022

The relationship of these net employment land supply figures to demand is discussed further in Section 5.

5. Employment and space forecasts

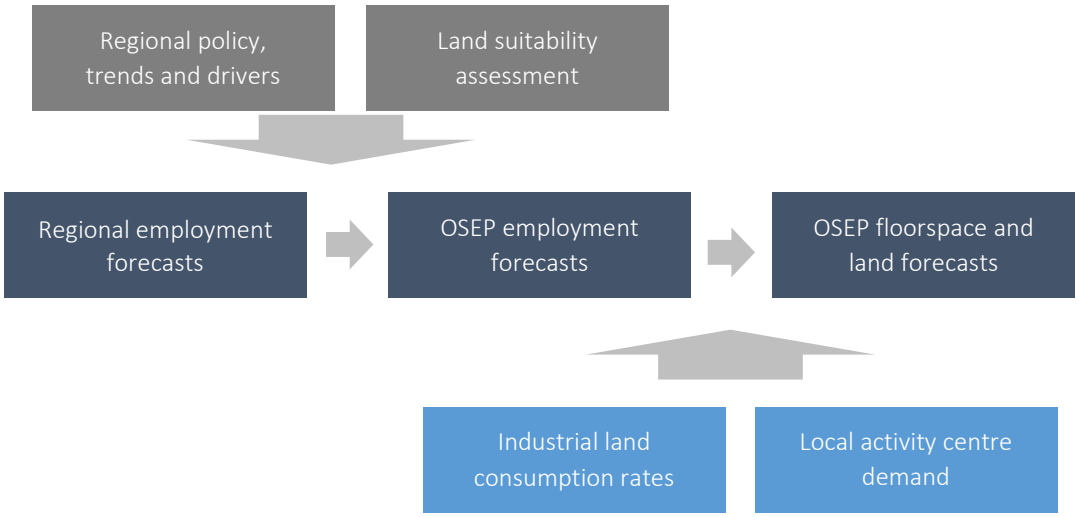
This section discusses the outputs of the baseline employment forecasts, and then discusses the impact of demand occurring because of industrial take up and the likely outcomes that will have implications for the OSEP.

5.1 Employment forecast approach overview

The OSEP is part of a regionally (and metropolitan) significant employment area which services much more than the local catchments needs. Its regional role will develop and evolve over the long term, as the broader corridor matures, and it provides a key local employment node for residents in the area.

To determine potential employment, floorspace and land requirements for the OSEP, SGS has drawn on regional employment forecasts and space ratios. These have been informed and refined, based on the regional policy, trends and drivers analysis (Section 2 and 3) and Land suitability assessment (Section 4). In addition, analysis of industrial land consumption rates and local activity centre demand has also been completed to supplement this employment and land forecasts approach (see Figure 21).

FIGURE 20: EMPLOYMENT AND SPACE FORECAST APPROACH OVERVIEW



This integrated 'top-down' and 'bottom-up' forecasting approach provides a robust understanding of the likely long term employment requirements that need to be plan for in the OSEP. However, future employment requirements will always be uncertain due to continued structural changes, technological changes, workforce changes and other local/global economic shocks.

As such, it will be important to preserve land for the likely long term employment needs of the OSEP, while enable flexibility for employment uses to adapt, innovate and evolve overtime.

5.2 Regional employment forecasts

The SEEC regional employment forecasts form the basis of the analysis and underpin the initial employment forecast for the OSEP. In recent decades employment growth within the SEEC has not kept up with population growth (particularly within Casey and Cardinia). The SEEC regional employment forecasts assumes that as the corridor builds out the economy will mature and employment growth would accelerate, rather than remaining at the recent low levels. This would see the jobs per population ratio increase overtime - to be more in line with Greater Melbourne levels.

This greater level of employment would also signify a more diverse and mature regional economy both in terms of higher order business services with larger activity centres and commercial precincts, and continued development of new modern large scale industrial precincts, such as OSEP.

Figure 22 provides a breakdown of employment by SEEC council, with Cardinia containing OSEP. Jobs per 10 people in Casey and Cardinia would increase from 2.6 and 3.0 today to 3.8 and 4.9 by 2060. With a rate of 4.7 and 7.0 additional jobs per 10 additional people into the future. Conversely Greater Dandenong, which has seen significant employment growth recently, would start to stabilise and consolidate on its established employment activities providing increasingly higher-order and advanced opportunities.

FIGURE 21: EMPLOYMENT FORECASTS BY SEEC COUNCIL

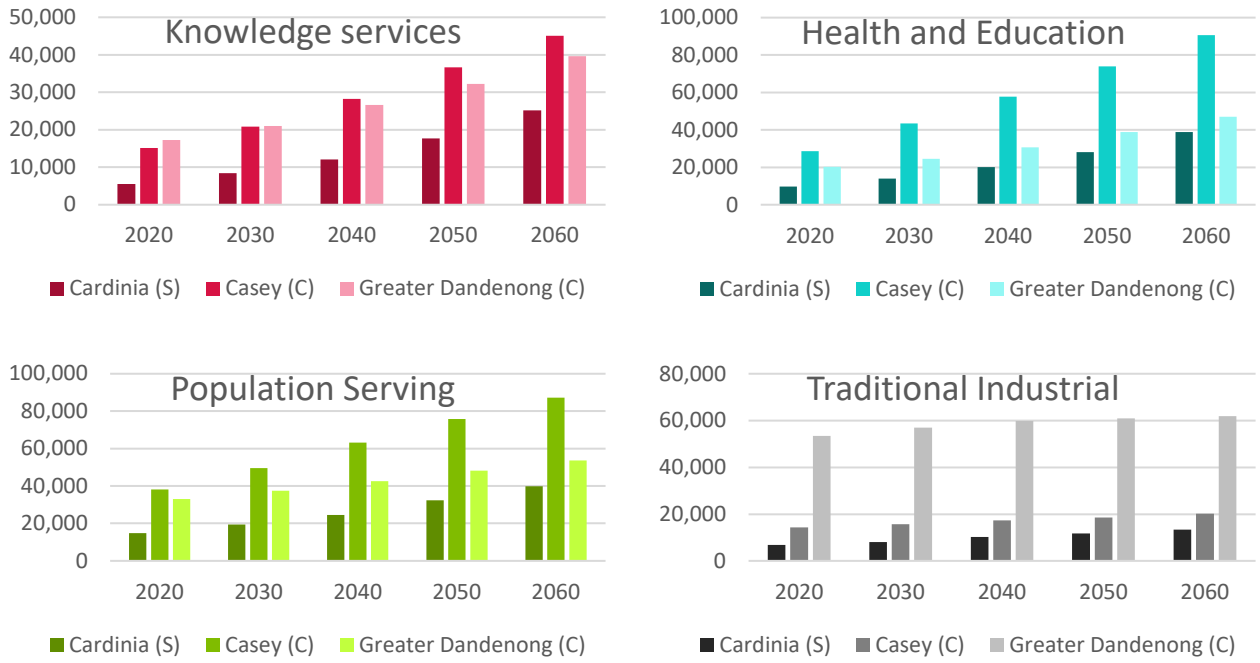
	2001	2011	2021	2031	2041	2051	2061	2021-61
Gr. Dandenong	79,300	99,300	123,900	140,100	159,700	180,200	202,300	78,000
% of Mel	4.6%	4.6%	4.5%	4.2%	4.1%	4.0%	4.0%	3.4%
Jobs/10 ppl	6.2	7.0	7.1	6.9	7.0	6.7	6.6	5.9
Growth rate		2.3%	2.2%	1.2%	1.3%	1.2%	1.2%	1.2%
Casey	39,500	63,700	96,400	137,300	178,200	219,100	260,000	146,800
% of Mel	2.3%	3.0%	3.5%	3.9%	4.3%	4.6%	4.8%	6.3%
Jobs/10 ppl	2.2	2.4	2.6	2.9	3.2	3.5	3.8	4.7
Growth rate		4.9%	4.2%	3.0%	2.5%	2.1%	1.7%	2.3%
Cardinia	**14,100**	**22,300**	**36,900**	**49,700**	**67,000**	**90,000**	**117,200**	**80,300**
% of Mel	**0.8%**	**1.0%**	**1.4%**	**1.5%**	**1.7%**	**2.0%**	**2.3%**	**3.4%**
Jobs/10 ppl	**3.0**	**2.9**	**3.0**	**3.0**	**3.5**	**4.2**	**4.9**	**7.0**
Growth rate		**4.7%**	**5.2%**	**3.0%**	**3.0%**	**3.0%**	**2.7%**	**2.9%**
SEEC	133,000	185,000	257,000	319,000	393,000	475,000	563,000	306,000
% of Mel	7.7%	8.6%	9.4%	9.6%	10.1%	10.6%	11.1%	
Jobs/10 ppl	3.7	3.9	3.8	3.8	4	4.3	4.6	
Growth rate		3.4%	3.3%	2.2%	2.1%	1.9%	1.7%	

Source: SGS Economics and Planning (2022)

Figure 23 presents the employment forecasts for the three SEEC councils by broad industry and location type. Health and education industry jobs, along with population serving industries will have the greatest share of employment growth by 2060. While the majority of jobs within these service industries will be located within activity centres, there will be some employment functions which will located within industrial and commercial areas. For example, pharmaceutical manufacturing or other health equipment, integrated technical training programs, industry focused retail and services (i.e. construction equipment hire, or local worker retail/hospitality services). These industry sector to land use dynamics have been further considered at the local level in Section 5.5.

In addition, it should be noted these reflect the number of employees and could have dramatically different land use implications as office workers may be concentrated in an office, while industrial workers may be supporting a much larger (capital intensive) facility.

FIGURE 22: BROAD INDUSTRY EMPLOYMENT FORECASTS BY SEEC COUNCIL



Source: SGS Economics and Planning (2022)

5.3 Industrial land take up

Industrial businesses can be highly land and capital intensive, with employment only representing one part of what makes their operations competitive. While some advanced manufacturing businesses (i.e. pharmaceutical manufacturing) may contain job dense research function, many businesses are seeing an increase in job to space ratios due to increased automation of processes required to improve productivity in an increasingly globally competitive environment. In addition, many industrial users also require a clear site to be able to build their own bespoke widget facility, tailored to their specific operations. While ex-industrial facility can be repurposed overtime, new industrial land is also critical.

Industrial land consumption (or the take up of vacant industrial land) rates and forecasts can provide a more direct understanding of and areas industrial land requirements over time, rather than just considering employment and land ratios along. This is particularly important in a region where the largest current industrial precinct (Southern SSIP) is due to reach capacity within 5 years.

The 2020 Urban Development Program (UDP) tracks the supply and consumption of industrial land across all of Melbourne. Over the last 5 years the Officer Pakenham SSIP has been developing at an average consumption rate of 14 hectares per year. In addition, Southern SSIP has been developing at an average consumption rate of 52 hectares per year and is due to reach capacity (i.e. all vacant sites exhausted) by 2027. Once the Southern SSIP hits capacity it is likely increased demand will flow through to other industrial precincts. While some demand may shift to nearby Regionally Significant Industrial Precincts (i.e. Cranbourne West) or Regional/State Significant Industrial Precincts to the North and West of Greater Melbourne, it is likely that a significant proportion of demand will shift to the Officer-Pakenham SSIP in order to maintain local supply chain linkages, particularly if transport linkages are improved.

OSEP industrial land consumption assumptions

Given this, SGS has assumes that some of the industrial land consumption that was occurring in the Southern SSIP would transfer to the Officer-Packenham SSIP from 2027.

Comparison land consumption rates along with four scenarios were tested (See Figure 24):

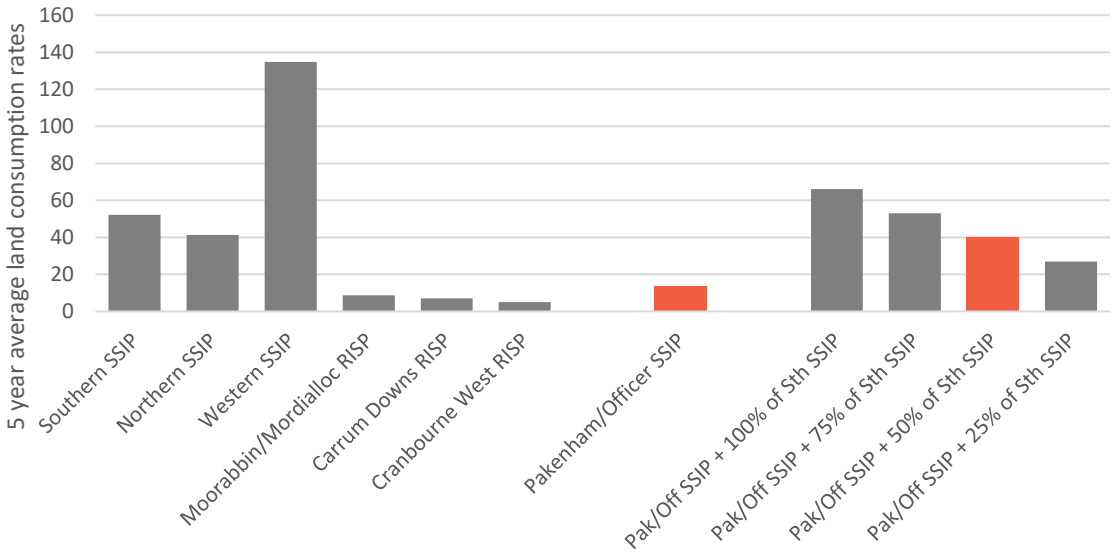
- current consumption in the Officer-Pakenham SSIP plus 100 per cent of Southern SSIP from 2027
- current consumption in the Officer-Pakenham SSIP plus 75 per cent of Southern SSIP from 2027
- current consumption in the Officer-Pakenham SSIP plus 50 per cent Southern SSIP from 2027
- current consumption in the Officer-Pakenham SSIP plus 25 per cent of Southern SSIP from 2027

There are a wide range of factors that impact the development of industrial land, such as the provision of appropriate services, the appetite for risk of developers to invest in land, starting the process to ready the land for users, as well as industrial users deciding to locate in new locations.

In light of these consideration, it was determined that a midpoint of 50 per cent of latent demand from the Southern SSIP would be shifted to the Officer-Packenham SSIP, with the remainder being distributed to other areas across Melbourne.

In addition, the impact on OSEP land consumption specifically was then determined by considering the staging of PSPs across the Officer-Pakenham SSIP - with approved PSPs developing sooner.

FIGURE 23: LAND CONSUMPTION RATES

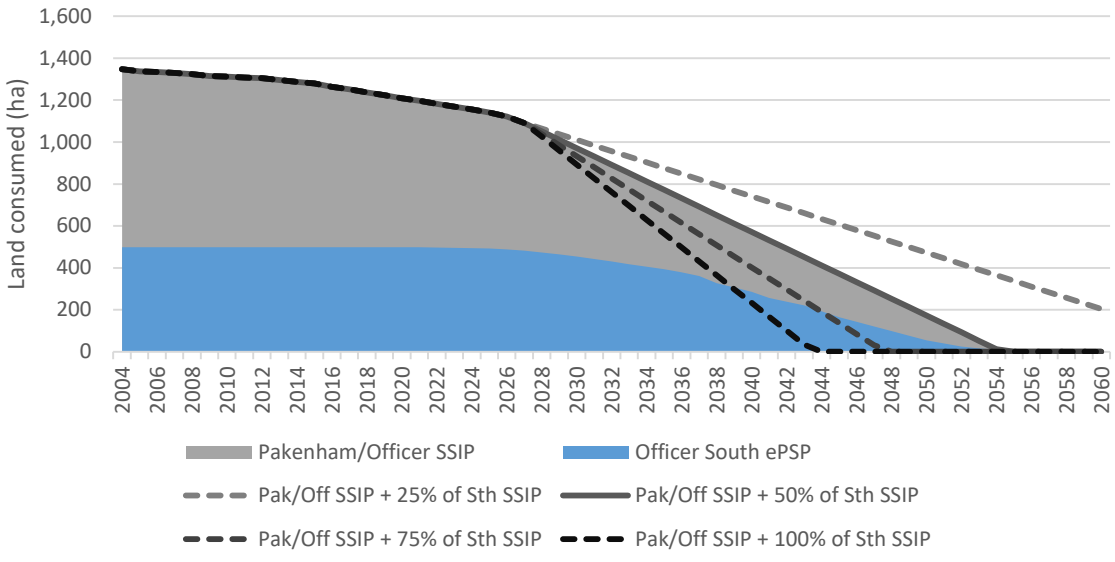


Source: SGS Economics and Planning analysis of Urban Development Program, 2020

OSEP industrial land consumption results

The modelling indicates that if the current consumption rate for Officer-Pakenham SSIP continued and then increased from 2027 (based on half of the Southern SSIP land consumption rate shifting to the Officer-Pakenham SSIP) then the Officer-Pakenham SSIP (and OSEP) will be exhausted by the mid 2050s.

FIGURE 24: PAKENHAM/OFFICER SSIP LAND CONSUMPTION SCENARIOS



Source: SGS Economics and Planning analysis of Urban Development Program, 2020

5.4 Local activity centre requirements

Given the primary industrial and employment focus of the OSEP, no activity centres have previously been identified within the PSP. However, if there is to be a residential component integrated into the northern commercial area of the OSEP, then there will be a need to consider the provision of local services for these residents.

In addition, given the scale of the employment land, there will be additional demand for local retail and hospitality services from workers within the precinct. Many of these services can be integrated into the commercial components of the wider precinct (i.e. cafes in foyers).

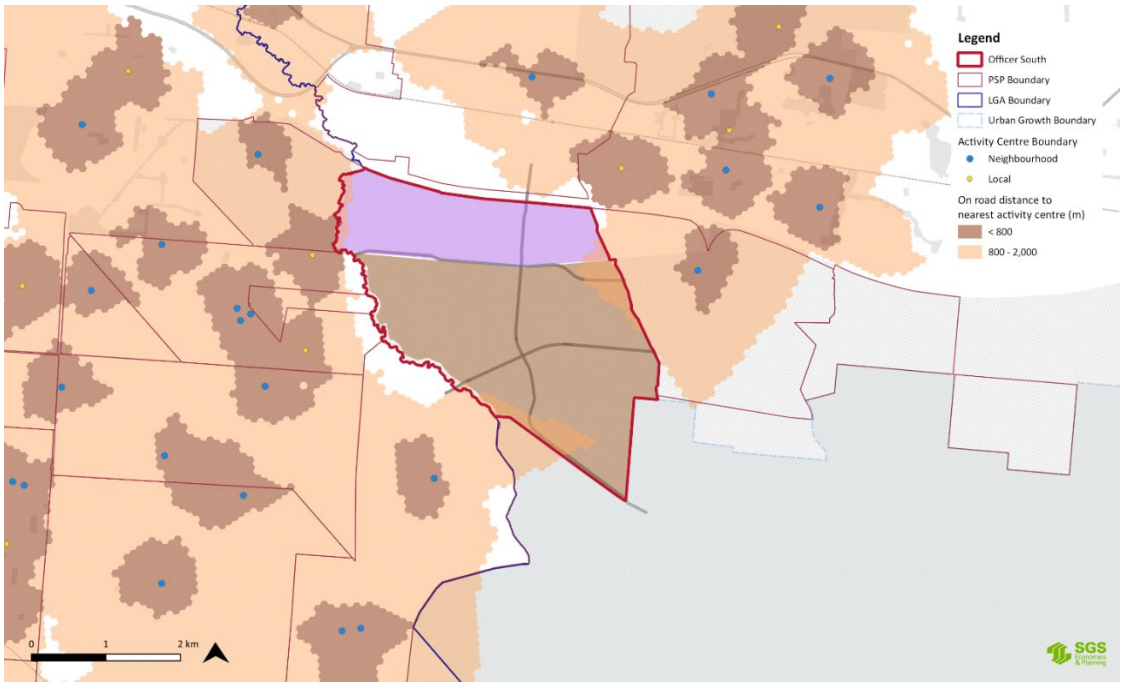
Potential gaps in the centre network and location criteria

There is an established (and planned) network of regional level activity centres which provide higher order needs to the OSEP and surrounding community (see Figure 3). These include:

- Metropolitan AC: Dandenong and Fountain Gate-Narre Warren
- Major AC: Officer, Pakenham, Cranbourne, Casey Central, Berwick, Clyde North and Clyde.

However, if there is to be a residential component within OSEP, there will be a gap in the provision of easily accessible local level services which support walkable 20 minute neighbourhoods (See Figure 26).

FIGURE 25: LOCAL AND NEIGHBOURHOOD CENTRE CATCHMENTS



Source: SGS Economics and Planning, 2022

When considering the location for a local Activity Centre, the following criteria should be considered:

- in the centroid of the residential precinct/ catchment to maximise pedestrian accessibility
- along a main road to maximise car accessibility
- near a train station to maximise public transport accessibility.

In this case, only the first two criteria can be met as there is no railway station in the precinct.

Potential centre size

A range of factors influence the level of supportable retail, hospitality and retail/commercial services floorspace within a centre, including the location, catchment population, and the cost of land/ leases.

As SGS has not been engaged to complete an assessment of residential requirements within the OSEP, analysis of local centre demand has been determined based on a series of population catchment levels and regional expenditure and service requirement benchmarks.

SGS assessment of expenditure in this region[10] shows:

- The average annual total retail spend per capita is $5,000 for supermarkets/grocery, $6,100 for specialties, $2,200 for hospitality
- The average annual retail trading level of a growth area NAC anchored by a supermarket is $13,000 per annum per sqm for the supermarket/grocery store, $7,000 for specialty stores, $7,500 for hospitality.
- In the larger NAC up to 75per cent locally generated spending can be captured locally for supermarkets, with 40 per cent for specialty stores and hospitality. For a smaller NAC, the capture rates are more akin to 40/25/25. These smaller NAC rates have been assumed in the outputs below.

Based on those assumptions, the following floorspace volumes can be expected in OSEP:

TABLE 5: LOCAL RETAIL CENTRE REQUIREMENTS – SMALL CENTRE ASSUMPTIONS

Population size	Retail expenditure	Centre supportable floorspace – Retail (sqm)			
		Superm'kt/ grocery	Specialty stores	Hospitality	Total (sqm)
5,000	$25,000,000	800	1,100	400	2,300
10,000	$50,000,000	1,500	2,200	700	4,400
15,000	$75,000,000	2,300	3,300	1,100	6,700
20,000	$100,000,000	3,100	4,400	1,500	9,000

Source: SGS Economics and Planning, 2022

It is also anticipated that a centre of over ~7,000sqm in size would be able to attract some minimal levels of non-retail floorspace uses. Office tenants could typically include real estate agents, travel agents, local lawyers and accountants, whilst community uses could include small scale medical service providers.

[10] As Officer South is not currently populated, there is not expenditure data for this future population per se. Regional spending data for the Casey-Cardinia LGAs is therefore used instead.

Major commercial office tenants, multi-national corporations and major institutions would all be unlikely to settle here (and would better maximise their spill-over benefits to the local economy in the commercial precinct and/or higher order centres).

Currently, approximately 30-40 per cent of floorspace within NACs in this region are occupied by commercial services uses. Based on this ratio, additional non-retail employment floorspace for a collection of these other local commercial and community services is determined.

This analysis identifies a local centre of between 3,900 sqm and 15,400 square metres, depending on the size and population levels of the residential component.

FIGURE 26: LOCAL CENTRE REQUIREMENTS – SMALL CENTRE ASSUMPTIONS

Population size	Retail/ Hospitality (sqm)	Local commercial services (sqm)	Total centre floorspace (sqm)	Total centre land area (Ha)
5,000	2,300	1,600	3,900	1.5
10,000	4,400	3,200	7,600	3
15,000	6,700	4,800	11,500	4.5
20,000	9,000	6,400	15,400	6

Source: SGS Economics and Planning, 2022

Urban design and amenity considerations

Given the local role and range of businesses expected at this future centre, Council should plan for this node with the following design principles as a guide:

- Ensure good pedestrian and cycling access to the centre
- Ensure good walkability within the centre
- Offer a sufficient level of car parking and truck access, primarily for accessibility and servicing needs to the grocer/supermarket respectively
- Create a community and family friendly environment through appropriate plantations and street furniture

Encourage local entrepreneurship and community collaboration through the availability of shared workspaces and/or multi-purpose function rooms, particularly as part of any community facility development.

5.5 Employment forecasts and requirements

Demand for industrial and commercial land is compositionally driven by regional economic activity, infrastructure investment, institutional presence, government policy directions and the suitability of the land in question. Collectively, they have been analysed separately across sections 2 to 4. In this section, we bring together those factors to provide a quantitative assessment of demand for employment land in OSEP to guide planning for the area.

Employment growth is a direct indicator of demand for industrial and commercial land since most employment land uses will offer employment opportunities. However, it is not necessarily a simple driver to analyse and forecast. The industry of employment, building types, employment density and plot ratio all have a direct and tangible impact on how employment growth leads to demand for employment lands. As a result, the Base (SEEC) employment scenario for OSEP has been refined (Policy-on Scenario) with consideration of local precinct opportunities, constraints and likely development outcomes/forms coming from more targeted analysis of the OSEP specifically.

TABLE 6: SCENARIO DESCRIPTIONS

Scenario	Description	Assumptions used
Base scenario	SEEC regional employment forecasts	Balances all sub-regional employment locations. Assumes typical job to floorspace/land ratios across all areas (i.e., not specific to a SSIP, or local area)
Policy-on (Preferred)	Refined OSEP employment forecasts based on local policy aspirations and precinct features	Presents a more optimistic employment outcome for OSEP based on achievement of enabling policy/infrastructure investment. Refines allocation of employment to land use types and floor/land space ratios specific to the precinct (i.e., more consistent with SSIP or RSCA forms)

Source: SGS Economics and Planning, 2022

The aggregate results of employment, floorspace and land need presented across the baseline and the policy-on scenario are presented in Table 7 and Table 8.

Both scenarios have a similar number of jobs, with a slight increase in employment for the SSIP component under the Policy-on scenario – reflective of a greater realisation of supportive policy and infrastructure outcomes for the OSEP. However, the policy-on scenario has a considerably higher take up of floorspace and land reflective of the more refined OSEP land use and space ratio applied.

TABLE 7: BASELINE SCENARIO EMPLOYMENT, FLOORSPACE AND LAND NEED COMPARISON, 2021-61

	Employment			Floorspace			Land		
	SSIP	RSCA	Total	SSIP	RSCA	Total	SSIP	RSCA	Total
2021	0	500	500	2,000	35,000	38,000	0	10	10
2031	1,000	1,600	2,600	107,000	96,000	202,000	40	30	70
2041	2,800	3,800	6,600	295,000	217,000	512,000	120	70	190
2051	4,900	7,300	12,200	471,000	398,000	869,000	190	120	310
2061	7,900	11,300	19,200	685,000	600,000	1,285,000	270	180	450
2021-41	2,800	3,300	6,100	293,000	182,000	474,000	120	60	180
2021-61	7,900	10,800	18,700	683,000	565,000	1,247,000	270	170	440

Source: SGS Economics and Planning, 2022

TABLE 8: POLICY-ON SCENARIO EMPLOYMENT, FLOORSPACE AND LAND NEED COMPARISON, 2021-61

	Employment			Floorspace			Land		
	SSIP	RSCA	Total	SSIP	RSCA	Total	SSIP	RSCA	Total
2021	0	500	500	4,000	24,000	27,000	0	10	10
2031	1,100	1,600	2,600	170,000	82,000	251,000	70	30	100
2041	3,300	3,800	7,100	553,000	176,000	729,000	230	50	280
2051	6,500	7,300	13,800	1,071,000	336,000	1,407,000	440	100	540
2061	10,300	11,300	21,500	1,372,000	530,000	1,902,000	540	160	700
2021-41	3,300	3,300	6,600	549,000	152,000	702,000	230	40	270
2021-61	10,300	10,800	21,000	1,368,000	506,000	1,875,000	540	150	690

Source: SGS Economics and Planning, 2022

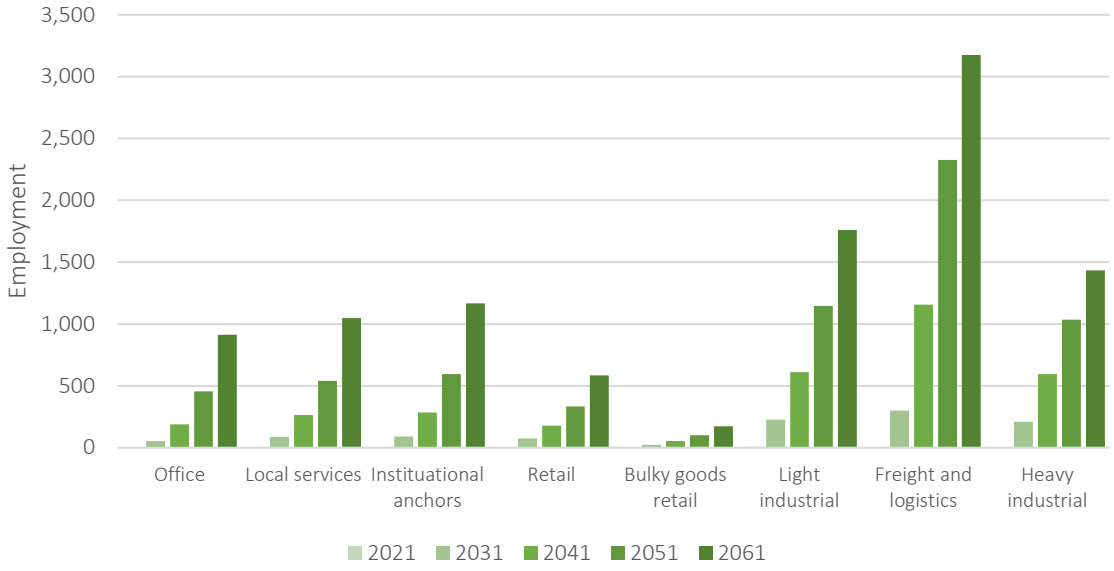
The Policy On scenario results for the SSIP and RSCA components, along with the OSEP combined, are now discussed in further detail.

Employment, floorspace and land forecasts – OSEP- SSIP

The policy-on scenario results in a total increase of 10,300 jobs across the SSIP component of the OSEP from 2021-61. 3,300 of those jobs are achieved by 2041. Within the OSEP, the majority of those jobs are within light industrial, Freight and Logistics and Heavy Industrial land uses.

There will be some employment within office and other services functions which will likely be co-located or act as support uses to the primary industrial functions of the precinct.

FIGURE 27: SSIP EMPLOYMENT, POLICY-ON SCENARIO



Source: SGS Economics and Planning, 2022

This employment growth results in a need of 1,368,300 sqm of additional floorspace to 2061, 549,670 sqm of which will be required to 2041. The anticipated rate of development is expected to begin with relatively low floor space ratios (FSRs) as the OSEP starts to be constructed, with a shift towards mid-level FSRs by 2061 as a critical mass of development and economic maturity is achieved.

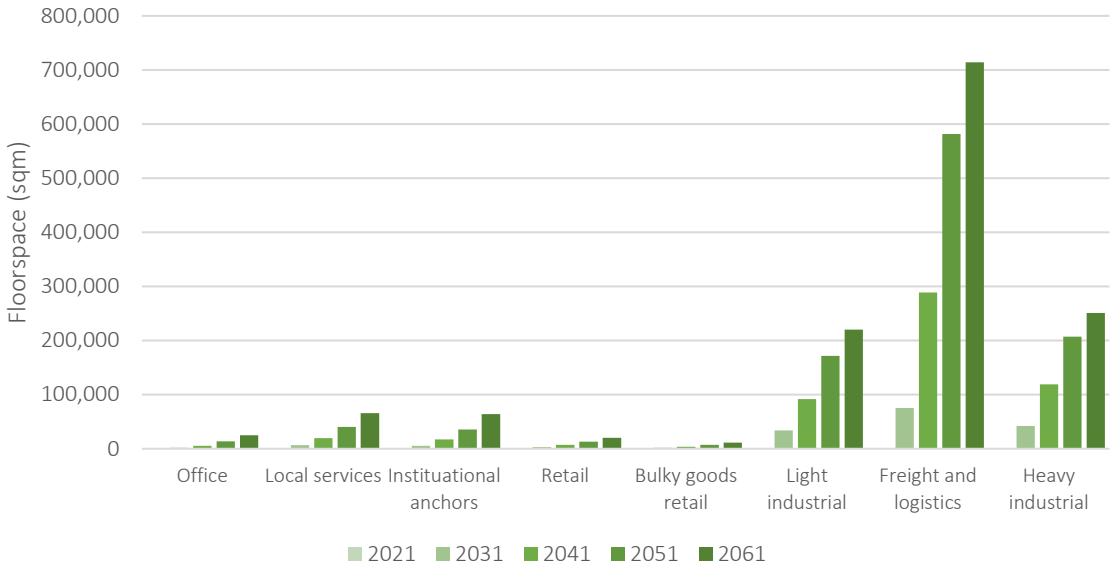
TABLE 9: SSIP EMPLOYMENT FLOORSPACE DEMAND (SQM), PREFERRED SCENARIO

Year	FSR	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	Low	33	216	176	99	55	935	1,205	900	3,620
2041	Low	5,660	19,743	17,049	7,118	3,801	91,776	289,043	119,101	553,290
2061	Low-Mid	25,116	65,538	64,236	20,434	11,307	220,046	714,396	250,848	1,371,920
2021-41		5,628	19,526	16,873	7,019	3,745	90,840	287,838	118,201	549,670
2021-61		25,083	65,321	64,059	20,335	11,251	219,110	713,192	249,948	1,368,300

Source: SGS Economics and Planning, 2022

Figure 36 illustrated that the majority of floorspace will be required in the freight and logistics sector, followed by light and heavy industrial functions

FIGURE 28: SSIP EMPLOYMENT FLOORSPACE DEMAND, PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

Employment was converted to land need using a jobs per hectare (JPH) density. In tandem with the assumptions around FARs, JPH density was assumed to be low until 2061, where there was sufficient development to warrant higher densities. The preferred scenario suggests a requirement of 541 ha of employment land by 2061, 227 ha of which will be required by 2041.

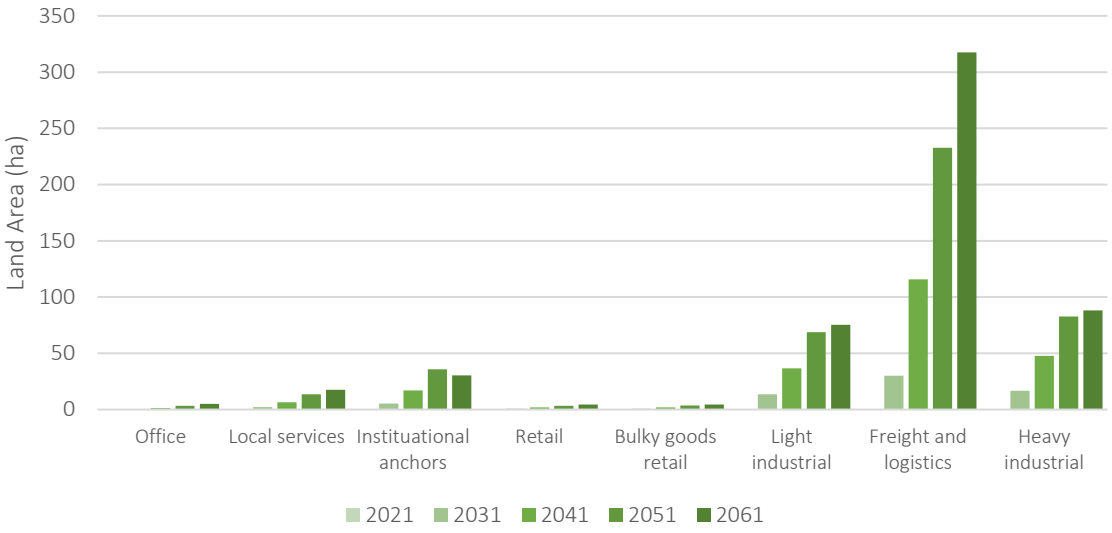
TABLE 10: SSIP EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

Year	JPH	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	Low	0	0	0	0	0	0	0	0	2
2041	Low	1	7	17	2	2	37	116	48	229
2061	Low-Mid	5	17	30	4	4	75	318	88	543
2021-41		1	7	17	2	2	36	115	47	227
2021-61		5	17	30	4	4	75	317	88	541

Source: SGS Economics and Planning, 2022 (figures may not sum due to rounding)

Reflective of a lower density and land hungry use, the freight and logistics sector will require the majority of land area in the OSEP to 2061, this will be followed by light and heavy industrial uses.

FIGURE 29: SSIP EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

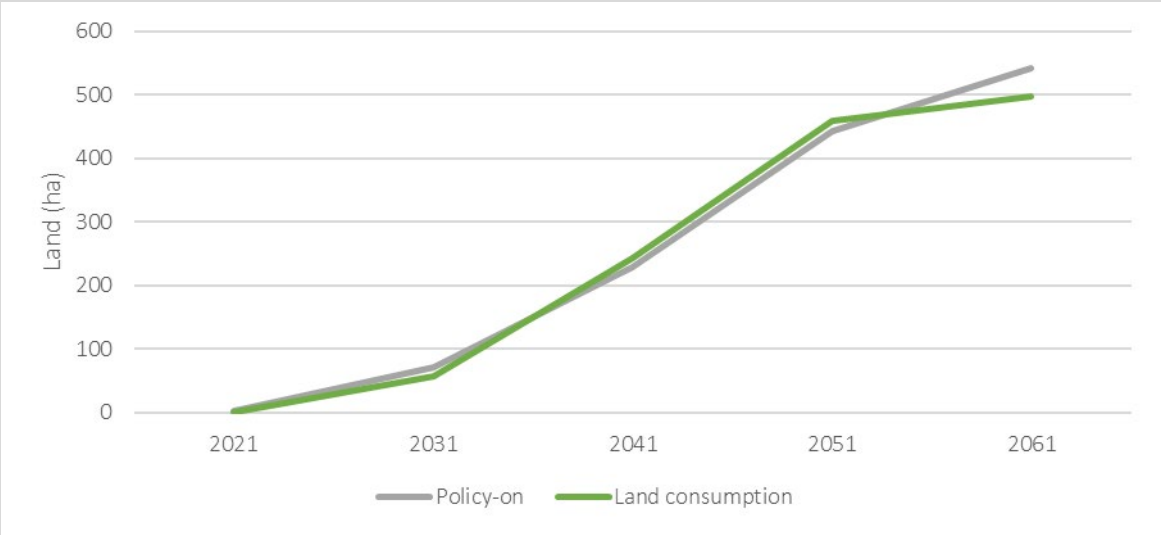


Source: SGS Economics and Planning, 2022

OSEP-SSIP – Employment and land consumption approach comparison

When compared to the land consumption model that assumes 498 hectares in the SSIP would be consumed by 2061, the policy-on scenario results in a consumption of 543 hectares. This is demonstrated in Figure 31 below, where both track a similar development/forecast trajectory.

FIGURE 30: COMPARISON OF S5 LAND DEMAND TO CONSUMPTION MODEL

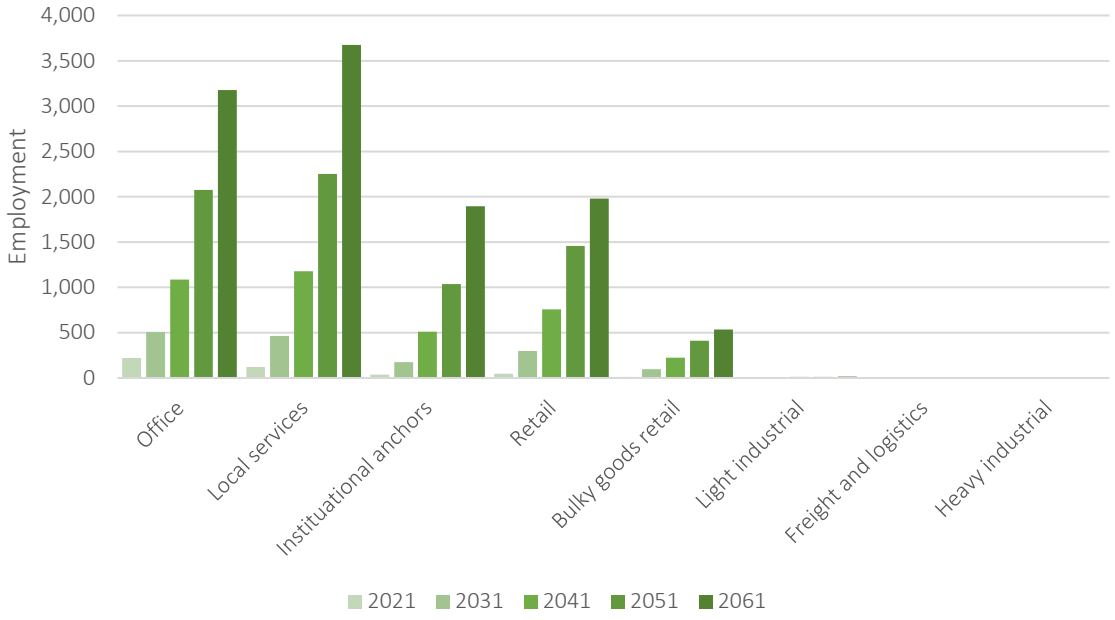


Source: SGS Economics and Planning, 2022

Employment, floorspace and land forecasts – OSEP- RSCA

The policy-on scenario results in a total increase of 11,300 jobs across the RSCA component of OSEP by 2061, with 3,800 of those jobs realised by 2041. There will be no significant industrial type of employment functions within the RSCA component of OSEP. Employment will be predominately services based uses including office, local services, institutional anchors (i.e., hospital) and retail (both within the local centre and integrated with the other commercial areas).

FIGURE 31: RSCA AREA EMPLOYMENT, PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

This results in a need of 529,600 sqm of additional floorspace to 2061, 175,600 sqm of which will be required by 2041. The anticipated rate of development is expected to begin with relatively low floor space ratios (FSRs) as the OSEP starts to mature, employment uses are estimated to shift towards mid-level FSRs by 2041. This is slightly faster than what is expected in the SSIP, due to the different nature of the industries anticipated in the RSCA area.

TABLE 11: RSCA AREA EMPLOYMENT FLOORSPACE DEMAND (SQM), PREFERRED SCENARIO

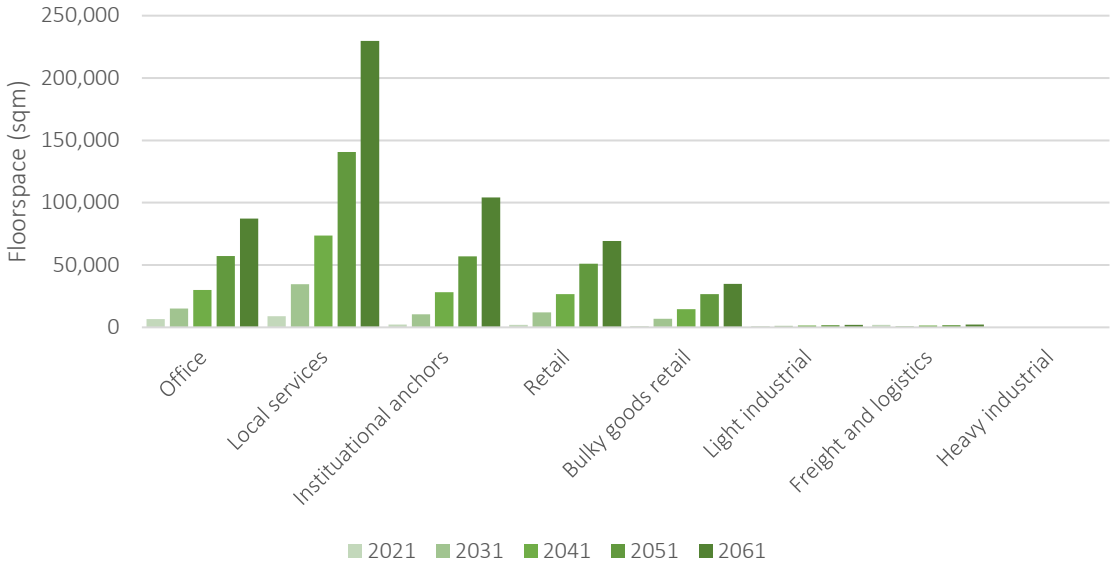
Year	FSR	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	Low	6,600	9,000	2,300	1,900	900	1,000	2,100	0	23,800
2041	Low-Mid	29,900	73,500	28,100	26,600	14,600	1,500	1,400	0	175,600
2061	Low-Mid	87,300	229,800	104,200	69,300	34,800	1,900	2,200	0	529,600
2021-41		23,300	64,500	25,800	24,700	13,700	500	-800	0	151,800

2021-61	80,700	220,700	101,900	67,400	33,900	1,000	100	0	505,800

Source: SGS Economics and Planning, 2022

Figure 33 illustrates that the majority of floorspace will be required for local services, institutional anchors, and offices.

FIGURE 32: RSCA AREA EMPLOYMENT FLOORSPACE DEMAND, PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

Employment was converted to land need using a jobs per hectare (JPH) density. In tandem with the assumptions around FARs, JPH density was assumed to be low until 2061, where there was sufficient development to warrant higher densities. The preferred scenarios suggest a requirement of 160 hectares of employment land by 2061, 51 hectares of which will be required by 2041.

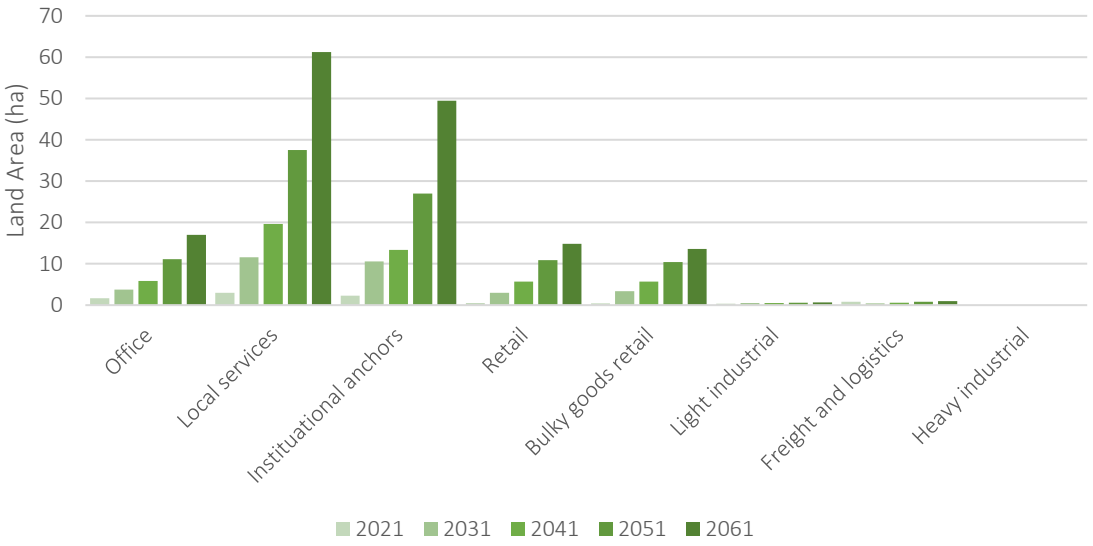
TABLE 12: RSCA AREA EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

Year	JPH	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	Low	2	3	2	0	0	0	1	0	9
2041	Low-Mid	6	20	13	6	6	1	1	0	51
2061	Low-Mid	17	61	49	15	14	1	1	0	160
2021-41		4	17	11	5	5	0	0	0	42
2021-61		15	61	47	14	13	0	0	0	149

Source: SGS Economics and Planning, 2022 (figures may not sum due to rounding)

Similar to the floorspace demand, there will be strong land demand for local services and institutional anchors, and some requirements for offices to 2061.

FIGURE 33: RSCA AREA EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

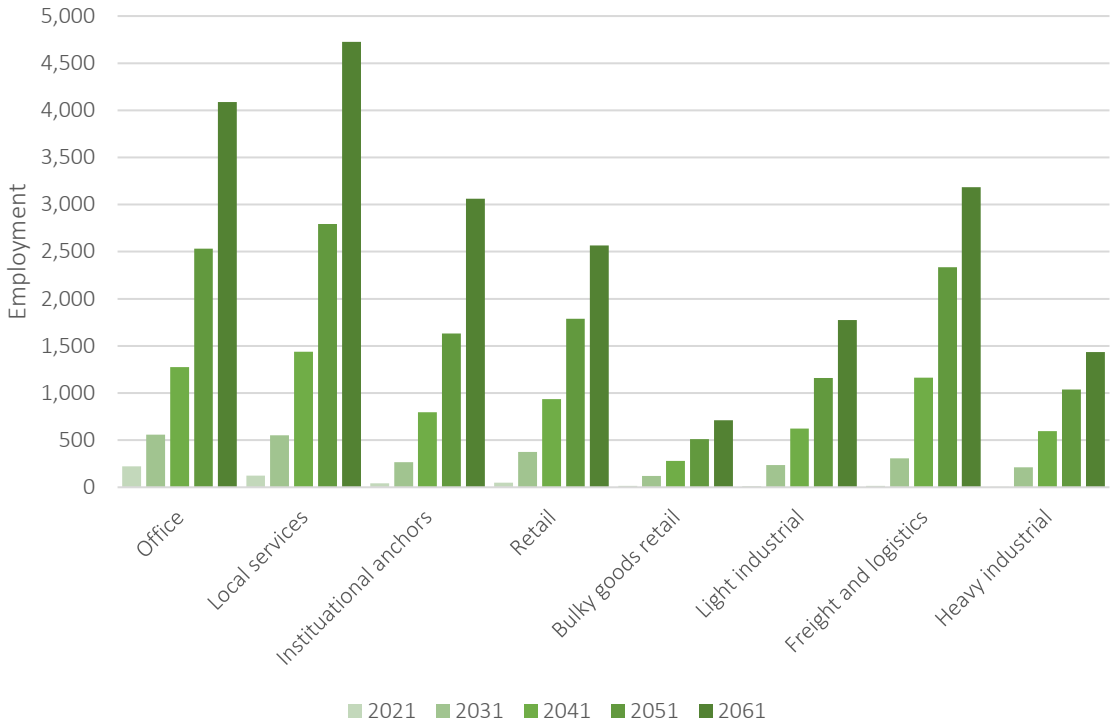


Source: SGS Economics and Planning, 2022

Employment, floorspace and land forecasts – OSEP overall

The policy on scenarios results in a total increase of 21,000 jobs across the OSEP from 2021-61, 6,600 of those jobs by 2041. As is expected of a large scale, regionally significant employment area, employment is spread across a diverse range of sectors and uses across the two components of the OSEP. From an employment perspective, Office and local services will provide the greatest number of jobs by 2061.

FIGURE 34: OSEP EMPLOYMENT, PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

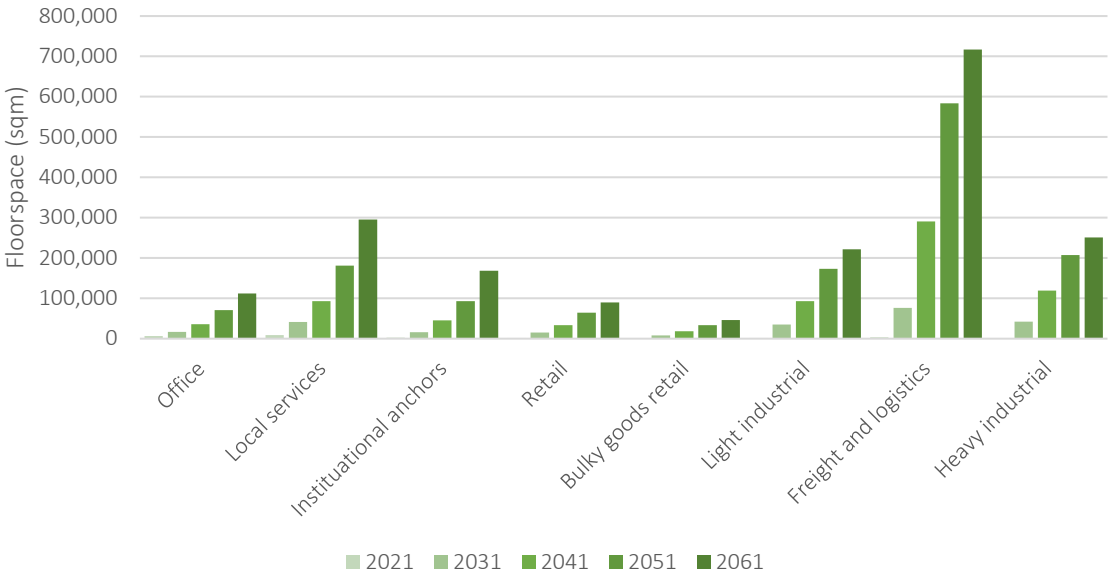
This results in a combined need of 1,874,100 sqm of floorspace by 2061, 701,400 sqm of which will be required to 2041. Figure 36 illustrates that the majority of floorspace will be required in the freight and logistics sector, followed by local services and heavy industrial.

TABLE 13: OSEP EMPLOYMENT FLOORSPACE DEMAND (SQM), PREFERRED SCENARIO

Year	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	6,600	9,300	2,500	2,000	1,000	1,900	3,300	900	27,400
2041	35,600	93,300	45,200	33,700	18,400	93,300	290,400	119,100	728,800
2061	112,400	295,300	168,500	89,700	46,100	222,000	716,600	250,800	1,901,500
2021-41	28,900	84,000	42,700	31,700	17,400	91,400	287,100	118,200	701,400
2021-61	105,800	286,000	166,000	87,800	45,200	220,100	713,300	249,900	1,874,100

Source: SGS Economics and Planning, 2022

FIGURE 35: OSEP EMPLOYMENT FLOORSPACE DEMAND, PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

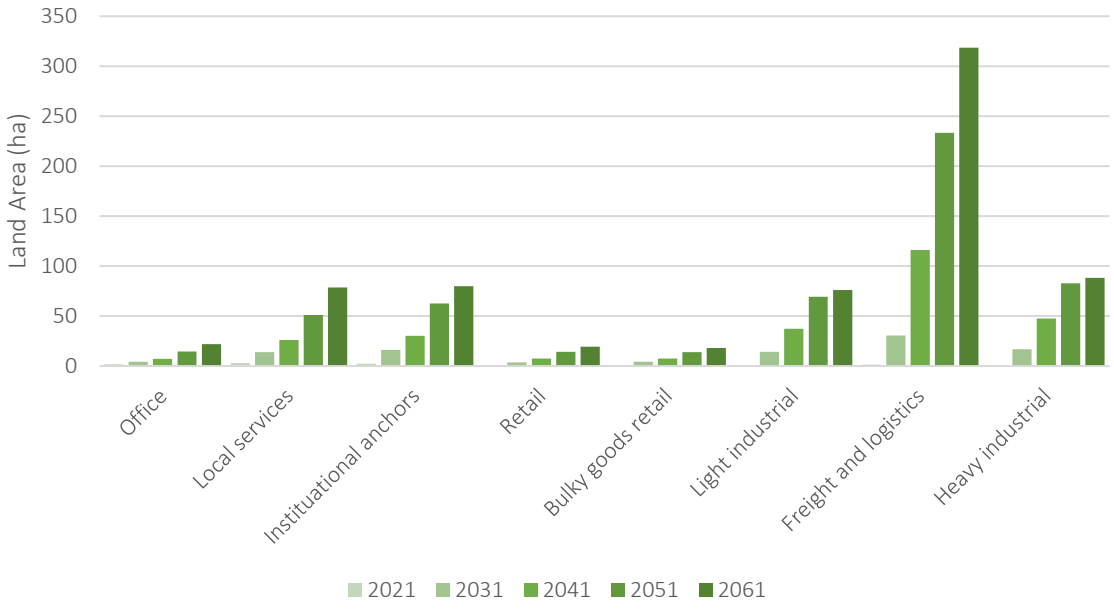
The preferred scenarios suggest a requirement of 701 hectares of employment land by 2061, 269 hectares of which will be required by 2041. Reflective of a lower density and land hungry use, the freight and logistics sector will require the majority of land area in the OSEP to 2061.

TABLE 14: OSEP EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO

Year	Office	Local services	Institutional anchors	Retail	Bulky goods retail	Light industrial	Freight and logistics	Heavy industrial	Total
2021	2	3	2	0	0	1	1	0	11
2041	7	26	30	7	8	37	116	48	280
2061	22	79	80	19	18	76	319	88	701
2021-41	6	23	28	7	7	36	115	47	269
2021-61	20	76	77	19	18	75	317	88	690

Source: SGS Economics and Planning, 2022 (figures may not sum due to rounding)

FIGURE 36: OSEP EMPLOYMENT LAND DEMAND (HA), PREFERRED SCENARIO



Source: SGS Economics and Planning, 2022

Alignment analysis

The preferred scenario results in a land requirement of 543 ha in the SSIP. With a net developable area (NDA) of 560 ha, this results in a "gap" of 17 ha. In the RSCA area with an NDA of 159 ha, a need of 160 ha results in a slight "surplus" of 0.1 ha. This indicative shortfall is considered to be minor and sufficient to meet the requirements to 2061.

6. PSP land use configuration

The following section considers land use configuration options for the OSEP and compares this to land suitability and demand forecasts

6.1 High level land use options assessment

A high level land use options assessment was completed to assess the pros and cons of different potential land use configurations for the OSEP. This then informed the development of a preferred option (7) which was then further developed up in greater detail by the VPA.

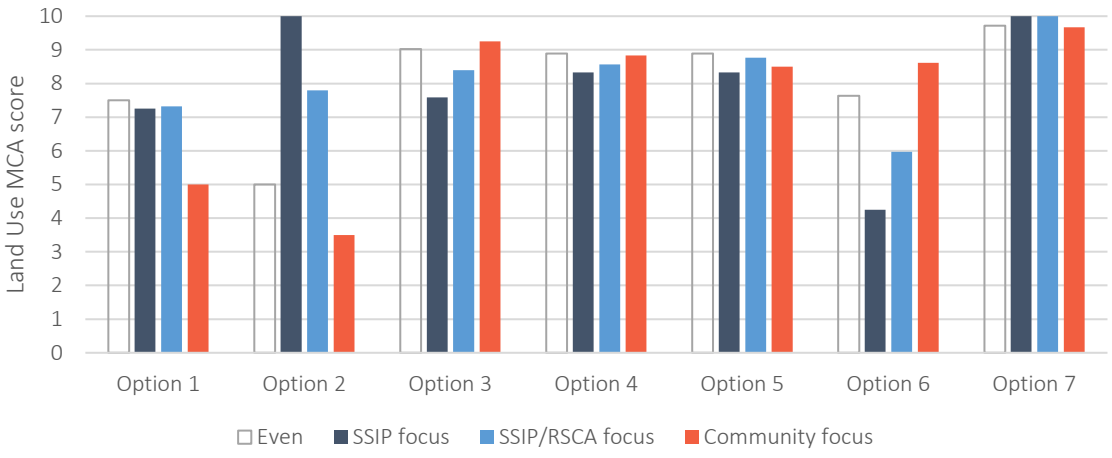
The PSP Guidelines were used to develop a criteria framework for assessing potential land use configurations for the OSEP. Each land use option was then qualitatively assessed against each criterion. Scores ranged from 0 (low/poor) to 3 (high/good). A combined MCA score (ranging from 0 to 10) was then determined by combining individual criteria scores with a set of criteria weights:

- Even – weighted all criteria the same
- SSIP focus – increased weights directly linked to SSIP/Industrial land outcomes
- SSIP/RSCA focus – increased weights directly linked to SSIP/Industrial/commercial land outcomes
- Community focus – increased weights directly linked to residential or local service outcomes

The criteria, land use option scores and weights are presented in Table 15. Figure 39 provides a further summary of each land use configuration option. Figure 38 below provides an overview of all options.

This highlights that some options become more favourable when focusing a single outcome. For example, Option 2 scores highly under the SSIP focus, while Option 3 scores highly under the Community focus. The preferred Option 7, scores highly under all weighting scenarios.

FIGURE 37: LAND USE MCA SCORE SUMMARY

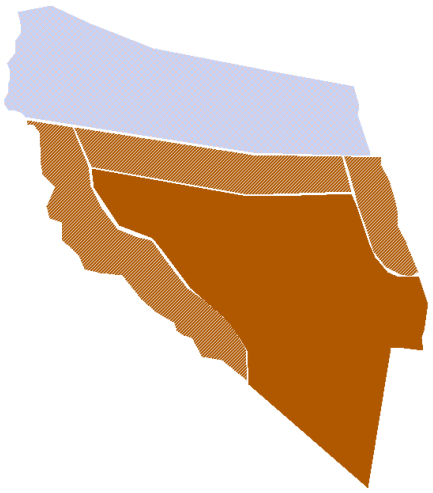


Source: SGS Economics and Planning, 2022

TABLE 15: OSEP LAND USE CONFIGURATION ASSESSMENT FRAMEWORK – DETAILED SCORE CARD

Category		PSP Assessment criteria	Scores							Weights			
			Opt1	Opt2	Opt3	Opt4	Opt5	Opt6	Opt7	Event	SSIP focus	SSIP/ RSCA focus	Res focus
Relevant objectives	1	20 minute neighbourhoods, supports increasing densities and high amenity	3	0	3	3	3	3	3	8%	0%	5%	10%
	2	Flexibility that enables the greatest range of possible outcomes for future technologies, products, consumer preferences and economic drivers that might emerge in the long run.	2.5	3	3	3	3	1	3	8%	15%	10%	5%
F8. Well connected to public transport, jobs and services	3	Meets the future economic and employment needs of the state (MICLUP's designation of SSIP).	1.5	3	2	2	2	1	3	8%	50%	33%	5%
	4	Employment areas located in areas adjacent to, or in close proximity to, arterial roads, public transport and freight networks	3	3	1.5	3	3	1.5	3	8%	15%	10%	5%
	5	Buffers: Locates complementary land uses adjacent to existing or future employment areas, particularly industrial employment areas.	3	3	3	3	3	3	3	8%	10%	10%	8%
F9. Local employment opportunities	6	Locate and design mixed-use residential and employment areas to ensure residents and employees have access to public transport, local community and retail services, and open space.	3	0	2	2	2	2	2	8%	0%	0%	10%
	7	Co-locate complementary commercial, retail, education, medical and other employment uses within or adjacent to activity centres	3	3	3	3	3	3	3	8%	0%	5%	10%
F16. Activity centres that can accommodate the range of jobs, services, amenities, activities and housing	8	Centre with full range of services including anchor retail	1.5	0	3	2	3	3	3	8%	0%	5%	10%
	9	Maximise opportunity for employment, health, community uses, not-for-profit uses, employment-finding and education services, adaptable/multifunctional spaces and housing in the short and long term	1.5	0	3	2	3	3	3	8%	0%	5%	10%
	10	Performance target: 80-90% of dwellings located within 800m of an activity centre.	2	0	3	3	3	3	3	8%	0%	5%	10%
F17. Staging and location of development	11	Considers proximity to existing or committed community, road, public transport infrastructure and/or its role in facilitating delivery of this infrastructure	0	0	3	3	1	3	3	8%	0%	2%	15%
F18. Innovative and sustainable infrastructure delivery	12	Makes good use of leveraging future infrastructure investments	3	3	3	3	3	1	3	8%	10%	10%	2%

FIGURE 38: LAND USE OPTIONS SUMARY FINDINGS



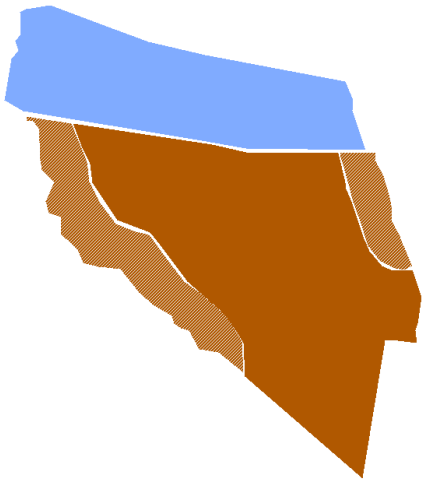
Option 1: Ind and mixed Use (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
480	270		320	1,070

MCA score = 7.5 (unweighted)

Provides sufficient land for demand, while 'core' industrial land is somewhat compromised by buffer

All of northern RSCA remaining as mixed use would be challenging to achieve as various uses would have different development staging requirements.



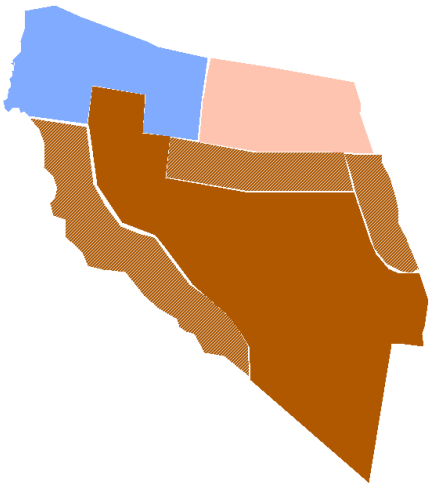
Option 2: Ind and com only (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
580	170	320	0	1,070

MCA score = 5.0 (unweighted)

Provides sufficient industrial land, while potentially provides significant surplus commercial land. Minimises all land use conflict buffers to the SSIP

Creates challenges for isolated CREP residential community to the east.



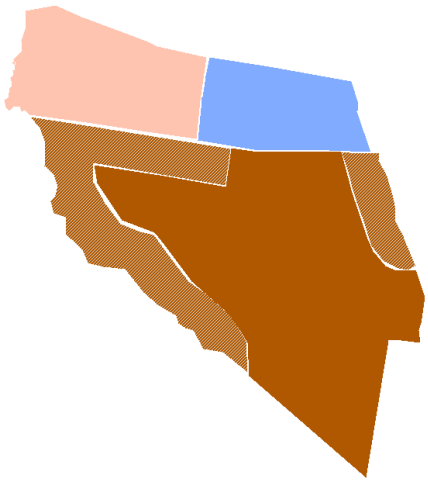
Option 3: Ind, com (west) and res (east) (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
530	240	170	130	1,070

MCA score = 9.0 (unweighted)

Provides sufficient commercial land and largely addresses industrial demand needs, while some SSIP industrial areas will abut residential areas creating buffer and amenity impacts for both uses.

Creates residential community that could integrate with CREP residential community to the east



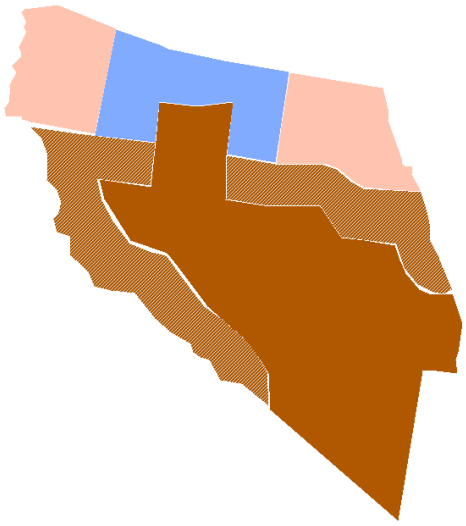
Option 4: Ind, res (west) and com (east) (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
520	230	130	190	1,070

MCA score = 8.9 (unweighted)

Largely addresses commercial and industrial demand needs, while some SSIP areas will abut residential areas creating buffer and amenity impacts for both uses.

Does not address isolated CREP residential community, while creating a new small residential area.



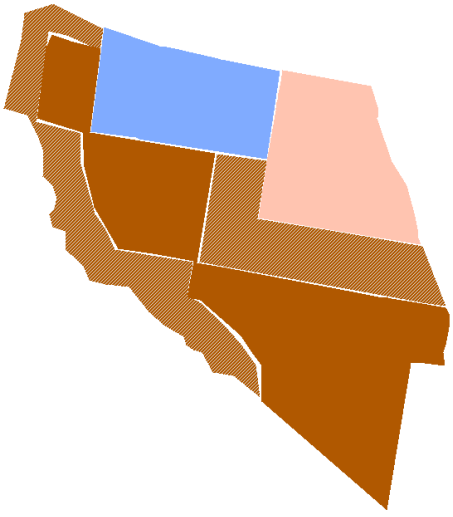
Option 5: Ind, res (west/east) and com (middle) (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
520	250	120	180	1,070

MCA score = 8.9 (unweighted)

Mostly addresses commercial and industrial demand needs, while some SSIP areas will abut residential areas creating buffer and amenity impacts for both uses.

Does address isolated CREP residential community, while creating a new very small residential area to the west.



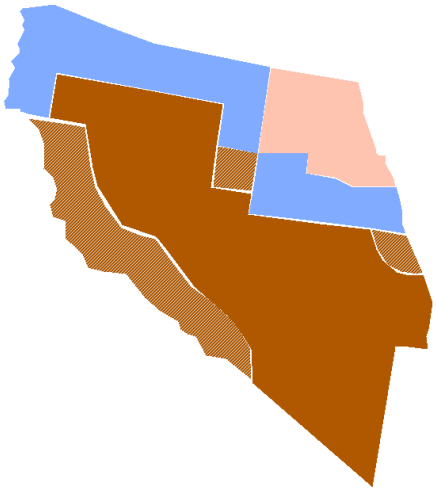
Option 6: Ind, expanded res (east) and com (middle) (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
430	310	160	170	1,070

MCA score = 7.6 (unweighted)

Provides sufficient commercial land, while much of the industrial land will be fragmented or compromised by land uses buffers, putting into question its ability to fully address long term demand needs.

Creates sizable residential community to integrate with CREP residential community to the east



Option 7: Ind, com (middle buffer) and res (east) (est. land area in hectares)

Ind	Ind (buf)	Com	Res	Total
570	160	240	100	1,070

MCA score = 9.7 (unweighted)

Fully address industrial and commercial demand requirements and minimise uses buffers on industrial lands through commercial uses.

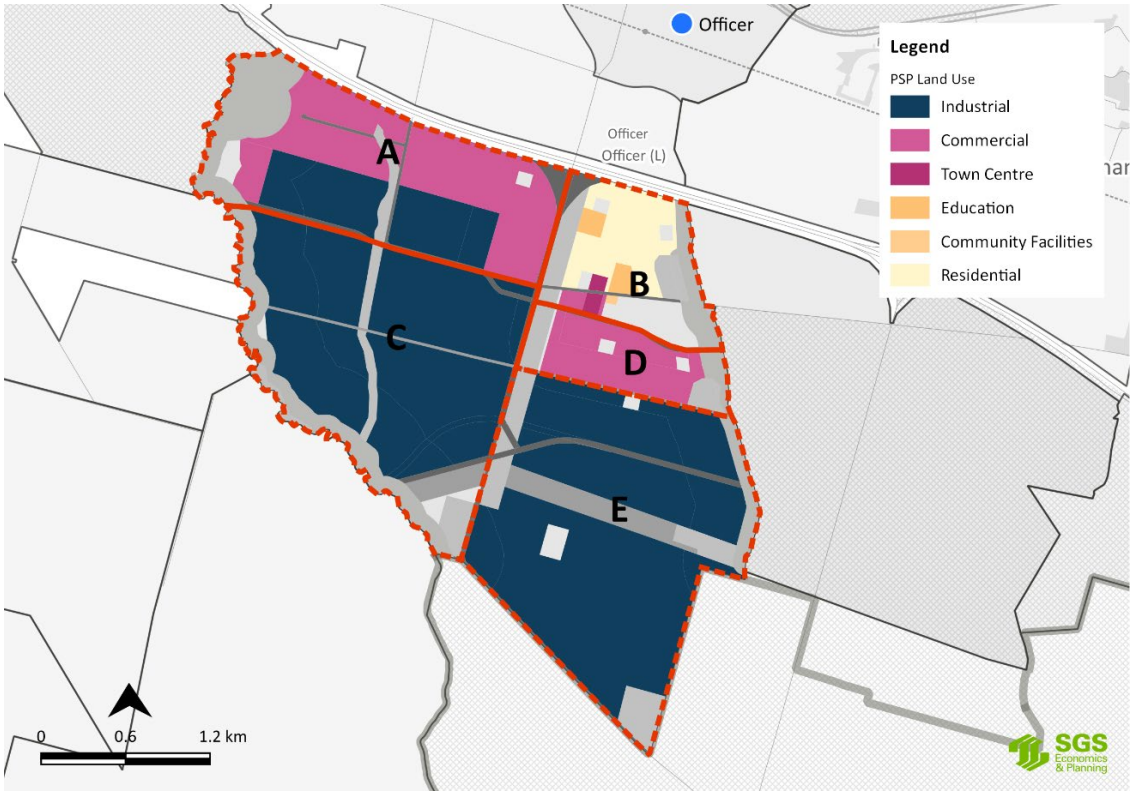
Creates a small residential community that could integrate with CREP residential community to the east

6.2 Option 7 (Preferred) land use configuration assessment

OSEP overview

The following further details the employment elements of the preferred land use configuration and identifies five broad sub precincts which will be further discussed.

FIGURE 39: PREFERRED LAND USE CONFIGURATION



Source: SGS Economics and Planning based on VPA data, December 2021

The demand assessment (Section 5) identified the following key requirements for the OSEP:

- A need for around 540 hectares of **industrial land** based on both the land consumption and employment forecasting analysis.
- Industrial land uses requirements were split between light (75 hectares), freight and logistics (319) and heavy (88) industrial requirements. In addition, analysis of other heavy industrial precincts identified that these heavy functions were typically dispersed with other lighter industrial uses. This suggested up to three times the required land was needed to address this (264 hectares)
- A need for around 160 hectares of **commercial land** outside the SSIP area. This includes offices, local service needs, institutions (i.e., hospitals) and land associated with a town centre.
- The activity centre needs assessment identified a need for a town centre of between 1.5 and 6 hectares depending on the size and population of the residential component.

The following table presents the preferred land use configuration by sub-precinct and use. With reference to the suitability and demand assessment findings (summarised above) the preferred land use configuration appears to achieve all the high-level land requirements. Providing sufficient industrial, commercial and town centre/community land to meet the region's long term demand requirements.

TABLE 16: OPTION 7 (PREFERRED) LAND USE CONFIGURATION BY SUB-PRECINCT AND USE

	Light Industrial	Heavy Industrial	Commercial	TC/Com	Res	Other	Total
A	11	53	113	0	0	62	239
B	0	0	3	7	39	58	106
C	84	145	0	0	0	83	312
D	0	0	43	0	0	24	67
E	55	212	0	0	0	77	344
Total	150	410	159	7	39	304	1,069

Source: SGS Economics and Planning based on VPA preferred land use (2022)

Land use location requirements

The locational requirements of key industries contained in the OSEP can be summarised as follows.

Although not identified as a major economic opportunity for the SSIP, business parks and service industry have been included as potential uses for buffer and commercial areas.

TABLE 17: LAND USE LOCATION REQUIREMENTS

Industry group	Land requirements	Location/access requirements
Heavy Industry Manufacturing for primary industries (agriculture and mining) Manufacturing for transport industries (rolling stock and infrastructure)	Large separation buffers to residential, large sites, flat land, provision of utilities & information/communications technology infrastructure, heavy industry zoning	B-double truck access, proximity to freight route, proximity to motorways, container port, rail terminal, access to supply chain, access to labour
Light Industry Manufacturing for knowledge sectors (professional services and IT) Manufacturing for health care	Small to medium buffer zones, industrial zoning, provision of utilities & information/communications technology infrastructure	Truck access, proximity to freight routes
Freight Transport and logistics, particularly moving manufactured products Wholesaling	Large sites, flat land, industry zoning, competitively priced land, ready site access/ egress	B-double truck access, access to key freight routes, direct access to ports/ rail/ intermodal hub
Business Parks	Commercial/ industrial zoning, decent amenity, high quality information/ communications technology infrastructure	Access to tertiary educated skills, access to research and innovation services, public and./or private transport access
Service Industry	Competitively priced land, small lots, industrial zoning	Central to customers, good road access

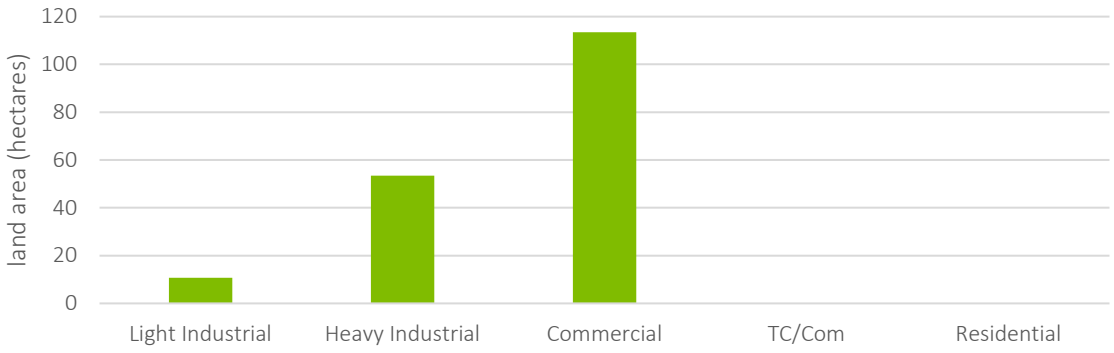
Source: SGS Economics and Planning, 2022

OSEP Precinct A

Precinct A is bound by Princes Fwy, Officer South Road, Lecky Road and the Cardinia Creek. The precinct represents the largest component of commercial land (113 hectares) along with 65 hectares of industrial land.

The precinct will have excellent transport access and connections to the Southern SSIP, Officer TC, Minta Farm and the Broader Officer-Pakenham SSIP. The precinct would be well places to accommodate any key anchor tenants, such as a Tertiary Institution, Hospital or large commercial headquarters, particularly if they have synergies back into the SSIP industrial land.

FIGURE 40: PREFERRED LAND USE BREAKDOWN: PRECINCT A



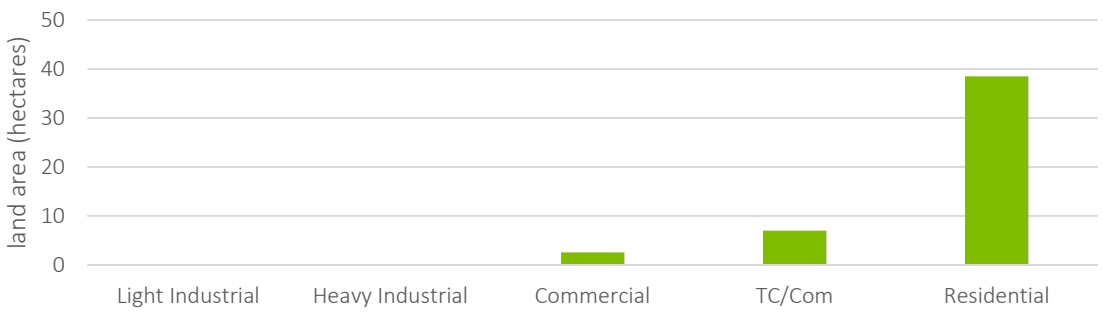
Source: SGS Economics and Planning (2022) based on VPA preferred land use

OSEP – Precinct B

Precinct B is bound by Princes Fwy, Officer South Road, Lower Gum Scrub Creek and a new east-west arterial connection. The precinct is largely residential (40 hectares) with employment land for a neighbourhood centre (3 hectares), two schools and one community facility.

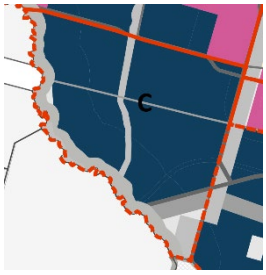
The neighbourhood centre should provide a local convenience function. It should be designed to accommodate a range of local specially shops which could be accommodated uses such as café, butcher, bakery, hairdresser, bank, restaurant and potentially a small-scale grocer (i.e., IGA). The local centre will also play a dual role, servicing workers from the adjacent commercial areas.

FIGURE 41: PREFERRED LAND USE BREAKDOWN: PRECINCT B



Source: SGS Economics and Planning based on VPA preferred land use (2022)

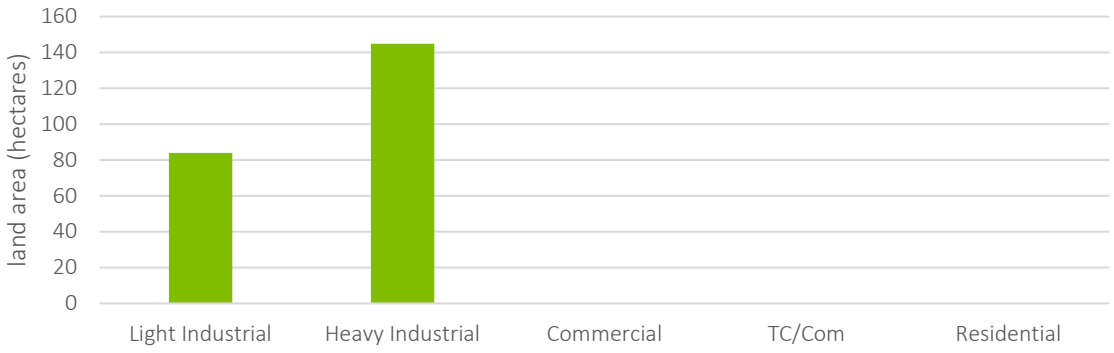
OSEP – Precinct C



Precinct C is bound by Lecky Road, Officer South Road and Cardinia Creek. The precinct contains the largest amount of light industrial land (84 hectares) along with a significant amount of heavy industrial land (145).

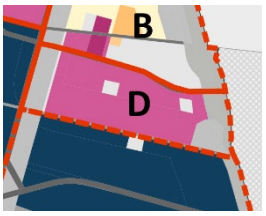
Once the Thompson Rd extension is completed the precinct will have excellent access back to the Southern SSIP and broader region and will represent a key western gateway into the broader Office-Pakenham SSIP. Larger lots should be preserved within this precinct to provide flexibility and suitable supply for large scale industrial users.

FIGURE 42: PREFERRED LAND USE BEAKDOWN: PRECINCT C



Source: SGS Economics and Planning (2022) based on VPA preferred land use

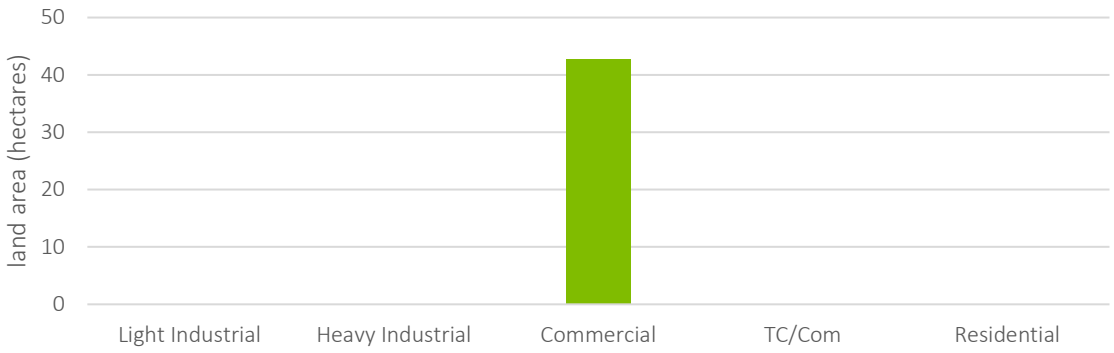
OSEP – Precinct D



Precinct D is bound by Officer South Road, the (Residential) Precinct B to the north, the (SSIP) Precinct E to the south and Lower Gum Scrub Creek. The precinct is largely comprised of commercial land uses.

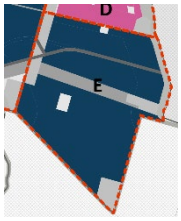
This precinct primarily acts as a buffer between the SSIP industrial uses to the south and the residential community to the north. The precinct could contain a mix of commercial/business park uses closer the centre and residential areas and urban services (i.e., personal storage, mechanics) along with bulky retail on major arterials.

FIGURE 43: PREFERRED LAND USE BREAKDOWN: PRECINCT D



Source: SGS Economics and Planning (2022) based on VPA preferred land use

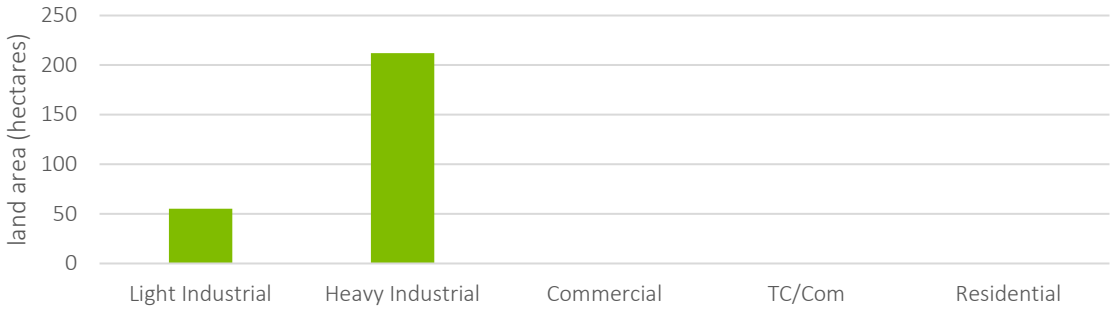
OSEP – Precinct E



Precinct E is bound by Officer South Road, Patterson Road and (commercial) Precinct D. The precinct contains the largest amount of Heavy industrial land (212 hectares) along with 55 hectares of light industrial land.

While this precinct will still have excellent connectivity via the Thompson Road extension (along with Officer South Road and Cardinia Road) it is relatively less accessible than other precincts. This presents an opportunity for it to provide for more heavy industrial functions which require suitable buffers and separation from other sensitive land uses. Similar to Precinct C, large lots should be preserved to provide flexibility and suitable supply for large scale industrial users.

FIGURE 44: PREFFERED LAND USE BREAKDOWN: PRECINCT E



Source: SGS Economics and Planning (2022) based on VPA preferred land use

Precinct employment land use overview

Each sub-precinct, due to the nature of their location and suggested land use mix, will have different types of businesses and built forms.

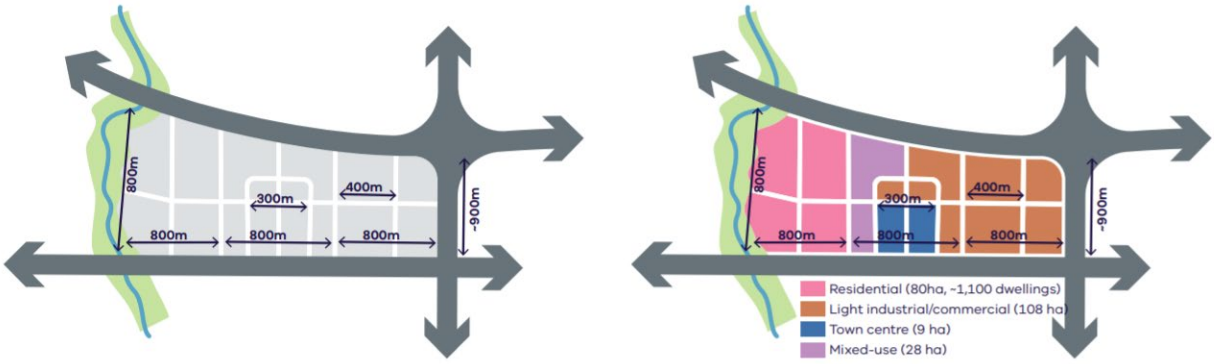
These recommendations are through the lens of an economic analysis and would be subject to further work from urban designers.

TABLE 18: DEVELOPMENT CONSIDERATIONS

	Key land uses	Key businesses/employers	Lot and form
Precinct A	Commercial, industrial	Manufacturers, logistics, major commercial headquarters, officer park, major (health/education) institutions	Mixture of medium-sized lots and small lots. Higher density commercial developments
Precinct B	Residential	Small retail/hospitality convenience businesses, population services (i.e., schools community facility)	Small lots, 1-3 stories built form
Precinct C	Industrial	Light industrial activities, manufacturers and logistics	Large lots, lower density
Precinct D	Commercial/ urban services	Population serving businesses, urban services and retail	Small to medium lots, mid-rise density
Precinct E	Industrial	Manufacturers, logistics	Large lots, lower density

In addition, lot sizes at the earlier stage of delivery can be larger but built with flexibility in mind as a critical mass is achieved and other types of development are possible. This is demonstrated in Figure 46.

FIGURE 45: ESTABLISHING A FLEXIBLE ROAD AND LOT LAYOUT

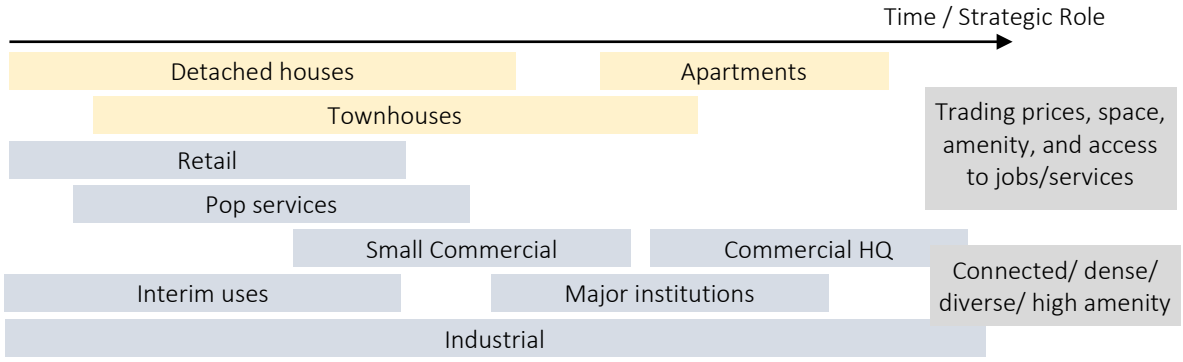


Source: SEEC, Figure 38 (pg. 70)

Development life cycle

The transformation of this area is a long-term vision. Economic demand will depend on a layering of land types and uses being provided, catalysing further activity. This can be shown in Figure 47 below.

FIGURE 46: URBAN ECONOMIC DEVELOPMENT LIFECYCLE OF A NEW COMMUNITY



Source: SGS Economics and Planning (2022)

6.2 was the draft masterplan until further information & guidance was receiving

<timestamping this subsection>

6.3 Assessment of VPA's Draft Place-based Plan (December 2022)

Following identification of the preferred land use configuration based on the initial economic assessment completed in May 2022 (see Section 6.1 and 6.2) the VPA undertook further consultation with agencies and council to refine the draft Place-based Plan as part of Agency Validation.

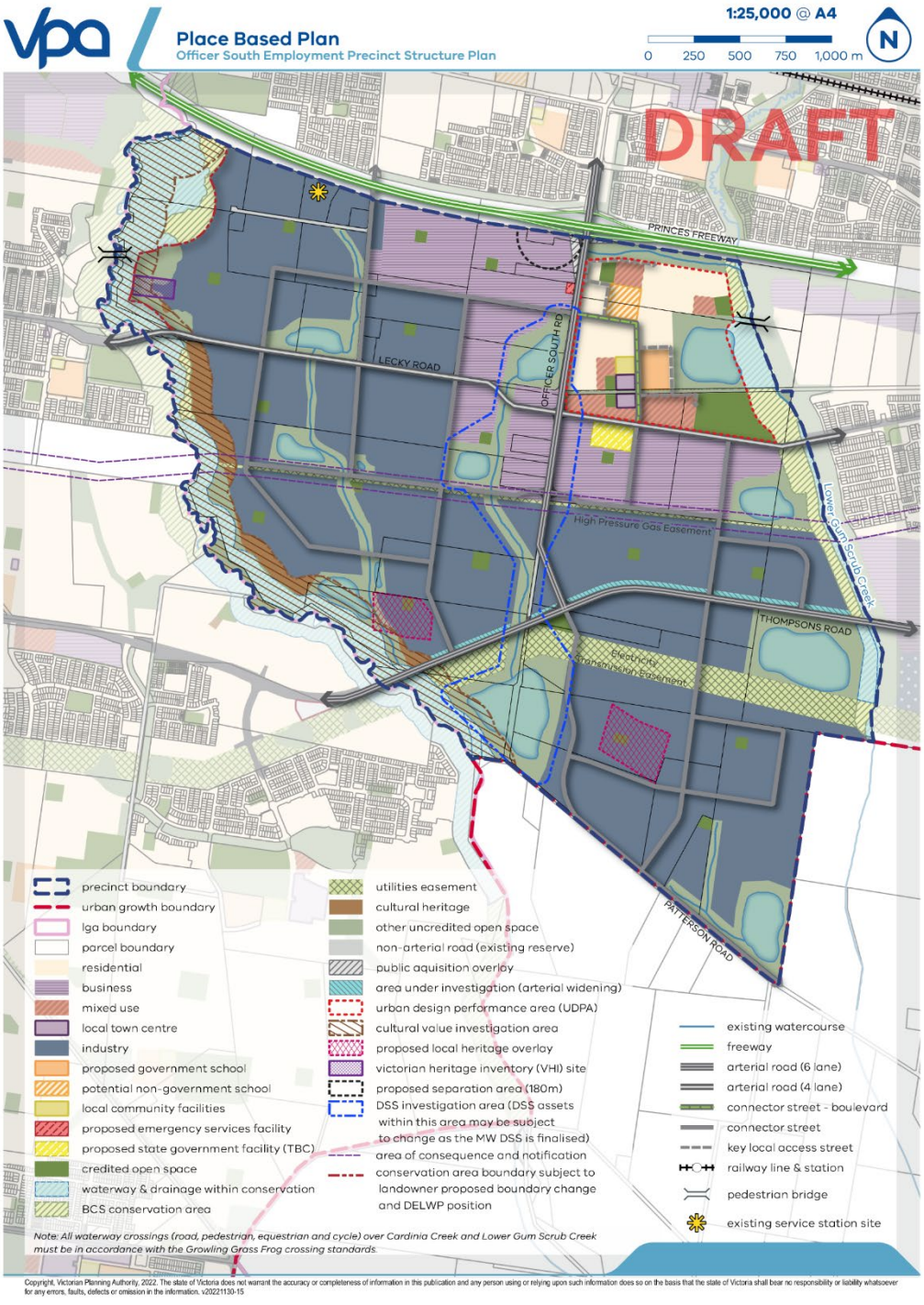
The refined draft Place-based Plan assessed in this section responds to agency and council feedback with the requirement to maintain the primacy of employment land uses as required through MICLUP, while achieving the new PSP Guidelines Targets by providing a compact residential area. Three key changes were made to the Option 7 (preferred) land use configuration:

- The plan responds to the need for the residential area to support population thresholds to enable efficient provision of community infrastructure for both Officer South Employment and the adjoining Cardinia Road Employment Precinct (CREP) residents.
- The refined plan also responds to Melbourne Water drainage requirements and addresses the need for increased land take to support future Melbourne Water assets.
- In addition, the plan recognises a cultural value investigation area along Cardinia Creek to protect intangible cultural heritage values.

Officer South Employment Precinct Structure Plan: Draft Place Based Plan & Land use Budget

The VPA's revised Place Based Plan is shown below in Figure 48. The plan's full land use budget is then shown in Table 19.

FIGURE 47 VPA DRAFT PLACE BASED PLAN



Source: VPA 2022

TABLE 19 VPA REVISED LAND USE BUDGET (FULL)

Land Use Class	Land Use Type	Land Use Sub Type	Area (ha)	% of Total ..	% of NDA
Transport	Arterial Road	Existing Road Reserve	8.78	0.82%	1.36%
		Public Acquisition Overlay	1.10	0.10%	0.17%
		Widening/Intersection Fla	25.17	2.35%	3.89%
		Sub-Total	35.06	3.28%	5.42%
	Non-Arterial Road	Existing Road Reserve	6.51	0.61%	1.01%
		Sub-Total	6.51	0.61%	1.01%
	Total		**41.57**	**3.89%**	**6.42%**
Education/ Community/ Government	Community Facilities	Community Facilities	1.00	0.09%	0.15%
		Sub-Total	1.00	0.09%	0.15%
	Education	Government School	3.50	0.33%	0.54%
		Non-Government School	3.00	0.28%	0.46%
		Sub-Total	6.50	0.61%	1.00%
	Government Services	Emergency Services	0.25	0.02%	0.04%
		Government Health Facility	3.00	0.28%	0.46%
		Sub-Total	3.25	0.30%	0.50%
	Total		**10.75**	**1.01%**	**1.66%**
Credited Open Space	Local Open Space	Local Park	12.75	1.19%	1.97%
		Local Sports Reserve	8.11	0.76%	1.25%
		Sub-Total	20.86	1.95%	3.22%
	Total		**20.86**	**1.95%**	**3.22%**
Uncredited Open Space	Conservation	Growling Grass Frog (BCS)	25.82	2.42%	3.99%
		Sub-Total	25.82	2.42%	3.99%
	Drainage	Drainage	46.59	4.36%	7.20%
		Retarding Basin/WQT	10.88	1.02%	1.68%
		Waterway within Conservation	70.43	6.59%	10.88%
		Waterways	132.07	12.36%	20.41%
		Sub-Total	259.98	24.32%	40.17%
	Heritage	Aboriginal	12.98	1.21%	2.01%
		Sub-Total	12.98	1.21%	2.01%
	Other	Redundant Road Reserve	1.50	0.14%	0.23%
		Sub-Total	1.50	0.14%	0.23%
	Utility Easement/ Corridor	Electricity	35.42	3.31%	5.47%
		Gas/Oil	7.03	0.66%	1.09%
		Sub-Total	42.45	3.97%	6.56%
	Total		**342.73**	**32.06%**	**52.95%**
NDA - E	Commercial	Business	122.43	11.45%	18.92%

Land Use Class	Land Use Type	Land Use Sub Type	Area (ha)	% of Total ..	% of NDA
	Industrial	Sub-Total	122.43	11.45%	18.92%
		General Industrial	481.01	45.00%	74.32%
		Sub-Total	481.01	45.00%	74.32%
	Total		**603.44**	**56.45%**	**93.23%**
NDA - R	Mixed Use	Mixed Use	13.38	1.25%	2.07%
		Sub-Total	13.38	1.25%	2.07%
	Residential	Residential	28.77	2.69%	4.45%
		Sub-Total	28.77	2.69%	4.45%
	Town Centre	Local Town Centre	0.85	0.08%	0.13%
		Local Town Centre (CZ2)	0.78	0.07%	0.12%
		Sub-Total	1.63	0.15%	0.25%
	Total		**43.79**	**4.10%**	**6.77%**
Other	Investigation Area	Investigation Area	5.77	0.54%	0.89%
		Sub-Total	5.77	0.54%	0.89%
	Total		**5.77**	**0.54%**	**0.89%**
Grand Total			**1,068.90**	**100.00%**	**165.15%**

Source: VPA 2022

Key differences between Land Use Configuration (S6.2) and revised Place-based Plan (S6.3)

Table 20 below summarises the key differences from the original preferred land use configuration (Section 6.2) to the Draft Place Based Plan (Section 6.3).

TABLE 20 LAND USE CONFIGURATION & PLACE BASED PLAN COMPARISON (HA)

Key points of difference	Option 7 (preferred) Land use configuration based on economic assessment (May 2022)	Draft Place Based Plan (November 2022)	Differences
Light Industrial (SSIP)	150	129[11]	-21
Heavy Industrial (SSIP)	410	352	-58
Commercial	159	123	-36
Mixed Use	0	13	13
Residential	39	29	-10
Town Centre	1.6	1.6	0
Other	309	422	113
Total	**1,069**	**1,069**	**0**

[11] The VPA's Draft Place Based Plan does not make the distinction between light and heavy industry – so SGS has apportioned the two based on the ratios in the Preferred Land Use Configuration, noting that ultimately these two uses will likely co-exist within the same sub precincts.

Each key change is analysed below.

An increase in the 'other' category from 309ha up to 422ha

This was predominantly due to:

- an increase in drainage assets as identified by Melbourne Water's draft Drainage Services Scheme throughout the precinct
- identification of cultural heritage investigation area (brown area in Figure 48).

These changes were a result of technical studies and stakeholder feedback through the Agency Validation process.

A **revised provision of the industrial categories** in the SSIP**.** The overall volume of NDA for industry (light + heavy) in the SSIP has reduced from 560ha to 481ha.

There is a wide range of factors which contribute to how many jobs and economic activity could be achieved on a given amount of industrial land, this results in wide job to floorspace or land ratio which often evolve overtime as the precinct matures and evolves.

Early in its development, the land use efficiency tends to be low, as large lots are slow to subdivide, new business preserves options to expand in the future and relatively low land values reduce the need to maximise densities on sites. As land values rise over time, subdivisions become more commonplace and feeder roads are built further into the sub-precincts, greater land use efficiency is possible; landowners are also incentivised to increase densities as a means of maximising rental yields and consolidate economic growth.

The original (May 2022) analysis assumed lower efficiency of land use, including both a 'low' to 'low-mid' employment to floorspace ratio as well as a 'low' to 'low-mid' floor area ratio for the SSIP (see Appendix B Tables 27 & 29 for our assumptions on both fronts). This saw industrial job demand forecasts aligning with the original 560ha of industrial land.

After sensitivity testing, SGS has found that the same volume of economic activity and jobs could still plausibly be accommodated in the revised 481ha footprint under a 'medium' employment to floorspace ratio as well as a 'medium' floor area ratio for industry sectors.

This reduced amount of land would imply a shift from 'low'/'low mid' to 'medium' floor area ratio by 2061. This shift is still within a plausible range of potential development outcomes for the role, function and location of the OSEP-SSIP. 'Medium' would still be considered a sensible end state assumption and was the average rate which was previously used in the SEEC report for the entire region.

It should also be noted that further shifts in the ratio would become increasingly less plausible and harder to achieve as they would be more consistent with more established, accessible and urbanised locations.

An adjustment from 159 to 123ha in Commercial land in the RSCA.

Similarly, the reduced amount of commercial land area could still plausibly accommodate the same amount of jobs and economic activity. To accommodate the original job demand forecasts this commercial land in the RSCA will need to progress from a 'low'/'low mid' to 'medium' rate of employment to floorspace ratio and floor area ratio. Whilst the density will be lower early in the precinct's development, once commercial land becomes more scarce in OSEP, this medium level of density is consistent with the ultimate regional-level assumptions in the SEEC report.

It will be important that planning and policy controls along with other initiatives support flexibility and adaptable outcomes, so that the precinct can continue to grow and mature over time.

A locational shift of the commercial land previously slated for the north-west corner of the PSP area to the south-eastern edge of the intersection between Officer South and Lecky Roads.

This is considered acceptable and logical on the basis that (a) the commercial land will now have better access and visibility being at an intersection rather than tucked away behind an industrial area and (b) still performs a buffer role between residential and industrial land.

A strip of Mixed use land south of Lecky Road.

It is expected that this strip of land will deliver an alternate source of employment and residential uses. This would help to improve the diversity of employment (and residential) built form on offer to future businesses. During the implementation phase of the project, the responsible authority will decide on the best combination of planning instruments to ensure a mixed use outcome that guarantees a level of employment yield.

Role of SSIP & RSCA

Given the reasons above, we suggest that despite some differences between the Option 7 (preferred) land use configuration and the revised Draft Place Based Plan, the OSEP will still be able to achieve broadly similar economic outcomes for both the SSIP and RSCA. Similar levels of economic activity could still occur by end state, potentially requiring slightly higher, while still plausible, densities.

7. Implementation

7.1 Implementation

The transformation of the OSEP is a longer-term strategy. As evidenced in this report, the economy will continue to be dynamic, and have an interplay with the development life cycle.

The Three Horizons approach[12] proposes that in order to achieve significant transformation, places need to plan across three horizons simultaneously. These are:

- Horizon 1: Consolidate the existing hierarchy and support long term options.
- Horizon 2: Reinforce and augment a maturing regional economy.
- Horizon 3: Transform the economy through innovation, major investment, and new opportunities.

The following enabling actions are proposed for the OSEP

1. Rezoning aligned with the preferred land use configuration and MICLUP directions
2. Build Thompson Rd extension to provide strong connection to Southern SSIP
3. Advocate for new SE Airport to provide greater opportunity and access to national/global markets.
4. Attract major tertiary institution to help catalyst employment and advanced industries
5. Preserve larger lots for key industrial precincts to support long term growth potential.

These will involve both local and state governments to facilitate the actions over both a medium and longer-term period. This will require input from other consideration such as land use, transport connectivity and design to make both a sustainable and successful precinct.

[12] *Baghai, Coley and White (1999) The Alchemy of Growth. Originally designed for business planning, the framework has been adapted for the development of cities and places.*

Appendix A: Business Typologies

Business typologies and key sectors to target

Throughout this strategy, key sectors and industries are examined that could be expanded, targeted, or attracted into the SEEC. The data analysis often presents in four Broad Industry Categories (BIC):

1. knowledge intensive
2. population serving
3. health and education
4. traditional industry.

These four categories are based on ANZSIC categories, which the ABS use to classify jobs into groups, summarised in the table below.

TABLE 21: BUSINESSES AND SECTORS

	ANZSIC Industry	Typical land use forms	Business type	Examples
KNOWLEDGE INTENSIVE	▪ Professional, Scientific and Technical Services ▪ Financial and Insurance Services ▪ Public Administration and Safety ▪ Information Media and Telecommunications ▪ Administrative and Support Services ▪ Rental, Hiring and Real Estate Services	▪ Office ▪ Business/office parks	▪ Institutions with a local service focus, controlled locally ▪ SMEs with an interstate and international export focus ▪ SMEs with local sales focus - business to business ▪ Big businesses with local sales focus - business to business and with HQs elsewhere	▪ Local Council ▪ Specialist consultants ▪ Accountants/financial advisors ▪ Labour hire firms ▪ Banks (HQ) ▪ Software providers
HEALTH AND EDUCATION	▪ Health Care and Social Assistance ▪ Education and Training	▪ Shop/office ▪ Dispersed institutional facilities ▪ Major specialised institutional facility	▪ Institutions with a local service focus, controlled locally ▪ Institutions with a regional service focus, controlled locally	▪ Primary and secondary education ▪ Child care, Preschools ▪ Other social assistance ▪ Medical services ▪ Residential care ▪ Tertiary education and research ▪ Hospitals, pathology, imaging, allied health, other health services
POPULATION	▪ Accommodation and Food Services ▪ Retail Trade ▪ Construction	▪ Retail - Main street ▪ Retail - Big box ▪ Bulky goods retail ▪ Specialised facilities ▪ Urban services	▪ SMEs with a local sales focus-business to customer ▪ Big businesses with local sales focus - business to customer	▪ Smaller retail stores ▪ Large retail (e.g. Kmart, supermarkets) ▪ Homemaker centres, garden centres

	▪ Arts and Recreation Services ▪ Other Services	▪ Short term accommodation	▪ SMEs with local sales focus – B2B or business to customer	▪ Theatres, stadiums ▪ Construction firms ▪ Hotels
TRADITIONAL INDUSTRY	▪ Transport, Postal and Warehousing ▪ Manufacturing ▪ Wholesale Trade ▪ Electricity, Gas, Water and Waste Services ▪ Mining ▪ Agriculture, Forestry and Fishing	▪ Local light industrial and urban support ▪ Manufacturing Light ▪ Freight and logistics ▪ Urban services	▪ New businesses ▪ Big businesses with interregional, interstate, and international sales focus – HQs elsewhere ▪ SMEs with an inter-regional export focus ▪ Big businesses with interregional, interstate, and international sales focus – HQs elsewhere ▪ SMEs with an interstate and international export focus ▪ SMEs with an inter-regional export focus	▪ Start-ups ▪ Off-shoots from existing businesses ▪ Exporting manufacturers ▪ Logistics firms

Source: SGS Economics and Planning, 2020.

Appendix B: Employment forecasting scenarios approach

Economic forecasting approach overview

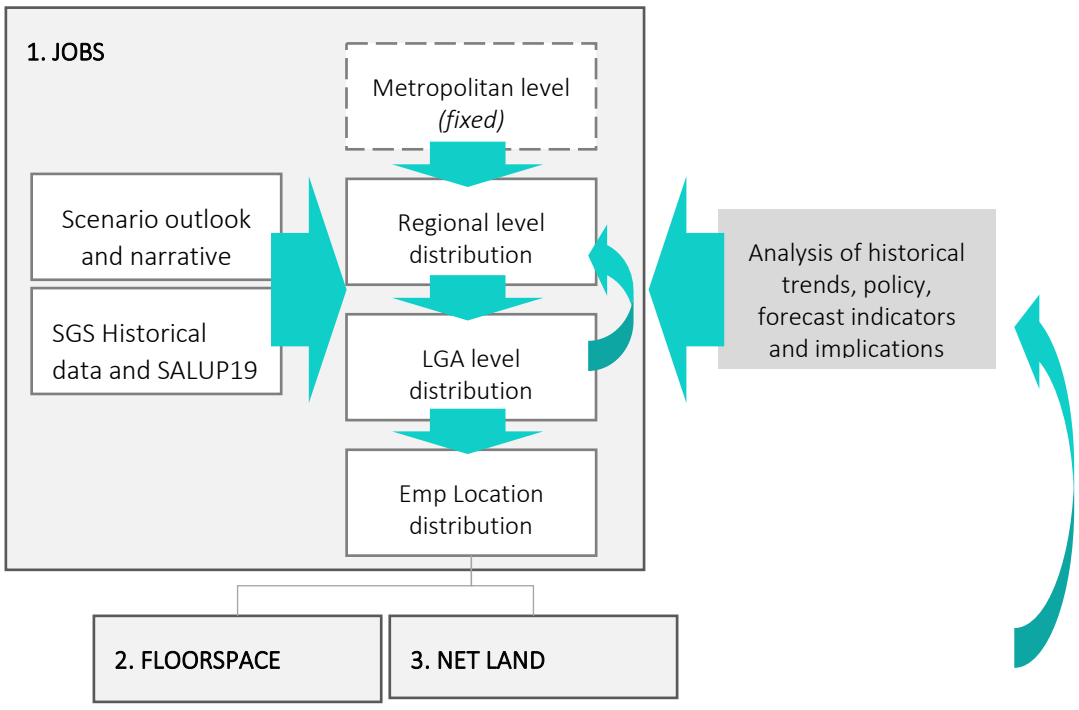
Longer-term forecasts were developed to understand employment and land area requirements in OSEP. Forecasts over several decades are useful, but should be viewed as a range to be considered due to economic uncertainty and dynamism.

The projections used in this project assume that the long-term economic outlook is realised in line with the visions laid out in the SEEC. This means that past trends will shift and the region will capture a greater proportion of total employment growth than experienced historically.

The diagram below illustrates the approach taken to refine forecasts and land requirements. Job forecast by four broad industries are created for the region, LGAs and employment locations. Jobs are then translated into estimates of floorspace and net land.

A review and feedback loop process is then used to refine assumptions to ensure forecasts align with the economic outlook and vision for the SEEC and the local area.

FIGURE 48: SCENARIO REDISTRIBUTION PROCESS



Source: SGS Economics and Planning, 2022

Spatial framework

A spatial framework for the scenario process was established using the SGS Small Area Model zones (SAM zones). There are 20,000 SAM zones across Victoria. SAM zones are based off ABS Statistical Area 1s[13], further disaggregation to account for locations of potential future growth.

The spatial framework for the model had four levels:

- Greater Melbourne
- Plan Melbourne Regions (Inner, Inner South East, Wester, Northern, Eastern and Southern)
- Southern LGAs (Cardinia, Casey, Greater Dandenong, Frankston, Mornington Peninsula and Kingston)
- 35 employment locations across the three SEEC LGAs defined using SAM zones. These locations included the Metro and Major Activity Centres, SSIP, RSIP and future e-PSPs locations (including OSEP). A 'balance' location for each LGA was also defined to capture smaller local centres, and dispersed employment and economic activity.

Employment forecast

Long term employment forecasts for the SEEC and e-PSPs were developed as follows:

Historical employment trends

SGS has assembled a historical employment dataset by (19) ANZSIC industry categories at the SAM zone level for 2001 to 2016 for all of Victoria. The basis of this dataset is ABS Census – Place of Work data by ANZSIC industry and ABS Destination Zones from the 2001, 2006, 2011 and 2016 Census. SGS has spatially aligned each Census period to the SAM Zones and made adjustments to address undercount[14] in the raw Census data due to people incorrectly filling out Census forms or misclassifications. This has been done by reallocating various undefined categories and benchmarking back to the ABS Labour Force Survey[15]which is the most accurate estimate of total employment for Victoria. The undercount in ABS Census data various by industry and location and Census period but in 2016 it was about 20 percent for place of work jobs.

This data is then aggregated to each level and location of the spatial framework and into four broad industry categories (BICs) as defined in Table 20 below.

Initial growth distribution

Long term Greater Melbourne, Plan Melbourne regions and SEEC LGA forecasts are initially defined based on SGS small area land use projection model. These macro employment projections align with 2019 Victoria in Future population demographics, and associated workforce capacity, and broader macro-economic employment trends consistent with those outlined in the economic outlook section of this context report. An initial employment location estimate is based on historical growth shares.

[13] Statistical Area 1 is part of the Australian Bureau of Statistics, Australian Statistical Geography Standard (ASGS), Cat 1270.0.55.001.
[14] Details associated with undercount in the ABS Census is discussed in ABS Cat 2940.0
[15] ABS Labour Force Survey (Cat 6291.0.55.003)

Process to adjust initial growth distribution

The initial employment distribution is then reviewed and refined at each spatial level to reflect the economic outlook and SEEC vision. This is done by adjusting employment growth shares by the four BICs at each spatial level and for each 10 year period to 2060.

Adjustments are made to increase and redistribute employment growth into the SEEC and each employment location with consideration of economic trends, drivers, constraints, investment, and policy. These considerations vary by BIC and location. For example, Traditional Industrial employment growth is largely allocated to existing and future industrial precincts with consideration of capacity, relative attributes, and infrastructure investment. Population Serving employment is allocated to existing and future centres, employment locations and to 'balance' consistent with existing trends and local level requirements.

This is a top down approach, which does not consider detailed precinct or site constraints, feasibility, design, or market factors. However, the holistic framework (where all jobs and locations are accounted for) ensures the scenario always remains within a realistic range (i.e. growth for any one location cannot be divorced of the surrounding economy context and broader economic trends).

Adjustments are further validated through review of available policy targets/estimates (including approved PSP employment estimates and MICLUP), growth levels and rates in comparison to historical trends, growth levels and rates compared to other locations, and density and industry composition.

TABLE 22: ANZSIC INDUSTRY TO BROAD INDUSTRY CATEGORY CONCORDANCE

ANZSIC 1d code	ANZSIC Industry (1 digit) names	BIC code	SGS Broad Industry Category
A	Agriculture, Forestry and Fishing	TI	Traditional Industrial
B	Mining	TI	Traditional Industrial
C	Manufacturing	TI	Traditional Industrial
D	Electricity, Gas, Water and Waste Services	TI	Traditional Industrial
E	Construction	PS	Population services
F	Wholesale Trade	TI	Traditional Industrial
G	Retail Trade	PS	Population services
H	Accommodation and Food Services	PS	Population services
I	Transport, Postal and Warehousing	TI	Traditional Industrial
J	Information Media and Telecommunications	KE	Knowledge services
K	Financial and Insurance Services	KE	Knowledge services
L	Rental, Hiring and Real Estate Services	KE	Knowledge services
M	Professional, Scientific and Technical Services	KE	Knowledge services
N	Administrative and Support Services	KE	Knowledge services
O	Public Administration and Safety	KE	Knowledge services
P	Education and Training	HE	Health and education
Q	Health Care and Social Assistance	HE	Health and education
R	Arts and Recreation Services	PS	Population services
S	Other Services	PS	Population services

Floorspace requirements

Employment forecasts are then translated into floorspace implications as follows:

Employment by Industry is converted to Broad Land Use Categories

Employment forecasts by the four BICs is expanded into the full (19) ANZSIC industries based on baseline shares from the SGS small area projection model. This employment by industry is then converted into SGS Broad Land Use Categories (BLUC) using a conversion matrix.

SGS BLUCs better align with actual land use forms rather than industrial sectors. For example, the 'retail industry' could be located in a shopping mall, strip shopping centre, bulky goods centre or a business park, as part of head office type functions. Similar splits occur for all industries. The SGS BLUC are presented in the table below.

The BLUC can also be approximately aligned to the four BIC codes discussed earlier, while this is not a direct concordance given the industry/land use points raised above and reflected in the matrix.

TABLE 23: SGS BROAD LAND USE CATEGORIES

BLUC code	Broad Land Use Category	Description	BIC code*	Broad Industry Category*
O	Office	Office buildings	KE	Knowledge services
D	Local services	Primary and secondary education, lower level health, social and community services, trades construction, other 'nomads'	HE	Health and education
S	Institutional anchors	Tertiary level education, health, and community services	HE	Health and education
RB	Retail	Large shopping complexes and main street retail	PS	Population services
RBG	Bulky goods retail	Typically, large, one-story buildings surrounded by car-parking,	PS	Population services
LL	Light industrial	Car service and repair; joinery, construction and building supplies; and domestic storage, small scale production with lower noise and emission levels than heavy manufacturing	TI	Traditional Industrial
FL	Freight and logistics	Warehousing and distribution activities. Includes buildings with a number of docking facilities; 'hard stand' areas with trucks or goods awaiting distribution; and large storage facilities	TI	Traditional Industrial
MH	Heavy industrial	Large scale production activity. Likely to be characterised by high noise emission; emission stacks; use of heavy machinery; and frequency of large trucks, Concrete batching, waste recycling and transfer, construction and local and state government depots, sewerage, water supply, electricity construction yards	TI	Traditional Industrial

* Typical BIC code, noting exact alignment should consider the full conversion matrix in Table 22.

A base ANZSIC to BLUC conversion matrix is defined based on extensive land use audits completed by SGS across both Melbourne and Sydney over the last 10 years. This is then adjusted to reflect the industry to land use outcomes that are consistent with the economic outlook and locational characteristics of the precinct.

The following presents the default conversion matrix used for the SEEC region and baseline forecasts.

TABLE 24: ANZSIC INDUSTRY TO BLUC CONVERSION MATRIX

ANZSIC Industry / BLUC		Local services	Freight and logistics	Light industrial	Heavy industrial	Office	Retail	Bulky goods retail	Institutional anchors	Total
A	Agriculture	0%	30%	30%	25%	10%	0%	5%	0%	100%
B	Mining	0%	30%	30%	30%	10%	0%	0%	0%	100%
C	Manufacturing	0%	5%	30%	45%	20%	0%	0%	0%	100%
D	Utilities	0%	5%	5%	85%	5%	0%	0%	0%	100%
E	Construction	10%	5%	50%	30%	5%	0%	0%	0%	100%
F	Wholesale	0%	90%	3%	2%	0%	0%	5%	0%	100%
G	Retail Trade	0%	5%	2%	0%	5%	70%	18%	0%	100%
H	Hosp/Accom	20%	0%	0%	0%	5%	65%	10%	0%	100%
I	Logistics	0%	95%	3%	0%	2%	0%	0%	0%	100%
J	Teleco/Media	10%	0%	10%	30%	40%	5%	0%	5%	100%
K	Finance	2%	2%	2%	2%	65%	25%	0%	2%	100%
L	Real Estate	5%	0%	0%	0%	65%	30%	0%	0%	100%
M	Professional	0%	2%	2%	1%	85%	5%	0%	5%	100%
N	Admin Services	5%	2%	5%	5%	55%	2%	2%	25%	100%
O	Public Admin	30%	0%	0%	0%	40%	0%	0%	30%	100%
P	Education	50%	0%	0%	0%	10%	0%	0%	40%	100%
Q	Health	35%	0%	10%	0%	10%	5%	0%	40%	100%
R	Arts/Rec	30%	0%	25%	0%	5%	10%	0%	30%	100%
S	Other Services	5%	10%	45%	0%	15%	25%	0%	0%	100%

Source: SGS Economics and Planning, 2020

The following presents the conversion matrix used for the SSIP component of OSEP.

TABLE 25: ANZSIC INDUSTRY TO BLUC CONVERSION MATRIX

ANZSIC Industry		Local services	Freight and logistics	Light industrial	Heavy industrial	Office	Retail	Bulky goods retail	Institutional anchors	Total
A	Agriculture	0%	30%	30%	40%	0%	0%	0%	0%	100%
B	Mining	0%	30%	30%	40%	0%	0%	0%	0%	100%
C	Manufacturing	0%	5%	30%	65%	0%	0%	0%	0%	100%
D	Utilities	0%	5%	5%	90%	0%	0%	0%	0%	100%
E	Construction	0%	10%	60%	30%	0%	0%	0%	0%	100%
F	Wholesale	0%	80%	5%	15%	0%	0%	0%	0%	100%
G	Retail Trade	0%	30%	10%	0%	0%	40%	20%	0%	100%
H	Hosp/Accom	10%	0%	30%	0%	0%	50%	10%	0%	100%
I	Logistics	0%	95%	5%	0%	0%	0%	0%	0%	100%
J	Teleco/Media	10%	10%	40%	30%	5%	0%	0%	5%	100%
K	Finance	2%	5%	5%	5%	56%	25%	0%	2%	100%
L	Real Estate	5%	20%	60%	15%	0%	0%	0%	0%	100%
M	Professional	0%	5%	5%	5%	80%	0%	0%	5%	100%
N	Admin Services	5%	5%	10%	5%	50%	0%	0%	25%	100%
O	Public Admin	30%	0%	0%	0%	40%	0%	0%	30%	100%
P	Education	50%	0%	0%	0%	5%	0%	0%	45%	100%
Q	Health	35%	0%	10%	0%	5%	5%	0%	45%	100%
R	Arts/Rec	10%	0%	70%	0%	0%	10%	0%	10%	100%
S	Other Services	5%	10%	75%	0%	0%	10%	0%	0%	100%

Source: SGS Economics and Planning, 2020

The following presents the conversion matrix used for the RSCA component of OSEP.

TABLE 26: ANZSIC INDUSTRY TO BLUC CONVERSION MATRIX

ANZSIC Industry		Local services	Freight and logistics	Light industrial	Heavy industrial	Office	Retail	Bulky goods retail	Institutional anchors	Total
A	Agriculture	20%	0%	0%	0%	50%	10%	20%	0%	100%
B	Mining	0%	0%	0%	0%	100%	0%	0%	0%	100%
C	Manufacturing	50%	0%	10%	0%	40%	0%	0%	0%	100%
D	Utilities	20%	0%	10%	0%	60%	10%	0%	0%	100%
E	Construction	70%	0%	0%	0%	10%	0%	20%	0%	100%
F	Wholesale	20%	0%	10%	0%	20%	0%	50%	0%	100%
G	Retail Trade	0%	0%	0%	0%	5%	77%	18%	0%	100%
H	Hosp/Accom	20%	0%	0%	0%	5%	65%	10%	0%	100%
I	Logistics	10%	10%	5%	0%	75%	0%	0%	0%	100%
J	Teleco/Media	10%	0%	0%	0%	75%	10%	0%	5%	100%
K	Finance	5%	0%	0%	0%	65%	25%	0%	5%	100%
L	Real Estate	40%	0%	0%	0%	20%	40%	0%	0%	100%
M	Professional	0%	0%	0%	0%	95%	0%	0%	5%	100%
N	Admin Services	5%	0%	0%	0%	75%	5%	5%	10%	100%
O	Public Admin	30%	0%	0%	0%	60%	0%	0%	10%	100%
P	Education	60%	0%	0%	0%	10%	0%	0%	30%	100%
Q	Health	50%	0%	0%	0%	10%	5%	0%	40%	100%
R	Arts/Rec	50%	0%	0%	0%	10%	10%	0%	30%	100%
S	Other Services	5%	0%	0%	0%	15%	80%	0%	0%	100%

Source: SGS Economics and Planning, 2020

Once employment is converted into BLUC it is converted into an estimate of net floorspace requirements based on standard job to floorspace ratios. Job to floorspace ratios are based on extensive land use audits completed by SGS across both Melbourne and Sydney over the last 10 years. They have also been reviewed against job to floorspace ratios included in MICLUP and in the City of Melbourne Census of Land Use and Employment – adjusting for the local context associated with future e-PSP locations.

A mid-point ratio has been used for the core scenario. However, the follow table also includes a range for each BLUC. This highlights the high variability for some land use types which should be further considered as actual development occurs and more detailed local precinct planning and research is completed.

TABLE 27: BLUC JOB TO NET FLOORSPACE RATIOS (SQUARE METRES)

BLC Code	BLC Name	Low	Low-Mid	Medium	Mid-High	High
D	Local services	75	63	50	48	45
FL	Freight and logistics	250	225	200	150	100
LL	Light industrial	150	125	100	75	50
MH	Heavy industrial	200	175	150	125	100
O	Office	30	28	25	23	20
RB	Retail	40	35	30	28	25
RBG	Bulky goods retail	70	65	60	55	50
S	Institutional anchors	60	55	50	35	20

Source: SGS Economics and Planning, 2020

For comparison and context, the following presents the MICLUP and existing City of Melbourne CLUE ratios

TABLE 28: MICLUP AND CLUE JOB TO FLOORSPACE RATIOS

	ANZSIC Industry	Job to floorspace
G	Retail Trade	30
H	Accommodation and Food Services	26
J	Information Media and Telecommunications	24
K	Financial and Insurance Services	19
L	Rental, Hiring and Real Estate Services	34
M	Professional, Scientific and Technical Services	22
N	Administrative and Support Services	25
O	Public Administration and Safety	19
S	Other Services	43

Source: MICLUP (2020)

CLUE Industries	Job to floorspace
Admin and Support Services	22
Business Services	19
Finance and Insurance	16
Information Media and Telecommunications	26
Other Services	243
Public Administration and Safety	25
Real Estate Services	26
Rental and Hiring Services	95
Education and Training	56
Health Care and Social Assistance	22
Retail Trade	39
Food and Beverage Services	19
Arts and Recreation Services	301
Accommodation	145
Agriculture and Mining	32
Manufacturing	64
Electricity, Gas, Water and Waste Services	20
Construction	32
Wholesale Trade	39
Transport, Postal and Storage	271
All employment	**57**

Source: 2015 City of Melbourne CLUE

Net Land area requirements

Employment forecasts are also converted to net land area requirements based on floor area ratios (FAR). A FAR considers how floorspace relates to land requirements and can reflect a range of actual built forms. For example:

- A FAR of 0.8 could represents a single-story building covering 80 percent of the land area, or a two story building covering 40 percent of the land area.
- A FAR of 2.0 could represent a two-story building covering the entire land area, or an eight story building covering 25 percent of the land area.

The FAR ratios have been estimated based on review of existing ratios for comparable precincts, such as the Southern SSIP and other RSIPs across Melbourne. A mid-point ratio has been used for the core scenario. However, the follow table also includes a range for each BLUC. This highlights the high variability for some land use types which should be further considered as actual development occurs and more detailed local precinct planning and research is completed.

TABLE 29: BLUC FLOOR AREA RATIOS

BLC Code	BLC Name	Low	Low-mid	Medium	Mid-High	High
D	Local services	0.3	0.4	0.4	0.6	0.6
FL	Freight and logistics	0.3	0.2	0.2	0.3	0.3
LL	Light industrial	0.3	0.3	0.3	0.5	0.5
MH	Heavy industrial	0.3	0.3	0.3	0.4	0.4
O	Office	0.4	0.6	0.6	1.0	1.0
RB	Retail	0.4	0.5	0.5	1.0	1.0
RBG	Bulky goods retail	0.2	0.3	0.3	0.5	0.5
S	Institutional anchors	0.1	0.3	0.3	0.5	0.5

Source: SGS Economics and Planning, 2020

Appendix C: Land Consumption Methodology

Modelling the exhaustion of industrial land

The supply of industrial land as compared to the consumption of land is the basis to estimate the year in which all vacant land within the OSEP's SSIP becomes exhausted.

Exhaustion rate models for active and established SSIPs, including the Western, Northern, Southern and Officer/Packenham SSIP have been incorporated to estimate when their vacant land is likely to be consumed. Consumption rates are the amount of land that has been "taken up" historically, and they have been rolled forward, subtracted against total available land supply.

Estimating vacant land

The amount of vacant land and proposed industrial land are refined according to the following assumptions:

- All zoned vacant and underutilised lots over 4 hectares have been discounted by 20% to model potential further subdivision
- All zoned vacant and underutilised lots below 4 hectares have not been discounted further as it is assumed that these lots will be consumed as they are
- All zoned land is assumed to be useable, however, some land will be used for other uses (such as road reservations) or are not physically suitable for industrial development

The quantum of proposed industrial land was discounted in two steps:

- Step 1: 15% discount for infrastructure such as major roads, drainage reserves and open space
- Step 2: 20% discount for potential further subdivision such as roads within subdivisions

Estimating consumption

Consumption rates drew upon recent (between 2015 and 2020) consumption trends in the South and Officer/Pakenham SSIPs.

The method adopted is linear, however in reality land supply in the SSIPs would be constrained before complete exhaustion for two reasons:

- the amount of new development would start to decline as land prices increase in response to increased land scarcity. Users may be priced out of areas and search for other locations.
- not all zoned land is suitable for development, as either built space or non-built space (such as a storage yard) due to the configuration of the land such as area, shape, cost of providing infrastructure, etc.

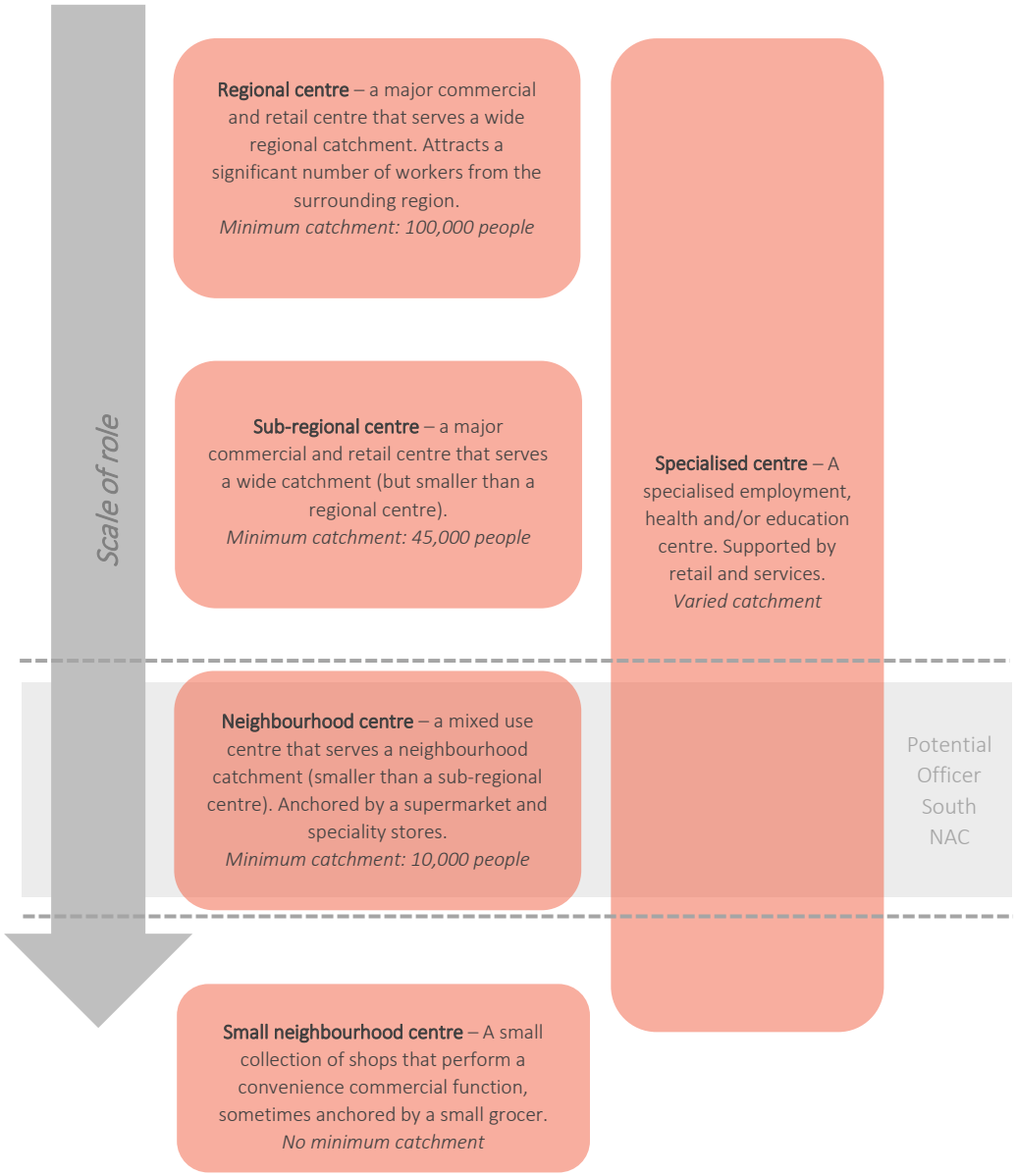
In consideration of the above, the modelling provides a useful estimate for how the SSIPs will accommodate future growth and timings of pressure on land supply.

Appendix D: Activity Centre Considerations

Economic function and role

Given its likely status as a Neighbourhood Centre in the Cardinia Shire's retail hierarchy, Figure 49 below charts its position within the broader activity centre network.

FIGURE 49: THE POSITION OF SMALL ACTIVITY CENTRES IN THE REGIONAL ACTIVITY CENTRE HIERARCHY



Source: SGS Economics and Planning (2022)

Note a full form Neighbourhood Centre typically has a minimum catchment 10,000 people, which is necessary to support a full line supermarket. In this case, a potential centre in Officer South is likely to have an approximate catchment of 10,300 residents by full development.

Owing to its likely status as a Neighbourhood Centre, the potential Officer South NAC will support the realisation of the PSP Guidelines 2.0, Plan Melbourne's '20-minute neighbourhood' and the development of sustainable communities in four key ways. These are:

- Accessibility: This type of neighbourhood centre ensures that residents are able to access retail and services to cater to their day-to-day needs within walking distance. This is particularly important for those who are mobility impaired or are constrained in other ways, including the elderly, people with a disability, people in carer roles and people who do not own, or cannot drive, a car.
- Physical activity: Ensuring all residents in this neighbourhood have access to an activity centre in close proximity encourages walking and cycling, which can have significant health benefits.
- Land use mix: This centre will also an opportunity to provide for land use mix in an otherwise solely residential part of the ePSP. This can introduce greater variation in activity, particularly across the day and week, as well as variation in built form and building types along with a focal point for the local urban fabric. This not only promotes a greater mix of people on the street but creates a more vibrant neighbourhood, facilitating more passive interaction and social encounters, and strengthening neighbourhood connections.
- Economic opportunity: There will be some opportunity for commercial office or specialised retail activity that is not reliant on the heavy foot traffic of higher order centres. The lower rents available at these small centres can facilitate the establishment of micro-businesses, particularly innovative or experimental businesses supported by local entrepreneurs and the local workforce who may value working closer to home.

Given these functions, the following table lists the potential range of businesses that could be accommodated in this centre, as well as those which should be directed to other more suitable locations in the LGA (e.g. Officer Town Centre). This is not a definitive or exhaustive list, but rather an indicator of what the market could typically deliver in a centre that serves this neighbourhood community and promotes social interaction:

TABLE 30: INDICATIVE RANGE OF POTENTIAL BUSINESSES

Category	Supported Businesses	Unsupported businesses
Supermarket	Supermarket/grocer	-
Specialty Shop	Butcher, Bakery, Fruit & Veg, Deli, Apparel, Bookstore,	Bulky goods, DDS, Departments stores,
Hospitality	Café, Restaurant, Takeaway	Bars, nightclubs, hotels, entertainment
Non-retail	Accountant, Conveyancer, Shared Workspaces, Medical Practice, Real Estate Agency, Child Care Centre[16]	Major commercial office tenants, multi-national corporations, major institutions – which would all be better suited to the Commercial precinct to the west.

Source: SGS Economics and Planning (2022)

[16] There may be demand for other community facilities subject to a community facilities & needs assessment

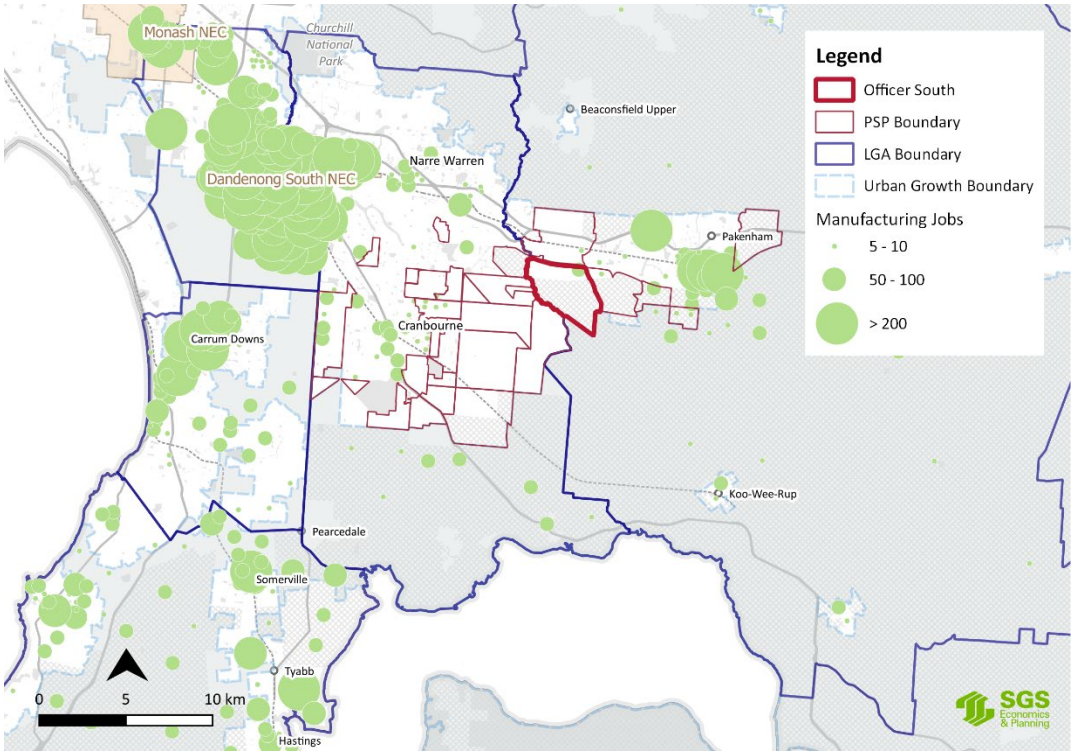
Appendix E: Existing employment industry clusters

Existing employment industry clusters

The focus of this analysis is on the South East Region of Melbourne. The figures over the next few pages provide industry specific breakdowns of employment clusters in the region. Key observations include:

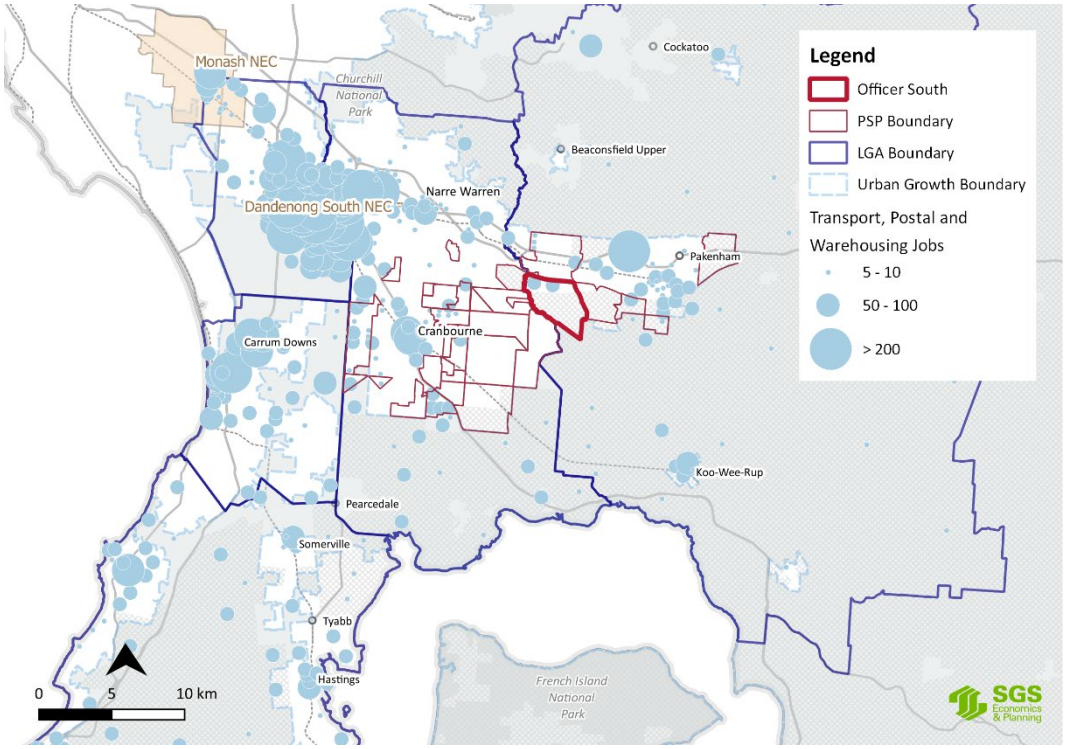
- Manufacturing clusters in Dandenong South, Monash NEIC, Frankston/Carrum Downs and emerging in Pakenham South/East. This region hosts one of the major manufacturing hubs in Australia. The Dandenong South precinct's IN2Z sub-precinct in particular contains many heavy industries with expansive supply chains. That precinct is expected to exhaust its land supply over the next decade, with few options for expansion given it is bound by the Urban Growth Boundary. Monash NEIC and Carrum Downs in Frankston are also at capacity. Officer/Pakenham SSIP is now emerging as the next logical expansion area for new businesses and as well as expanding businesses who are unable to remain in the other precincts.
- Health care and social assistance has a significant presence across the region – although many of the direct jobs are not specifically in industrial precincts. Nonetheless, health in particular has a long supply chain when it comes to providing the final medical services and products, and both industrial and commercial businesses are significant contributors.
- Utilities also have a major presence in the region. Although not always major employers given the facilities take up vast amounts of land and capital, they nonetheless have important connections to industry including energy, water and waste disposal. This region has strong local circular economy opportunities given most of these components are all found in the corridor.
- Transport, postal and warehousing along with wholesaling are the other major occupant industries of employment lands in this region. Not surprising given the strong presence of transport connections, residential population (in the urban areas) and primary industries (in the rural lands out to Gippsland).
- In terms of agriculture, there is a strong presence of fruit, vegetable and livestock farming in this region alone (with more in Gippsland). One of the advantages of having a Green Wedge, is that Green Wedge land is still productive for those industries and are still part of the supply chain in employment lands (more on supply chains in Section 3.4).
- Finally professional services are also highly significant, with the main subindustries in terms of presence in the region being architecture and engineering and to lesser extents, legal, accounting and market research. Note that these activities are distinct from commercial activities might locate near activity centres when they are population serving, with architecture and engineering in particular being far more business serving. Those activities are often better suited to employment precincts such as Officer South.

FIGURE 50: EMPLOYMENT CLUSTERS: MANUFACTURING



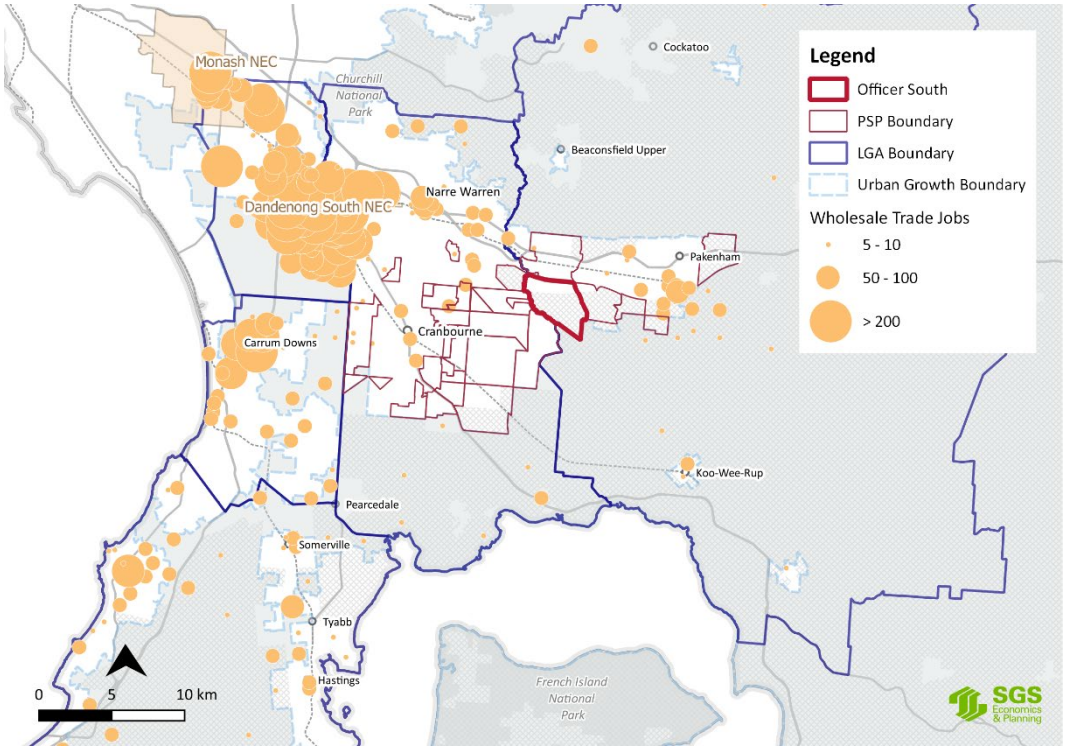
Source: 2016 ABS Census

FIGURE 51: EMPLOYMENT CLUSTERS: TRANSPORT, POSTAL AND WAREHOUSING JOBS



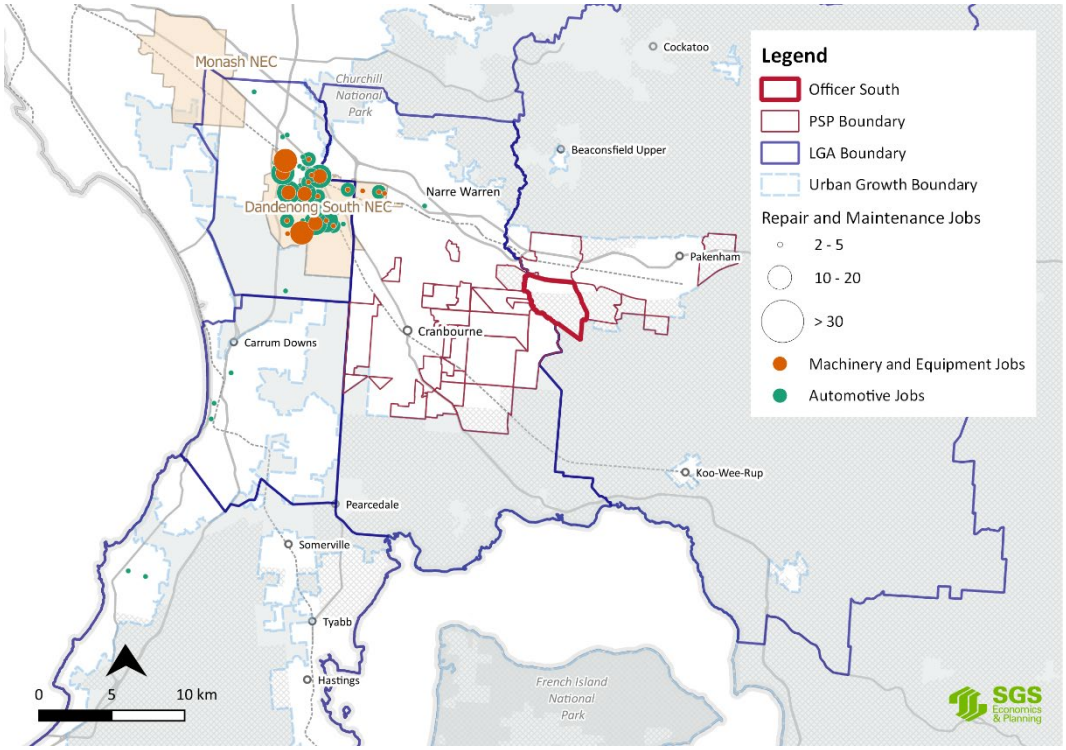
Source: 2016 ABS Census

FIGURE 52: EMPLOYMENT CLUSTERS: WHOLESALE TRADE JOBS



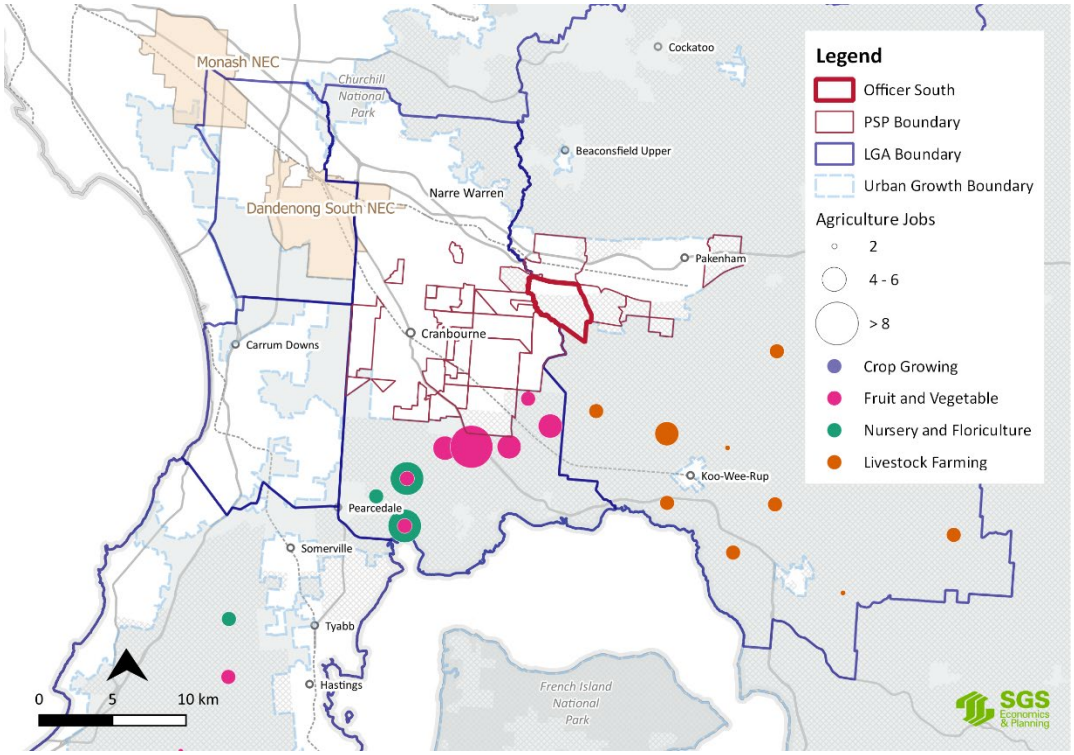
Source: 2016 ABS Census

FIGURE 53: EMPLOYMENT CLUSTERS: REPAIR AND MAINTENANCE JOBS



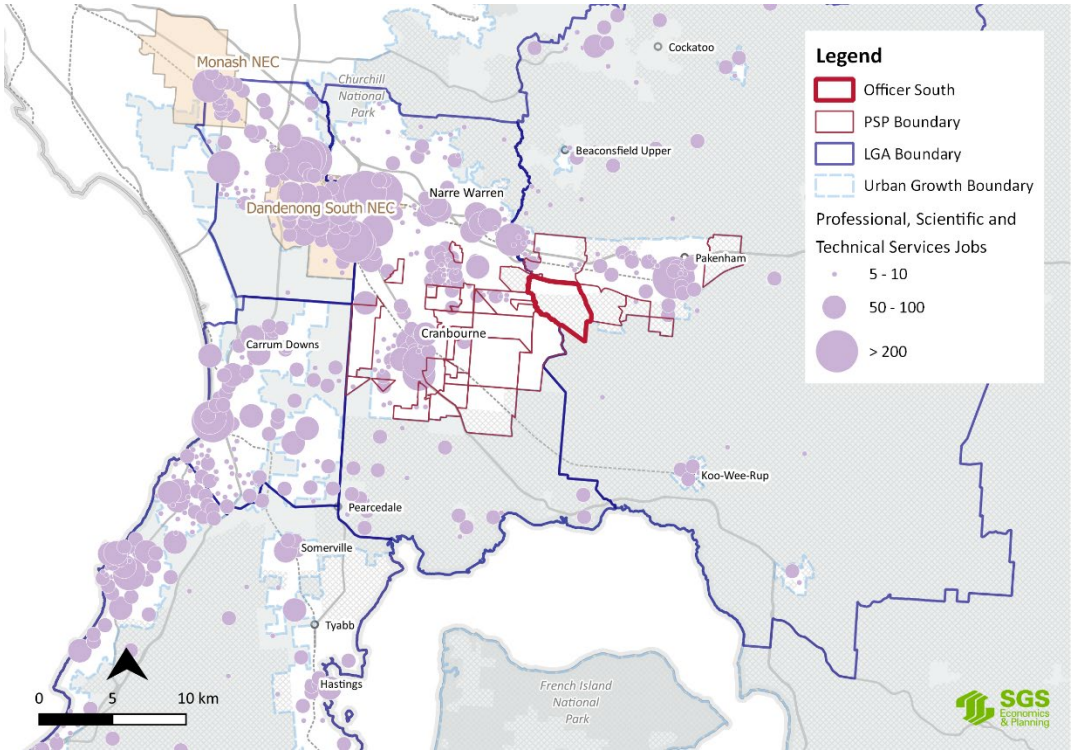
Source: 2016 ABS Census

FIGURE 54: EMPLOYMENT CLUSTERS: AGRICULTURE JOBS BASED ON 2016 CENSUS



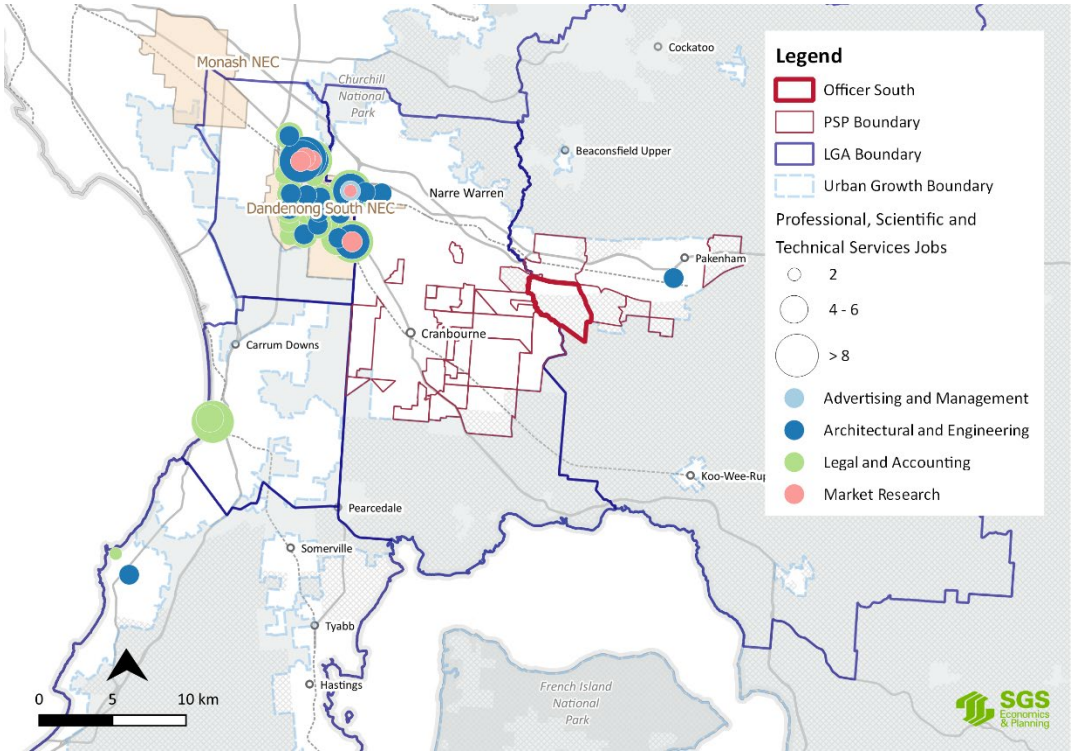
Source: 2016 ABS Census

FIGURE 55: EMPLOYMENT CLUSTERS: PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES JOBS



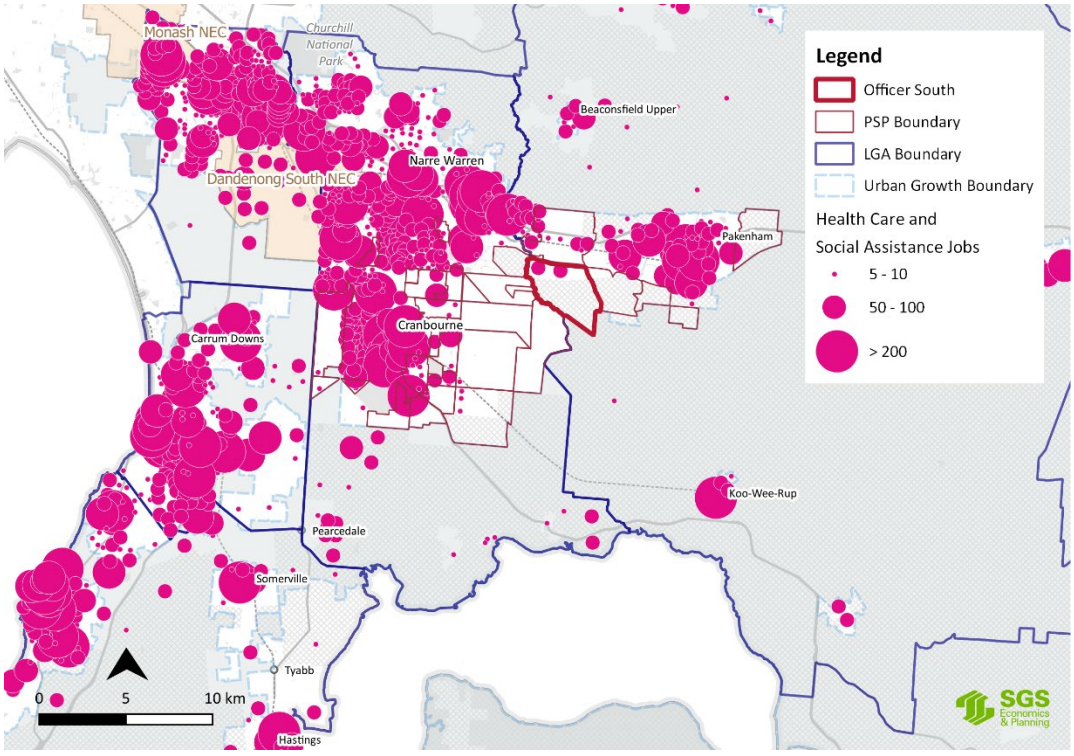
Source: 2016 ABS Census

FIGURE 56: EMPLOYMENT CLUSTERS: SELECTED PROFESSIONALS



Source: 2016 ABS Census

FIGURE 57: EMPLOYMENT CLUSTERS: HEALTH CARE AND SOCIAL ASSISTANCE JOBS



Source: 2016 ABS Census

Industry linkages

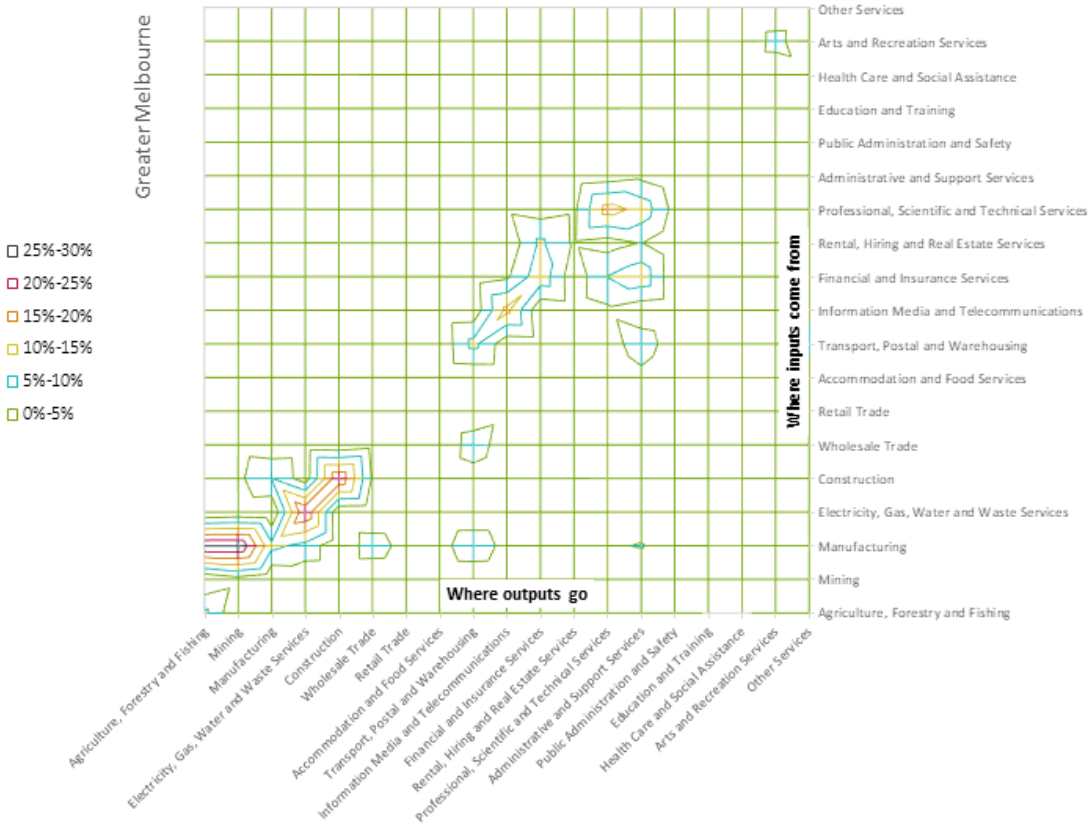
Many of the same industry clusters mapped in Section 3.3 are highly likely to populate employment lands in the Officer/Pakenham SSIP given the other precincts in the region are at close to full capacity. However, it is also worth considering the supply chain industries that those industry clusters are an input as well as an output for.

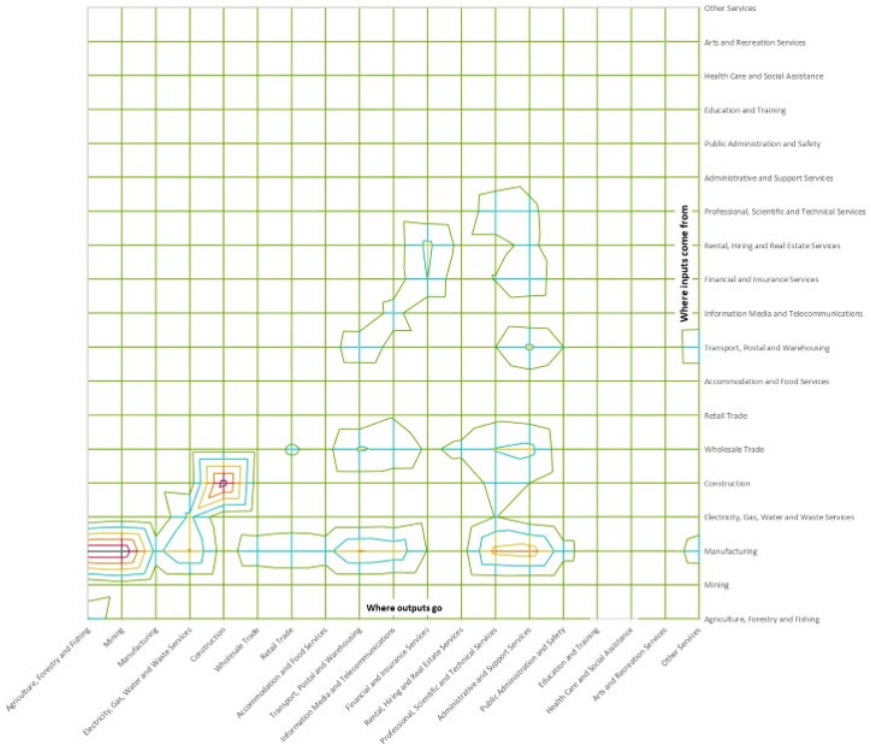
Melbourne's economy and the South East Region's[17] linkages are broadly similar, and as one would expect, many of linkages are matched to the same industries. However, there are a few notable exceptions in the industrial sectors:

- Manufactured outputs make their way into many industries, but in this region is particularly strong for providing inputs into agriculture and mining. This suggests that activities in primary industries from Cardinia all the way out to Gippsland will drive demand for manufactured products – and therefore – industrial land in the Officer/Pakenham SSIP.
- This region also manufactures products for Information technology and professional services. Presently, those 'knowledge' sectors are most prominent in Dandenong MAC and the Monash NEIC. But as this growth corridor emerges in those sectors, so too will demand for commercial land near industrial precincts such as Officer South. The land north of Lecky Road in the Officer South PSP area would be one such candidate for such professional services.
- Manufactured products also make their way into the transport and logistics industries. This includes both the rolling stock involved in transportation of goods as well as the manufactured products that are being shipped and exported.
- Wholesaling and logistics support a strong network of knowledge industries including finance, professional services and real estate. Some activities may be collocated into industrial precincts, but the rest will create demand for office floorspace in business parks and commercial precincts in centres such Officer and Pakenham.

[17] Note this region comprises the LGAs of Greater Dandenong, Casey, Cardinia and Frankston.

FIGURE 58: INTER-INDUSTRY LINKAGES – GREATER MELBOURNE (TOP), SOUTH-EAST REGION (BOTTOM)





Source: SGS Economics and Planning (2022) based on ABS IO tables and Census data

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